

Sowing Seeds and Knowledge: Agrarian Development in the US, China, Taiwan, and the
World, 1920-1980

By

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Abstract

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In the 20th century, development became practiced on a global scale by states, missionaries, philanthropic organizations, scientists, and other groups hoping to achieve a better condition for human society. Many of these efforts focused on social improvement and modernization for the relatively poorer agrarian societies and economies of the world. This dissertation interrogates the rise and practices of agrarian development, particularly by the United States in China and Taiwan, and then by Taiwan in the rest of the world.

The first half of the dissertation explores the emergence of development from agricultural science, Protestant missions, and philanthropic famine relief in China, focusing on how Chinese practitioners localized globally circulating ideas. These ideas and practices eventually coalesced into a development “model” in China and Taiwan, which distilled a range of practices, from village-level social reform (i.e. organizing farmers associations) to high modernist science (i.e. plant breeding and chemical fertilizer production). The second half of the dissertation examines the subsequent iteration—how Taiwanese development experts then marketed practices of farmers organizations, land reform, and high yield crop varieties in their Cold War development missions to Southeast Asia, Africa, and Latin America. Through demonstrating their technical prowess and ability of providing humanitarian aid abroad, the Taiwanese were attempting to pursue their own political goals and find a postcolonial identity through international development.

As development practitioners repackaged ideas of agrarian development for local conditions, they imagined distinct visions of modernity and society that reflected their own expertise, historical experiences, and political goals. Development was a complicated process that Chinese and Taiwanese actors not only co-opted to realize their own visions of

modernity at home, but also to demonstrate the superiority of those visions abroad to an international audience.

To my mother

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Introduction

The March 8, 1963 issue of *TIME* magazine featured a small story in its International Business section titled “Formosa: A Success Story.” Accompanied by a photo of a Taiwanese farmer holding a pineapple under each arm, the article laid out one of the rising narratives about Asia. “Like ambitious moonlighters holding down two tough jobs, the Chinese of Formosa are trying to build up their precarious economy while while maintaining one of the world’s costliest military machines,” it began.¹ The article listed the impressive statistics of the success story: 7.7% annual increase in gross domestic product, along with increases in industrial production, per capita income, and consumer purchasing.

In agriculture, *TIME* credited the work of the Sino-American Joint Commission on Rural Reconstruction (JCRR) (中國農村復興委員會 *zhongguo nongcun fuxing lianhe weiyuanhui*), responsible for “some 3,000 economic projects and...a much needed distribution of farm land that has benefitted a half million Formosan families.” Agricultural statistics were likewise impressive, including growth into the high-margin agricultural export products of mushrooms (worth \$10 million USD per annum) and canned pineapples (\$12 million USD per annum). Taiwan was so successful, the article recounted, that in 1963 the US Agency for International Development (USAID) planned to phase out all economic support to the Republic of China (ROC) within a couple years, which had totaled to \$3 billion USD at that point.² Indeed, in 1965 USAID was proud to proclaim that Taiwan was a “graduate” of successful US international development assistance.³

A story that filled two small columns in Times Magazine in 1960 eventually grew to encompass the narrative of the “Taiwan miracle.” Taiwan’s emergence from a small island colony to global economic power in a span of a half-century captured the attention of news media, academic, and government policymakers. Today Taiwan’s Gross Domestic Product (GDP) ranks 22nd highest in the world, Taiwan possesses an enviable 4% unemployment rate, and only 1.5% of its population lives under the poverty line.⁴ Few other states saw the economic markers of success as Taiwan did, from GDP growth to unemployment to daily caloric intake. Even fewer started as Taiwan did at the end of World War II, as an agrarian colony whose main purpose in the Japanese empire was as an exporter of rice and sugar.

¹ W.I. Myers to Shen Zonghan, March 15, 1963; Archive Number 034000000351A; Folder “Myers, W.I.” in “Shen Zonghan Letter Drafts” [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

² W.I. Myers to Shen Zonghan, March 15, 1963; Archive Number 034000000351A; Folder “Myers, W.I.” in “Shen Zonghan Letter Drafts” [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

³ Billings, Bruce. “Bruce Hadley Billings mimeograph: A study of the role of science and technology in Taiwan,” 2.

⁴ According to 2016 and 2017 estimates from the CIA World Factbook.

<https://www.cia.gov/library/publications/the-world-factbook/rankorder/2001rank.html#tw>

<https://www.cia.gov/library/publications/the-world-factbook/geos/tw.html>

Agricultural commodities comprised 80% of its exports just before the end of World War II; today, that number is 1.8%.⁵

Dozens, if not hundreds, of studies have been undertaken to understand, and in some cases implicitly or explicitly to explain how to reproduce the Taiwan miracle. In some ways, this is yet another one of those studies. But this also differs because this is a history of not just Taiwan's development, but also a historical interpretation of the circumstances and ideas that enabled a Taiwan model to be constructed in the first place. Indeed, the Taiwan miracle was as much a historical construction as it was based on the reality of trade and growth statistics. And this miracle was consequential not just for Taiwan's emergence as a postcolonial state, but also for its unique position as a *de facto* state lacking *de jure* recognition, a consequence of the Chinese civil war and the subsequent Cold War.

More important than just explaining the story of Taiwan's success is contextualizing one of the few cases of development success in the history of the world. Despite all of the optimism invested in modernization projects by the United States and international organizations like the World Bank and the United Nations, international development has shown limited results for what it had originally touted. Taiwan stands as one of the few examples in a history that has otherwise been awash with critique and skepticism. Beneath that success is, as one should expect, numerous caveats, from the consequences of authoritarian central policies, to the ecological damage of fertilizers and pesticides, to add to that story.

Yet still Taiwan marketed itself in the 1960s and 1970s as a beacon of development hope in the Global South—a former tropical agrarian society that had thrown off the colonial yoke, achieved tremendous success in transforming from sustenance farming to high-value agricultural exports, and was ready to share its secrets with other decolonizing nations. Within this self-representation was a paradigm, upheld by Taiwan as the key tenets underlying its success. It argued these principles were not only proven in success, but also easily reproducible by other similarly less developed nations. I term this the “Taiwan model” of development. Understanding its origins, its rise, and its fall, is the main goal of this study.

What is Development?

First and foremost, this is a history of development. As such, it necessitates defining what development is. Historian David Engerman has defined development as “state-centered efforts to effect linked social and economic transformation.”⁶ For the purposes of this narrative, I will define development as discrete and concerted efforts to make a more productive economy, raise standards of living, and improve the welfare of a society. Though broad, this definition serves to encompass the broad types of development that occurred historically, from agricultural science to rural reform to massive infrastructure engineering.

⁵ General Report, Issue 1 (1948/1950), Joint Commission on Rural Reconstruction. Taipei, Taiwan (ROC). CIA World Factbook. <https://www.cia.gov/library/publications/the-world-factbook/geos/tw.html>

⁶ David C. Engerman, “Development Politics and the Cold War,” *Diplomatic History* 41, no. 1 (January 1, 2017): 1–19, doi:10.1093/dh/dhwo43.

Part of this definition is arrived at empirically, based upon close reading of tens of thousands of documents by policymakers, philanthropists, scientists, technocrats, intellectuals, and others who made it part of their professional and personal goals to improve the wellbeing of their own societies and their fellow humans. Drawing the circle of development a bit more broadly allows us to see linkages between various types of thought that might have been seen previously as distinct and separate. For example, historians have examined plant breeding, hygiene, credit markets, land economics, and literacy in depth, producing histories of how they were linked with broader state and non-state efforts to produce modernity.

Yet linked together, the selection of some yet rejection of others, the packaging of them into a model, and the conclusions we can draw from this bird's eye view, produces a different type of history. It allows us to see how some planners sought to view processes of societal improvement and modernization at the societal-historical level. Changing the scale at which we examine these histories allows us to see historical change through a new lens. State-to-state efforts for the change of entire nations becomes not only discussed in the realm of development, but discussed as entirely feasible, and more importantly, its feasibility a matter of technicality. This marks one of the key differences in development and what could be called efforts at improvement prior to it in history—possibility.

Much of development can be characterized as a search for modernity. Often what those undertaking development saw as “better” or “improved” was equatable with “modern.” What being “modern” meant, of course, differed greatly upon the historical actor in question. This narrative explores the different meanings of modernity as contextualized within the sphere of development. Often this meant that modernity was expressed within the terms of the beholder. For many plant scientists, for example, the cultivar, bred from numerous generations of selecting for disease resistance, fertilizer response, and high yields, was the pinnacle of modernity. This type of modernity, and the quest to bring this modernity across the globe, bears great similarity to what James Scott has termed “high-modernist ideology,” internalizing what he describes as “self confidence about scientific and technical progress, the expansion of production, the growing satisfaction of human needs, the mastery of nature (including human nature) and above all, the rational design of social order.”⁷

Others have seen development as the manifestation of American modernization theory. In this recounting, modernization theory, which arose in American academic circles of economists, political scientists, and sociologists, outlined a path for nations and societies to proceed to modernity. In most of these theories, modernity entailed something that resembled the postwar United States: urban, industrial, capitalist, wealthy, democratic, etc.⁸ Scholars like Michael Latham and others have focused on the roles that modernization theorists, perhaps best exemplified by Walt W. Rostow, have played in

⁷ James Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (Yale University Press, 1999), 4.

⁸ Nils Gilman, *Mandarins of the Future Modernization Theory in Cold War America* (Johns Hopkins University Press, 2003).

foreign policy. Thus, Rostow's role under the Lyndon B. Johnson administration as a National Security Council adviser is magnified and taken as representative of all development policy.⁹ Though modernization theory's influence was significant among economic circles, it was less influential in other areas of development such as rural sociology, and practically never cited in areas such as plant science.

So although high modernism characterized much of development efforts, it was not the only type of "modernity" espoused. In some cases, as historians like Daniel Immerwahr have argued, ideologies countered a high modernist faith in science and technology, instead espousing a "low modernism" or a desire to decentralize and focus on communities instead of the centralizing state.¹⁰ This pushes back against a tendency in the literature to equate development with modernization, a notion that is overly simplistic. Low modernist desires often coexisted and worked in tandem with high modernist efforts. 4-H clubs for Taiwan in the 1950s, for example, pushed central policies on hygiene for public health and on Taylorist quantification of production, but at the same time emphasized community development of democracy at the grassroots village level.

This narrative argues that we should not see development as condoning one type of modernization, or rejection of modernization altogether, as Immerwahr would argue in his "development without modernization" paradigm.¹¹ Widening the scope for what constitutes development also brings into the picture what can be seen as a spectrum of modernities—visions that fall at both poles of high-modernism and low modernism, as well as the many shades of gray between them that is actually what occurred on the ground. As the dissertation explores throughout every chapter, many of these modernities were often the consequence of the intellectual training and formative experiences of the practitioner. In contrast to the aforementioned high-modernist plant breeder, for example, was the rural sociologist who specialized in farmers associations. And somewhere in between was the applied economist who advocated for fair and regulated credit cooperatives, combining the high-modernist rationality of financialization with standardized rules with the low-modernist desire for local, collective ownership that emphasized communal involvement.

This is also a global and transnational history, one where ideas and practices are foregrounded and are rarely bound by national borders. Much of development was expressed in ideas, about how science could conquer the environment, or about how rationality or community could resolve poverty and backwardness. Though many of these ideas came from specific cultural and geographic contexts, one of the fundamental bases of development was its transportability. In theory, development could improve societies and nations anywhere in the world, within reasonable parameters. So, for example, financial

⁹ Kimber Charles Pearce, *Rostow, Kennedy, and the Rhetoric of Foreign Aid* (East Lansing: Michigan State University Press, 2001). Michael E Latham, *Modernization as Ideology: American Social Science and "Nation Building" in the Kennedy Era* (University of North Carolina Press, 2000).

¹⁰ Daniel Immerwahr, *Thinking Small: The United States and the Lure of Community Development* (Cambridge, Massachusetts: Harvard University Press, 2015), 44.

¹¹ *Ibid.*, 40.

mechanisms to underwrite and help aid the process of land sales from landowners to tenant farmers would theoretically be a basis of land reform development. In reality, development was rarely transferrable as easily as it sounded on paper; climate, food culture, and especially politics interfered with most development efforts. This tension is one of the many that defined development.

Nonetheless, development as it occurred on the ground was usually an international endeavor. State-run development agencies such as USAID, international non-governmental organizations like the United Nation Food and Agriculture Organization (FAO), and private philanthropic organizations like the Rockefeller Foundation aided development efforts internationally. Few projects undertaken in China, Taiwan, or the rest of the world did so in national isolation. Even pre-reform PRC China (1949-1978), which at times touted a rejection of imperialist and Western expertise, engaged in international exchange with the Soviet Union (extensively, before the Sino-Soviet split) and the United States. Lead scientists or engineers were often foreign trained PhDs, bureaucrats often traveled to cities or villages in other countries to see rice or dams or urban housing in demonstration, and academic journals and presses disseminated experimental results or new technologies.

Studying modernity as a consequence of its social, intellectual, and cultural context is not simply a methodological choice. It is necessitated by studying development as a practice on the ground, and not as a theory invented in sociology departments of MIT and Harvard, the Washington offices of the World Bank, or in the mind of Walt Rostow. Development was an enterprise that affected a great portion of the world's population. As such, it deserves the historical attention of examining how it was carried out in the places where it actually affected the world—the Global South. This narrative thus takes place outside the borders of the United States, in places where Americans, and later Taiwanese, went to practice what they perceived as development. It follows their ideas, including how they debated and settled (or left unresolved) arguments over how best to accomplish their goals of famine prevention, social improvement, or economic growth. Most importantly, it follows the actual practices as they were formulated and practiced by mid-level technocrats or scientists or technicians.

Decentering development from the West, as David Engerman and Corinna Unger have argued, allows us to see how development affected not just the lives of those on the ground, but also how power brokers within the Global South sought to utilize development for their own purposes.¹² The later chapters of this narrative thus place a large focus on South-to-South development, namely Taiwanese development missions to Africa and Asia. Though supported by US dollars, the content of these missions, when removed from the “US and the world” model that focuses on American-centric understandings of modernization and the Cold War, reveals new ideas about the history of development. In some cases it reinforces what we already know, namely that development often claims to be

¹² David C. Engerman and Corinna Unger, “Introduction: Towards a Global History of Modernization,” *Diplomatic History* 33, no. 3 (2009): 375–85.

a technical panacea that can transcend politics, but more often than not, fails because of its inability to tackle political issues.¹³

In other cases, examining development through a South-to-South lens reveals new dimensions that may not have been obvious from extant examples of North-to-South development that has dominated the literature. For example, Taiwanese missions in the 1960s in Vietnam and Africa did not point to the benefits of cutting edge technology. Rather, they demonstrated that Taiwanese agrarian methods, which were grounded in blue collar technicians working the fields, arose from the same tropical and poor conditions as the African and Asian fields to which they were sent. These methods, often emphasizing the well-developed farmers associations of Taiwan and the efficacy of agricultural extension (extending technologies from center to periphery), were the result of Taiwan's longstanding experiences with farmers associations rather than large capital investments in science and technology or infrastructure, which would have been impractical for both sides of a South-to-South instance.

Most consequentially, the implications of studying South-to-South connections are that Taiwan's motivations for doing so can be more clearly explained in the postcolonial context. Initially driven by Cold War geopolitics to trade development for diplomatic favors, Taiwan's Global South missions in content and in representation grew to be something more. International development became a powerful mirror by which Taiwan could reflect upon for its own process of decolonization and nation-building. In representing itself as having successfully excelled at development, which had become the object of desire for nearly all of the Global South, Taiwan sought to find a new international identity. And in being able to teach other nations how to achieve the same success, it positioned itself among the elite of the international system. This reimagining of Taiwan's contemporary history as one of fantastic transformation of colony-to-vanguard became a powerful governing logic and vision of modernity that was utilized internationally and at home.

The Larger Picture

This dissertation intervenes in a number of scholarly fields, primarily in different fields of history, but also in the broader fields of social sciences and public policy. As a project that is about the rise of the modern nation-state, it touches upon politics, economy, society, culture, ideas, science, technology, environment, and international relations. And as a global historical project, it touches on the specific national histories of Taiwan, China, and the United States, while also dealing with transnational and global issues that affected Southeast Asia and Africa.

The history of development has often been told as a narrative of postwar American modernization abroad, or of postwar international organizations. Historians of the United States have presupposed the inevitability of American projection of its own image in the

¹³ James Ferguson, *The Anti-Politics Machine: "Development," Depoliticization, and Bureaucratic Power in Lesotho* (Cambridge University Press, 1990).

rest of the world as a means to counter Soviet influence in the global Cold War.¹⁴ Though there is truth to this narrative, the history of development was not just a singular project. Historians like David Engerman have demonstrated how non-US powers like the Soviet Union have approached modernization.¹⁵ Histories of international development have focused on international organizations like the World Bank, the United Nations Food and Agriculture Organization, etc.¹⁶ Yet these narratives also privilege the role of the West. Like the Global North nations from which they drew upon for expertise and capital, international development organizations often mirrored their development logics and ideologies. And as the same development institutions recur in these narratives, the “modernization imposed from above and beyond” approach to development is privileged as well.

This dissertation serves to highlight the contingent nature of narratives about development by showing how rival ideas and practices were debated, discarded, and advocated across global spaces. In the 1920s, for example, numerous approaches to development, from civil engineering to plant botany, competed in the same space for resources and policy attention. That certain approaches came to represent development in certain areas, e.g. high-yielding wheat in Mexico, was historically contingent upon certain actors and decisions falling into place. I pay particular focus to how debates between approaches resulted in particular narratives like the Green Revolution while others, such as land reform, were less triumphant.

Another tendency of the development studies field is to see development as primarily a postwar phenomenon. Thus, international organizations created at the end of the World War II, and state agencies like the Economic Cooperation Administration, created to administer the Marshall Plan in Europe, are seen as the primary arbiters of development. This narrative is also problematic. Recently historians have pointed out that development started earlier, with the Rockefeller Foundation working abroad.¹⁷ This narrative also locates the origins of development in the prewar era, dating to efforts not just by American philanthropic organizations like the Rockefeller Foundation, but also to efforts by American missionaries, who had been operating abroad as early as the 19th century.

¹⁴ David Ekbladh, *The Great American Mission: Modernization and the Construction of an American World Order* (Princeton University Press, 2009); Michael E Latham, *The Right Kind of Revolution: Modernization, Development, and U.S. Foreign Policy from the Cold War to the Present* (Ithaca: Cornell University Press, 2011); Latham, *Modernization as Ideology*.

¹⁵ David C. Engerman, *Modernization from the Other Shore: American Intellectuals and the Romance of Russian Development* (Harvard Univ Press, 2003).

¹⁶ Gilbert Rist, *The History of Development: From Western Origins to Global Faith*, 3rd ed (Zed, 2008). Amy L. Sayward, *The Birth of Development: How the World Bank, Food and Agriculture Organization, and World Health Organization Changed the World, 1945-1965* (Kent State University Press, 2006). Patrick Allan Sharma, *Robert McNamara's Other War: The World Bank and International Development* (University of Pennsylvania Press, 2017).

¹⁷ Both Ekbladh, *The Great American Mission: Modernization and the Construction of an American World Order* and Engerman, “Development Politics and the Cold War” have acknowledged this, for example.

This corrective is important to emphasize because it once again shifts away from the Cold War argument that development was about the United States state and its affiliated international institutions. As Chapter 1 explores, American missionaries had a far different ideology in mind from USAID; instead of looking to strengthen or prop up American allies abroad, American missionaries were looking, at least initially, to save souls. In many cases, proselytizing was not just about spreading a belief in Christianity, but also about saving souls in another way—preventing them from dying due to hunger and famine.

Of greater consequence is that locating this history earlier also brings into question the agency of development. Christian missionaries were often the drivers of development efforts, but they worked hand in hand with Chinese Christians and non-Christians as well. Many of these had homegrown ideas of development formed independently and in conjunction with missionary-led ideas of development. Thus, for example, rural reformer Yan Yangchu (宴陽初), who was educated in missionary schools like many literate elite of his generation, developed his idea of the Mass Education Movement as a means to lift the rural villages of China out of poverty. As historians like Daniel Immerwahr have shown, Yan's ideas evolved even after he left China in 1949 to merge with community development efforts in the Philippines. These later postwar convergences had their roots in the prewar, and outside of the borders of the United States, without the involvement of the US government.

Anthropologists like James Ferguson and Arturo Escobar have written the foundational texts in the study of development, arguing for example that the practice of development claimed to be “apolitical,” meaning its technical nature could transcend politics.¹⁸ Anthropologist James Scott has also written critical takes on state modernization projects, emphasizing how the modernizing state often ignores local conditions in imposing its high-modernist logic upon natural and human worlds.¹⁹ In contrast to these case studies of failure, my project is a history of one of the few success stories of development: Taiwan.

Studying a success story reveals different insights into development. On the one hand, it can be seen as the exception that proves the rule. Taiwan's success at home and failure to reproduce its model with sustained success abroad reinforce some of Ferguson's and Escobar's arguments. On the other hand, studying the exception shows us exactly what obstacles needed to be overcome to accomplish successful development. Taiwan benefitted from a number of factors that other developing societies did not: a legacy of Japanese imperialism that built a system of farmers associations and irrigation, a relatively well educated urban and rural population, around \$3 billion USD of military and economic aid from the United States, a spatially compact geography without unreasonable pressures due to population size, and an experienced and well educated government bureaucracy. Many of these beneficial factors were structural—the consequences of histories, migrations, wars, and geopolitics that development practitioners had little control over.

¹⁸ Ferguson, *The Anti-Politics Machine*; Arturo Escobar, *Encountering Development: The Making and Unmaking of The Third World* (Princeton University Press, 1995).

¹⁹ Scott, *Seeing like a State*.

Nonetheless, even structural advantages did not guarantee economic growth or upward social mobility or healthy diets. These structural advantages were taken advantage of by development planners, and though missteps occurred, for the most part, Taiwan's success tells us that extending agricultural techniques for proper application of fertilizer and breeding higher yielding rice contribute nonetheless to the bottom line.

Perhaps most importantly, it seeks to explain the historical contingencies for how this success narrative was constructed and employed as a tool to further political ends. Development was not about the object of development, but rather about the political needs of the developer. As Chapter 3 on the Vanguard missions demonstrate, success became important for the Guomindang regime in both how it perceived of its own rule on Taiwan and how it portrayed itself to domestic and international audiences. Much as how American development abroad furthered Cold War goals of combatting communism and creating a world for democracy and capitalism, Taiwanese development allowed Taiwan to improve its international footing, directly through trading development for United Nations votes and indirectly through the soft power projection of technical expertise.

Though intellectually this is a project on development, at its heart it is also a history of Taiwan. The historical narrative of rags to riches has always been a compelling one. Postwar Taiwan contains an equal amount of richness in its narrative complexity. Taiwan sent development missions to over 30 nations in the Global South by the 1980s, a part of its history that contains layers of complexities regarding its emergence as a modern society and its position in the world, not to mention its global impact as an early instance of South-to-South cooperation in the 1950s. Yet its venture into global development remained overshadowed by other aspects of its history, including its industrial rise through consumer goods and high technology, its transition to democracy, and most importantly, its potential spot for global war through the Cold War with the People's Republic of China (PRC).²⁰

Taiwan's agricultural development history is arguably as important as these other histories, if not more so. The miracle in industrialization was only possible by building upon the foundation provided by the agricultural miracle. Taiwan's economic transition to export-oriented consumer goods depended upon the productivity increases in agriculture (and land reform, though that connection is more tenuous, as Chapter 4 explains) that freed former agricultural labor and encouraged the rural-to-urban migration and

²⁰ On why Taiwan should be studied today, a comprehensive introduction is Shelley Rigger, *Why Taiwan Matters: Small Island, Global Powerhouse* (Lanham: Rowman & Littlefield Publishers, 2011). On its economic miracle in industrialization, the classics are Thomas B. Gold, *State and Society in the Taiwan Miracle* (M.E. Sharpe, 1986) and Robert Wade, *Governing the Market* (Princeton University Press, 1992). For its transition to democracy, see Dafydd Fell, *Party Politics in Taiwan: Party Change and the Democratic Evolution of Taiwan, 1991-2004*, Reprint edition (London: Routledge, 2012) and Shelley Rigger, *Politics in Taiwan: Voting for Democracy*, 1 edition (London; New York: Routledge, 1999). On cross-strait relations, see Nancy Bernkopf Tucker, *Strait Talk: United States-Taiwan Relations and the Crisis with China* (Cambridge, Mass: Harvard University Press, 2009). Nancy Bernkopf Tucker, *Dangerous Strait: The U.S.--Taiwan--China Crisis* (New York: Columbia University Press, 2005) and Hsiao-ting Lin, *Accidental State: Chiang Kai-Shek, the United States, and the Making of Taiwan* (Cambridge, Massachusetts: Harvard University Press, 2016).

transition of small families to other industrial enterprises. Furthermore, the agricultural success of Taiwan not only provided the economic and social precursors for industrial growth; it also provided the blueprint. Taiwan's numerous industrial research centers and public-private cooperation ventures followed the model of agricultural science. Institutes like ITRI, the Industrial Technology Research Institute, operated in the same manner as the Asian Vegetable Research and Technology Center and the Taiwan Agricultural Research Institute, both government-funded institutions established at the height of the Green Revolution in Taiwan.

Taiwan's transition from an authoritarian regime to a durable democracy make it one of the most worthwhile case studies of political development today. Under Chiang Kai-shek's Nationalist regime, the state imposed martial law, incarcerated political opponents, cracked down on social unrest in instances such as the February 28th incident, and readily used violence to enforce its authority, as evidenced by the White Terror. Since its transition to free elections in the 1990s, Taiwan has sustained an enduring democracy with successful exchanges of power between the Nationalists (the Guomindang) and the opposition Democratic Progressive Party (DPP), while also fostering a free press and a robust civil society. Though the story of agricultural development should not take any of the spotlight away from this transition, the history of agricultural development is at many points tied into the narrative of democratization as well. At the village level in Taiwan, efforts at community development that were influenced by rural reform efforts on mainland China had created familiarity with local-level elections for farmers associations leaders, 4-H clubs, and other rural administrative bodies. Though national-level Guomindang bureaucracy remained highly autocratic, the seeds of democracy can be traced earlier than the *dangwai* (黨外) movement that scholars like Shelley Rigger have attributed to democratization.²¹

And though the cross-straits tension left unresolved from the Communist Revolution of 1949 continues to be a potential spark for catastrophic world war, it is also important to see how this conflict has created less visible yet arguably more impactful ripples elsewhere. Taiwan's turn to international development was one of these. At home, the Cold War with the PRC engendered significant changes in the way Taiwanese lived.²² Abroad, though, the Cold War with the PRC also affected the lives of Vietnamese, Filipino, Thai, Rwandan, Ghanaian, Cameroonian, and the dozens of other nations that received development missions from Taiwan. These missions brought a unique representation of how Taiwanese perceived their own development in light of the international isolation rendered by the Cold War.

Most important is a separate story from economic success, political change, or the Cold War, and that is the interactions of Taiwan upon the world. Global history has made readily apparent that global forces, ranging from scientific ideas to capital flows, have a

²¹ Rigger, *Politics in Taiwan*.

²² See, for example, Michael Szonyi, *Cold War Island: Quemoy on the Front Line* (Cambridge; New York: Cambridge University Press, 2008).

significant and often outsized effect on local places or “national” histories, and that local places can have an unexpectedly outsized effect upon the world. Yet global histories of Taiwan remain, to large part, how Taiwan has been shaped by the world.²³ Though these are undoubtedly important to Taiwanese history, they are only one part of what makes global history so compelling. No history is merely one-way. Thus this dissertation makes an important corrective to a still nascent field: examining how Taiwan changed the world.²⁴ And in doing so, it also links an argument about why the global matters. Because it was through Taiwan’s international development and through its representations of itself and its model in those missions that reflected upon and shaped Taiwan’s ongoing decolonization. In other words, the emergence of modern Taiwan was a mutual process identity creation abroad, where its economic success was sold as uniquely Taiwanese, and at home, where these efforts were represented as Taiwan’s contribution in the world. This contribution to global development also showed where it stood internationally—at the Vanguard.

As much as Taiwan stands as its own field of scholarly inquiry, it is nonetheless linked to the history of China. Without entering into a discussion of whether Taiwan is Chinese, or whether Taiwan is a part of China, both politically-tinged questions that could be considered, affirmed, rejected, contextualized, deconstructed, and historicized in a million ways, there are aspects of this history that intervene into scholarly discussions of greater Chinese historiography.

It is worth discussing first the usage of terms of identity that will recur throughout this narrative. Most obvious to raise questions is the distinction between Chinese and Taiwanese as descriptors. As a general rule of thumb, with one key exception, the labels assigned in this dissertation are generally the labels that the historical actors would have used themselves. So, for the most part, when applied to people, they can be equated with distinctions that are still held today in Taiwan to refer to the two waves of migration to Taiwan. “Chinese” is often synonymous with *waishengren* (外省人, literally “person(s) from outside the province”), referring to those who emigrated from China with the Guomindang after 1945. “Taiwanese” usually refers to *benshengren* (本省人, people from “this province,” referring to Taiwan), those who emigrated to Taiwan before 1895 during the late Ming and Qing dynasties, mostly from the Chinese province of Fujian. These identifiers were usually hard-coded by one’s migration or family migration history, and thus can stand independently of self-identification. So, today, for instance, since many

²³ Recent examples include Tonio Andrade, *How Taiwan Became Chinese: Dutch, Spanish, and Han Colonization in the Seventeenth Century*, Gutenberg (E) (New York: Columbia University Press, 2008) and Andrew D. Morris, *Colonial Project, National Game: A History of Baseball in Taiwan* (Berkeley: University of California Press, 2010).

²⁴ Though scholars of geography have written about Taiwan’s contemporary development missions overseas. Kathleen M Baker and Richard Louis Edmonds, “Transfer of Taiwanese Ideas and Technology to the Gambia, West Africa: A Viable Approach to Rural Development?,” *Geographical Journal* 170, no. 3 (2004): 189–211, doi:10.1111/j.0016-7398.2004.00120.x. Shih-Shen Chien, Tzu-Po Yang, and Yi-Chen Wu, “Taiwan’s Foreign Aid and Technical Assistance in the Marshall Islands,” *Asian Survey* 50, no. 6 (November 1, 2010): 1184–1204, doi:10.1525/as.2010.50.6.1184.

younger generations of *waishengren* descent identify as Taiwanese or Taiwanese and Chinese, this definition would not work as well. But up until the 1980s, most *waishengren* thought of themselves as Chinese and only Chinese.

When discussing ideas and histories and experiences, this differentiation becomes more murky. I use the term “Taiwan model” and other related terms, such as Taiwanese experience, Taiwanese miracle, etc., to relate the history of agrarian success on the island of Taiwan. Because this incorporates Taiwan’s colonial heritage and its development independent of the mainland, Taiwan is the most apt moniker. However, I also use “Taiwanese” when referring to how Guomintang officials like JCRR Chairman Shen Zonghan (沈宗瀚) and Vice Minister of Foreign Affairs Yang Xikun (楊西崑) would have described the post-1945 success of the Republic of China. This is an exception. Shen Zonghan and Yang Xikun would have most assuredly described themselves, being *waishengren*, and the country and people they represent, as Chinese. However, they also acknowledge implicitly that the Chinese state, the Republic of China, only had Taiwan under its *de facto* administration, which is where the Taiwan miracle occurred. In historical documents, this disconnect is often hedged by referring to Taiwan as a geographical place or a province (which it still is today, officially, as recognized by both the ROC and PRC). It does not imply that they thought of Taiwan as their national identification. (This would be anachronistic, as Taiwanese independence did not gather momentum until decades later). Nonetheless, Taiwan serves as a useful shorthand, because denoting something as a “Taiwanese miracle” allows one to infer its time period (postwar) and eliminates confusion between this economic growth and the later economic growth encountered during the post-reform era PRC.

The structure of this history, which begins in Republican-era China (1911-1949) and ends in postwar Taiwan, is in itself an intervention. Because many of the actors in this narrative were government officials, so too are most of the actors in this narrative of Chinese descent, meaning born in and into families on mainland China. (At least until the rise of Lee Teng-hui through the ranks of the Guomintang bureaucracy before he became President; he was one of the first *benshengren* to achieve the rank of minister without portfolio). And because most of the actors in this story are Chinese, and because they even thought of themselves as representing the “true” China (or as Americans liked to call it, “Free China”), one could almost consider the history of Taiwan during this period as the closest one could attain to a counterfactual: a China that could have occurred had the Communist revolution failed, and the Nationalist government continued its rule. Counterfactuals are, of course, meant to be thought experiments to pose questions about historical agency, contingency, and causation. Equating the drastically different conditions of postwar PRC with postwar Taiwan, and ignoring simple points of discrepancy like scale and ecology (Taiwan is only about 1/3 the landmass of Fujian, for example, or less than 1/32 of Inner Mongolia), would be making a dangerous false equivalency. Nonetheless, there are intellectual continuities that exist, and these answer a number of important questions about “China.”

The first is about the Republic of China regime, and what the 1949 divide does for both China and Taiwan. Historian Megan Greene's superb history on the developmental history of Taiwan after 1949, focuses on how the Guomindang formulated its developmental policies, particularly with regards to science and technology.²⁵ She builds on historian William Kirby's argument that developmentalism represented a continuity from Guomindang policies on the mainland prior to 1949, in essence challenging historians to think of the 1949 divide as less of a break in histories and more of a continuity.²⁶ This continuity is deeply embedded, as Chapter 1 demonstrates, since many of the later building blocks of the "Taiwan model" were influenced by intellectual schools of development that arose in the Republican-era and were internalized in the formative experiences of many Guomindang agricultural development practitioners. The later chapters take this one further step to integrate a broader intellectual and global perspective, contextualizing the importance and global origins of different schools of development thought in Taiwan, which in addition to the critical aforementioned pre-1949 mainland connection, also includes American agricultural extension and land economics, as well as Japanese imperial contributions to rice research and farmers associations.

The next point more broadly deals with questions of economic and political development. One of the grander questions of historical comparison has been to explain the rapid rise of the West in the past four centuries, and the relatively slower growth (or "failure") of China to match this growth. Economic historians who are non-specialists of Chinese history like Joel Mokyr continue to place emphasis, rather unconvincingly, on the lack of fragmentation in Chinese political structure compared to Europe.²⁷ Mark Elvin laid the groundwork with cultural theories explaining the failure of China to develop, followed by historians Philip Huang, Kenneth Pomeranz, and R. Bin Wong who have added new perspectives and quantitative data.²⁸ From an intellectual history perspective, the "search for wealth and power" has always been a yearning and anxiety among modernizing Chinese elites in the late Qing and Republican eras.²⁹ Rebecca Karl has extended the allure

²⁵ J. Megan Greene, *The Origins of the Developmental State in Taiwan* (Cambridge, Mass.: Harvard University Press, 2008).

²⁶ William C. Kirby, "Engineering China: Birth of the Developmental State, 1928-1937," in *Becoming Chinese: Passages to Modernity and Beyond* (University of California Press, 2000).

²⁷ Joel Mokyr, *A Culture of Growth: The Origins of the Modern Economy* (Princeton, NJ: Princeton University Press, 2016).

²⁸ Mark Elvin, *The Pattern of the Chinese Past* (Stanford: Stanford University Press, 1973). Philip C Huang, *The Peasant Family and Rural Development in the Yangzi Delta, 1350-1988* (Stanford, Calif: Stanford University Press, 1990). Roy Bin Wong, *China Transformed: Historical Change and the Limits of European Experience* (Ithaca: Cornell University Press, 1997). Kenneth Pomeranz, *The Great Divergence: Europe, China, and the Making of the Modern World Economy* (Princeton, N.J: Princeton University Press, 2000). Jean-Laurent Rosenthal and R. Bin Wong, *Before and Beyond Divergence: The Politics of Economic Change in China and Europe* (Cambridge, Mass: Harvard University Press, 2011).

²⁹ Benjamin I. Schwartz, *In Search of Wealth and Power: Yen Fu and the West* (Cambridge: Belknap Press of Harvard University Press, 1964).

of economic growth to a study of Republican-era and PRC-era China, demonstrating a faith in what she has termed “the magic of concepts.”³⁰

This dissertation extends these classical debates of modernity and development into the contemporary era, and asks specifically how classical intellectual ideas of modernization via science and technology have changed in the 20th century in response to new national and global conditions. The intellectuals and scientists of this dissertation were in some ways an evolution of the late Qing and early Republican thinkers of self-strengthening. Though they were for the most part middle bureaucrats and not high profile intellectuals or reformers like Liang Qichao, and though they lacked the public profile of the May Fourth Movement or the New Life Movement, they nonetheless represented vehicles of change for the late Republican-era on the mainland and postwar Taiwan just by nature of how widely their policies affected an agrarian society like China or Taiwan. Bureaucrats like Jiang Menglin and Shen Zonghan had distinct ideas for how to improve their peoples and country, whether via science or rural education. They were arguably more successful in implementing their visions on Taiwan. As a result, perhaps unfairly so, their specific focus on agrarian modernization make their ideas more relevant, in the same way that the Communist revolution of 1949 made Mao Zedong and Chinese communism a focus of study for decades to follow.

A discussion of economic success in Taiwan necessitates examining the larger moment of postwar East Asia, which is the narrative of the Asian Tiger, or Asian Dragon, consisting of Taiwan, South Korea, Singapore, and Hong Kong (and sometimes Japan) that propelled East Asia into headlines during the 1970s, 80s, and 90s. For the United States as well as the rest of the world, this narrative attracted the attention of economists, policymakers, and citizens alike. Economic growth, and the positives associated with it—rising incomes, increased standards of living, political power, and of course, “modernity”—was a powerfully attractive concept. Economic growth would not just solve economic ills of unemployment, poverty, and stagnation; a rising economic tide would lift social, political, and cultural problems. And though discussions of the Asian Tigers have waned in recent years, their relevance continues unabated as South Korea, Singapore, and Hong Kong continue to remain global economic powerhouses. And especially in the past two decades, they have been replaced by discussions of a far more significant economy that appears to have followed the same path: China.

Much of the literature on the Asian Tigers has been defined and continues to be defined by social scientists, especially economists, political scientists, and sociologists.³¹ As a result, much of the emphasis has been on markets, policies, and especially the role of the state. Chalmers Johnson’s groundbreaking research focused on the role of MITI, the

³⁰ Rebecca E. Karl, *The Magic of Concepts: History and the Economic in Twentieth-Century China* (Durham: Duke University Press Books, 2017).

³¹ Alice H. Amsden, *Asia’s Next Giant: South Korea and Late Industrialization* (New York: Oxford University Press, 1989). Chalmers A. Johnson, *MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925-1975* (Stanford University Press, 1982). Wade, *Governing the Market*. Gold, *State and Society in the Taiwan Miracle*.

Ministry of International Trade and Industry, in Japan.³² Similarly, Robert Wade has focused on the role of the state in setting proper market incentives for private firms in Taiwan.³³ The focus on the state is deserved, as much of the rise of the “developmental state” literature has properly understood that state intervention into markets to promote policies such as import substitution, currency manipulation, and public-private research cooperation have produced positive results in the East Asian context. Still, there is much to be discussed within the Asian Tigers outside of these parameters. As discussed earlier, one of the first interventions is to examine how many of these policies arose first in agriculture. Taiwan innovated an export-oriented policy in the 1960s by investing in food industry, for example, which allowed it to benefit from the high profit margins in canned mushrooms and pineapples for export to Western markets.

More importantly, though, is that this is a history that follows what happens when these practices of the developmental state attempted to reproduce them elsewhere. Much has been written from the same social scientists about whether the East Asian miracles could be “transferable.”³⁴ Economist Paul Krugman, for example, has called into question whether the East Asian miracles could be considered miracles at all, given that he argues it was primarily the result of intensive, and not extensive, growth, implying that the Asian Tigers benefitted from an increase in production inputs only, not from an improvement in production technologies that allows for increased outputs from the same level of inputs.³⁵ Chapters 3 and 4 on Vanguard and land reform training show how Taiwanese attempted to transfer their own lessons abroad. These missions met varying levels of success, but for the most part, none achieved lasting impacts as Taiwan experienced itself in the 1950s and 60s. The reasons for this are complicated, but for the purposes of this debate, it demonstrates the difficulty of creating a “developmental state.” Few states have the ability, or even the desire, to emulate the developmentalist model that East Asia poses, often for political or structural reasons. The Taiwanese missions encountered this when, for example, teams sent to develop farmers’ associations in Vietnam could not be implemented on a nation-wide basis for the simple reason of the ongoing Vietnam War. Though war was not always an obstacle in every mission, the idea of transferring the East Asia miracle hinges upon the presumption that other variables of East Asian politics, society, culture, etc., could be held constant. This was rarely the case.

Much of what made this history possible was the Cold War. Like many American allies during the latter half of the 20th century, Taiwan received significant funding from the US government, by some accounts totaling \$3 billion USD in economic and military aid. Taiwan’s case was of course complicated by its recognition as “Free China,” the exiled regime that stood in opposition to the Communist regime on the mainland. Its development was as much a history of the Cold War as anything else. American

³² Johnson, *MITI and the Japanese Miracle*.

³³ Wade, *Governing the Market*.

³⁴ Peter Evans, “Transferable Lessons? Re-Examining the Institutional Prerequisites of East Asian Economic Policies,” *The Journal of Development Studies* 34, no. 6 (1998): 66–86.

³⁵ Paul Krugman, “The Myth of Asia’s Miracle,” *Foreign Affairs* 73 (1994): 62.

policymakers benefitted tremendously from Taiwan's success, attributing its growth to the actions and expertise of USAID, and thereby championing the United States and its system of democracy and capitalism. There is a significant historiography on the US-Taiwan relationship already, and most of it has covered the nuances of its alliance vis-a-vis Chiang Kai-shek's avowed retaking of the mainland.³⁶

What has been less discussed is instead a history of the Cold War as it unfolded on the ground. Historian Arne Westad in his important revision to the Cold War has argued that the greatest changes that derived from the Cold War occurred on the ground in the Global South, not within the superpowers.³⁷ Anthropologist Heonik Kwon and historian Hajimu Masuda have taken this one step further, examining how the Cold War had engendered new realities and violence within domestic social contexts, especially in postcolonial contexts.³⁸ As Westad has called for, this narrative examines the Cold War from a different angle that emphasizes how the Cold War played out in the Global South. Like Masuda, it examines the role that the Cold War played in changing national histories, and like Kwon, understands how the Cold War emerged with a different narrative in the postcolonial world.

Thus, for example, Chapter 4 examines the history of land reform as one fundamentally defined by the Cold War. The forced redistribution of land from landlords to tenant farmers became a celebrated narrative by Taiwan internationally, especially among "Free World" allies. Taiwan was able to claim that it represented the interests of the common farmer, and did so without resorting to radical revolution that would have resulted in violence or outright execution that was allegedly widespread after the Communist takeover. Yet Taiwan's land reform was also capitalistic in some ways; the financial instruments devised to allow landlords to ostensibly profit off of their stripped lands was one of the proclaimed reasons for the rural-to-industrial capital transfer that allowed for industrialization.³⁹ And so much of the land reform narrative became driven by Cold War politics.

Chapter 3 discusses another aspect of the Cold War, which is how the Communist-forced dislocation of the Guomindang regime in Taiwan and its loss of ruling legitimacy pushed it to find international development as a means of legitimizing its rule in Taiwan through demonstrations of international expertise and humanitarian action. By situating development within local contexts and across global networks, the dissertation demonstrates how development was driven by the global Cold War and its wide ranging

³⁶ John W. Garver, *The Sino-American Alliance: Nationalist China and American Cold War Strategy in Asia* (Armonk, N.Y.: M.E. Sharpe, 1997); Gordon H. Chang, "To the Nuclear Brink: Eisenhower, Dulles, and the Quemoy-Matsu Crisis," *International Security* 12, no. 4 (Spring 1988): 96–123. Tucker, *Dangerous Strait*. Tucker, *Strait Talk*.

³⁷ Odd Arne Westad, *The Global Cold War: Third World Interventions and the Making of Our Times* (Cambridge: Cambridge University Press, 2005).

³⁸ Heonik Kwon, *The Other Cold War* (New York: Columbia University Press, 2010). Hajimu Masuda, *Cold War Crucible: The Korean Conflict and the Postwar World* (Cambridge, Massachusetts: Harvard University Press, 2015).

³⁹ As Chapter 4 will discuss, this narrative is overly simplified.

fronts against communism, yet at the same time nuanced with local contexts and politics. This is a long-delayed corrective to a narrative of superpower ideologies that has been portrayed as only carried out via nuclear arms races, proxy wars, and in outer space. The Cold War, especially in Asia and the Global South, redefined everything from how tenant farmers were able to purchase the lands they were renting to how rice paddies in Pakistan in the 1970s received rice containing a dwarfing gene that originated with a rice cultivar from Taiwan.

This dissertation is also a history of science and technology. Because the focus for most of the dissertation is on agrarian development, agricultural sciences played an important recurring role. Plant breeding, botany, soil science, agricultural chemistry, entomology, animal husbandry, veterinary medicine, and agronomy all contributed novel ideas about how science and technology could contribute to the improvement of rural peoples throughout the world.

The history of science and technology has been at the frontier of innovating theories regarding how knowledge is constructed. STS theorists such as Bruno Latour have contextualized understandings of science and technology within the societies they operate.⁴⁰ These contextualizations are key for development as well, in which practitioners range from missionaries to university scientists to Cold War diplomats. The politics under which they are operating is key to understanding why development is practiced and for whom it benefits. Sheila Jasanoff, another STS theorist, has put forth the term “sociotechnical imaginaries” to describe how modernizers instilled within their advocated technologies a vision of the future.⁴¹ Development was as much an attempt to realize an idealized version of the future as any other technical project. And for Taiwan in particular, as Chapter 3 details, this sociotechnical imaginary also entailed a political goal, where Taiwan would find international leadership by being in the technological vanguard. In other words, that technology would bring political deliverance.

At the crossroads of the history of science, food, and environment is a deep scholarship on the Green Revolution. As Chapter 5 discusses, the Green Revolution was coined by a USAID director to describe a project to solve world hunger through agricultural science, and specifically through improved seeds like IR-8, miracle rice. Historians like Nick Cullather have written about how the Green Revolution was fundamentally a political project, supported by US Cold War policy.⁴² Sigrid Schmalzer similarly has recently examined how scientific farming and agricultural science were shaped by revolution and

⁴⁰ Bruno Latour, *The Pasteurization of France*, trans. Alan Sheridan and John Law (Cambridge, Mass: Harvard University Press, 1993). Bruno Latour, *Science in Action: How to Follow Scientists and Engineers Through Society*, Reprint edition (Cambridge, Mass.: Harvard University Press, 1988).

⁴¹ Sheila Jasanoff and Sang-Hyun Kim, eds., *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power* (Chicago; London: University Of Chicago Press, 2015).

⁴² Nick Cullather, *The Hungry World: America's Cold War Battle Against Poverty in Asia* (Cambridge, Mass: Harvard University Press, 2010). John H. Perkins, *Geopolitics and the Green Revolution: Wheat, Genes, and the Cold War* (Oxford University Press, 1997).

mass campaigns in socialist China.⁴³ My project complicates the narrative of the Green Revolution by arguing that the Green Revolution prescription of high yielding crop cultivars and fertilizer inputs was not just a story of unwavering belief in the transformative abilities of science and technology in flawed conquest of nature. Social reform, religion, and the social sciences all contributed to the rise of agrarian development in Asia, each contributing their own corrective to what the best means of relieving hunger and famine entailed.

Finally there is a significant field that examines the interactions of the US in the world. In this field, US development and modernization abroad is largely told from a US-centric perspective and based on US archival evidence.⁴⁴ It logically follows that this narrative has been characterized as one of internal to external imposition, from US domestic policy, i.e. the New Deal, and upon the agrarian masses of the Third World. My work decenters the US by utilizing multinational archives and focusing on the agency of local actors within the developing world, thus highlighting the political and ideological forces guiding development outside of US borders. By showing how development was repurposed instead of imposed, this history becomes a narrative of Global South struggles for identity and modernity in the international system, fought through hitherto peripheral South-to-South networks.

The dissertation also sheds light on what happens to American ideas once they leave US borders. Chapter 1 examines how many American ideas, through missionaries, philanthropic experts, and centers of science, filtered into China. These ideas, however, were rarely implemented in the same way they originated in the US. In a globalized space like agricultural science or famine relief, American ideas compete and were often only marginally differentiated from practices of other national origins, including Japanese and European. American and Chinese practitioners in China and Taiwan selected examples, lessons, and strategies based on pragmatic and political interests. Thus, for instance, agricultural extension, the system of disseminating agricultural technologies from centers of innovation to rural areas where they would be implemented, in Taiwan was in part modeled after agricultural extension in the American Midwest that Chinese planners had experimented with in the Republican era. This extension system was integrated with the extensive cultural legacy of rural administration through farmers associations under Japanese colonial rule on Taiwan. This final form should not be considered simply “Americanization” since it was complicated and synthesized across space and time in different national contexts and conversations.

Furthermore, nominally American ideas become hybridized and then retransmitted internationally once again. Chapter 4 discusses how American economic thinker Henry George’s ideas of moderate land reform based on taxation became co-opted by Taiwanese land economists as international development. Arguing that Taiwan’s land reform was

⁴³ Sigrid Schmalzer, *Red Revolution, Green Revolution* (University of Chicago Press, 2016).

⁴⁴ Ekbladh, *The Great American Mission: Modernization and the Construction of an American World Order*; Latham, *The Right Kind of Revolution*.

informed by Henry George, they championed a blend of American land taxation with Sun Yat-sen's ideology of welfare for the people. These complications and reverberations reflect how development unfolded as a whole—globally circulating, yet also defined within the politics and cultures of local places.

Methods and Sources

Because of the nature of development, which crosses a number of subfields within history, the methodology employed also reflects an interdisciplinary agenda. Development as a historical effort attempted to change economy and society. As part of explaining these changes, this dissertation at times will delve into economic results (particularly production statistics) and social impacts. Despite their importance, these are secondary to the main goal of the dissertation, which is to examine what development was on the ground, how it came to be, and what its goals were.

In this respect, this history still privileges the roles of knowledge and ideas. The chapters draw upon a variety of documents, but the questions of primary interest are the debates between various approaches in development. Following these debates then delves into other domains of inquiry. Since many of these ideas were ideas about social reform, economic growth, science and technology, and environmental change, this history will engage with a history of social and economic ideas, a history of science and applied knowledge, and a history of human interactions with the natural world. These ideas and practices, moreover, did not exist in a vacuum. Many of these ideas and practices were exercised within greater political and cultural contexts that fundamentally shaped their origins and expressions. Thus this is as much a history of geopolitics, the Cold War, religious missionaries, nation-building, and decolonization.

As a history, it primarily relies upon the empirical analysis of primary source documents to forge a narrative. But the tools and interpretations of these documents reach widely in disciplinary breadth. Accordingly, the dissertation borrows theories and approaches from STS (science, technology, and society studies), cultural anthropology, international relations, postcolonial studies, and sociology in order to analyze development as policy, practice, ideology, and discourse.

This dissertation utilizes extensive archival sources from twenty-five archives and libraries across the United States, Taiwan, China, Vietnam, and the Philippines, with languages encompassing English, Chinese, French, and Vietnamese. Several archives, such as the Lincoln Institute Papers at the University of Hartford and the Land Reform Training Institute Papers at the International Center of Land Policy Studies and Training in Taiwan, have never been utilized in a published history to the extent of my knowledge. These archives from both the Global North and South demonstrate both axes of development: North-to-South and South-to-South (and in some cases, South-to-North), that cover the full spectrum of development initiatives.

Materials collected from archives and libraries include a variety of sources, such as scientific applications for research funding, diplomatic cables, opinion editorials, private correspondences, newspaper accounts, public speeches, agricultural education and

extension periodicals, autobiographies, annual reports, religious newsletters, propaganda films, and technical policy recommendations. By focusing on these original sources written from on the ground and global perspectives, I can draw out the debates and ideas defining the practices of development experts, as well as contextualize their positions within greater social and cultural currents.

As inherent to any political project, especially one with so much consequential to the narrative of success as Taiwan's agricultural development, there are a number of caveats and pitfalls in studying this history. The first and foremost is that the archives, especially those located in Taiwan and China, have very likely been "sanitized" to a certain degree. The process of how a document ends up in an archive for a historian to see is a complicated chain, with multiple events needing to occur: how history is narrated on paper, which drafts are discarded, whether records are retained by their originating institutions or authors, which parties are carbon copied, whether documents are sent to historical archives to preservation, whether archivists choose to declassify or make them publicly accessible at all. In a success story where the state has an active interest in maintaining that success, either in order to uphold a certain official narrative or to uphold its historical legacy, there are multiple points at which failures or complications to this success can be silenced. With this history, points like this are boundless.

For a historian, these circumstances can prove to be the most fascinating yet also the most challenging. Some of the circumstances of this have been mitigated by careful corroboration. Parties involved in historical events may have ended up depositing relevant documents in different archives, as was often the case with the US-funded Vanguard missions, and indeed many documents not present in Taiwanese archives were found in corresponding agencies within the National Archives in College Park. More fruitful have been personal archival collections, as these have not been curated by state-employed archivists and often contain personal insights from letters and diaries. Thus, some chapters have been blessed with some combination of sleuthing and luck, allowing a multitude of vantage points for a nuanced narrative.

In other cases, historians are not so lucky. This is the case with some narratives, such as what occurred on the ground in Vanguard missions in Africa, which were tightly controlled due to their small mission sizes, their political nature, and the top-down hierarchy of international technical work. In these cases, the work of anthropologists is often the best approach: on-site interviews and participant observation often glean details that are lost or never recorded on paper. Alas, this approach is only possible when events are contemporary or recent. With the Vanguard missions having passed their 55th anniversary from its inauguration in 1961, there are practically no extant technicians that can be located from that era.

Still, a historian works with what is available. One approach is understanding a document for its purposed value. Many documents of this history are propagandistic or written to craft a specific narrative, meaning its purpose is mostly plain in view. For example, a political film on 4-H clubs like the one utilized in Chapter 2 reveals specific

aspects of modernity that development practitioners were seeking to portray. It provided color images of clean, vibrant uniforms; modern chemical application equipment; democratic principles. Though it may have been questionable how representative this portrayal was of Taiwan, there is nonetheless value in understanding this source for its desired image.

Another is reading against the grain. Land reform, for example, extolled a narrative of Guomindang concern for the common farmer. Many of the documents on land reform promoted this aspect of the land reform, but with hardly any discussion of other factors. What is being silenced in these narratives are the specific political and social conditions that made land reform more feasible in Taiwan and less feasible while the Guomindang was in power in China. These conditions then reveal some of the motivations for land reform that were not just about wealth redistribution or ensuring that farmers were not being exploited by their landlords, but instead about a regime that sought to consolidate its power in Taiwan with absolute military control.

Finally, this narrative is supplemented with interviews of development experts conducted in English and Chinese in the US and Taiwan. Though actual actors in this history have largely passed away, word of mouth knowledge spans generations. Later generations of Taiwanese agricultural technicians worked closely with earlier generations, and through long professional and personal friendships, achieved insight into many of these histories. These oral histories have served to identify points of dissonance, where official narratives have smoothed over points of resistance, failure, or irony, and where possible have supplemented these points with doubts and counternarratives. Though it remains a point of frustration that there are undoubtedly further points that remain hidden due to official silencing, at the very least familiarity with these patterns have allowed doubts to surface. In these cases I offer the reader my apologies for being unable to offer more concrete evidence, with the hopes that future declassifications and diversification of archival materials will allow for further justice to this history.

Chapter Outline

Chapter 1 starts with the religious and technical origins of international development, which can be located in the experiences of American missionaries, philanthropists, and scientists in China as early as 1920. There, US-based Christian missions and universities like Cornell sent civil engineers, agricultural economists, and plant breeders to rural China to alleviate hunger. As these experts debated various approaches to famine relief, the discourse began to shift toward a more long-term view – famine prevention. This transformation marks the beginning of international development thought and practice. Debates emerged in 1920s China, pre-dating the Tennessee Valley Authority and Truman's Point Four program, that would later solidify into schools of development, ranging from the civil engineering approach of flood prevention via dike infrastructure to the plant breeding approach of drought-resistant and high-yield crops via cultivar selection and breeding. Chapter 1 ends with the failure of the United Nations Relief and Rehabilitation

Administration in China, a lesson that would pave the way for both the Communist revolution and later agricultural success in Taiwan.

Chapter 2 examines how many of these debates were reconciled into a standardized “model” during the early years of the Joint Commission for Rural Reconstruction (JCRR). Reflecting the proclivities of its American and Chinese commissioners, JCRR integrated social reformist methods of agricultural extension and farmers associations with the high-modernist applied science of selected seeds and chemical fertilizers. Thus, the Republic of China on Taiwan provided subsidized credit for purchasing supplies, fertilizer, and land, and also began sending agricultural extension workers to disseminate knowledge at the village level. At the same time, it invested in basic and applied science research centers that would later select and breed the high-yield rice cultivars crucial to the Green Revolution. This model would later prove to possess significant propaganda value, as it became associated with sustained annual GDP increases, a drastic shift from trade deficit to surplus, and the economic and ideological foundation for the later “Asian miracle” in export-oriented industrialization.

The second half of this dissertation focuses on Taiwan’s reinterpretation of development thought as it interacted with the Global South from 1959 onward. In Chapter 3, the aforementioned US-backed Vanguard Program, the agricultural technical missions sent by the ROC Ministry of Foreign Affairs in the 1960s to Africa, Asia, and Latin America, exported the JCRR/Taiwanese model of agricultural extension, multiple cropping, farmers’ association organizing, and hybridized high yield rice varieties. The success of this approach at home underpinned its efforts internationally, driving Taiwanese intellectuals to conceive of Taiwan’s future national destiny as a leader of the Third World through programs like Vanguard.

Chapter 4 further drives this point home by examining the founding of the Land Reform Training Institute (土地改革訓練所 *tudi gaige xunlian suo*) in 1968, a joint institution between the ROC state and a US-based philanthropic organization which sought to train Third World bureaucrats in equitable land redistribution. Taiwanese economists co-opted land theories of popular American economist Henry George as well as one of Sun Yat-sen’s Three Principles, “the people’s livelihood” (民生 *minsheng*), to claim expertise over a unique approach to land reform. The economists behind LRTI hoped the Taiwanese land reform model would win the hearts and minds of tenant farmers internationally without resorting to the radical methods of collectivization.

Land reform training was complemented by Taiwan seizing upon US-led Green Revolution methods of crop selection and fertilizer inputs. Chapter 5 focuses on the Asian Vegetable Research and Development Center (亞洲蔬菜研究發展中心 *yazhou shucai yanjiu fazhan zhongxin*), founded in Taiwan in 1971, and the Asia-Pacific Food and Fertilizer Technology Center (亞太糧肥技術中心 *yatai liangfei jishu zhongxin*) in 1972 and coinciding with the loss of the ROC seat in the United Nations to the PRC. These centers were borne of the US Cold War network, officially co-founded with the US, Japan, Thailand, South Vietnam, and other US allies in Asia. By leveraging its scientific expertise

in the emerging Green Revolution in transnational scientific networks, Taiwan hoped to regain its international prestige once again looking to the world.

Chapter 1

Hunger Fighters: The Origins of International Development in Republican China, 1920-1949

“Money and food are eaten and gone, and if there is not sun and rain in proportion, there is again hunger.”

- Pearl Buck, in *The Good Earth*⁴⁵

Introduction

In 1931, Americans were exposed to the jarring tale of Wang Lung and O-Lan, the husband and wife protagonists of Pearl Buck's Pulitzer winning novel, *The Good Earth*. As the child of missionary parents who brought her to live in China for the majority of her childhood, Buck wrote about the struggle of peasant farmers in China, suffering at the whims of factors beyond their control. Wang Lung's painstaking labor for meager savings and his singleminded, nearly obsessive, pursuit of land helped Americans visualize an agrarian life that contrasted with the oft romanticized notion of a Jeffersonian agrarian America.

Though Pearl Buck made the fictional peasants Wang Lung and O-Lan famous among literary readers in America, it would be decades before hunger and famine outside of American borders proved to be of concern for American policymakers. Communism remained a distant threat, one that at least in China prior to 1931 was mostly an urban and intellectual phenomenon. And until World War II had turned Americans' attentions outward, *The Good Earth* remained merely a literary tale. But international development, the wide ranging practice of foreign aid usually manifested as technical assistance to build infrastructure, improve public health and medicine, and increase agricultural and industrial yields, had been well under way, in practice if not in name, by the time of *The Good Earth's* publication.

Historians have usually portrayed international development as a predominantly American state project, one prompted by the belief that the rural and agrarian populations of the world needed help in order not to fall to the rising forces of communism in the postwar era.⁴⁶ While the most prominent contemporary institutions associated with development—the World Bank, the Food Agriculture Organizations, the United Nations Development Program—indeed did not arise until the founding of the United Nations and the Bretton Woods conference near the end of WWII, the foundations for these institutions were laid well before the war. The United Nations had its predecessor in the League of Nations, which organized technical assistance missions, including those to China⁴⁷. The Food Agriculture Organization evolved from the International Institute of

⁴⁵ Pearl S. Buck, *The Good Earth* (Simon and Schuster, 2004).

⁴⁶ Cullather, *The Hungry World*. Ekbladh, *The Great American Mission: Modernization and the Construction of an American World Order*. Sayward, *The Birth of Development*.

⁴⁷ Jürgen Osterhammel, “‘Technical Co-Operation’ between the League of Nations and China,” *Modern Asian Studies* 13, no. 4 (January 1, 1979): 661–80, doi:10.2307/312187.

Agriculture in Rome, though its mission was largely one of collecting statistics rather than actively sending technical assistance missions. Outside the Bretton Woods institutions lie other praxes, originating from religious doctrine, social institutions, and scientism, in which later development practitioners not only were trained, but also defined the range of possible solutions, from social to technical, “low modern” to “high modern,” that would inform the discourses of development to arise in the postwar era.

In China, a larger development project was already underway by the 1920s, which historical scholarship has rarely framed in terms of development.⁴⁸ This chapter argues that American religious missionaries and philanthropic organizations, namely from American Christian (and predominantly Protestant denominations) and the Rockefeller Foundation, were the intellectual predecessors for international development. Contrary to narratives of development that began their arcs with Norman Borlaug, the “father” of the semi-dwarf, high productivity wheat varieties that ostensibly sparked the “Green Revolution,” the visions for an American postwar order among Bretton Woods planners, or with the Tennessee Valley Authority and the New Deal in the United States, international development in the case of China began with religious and philanthropic efforts to battle hunger and famine. By the 1930s these efforts had begun to shift their focus from mitigating the effects of droughts and floods to preventing famine from occurring in the first place, through preemptive investment in hydraulic infrastructure, basic and applied research in crops, insects, and soils, and dissemination of practices and social reform through village education.

Among the dozens of missionary and philanthropical groups working in Republican China (1911-1949), this chapter focuses on a few select development practitioners, both Chinese and American, and their associated institutions. The development experts who began their careers in China were largely natural scientists, social scientists, and engineers, both Chinese trained in pioneering centers of agricultural and social sciences in the United States and Americans who went abroad for the first time. These figures, including Americans John Earl Baker, John Reisner, and Raymond Moyer, and Chinese Yan Yangchu, Shen Zonghan, and Jiang Menglin, would become key figures in the histories of international development and in Taiwan’s own agricultural miracle of the 1950s and 1960s. Their shared experiences, beginning with the formative years of intellectual searching at American research universities such as Cornell and Columbia, through Chinese institutions such as Yenching University (*yanjing daxue* 燕京大學), Nanking University (*jinling daxue* 金陵大學), and social and rural reform movements such as the Mass Education Movement and the North China Council for Rural Reconstruction, demonstrated remarkable exchange and debate over how to fight famine and improve rural livelihood.

⁴⁸ On foreign agricultural aid and reacclimatization, see Randall E. Stross, *The Stubborn Earth: American Agriculturalists on Chinese Soil, 1898-1937* (University of California Press, 1986). On famine relief efforts by the Chinese state, see Lillian M. Li, *Fighting Famine in North China: State, Market, and Environmental Decline, 1690s-1990s* (Stanford, Calif.: Stanford University Press, 2010)..

From these debates emerged two predominant discourses of development. The first was socially grounded, originating from missionary activities and Chinese intellectuals and reformists who focused on rural China and believed in dissemination of knowledge for the good of the average village and villager. Out of these beliefs came an emphasis on public health, mass literacy, and most importantly, agricultural extension (the dissemination, through demonstrations in farms and villages, of agricultural technology and applied science, ranging from selected seeds, newly designed agricultural implements, to pesticide application practices). The second was “high modernist,” to borrow James Scott’s term.⁴⁹ These intellectuals were largely trained as scientists, ranging from plant breeders to entomologists and soil experts. Though many of these individuals believed also in the value of social practices like agricultural extension, they differed from social reformers in their belief in the power of technology and science to transform society. Though the language of the “modern” was not in vogue in this period, they encapsulated a vision of modernity through their goals and practices.

Missionaries and Famine

By the 1920s, well established Protestant missionary groups around the world had already begun discussing the benefits of agricultural development for those they were hoping to convert. Galangue Station in Angola, which was almost entirely manned by African Americans who had volunteered to return to Africa, was one such example. Run by the American Board of Commissioners for Foreign Missions (ABCFM), it was featured in the 1928 issue of alumni magazine *The Talladegan*. ABCFM missionary Reverend Samuel B. Coles wrote in the *Talladegan* article titled “The History and Future Development of Galangue Station” of its efforts at improving basic agriculture, including establishing blacksmithing to forge improved axes and hoes and introducing Galangue’s first plow. Coles expressed his desire for agriculture to free Galangue from the contributions of church members back in the United States. In addition to listing the number of acres tilled and planted with wheat and percentage of village deployed in agricultural enterprise, he hoped that eventually “better methods of farming will better the entire economic condition of the people and will make an independent self supporting native church.”⁵⁰

In China, a similar phenomenon was unfolding. Over a dozen Western missionary groups had been operating in China by the Republican period, both in the port treaties of China’s eastern coast as well as inland provinces like Shaanxi and Sichuan.⁵¹ These missionaries were in China for evangelism, to convert the Chinese to Christianity, but like North American Protestant missionaries elsewhere in the world, a great deal of them also worked on teaching and social causes. A growing number were also involved in famine relief. In the early 20th century, movements like the Social Gospel in the United States had begun thinking of social uplift as a basic moral imperative of Christianity, and alleviating

⁴⁹ Scott, *Seeing like a State*.

⁵⁰ Samuel B. Coles, Excerpt of “History and Future Development of Galangue Station” from the *Talladegan*, November 1928, Folder 2, Box 1, Harry Love Papers, Cornell Rare and Manuscripts Library (hereafter CRML).

⁵¹ Letter from Houghton to Embree, May 19, 1921, Folder 1040, Box 45, Series 1.2, RG 4 China Medical Board, Rockefeller Foundation, Rockefeller Archive Center (hereafter RAC).

hunger also was considered another means of saving souls.⁵² By 1921, according to a report by the United International Famine Relief Committee (*guoji tongyi jiuzai zonghui* 國際統一救災總會), the number of foreign workers engaging in famine relief numbered at 385, with missionaries from Presbyterian, Anglican, Roman Catholic, Methodist, Lutheran, and Baptist denominations representing the United States, Canada, Britain, Ireland, Denmark, Sweden, and Norway.⁵³

As Christian missions sought to help peoples in mission lands, philanthropic organizations in the United States also began to look outward. The Rockefeller Foundation (RF), run by Rockefeller family scion John D. Rockefeller Jr. and endowed with Rockefeller family funding, began to fund projects abroad, usually involving American expertise. The earliest Rockefeller efforts in China began with medicine. The famous Peking Union Medical College (PUMC) was a Rockefeller Foundation funded medical college that sought to improve public health in China by training Chinese doctors under the supervision of American faculty. Along with nearly a dozen medical colleges, mostly associated with the missionary universities such as St. John's, Nanking, Lingnan, etc., these cooperative training projects in medicine sought to bring Western medical practices to China.

By 1920, the Rockefeller Foundation began to look beyond PUMC, which by then had become a fairly successful organization at demonstrating tangible results through the number of Chinese doctors trained and graduated from PUMC. Part of the RF's *modus operandi* included working with and funding new and existing committees, like the China Medical Board, that would fundraise from specific donors interested in specific causes, such as medical relief in China, and appoint capable experts to carry out those missions. 1920 provided a new window of opportunity for the RF to expand in China, albeit in response to a national tragedy.

From Relief to Prevention

In 1920, a severe drought in north China led to a subsequent famine that received considerable attention in the United States. Historian Lillian Li estimated 30.3 million affected by the drought across five provinces, with around 500,000 dead as a result of the subsequent famine.⁵⁴ Newspapers in the United States covered the consequences of the famine with headlines such as "Starving Children Eat Baked Weeds," placing the death count at thousands a day and relaying a figure of \$100,000,000 needed for relief efforts.⁵⁵ Reports appeared so dire that American Presidents Woodrow Wilson and Warren Harding

⁵² For more on the work North American missionaries in social uplift, see Janet Fishburn, "The Social Gospel as 'a New View of Missions,'" in *North American Foreign Missions, 1810-1914: Theology, Theory, and Policy*, ed. Wilbert R. Shenk (Wm. B. Eerdmans Publishing, 2004), 222.

⁵³ Letter from Houghton to Embree, May 19, 1921, Folder 1040, Box 45, Series 1.2, RG 4 China Medical Board, Rockefeller Foundation, Rockefeller Archive Center (hereafter RAC).

⁵⁴ Li, *Fighting Famine in North China*, 284.

⁵⁵ "Starving Chinese Eat Baked Weeds: Thousands of Refugees, Migrating Afoot, Subsist on Cakes Resembling Clay," *The Washington Post* (1877-1922), December 26, 1920, sec. EDITORIAL AND SOCIETY.

appointed an American Advisory Committee for Famine Relief (AACFR), headed by prominent Americans in an effort to organize relief in north China.

AACFR, with a goal of raising \$5 million in gold, effectively organized both religious and non-religious fundraising pathways, and by 1922, considered its efforts a success. Starting in 1921, as rainfall began to increase, conditions in north China improved and no longer necessitated the continuation of food and relief distribution. But with significant capital still left over after relief efforts, the AACFR came to a crossroads. A memorandum, drafted by a specially convened subcommittee of the AACFR, was circulated by AACFR to the counterpart board in China, the American Advisory Committee in Beijing (AACB), and the major donors, including John Rockefeller Jr. and leading officials within the Rockefeller Foundation. The contents of the memo outlined an emerging debate over the future of humanitarian aid.

The obvious option that presented itself would have been a continuation of the AACFR mission. 1921 had seen flooding along the banks of the Yellow River, and leftover funds could easily have been applied to help mitigate that natural disaster. However, a rising opinion was expressed against such a course of action. Instead, the memo pointed to the existence of discouraging factors: 1) the AACFR believed the Chinese government possessed the funds and capability to attend to the affected flooded population, but chose to reserve that funding for “other uses” knowing foreign aid would flow in 2) continual foreign aid could potentially “pauperize” the Chinese by making them dependent upon foreign aid for future relief (as historian Pierre Fuller argues, an argument with little basis in reality) and 3) natural disasters occurred with such certainty that continual fundraising of American sources would see no end and funds should be spent immediately in order to ask for less in the future⁵⁶. In concluding the memo, the AACFR suggested three possible courses of action: 1) continue business as usual, 2) as a middle course, use the experience of the 1920 drought relief efforts as a lesson for future events by continually keeping track of crop conditions so that surplus reallocation could be done in a more timely manner, and at the opposite end, 3) use funds for “specific preventative lines.”⁵⁷

The memo triggered an extended and lengthy debate among the policymakers within the Rockefeller and the humanitarian aid community regarding would “preventative lines” could entail. George Vincent, a doctor serving on the China Medical Board and adviser to the Rockefeller Foundation, remarked that the AACFR should follow the precedents set by missionary organizations and Rockefeller and establish an “American Anti-Famine Foundation.” Missionary organizations did not attempt to “make a large number of converts,” it argued, but rather “to train its converts to the task of spreading the gospel to the masses of their countrymen.” Likewise the Rockefeller accomplished the same in setting “standards of medical education so that hundreds and eventually thousands of Chinese physicians shall heal millions of sick.” Thus, “no better purpose could be served”

⁵⁶ Memorandum, American Advisory Committee for Famine Relief, September 17, 1921, Folder 1040, Box 45, Series 1.2, RG 4 China Medical Board, Rockefeller Foundation, RAC.

⁵⁷ Ibid.

than to “put these famine funds to the education of the Chinese people in the prevention of future famine.” Vincent’s letter closed with a prediction that “there will come a time when the friendship of the common people of China will be worth more to America than the favor of the Mandarins,” a prediction that was eerily ominous of events to follow.⁵⁸

The counterpart board in China, the American Advisory Committee in Beijing (AACB) likewise weighed in with their thoughts. Consisting largely of missionaries in Beijing, the AACB leaned heavily toward the latter options. In fact, the AACB recommended that no funds be allocated toward the alleviation of the 1921 Yellow River floods, firmly believing that local “Chinese officials were in possession of necessary funds, derived from special super⁵⁹-taxes, ample to accomplish the necessary relief” but were withholding the funds “for other purposes and [to] seek American relief.” Like Vincent, it believed the most important goal would be to “prevent future famine” (emphasis original). In historical perspective, the AACB and American missionaries often mistook the actions of the Chinese state as well as ignored local Chinese attempts to relieve famine, but the discourse engendered by these letters nonetheless was quite real and proved influential for donors such as the Rockefeller outside of China. In the full six page letter, it laid out a plan of action. First, the AACFR should endow the remaining funds such that the interest from the principal could be administered by a new organization dedicated to finding worthy causes of investment. Next, ventures in two areas should be funded: reforestation and agricultural education. In the former, the AACB specifically mentioned the University of Nanking, “an institution of fine character,” notable because it was “largely conducted by Americans,” and Peking University (Yenching University) in the latter, also notable for the presence of Americans and its already extant extension system on 200 acres in north China. Most importantly, however, was that Nanking University had the only established and dedicated College of Agriculture and Forestry among universities surveyed, coincidentally at the time also being temporarily administered by agricultural economist, Cornell graduate, and then husband of Pearl Buck, John Lossing Buck. The AACB saw value in reforestation and agricultural education, and in explaining the latter specifically referenced American agricultural experiences: “In America the vast improvements in agriculture in recent years have come as a result of careful experimentation and demonstration and that such work, though not expensive, would constitute a most suitable and certain of famine prevention and that it could easily be made to affect a large part of China’s population.”⁶⁰ The authors saw parallels between American success in agricultural education and its potentially applicability to this new shift in discourse from relief to prevention. For a foreign aid situation, where resources were limited, population scaled

⁵⁸ Ibid.

⁵⁹ Pierre Fuller discusses this in detail in his dissertation. Pierre Emery Fuller, “Struggling with Famine in Warlord China: Social Networks, Achievements, and Limitations, 1920-21” (University of Michigan, Ann Arbor, 2012), 314, [http://search.proquest.com/docview/1018345348/77C867086D39480EPQ/1?](http://search.proquest.com/docview/1018345348/77C867086D39480EPQ/1?accountid=10226)
accountid=10226.

⁶⁰ Letter to American Advisory Committee for Famine Relief in New York, October 1921, Folder 1040, Box 45, Series 1.2, RG 4 China Medical Board, Rockefeller Foundation, RAC.

nearly infinitely, and success was rarely guaranteed, agricultural education appeared to be the best investment.

The AACB's recommendation was not without its critics, however. Roger S. Greene, director of the China Medical Board and member of the AACB, elaborated his own experience in dealing with other missionary groups. He noted that various missions have been communicating a serious need for relief funds, including from Arthur Brown of the Presbyterian Board of Foreign Missions, and that diverting surplus from "actual relief" could be "rather embarrassing" given the public facing nature of mission work. Nonetheless he believed the plan of the AACB was still the right path in terms of a long term resolution. In his additional comments, he also suggested that one or two Chinese individuals "of high standing" be asked to join in creating an organization in charge of the surplus endowment, in order to give the organization some legitimacy with the Chinese without necessarily displacing the role of the Chinese government.⁶¹

The greatest concern came not from those who believed that famine relief should remain dedicated to relief, but rather from those who thought that prevention was a problem that required alternate approaches — namely, infrastructure development instead of agricultural science or forestry. John K. Davis, the American Consul in Nanjing in 1922, sent a letter to Roger Greene, throwing his support behind a plan drafted by American Society of Civil Engineers President John Freeman to drain the Huai River basin and thus remove a cause of perennial flooding in northern Jiangsu and Anhui provinces. Davis explained his support for the Freeman report from an implementation point of view. Many famine relief efforts, he argued, were "characterized by an abundance of good intention but a paucity of executive ability."⁶² His implication was that he had full faith in the ability of Freeman to carry out his vision of infrastructure development, while he was unsure of the same with regards to rival proposals, including the one for agricultural education and reforestation from AACB. The debate over infrastructure development would recur throughout foreign assistance efforts in China and later in Taiwan, as each technical group, whether soil scientists, entomologists, educators, and civil engineers espoused their own professions as the panacea for the traditional ills of China. In this instance, however, the agricultural missionaries had sufficient support among AACFR and its supporting missionary boards and philanthropic organizations. Civil engineering and infrastructure development were sidelined in favor of reforestation and agricultural education.

By the end of 1922, the debate had been settled and plans were underway. The AACFR, in agreement with the AACB, decided to endow one million US dollars in surplus funding and provide three-quarters of the funds to Nanking University and one-quarter to Peking University. The funds would be managed by the newly formed China International Famine Relief Commission, consisting of representatives from eight famine relief organizations

⁶¹ Roger S. Greene to Vernon Munroe, January 25, 1922, Folder 1041, Box 45, Series 1.2, RG 4 China Medical Board, Rockefeller Foundation, RAC.

⁶² John K Davis to Greene, April 19, 1922, Folder 1041, Box 45, Series 1.2, RG 4 China Medical Board, Rockefeller Foundation, RAC.

operating in China at the time.⁶³ Significant leeway in the terms of the funding allowed the universities to exercise their best judgement to accomplish the stated goals: “the study and investigation of famine causes, prevention or relief, and as a means thereto for the education of the Chinese in agriculture, forestry, and other such activities as may relate to famine.”⁶⁴ John Reisner, a missionary, former Cornell professor of agricultural science, and at the time Dean of the College of Agriculture and Forestry at University of Nanking, drafted a proposal for utilizing the funds in conjunction with Peking University. The resulting proposal laid out two goals: “development of agricultural education by training teachers of improved agriculture for mission middle school and teacher training centers” and “preparation of courses in general agriculture for higher primary schools, and aid in training of teachers to give such courses.”⁶⁵ This emphasis on agricultural education, and specifically on training teachers that would be able to teach farmers, would later become crucial in the dissemination of agricultural practice and knowledge that undergirded the Nanking development model.

Institutions

A mere two years after the agreement by the AACFR to fund the College of Agriculture and Forestry at Nanking, a subsequent plan was underway from familiar names but under a different social impetus. In the United States, increased institutional support and discussion of missionary activities prompted new discussions over the best ways for missionaries to accomplish their goal of helping the Chinese populace. The discourse began to shift away from a focus on pure education to the environmental and social conditions — flooding, drought, and poverty — that caused recurring famine in China. The reported success of agricultural education in helping agrarian villages from Christian periodicals and alumni magazines like the aforementioned *Talladegan* began to spur the interest of academically trained scientists. Many of these were also religious and deeply believed in the work of missionaries abroad, and some were even returned agricultural missionaries like John Reisner. Centered at the agricultural knowledge centers of the United States, these scientists believed that the panacea for the social obstacles that missionaries faced could best be addressed through agricultural expertise.

Former colleagues, John Reisner and Cornell Professor of Plant Breeding Harry Love began to discuss their ideas for institutionalizing agricultural knowledge and bringing the benefits of university research to missionaries working abroad. They began with their home institutions and started the Nanking-Cornell Crop Improvement Program, which Love would later claim to be the earliest instance of international technical cooperation between two universities in agricultural development. Supported by the International Education Board, which was also funded by the Rockefeller Foundation, the Cornell-

⁶³ Andrew J. Nathan, *A History of the China International Famine Relief Commission*. (East Asian Research Center, Harvard University, 1965), 11.

⁶⁴ Munroe to Greene, October 4, 1922, Folder 1041, Box 45, Series 1.2, RG 4 China Medical Board, Rockefeller Foundation, RAC.

⁶⁵ Reisner to Greene, July 14, 1922, Folder 1041, Box 45, Series 1.2, RG 4 China Medical Board, Rockefeller Foundation, RAC.

Nanking venture aspired on paper to two goals: 1) to select and breed varieties of staple food crops of the famine-prone areas in China that would produce increased yields, demonstrate higher resistance to disease, and be more easily planted and farmed and 2) to train men in the “principles, methods, application and organization of crop improvement.”⁶⁶ The cooperative program sent Cornell faculty to Nanking University over a course of 7 years, with three Cornell professors making trips to China.

From its onset, the Nanking – Cornell program set its sights high. Unlike back in Ithaca, where basic and applied scientific research entailed selecting and breeding crops for the sake of producing the perfect plant, the Nanking – Cornell program explicitly placed a social goal, famine, above their usual plant breeding agenda. In writing to Love requesting Cornell dispatch one of its plant breeding scientists, Reisner was clear in the type of personnel he needed, “a man not only of ability, but of experience and one who is able to see the larger implications.”⁶⁷ In other words, while technical prowess was unquestionably necessary, Reisner hoped that Cornell would send someone who was not just interested in breeding a better plant, but also helping contribute to a better world.

The Nanking-Cornell program immediately began field tests of popular local crops, wheat, rice, soybean, millet, barley, etc., that formed the staple of Chinese diets. Reisner realized quickly, however, that plant breeding alone did little to ameliorate the social conditions in China. Brayton C. Case, an agricultural missionary in Burma who visited Reisner in China, relayed Reisner’s observations in 1929 after five years of helping to train and direct the Nanking University plant breeding department. One was an anecdote, of a village pastor who had come to the College of Agriculture at Nanking University seeking help for his rice growing village that suffered from regular famine. After one of the College of Agriculture instructors examined the pastor’s home village, the instructor advised the pastor to switch his village to sericulture production. Though new to sericulture, the villagers, after training at Nanking, were able to properly grow mulberry, rear silkworms, and most impressively, form credit cooperatives to fund their enterprise.

Reisner attributed this success to agricultural extension. “In China,” Case paraphrases Reisner, “there is great need of further research to gain knowledge for solving her agricultural difficulties, as well as the need of developing extension work to have this knowledge applied by the people to their agricultural practices.” Dissemination of knowledge was placed on the same level of importance as research. This anecdote, which we have from Case, who heard it secondhand from Reisner, who himself heard it secondhand from an extension instructor, was likely to have oversimplified the circumstances and complexities of village level production. Still, it was nonetheless illustrative of the need to assess local conditions between production and markets. No amount of higher-yielding and drought resistance rice would have helped the villagers of

⁶⁶ Newspaper clipping, “Farm Expert to Aid China in Crop Boost,” January 28, 1931; Agriculture; Box 114; Narrative Reports 1904-1939, China; Records of the Foreign Agricultural Service, RG 166; National Archives at College Park, College Park, MD (hereafter NACP).

⁶⁷ Love and Reisner, “The Cornell-Nanking Story; the First International Technical Cooperation Program in Agriculture by Cornell University.” Cornell University Library.

Reisner's anecdote as much as training in basic sericulture. Case further continues to indicate that Reisner contrasted this to Korea and India, where "relatively a much larger amount of work had been done on research than on extension" and as a result he believed that agricultural extension could be "utilized with great benefit" in Korea should their missionary population be leveraged for extension work.⁶⁸

After the departure of the last Cornell faculty in 1931 from Nanjing, the crop improvement program continued, with the College of Agriculture and its associated agricultural experimentation stations throughout China operating until 1949, and even afterward in the PRC. The program was deemed a success by the Cornellians in Ithaca. Later, agricultural economist and the dean of Cornell's College of Agriculture, William I. Meyers, stated he had been told by a State Department official that President Truman's Point Four Program, the first American international development program, was influenced by the success of the Cornell-Nanking program. True or not, the crop varieties out of the Cornell-Nanking program did not lift China out of famine, as war with Japan and civil war became more pressing concerns for the Chinese populace.

Back in the United States, the Cornell-Nanking program engendered significant changes at Cornell. Seeing the success of the joint venture at increasing international intellectual dialogue and at attracting bright Chinese students and faculty, the faculty of the plant breeding department saw that agricultural science had great potential in the world beyond the United States and began to expand their horizons beyond China. Ralph Felton, another professor of agricultural science at Cornell University, started a foundation dedicated to training missionaries going abroad in agricultural methods — the Agriculture Education Foundation. In 1929, after discussion with "agricultural missionaries" with formal training in agricultural sciences and returning from places like Burma, Brazil, and Africa, Felton and a group of likeminded colleagues from well established missionary organizations — the International YMCA and the Stokes Fund — began "a united effort to strengthen the work of Agricultural Missions." The theory behind the Foundation reflected a belief, expressed by the former Commissioner of Education for Alabama and later Director of the Stokes Fund, that "mission work needed more than anything else an increased emphasis on Agricultural Education."⁶⁹ Felton took this belief to heart and recruited fellow colleagues at Cornell, including fellow faculty member and Cornell-Nanking founder, Harry Love.

Love, Felton, and two other colleagues laid down the foundations for the Agriculture Education Foundation. Harry Love was chosen by the group as its president; Felton became its first secretary. They set a goal to endow one million dollars, of which interest would be spent annually to support missionary activities in agricultural teaching. More importantly, the goals of their enterprise had to be specific — the institution had to help the farmer out "in a practical way," which meant demonstration farming and tailoring the

⁶⁸ February 23, 1929, Letter from Case to Reisner. Folder 2, Box 1, Harry Love Papers, Division of Rare and Manuscript Collections, Cornell University Library.

⁶⁹ Ralph A. Felton, Memorandum, February 17, 1929, Folder 2, Box 1, Harry Love Papers, CRML.

methods in each country upon their specific needs, whether that meant an emphasis on research, resident teaching, or agricultural extension.⁷⁰ Practically speaking, the organization sought to work within the confines of existing missionary groups. It would seek to extend its help where it was wanted by local agricultural missionaries, cooperate with missions abroad, and rely upon the expertise of Felton's friend Warren Bristol at the International YMCA to begin fundraising.

As part of its efforts at practical dissemination, the Foundation, which later became the Agricultural Missions Foundation and Agricultural Missions Incorporated, organized annual workshops for missionaries going abroad. For over two decades until the late 1940s, Cornell became the host to the "Cornell Annual School for Missionaries." As the introductory paragraph of the brochure for the 12th iteration of the school explained, "Now more than ever before, the problems of missionaries during the next few years are likely to be bound up with the everyday living of the men, women, and children of the communities where they work. Problems of nutrition, food supply and sanitation, and of family life and community-social relationships will be paramount in most parts of the world."⁷¹ As the paragraph hinted, course curriculum and faculty specialties included a spectrum of academic disciplines that would later inform the various "schools" of development, from the high sciences of Plant Pathology and Soil Conservation, to the more enterprising Poultry Husbandry, and then the sociologically oriented Family Life, Rural Community Organization, and Rural Education that would form the backbone of community development. Among the list of participants included the typical Presbyterian, Congregationalist, Lutheran, Episcopal, and Methodist denominations, and its missions from Tianjin in China to Santiago in Chile and Uttar Pradesh in India.⁷² As the academic ground for such missionary training, Cornell became an important origin of knowledge dissemination abroad, and the practices carried on by the earliest agricultural missionaries were crucial in creating a model of agricultural development based on education, extension, and research. These models set important precedents, which in the case of China persisted by means of institutionalization and the seniority of practitioners who later became the technocrats in charge of American and Chinese led efforts.

Rural Social Movements

Though American missionary and philanthropic organizations were key predecessors for development in China, there even more projects aimed at development initiated and led by Chinese intellectuals and reformers. Chinese groups independent of the state had worked in famine relief during the Qing and earlier.⁷³ Intellectuals at Chinese universities had also written on and worked within the Nationalist government to enact social reform aimed at rural improvement. Two organizations would later prove particularly important

⁷⁰ Ralph A. Felton, Memorandum, February 17, 1929, Folder 2, Box 1, Harry Love Papers, CRML.

⁷¹ Thirteenth Annual Cornell School for Missionaries Brochure, February 14, 1942. Folder 16, Box 4, Harry Love Papers, Division of Rare and Manuscript Collections, Cornell University Library.

⁷² Thirteenth Annual Cornell School for Missionaries Biographical Sketches and Directory, February 14, 1942. Folder 16, Box 4, Harry Love Papers, Division of Rare and Manuscript Collections, Cornell University Library.

⁷³ Fuller, "Struggling with Famine in Warlord China."

in their roles as models and intellectual schools for later development — the Chinese National Association of the Mass Education Movement (*zhonghua pingmin jiaoyu cujinhui* 中華平民教育促進會) (MEM) and the National Agricultural Research Bureau (*zhongyang nongye shiyansuo* 中央農業實驗所) (NARB). Coincidentally both of these institutions arose from efforts detailed earlier, namely the former out of Christian education missions, including the YMCA, and the latter out of the Nanking University College of Agriculture and Forestry and its cooperative program with Cornell.

The Mass Education Movement began under the leadership of Yan Yangchu (晏陽初, James Y.C. Yen), a social reformer who believed that literacy should be the basis for rural development. Yan hailed from rural Sichuan, and as a young man had learned English at a Christian missionary school in Sichuan.⁷⁴ He went abroad for his university education, studying history and politics first at Yale and then Princeton. After graduation he served as a volunteer with the YMCA in France, serving the Chinese laborers who were sent to the front to help support the war effort. There, helping the illiterate Chinese laborers pen letters home, Yan became convinced that literacy would lift the rural masses of China out of poverty, and, as the MEM would later adopt as its slogan, “Eliminate illiteracy and make new citizens for China” (除文盲作新民 *chu wenmang zuo xinmin*).⁷⁵ After WWI, Yan returned to China and started the Mass Education Movement, creating first a “model” village to demonstrate the practices of literacy, public health, and farming education at Ding county (定縣) in north China, and later, after the outbreak of the Sino-Japanese War, in Hunan and Sichuan. MEM included among its board some of the most well known Chinese intellectuals and government officials, including Minister of Education and Peking University President Jiang Menglin (蔣夢麟, Chiang Mon-lin), later crucial in development on Taiwan, as well as the Minister of Labor and Commerce and the Minister of Health, who all three had corresponded with Yan regarding the possible contribution of a MEM model to improving national education, public health, and labor value.

The MEM model relied upon villages as units of cohesion and instruction. Ding county, the first experimental village of MEM, had around 200 inhabitants in 1930. MEM workers would teach the principles that Yan had prioritized, which in 1930 began with literacy and education, then agriculture and economic reconstruction, and finally village self-government and “citizenship training.”⁷⁶ In many reports and published materials, these would be boiled down to four principles that were used to sell the idea of the MEM to donors and potential donors: “Cultural Education, Economic Improvement, Public Health and Citizenship Training.”⁷⁷ In literacy education, Yan relied on what was called the “1000 Character Primer,” a set of four books consisting of one thousand Chinese characters each,

⁷⁴ For a biography of Yan, see Charles Wishart Hayford, *To the People: James Yen and Village China* (New York: Columbia University Press, 1990).

⁷⁵ Translation by Yan. Yan to Rockefeller, October 14, 1929, Folder “Report Letters 1929 to 1940,” Box 1, International Institute for Rural Reconstruction Collection, Rare Books & Manuscripts Library, Columbia University.

⁷⁶ Yan to Auchincloss, October 1, 1930, Folder “Report Letters 1929 to 1940,” Box 1, International Institute for Rural Reconstruction Collection, Rare Books & Manuscripts Library, Columbia University.

starting with the most commonly used. Unlike other literacy textbooks at the time, which were geared towards a classical or literary usage of Chinese, Yan specifically designed his textbooks to provide practical literacy, meaning beginning with vernacular vocabulary that would be common in a rural population.

Yan also believed in the importance of public health, and the MEM had recruited figures like PUMC graduate Chen Zhiqian (陳志潛, C.C. Chen) to help draw up the public health program. As concepts of hygiene and preventative medical practices to halt the spread of sanitation triggered contagions began to circulate among health officials in China, including those trained from PUMC, MEM incorporated these concepts into its village education. In one example of how public health was taught, Yan outlines in a letter to funders that Ding county seized on “market days” when villagers from ten or twenty *li* away would come to a MEM demonstration village. On market day, MEM organizers would seek help from the local army, students and teachers, the district magistrate, and village elders in order to prepare “the usual campaign posters, very pointed illustrations of common sources of infection; there were parades headed by the military band, there were speeches and little dramas, lantern slides, health motion pictures, and even radio!”⁷⁸ In explaining the reason for choosing a community-based path of public health, Chen Zhiqian incorporated a critique of Western methods. In a 1933 report, he quoted a National Health Administration report that outlined the lack of medical professionals outside of large urban centers and the predominance of private or missionary hospitals. Chen lamented the “imposition of the Western practice of private practice” in China, using almost socialist tones to describe the “wasteful line of individual competition” that system had engendered. Instead, Chen pushed for the MEM system as an alternative that still utilized “scientific medicine” but brought it to what he estimated to be 85% of the Chinese population, which were farmers in the rural hinterland.⁷⁹

MEM joined forces with five local universities in north China to form the North China Council of Rural Reconstruction (華北鄉村建設協進會 *huabei xiangcun jianshe xiejinhui*), which would eventually be renamed the National Council for Rural Reconstruction (全國鄉村建設委員會 *quanguo xiangcun jianshe weiyuanhui*) (NCRR).⁸⁰ By 1936, the operation at Ding county had attracted the displeasure of local officials who clashed with Yan. Yan departed Ding county to set up in Sichuan and Hunan, but he left some operations to NCRR, which continued to operate in north China even after the outbreak of the Sino-Japanese War and under occupation by Japanese administration. NCRR operated model villages like Ding county in other areas throughout north China. Eventually the idea of “rural reconstruction” would become commonplace. As historian Kate Merkel-Hess has

⁷⁸ Yan to Auchincloss, April 15, 1930, Folder “Report Letters 1929 to 1940,” Box 1, International Institute for Rural Reconstruction Collection, Rare Books & Manuscripts Library, Columbia University.

⁷⁹ C.C. Chen, *Scientific Medicine as Applied to Tingsien*, 1933. “Health Program Reports 1933 to 1935,” Box 1, International Institute for Rural Reconstruction Collection, Rare Books & Manuscripts Library, Columbia University.

⁸⁰ Kathryn Alexia Merkel-Hess McDonald, “A New People: Rural Modernity in Republican China” (Ph.D., University of California, Irvine, 2009), 327.

demonstrated, rural reconstruction became adopted during the Republican era by nearly every provincial governor (or “warlord,” the pejorative nomenclature given by both Nationalist and Communist historiography to the more powerful civil-military governors of the Republican era), in addition to the Nationalist government. Yan’s MEM operations in Sichuan would also grow throughout the 1930s, though after war broke out with Japan, Yan spent most of his time in the United States to lobby the US government. Out of those efforts arose the US-China Aid Act of 1948, to be discussed below.

National Agricultural Research Bureau

Though the Cornell-Nanking program was only able to send three Cornell faculty members to Nanking, its impact on development outlasted the tenure of its exchange program, in both intended and unseen ways. As Rockefeller Foundation official George Vincent earlier pointed out with the PUMC model, and as Reisner and Love had hoped to establish a similar institution, the men that emerged from the Cornell-Nanking program would later prove to be crucial to directing development in late Republican China and Taiwan. Chinese students had boarded ships for Europe, Japan, and the United States in search of higher education abroad since the late Qing and earlier, but those students were largely the products of upper class, elite, and literati families who had the financial means to support studies abroad. Many of the students already had spent years in missionary run schools in the United States, giving them an advantage through familiarity with Western languages and cultural exposure through religious study. Contrary to these existing pathways, the Cornell-Nanking program institutionalized a level of exchange that helped attract donor funding for graduate studies in the United States, especially from organizations like the Rockefeller Foundation, and made short-term and longer term studies at Cornell a recurring and even expected pathway for promising Nanking graduate students. Though also often hailing from wealthier families, few Nanking students had the luxury of missionary school training and even fewer had the financial means to study at an institution like Cornell.

One prominent exception to this pathway was nonetheless still a product of the Cornell-Nanking program, and later would become a fervent supporter of this educational pipeline practice. Shen Zonghan (沈宗瀚, Shen Tsung-han or T.H. Shen), a Zhejiang native born in 1895, had, as a fresh college graduate, borrowed money from a friend to pursue graduate studies in agriculture in the US, first at the University of Georgia, and then his PhD at Cornell University. After obtaining his PhD, for which he studied wheat breeding, he decided to return as a faculty member at Nanking University, working with his former teachers in the Cornell-Nanking program. By 1930 Shen had become the head of the Agronomy Department in the College of Agriculture and Forestry at University Nanking.⁸¹

In the mid 1930s, many of the faculty members at Nanking, including Shen, continued on to work in the National Agricultural Research Bureau that proved a spiritual successor to the Cornell-Nanking program. The NARB was a central Nationalist government funded

⁸¹ T.H. Shen, University of Nanking Report of Department of Agronomy, June 30, 1932. Folder 8, Box 15, Harry Love Papers, Division of Rare and Manuscript Collections, Cornell University Library.

bureau founded in 1933 in Nanjing.⁸² By 1938 ten agricultural institutions throughout China had become subsumed under the NARB umbrella, with Nanjing serving as the central office overseeing provincial agricultural institutes and stations.⁸³ Its directors included Xie Jiasheng (謝家聲, K.S. Sie), like Shen a Cornell graduate and a former Nanking faculty member, and eventually Shen himself who would take over for Xie as director in the last years of NARB. Like Nanking University, the NARB included divisions that specialized in field surveys to collect crop species and experiment stations throughout the provinces of China to select and breed crops best suited for local conditions. But while Nanking University placed great emphasis on training future agricultural scientists and extension workers in addition to its basic and applied research, the NARB focused less on the educational mission and more on basic and applied research, as well as the social mission of a government bureau tasked with agricultural development. For Shen and others who had left Nanking to join the NARB, they felt “a certain responsibility toward the Bureau,” in part because they were involved with its creation and because they believed in the value of science toward helping society improve as a whole.⁸⁴

The NARB reflected the societal goals of its roots with Cornell-Nanking through its increased emphasis on extension work. In one proposal seeking funding from the Rockefeller Foundation for insect control work at NARB, basic and applied research was combined with extension in pursuit of the goal of increasing industrial and food crop production in inland provinces.⁸⁵ The proposal outlined typical basic science goals; item five, for example, was for “continued research on the cottonseed-oil emulsion and the testing of other plant oils for the preparation of emulsions.” But applied research took equal footing: “continued research on the construction of other types of sprayer” used to apply pesticides. This was in conjunction with an increase in the size of the machine shop currently producing two types of sprayers. And at the extension end, it was complemented with control campaigns across five provinces to demonstrate use of sprayers, pesticides, and dusters all under the aegis of insect control methods.⁸⁶

The pesticide extension system became a point of pride later for the NARB. In a report describing the network of research institutions affiliated with the NARB in 1946, by then NARB Director Shen took special care to highlight the achievements of extension in rural China. The National Pesticides and Experimental Equipment Plant in Sichuan, for example, whose founding Shen attributed to work on pesticide and extension research conducted at NARB as early as 1935, was a crucial cog, Shen explained, at the head of the

⁸² James B Grant to Selskar M Gunn, October 13, 1936, Folder 88, Box 9, Series 601, RG 1 Projects, Rockefeller Foundation, RAC.

⁸³ James B Grant to Selskar M Gunn, November 11, 1938, Folder 89, Box 9, Series 601, RG 1 Projects, Rockefeller Foundation, RAC.

⁸⁴ September 26, 1934, Letter from K.S. Sie to Harry Love. Folder 81, Box 1, Harry Love Papers, Cornell Library Rare and Manuscripts Collection, Cornell University.

⁸⁵ Annual Report of Insect Control Work to the Rockefeller Foundation Conducted by the NARB, June 1939, Folder 92, Box 9, Series 601, RG 1 Projects, Rockefeller Foundation, RAC.

⁸⁶ National Agricultural Research Bureau Ministry of Industry to Selskar Gunn, January 23, 1937, Folder 89, Box 9, Series 601, RG 1 Projects, Rockefeller Foundation, RAC.

system for distributing pesticides and sprayers. Below the plant was one major provincial station with substations serving important counties. At the local level, “the rural agencies which are the distributing centers for the pesticides and sprayers are taken over by the farmers themselves, primary school teachers, drug-store keepers, or post office men” paid on a commission basis and under supervision from extension workers, a system Shen pointed out is similar to the “key farmers” (farmers who served as contacts for extension workers) in the US agricultural extension system.⁸⁷

Equally important to the NARB mission was the legacy of Nanking in applied and basic research. One report from the Rockefeller Shanghai officers called the NARB “without doubt one of the outstanding technical bureaus of the Chinese Government” with “well trained, competent, and industrious” personnel and in addition noted its progress in insect control research over a relatively short period.⁸⁸ In later years, Shen reminisced upon the ability of the NARB to both innovate new technologies and push those new technologies out. In a 1952 letter to UN Food and Agriculture Organization official H.L. Richardson, four years after his departure from NARB, Shen lamented the lack of “college training and fundamental research” done by NARB successor organization JCRR, which as a result made the JCRR “not so creative” in comparison to the NARB⁸⁹.

Postwar Reimaginings

As World War II reached a high point, both China and the United States began to consider the issue of postwar recovery. By 1943, intellectuals and bureaucrats throughout China had begun to discuss the need to begin tackling postwar issues. The American Embassy in Chongqing followed these discussions, forwarding conversation summaries, editorial translations, and relevant commentary to the State Department. Food and relief was a common subject, though varied in terms of its relative importance depending on the background of the commentator. International relations scholar Zhang Zhongfu (張忠紱, Chang Chung-fu) penned an editorial in the *China Times* in 1943 that was then translated and forwarded to Secretary of State Cordell Hull. The editorial discussed the importance of tackling potential postwar issues through the establishment of the United Nations. While issues such as international economics and territorial adjustments were complicated matters, he argued issues like food and relief could “easily be agreed upon in separate conferences” since they were “simpler.”⁹⁰ Zhang’s envisioning of food and relief was for a short period the prevailing mood among international relations experts, having relegated it first to the short lived United Nations Relief and Rehabilitation Administration (UNRRA) and later to the UN Food Agriculture Organization (FAO), which for its first few years of existence largely consisted of the “separate conferences” that Zhang had described.

⁸⁷ “Agricultural Research Organization in China” by T.H. Shen, October 9, 1946; Agriculture 1946; Box 600; Narrative Reports 1946-1949, China; Records of the Foreign Agricultural Service, RG 166; NACP.

⁸⁸ Grant 36154, April 15, 1936, Folder 88, Box 9, Series 601, RG 1 Projects, Rockefeller Foundation, RAC.

⁸⁹ Letter from Shen Zonghan to HL Richardson, August 16, 1952. 入藏登錄號 034000000356A, Folder “R,” 沈宗翰文件稿 (4箱), Academia Historica Archives.

⁹⁰ Solution of Postwar Problems - Editorial Published by Chang Chung-fu, March 31, 1943; Postwar Planning; Box 168; Narrative Reports 1942-1945, China; Records of the Foreign Agricultural Service, RG 166; NACP.

But the lessons of UNRRA would provide an impetus not only for the growth of FAO but more importantly for US planners as they realized the importance of food and relief to international relations.

Of greater relevance were the commentators of China's economic development. With China being predominantly an agrarian society, food and agriculture could not be ignored. Some academics and technocrats were generally vague. One, Zhang Qiyun (張其昀, Chang G. Yun), the head of the History and Geography department at Zhejiang University, perceived of China as regions, the Northwest, Southwest, Northeast, etc., that would specialize in its relative advantage, whether soybean production in the Northeast or oil drilling in Gansu. Another, Dong Shijin (董時進, Tung Shih-tsin), an agronomist at Peking University, argued for the importance of the agricultural sector for the overall industrialization and welfare of the Chinese economy. In an article published in *Dagong Bao* (大公報), Dong pointed out that if anything, the Sino-Japanese War has shown the importance of having a "modern country." To shed the label as "a land of famine," China needed to raise the living standard of all Chinese, meaning providing enough food and clothing, and that necessitated an emphasis in improved agriculture. Despite all of the discussion among intellectuals for industrialization, Dong reminded readers that in China "industrialization should be built on the foundation of agriculture. It means better industrial development in addition to better agriculture. Industry cannot replace agriculture." He illustrated his point through the example of cotton, a raw product produced by China's agriculture that was utilized as an input into China's industries and complete as a finished product ready for export. As J. Bartlett Richard, the Commercial Attache at the US Embassy translating the article commented, Dong served as "a real reminder that agriculture is and must continue to be the first industry of China."⁹¹

The head of the National Resources Commission (*guojia ziyuan weiyuanhui* 國家資源委員會) and the Minister of Economic Affairs at the time, Weng Wenhao (翁文灝, Wong Wen-hao), had a more concrete plan for agriculture. Weng was concerned from an industrial point of view, and specifically with regards to resource inputs and production outputs. With regards to agriculture, Weng was a pragmatist — he believed that improvements in farm implements were of little value in the Chinese context "not only because of the small size of farms but also because of the conservatism of farmers."⁹² Weng was correct to an extent. High peasant population density and, in many parts of China, the inelastic supply of arable land meant that economies of scale would not benefit as greatly from the use labor saving technologies as other types of agricultural economies. But his doubts over the willingness of Chinese farmers to adopt new technologies was one of the major driving factors behind the shift to agricultural education and extension among non-state sponsored projects like Cornell-Nanking and others to follow. At that point, however,

⁹¹ Solution of Postwar Problems - Editorial Published by Chang Chung-fu, March 31, 1943; Postwar Planning; Box 168; Narrative Reports 1942-1945, China; Records of the Foreign Agricultural Service, RG 166; NACP.

⁹² Chang Chung-fu, Editorial on Solution of Postwar Problems, March 31, 1943; Postwar Planning; Box 168; Narrative Reports 1942-1945, China; Records of the Foreign Agricultural Service, RG 166; NACP.

the editorials proved to shape the discussions of American postwar reconstruction efforts in China.

UNRRA and CNRRA

In the United States, with the end of the war on the horizon, an internationalist consensus began to reemerge among policy planners. Roosevelt and Secretary of State Hull envisioned an international system with the United States taking an active role. As part of this vision, the US would have needed to take a role in helping rebuild the war torn regions of the world.⁹³ One of the earliest manifestations of this idea was the United Nations Relief and Rehabilitation Administration (UNRRA), to which the United States contributed significant personnel, funding, and administrative direction. In the case of China, food shortages were acute due to a shortfall in domestic fertilizer production and damaged logistical infrastructure (roads, railroads, and ports) resulting from the Sino-Japanese War that prevented imported food and agricultural supplies from reaching areas of greatest need.⁹⁴ Reflecting the ideas of both Dong and Weng, as well as requests from the Chinese government, which specifically sought American expertise, UNRRA placed a heavy emphasis on agricultural rehabilitation to repair the damage caused by the Sino-Japanese War.⁹⁵ It stepped in by sending personnel to distribute basic agricultural goods, such as flour, as well as fertilizer supplies to farmers in need. In contrast with the religious missions and philanthropic organizations of the past, UNRRA was a direct state-to-state reconstruction project on a national scale. Its ambitions and arguably its downfall lay in the reconstruction approach that called for short-term relief on a national scale performed by a neutral third party that would have little ability to enact genuine structural change.

As part of its efforts, UNRRA recruited American agricultural scientists who had previously spent their careers in the US. One example was William J Green, representative of the American agricultural scientist of the New Deal era. Green was born and raised in the American Midwest and trained in agronomy and agricultural economics at the rising land grant colleges throughout the Midwest: Oklahoma State University, Texas A&M, and the US Department of Agriculture Graduate School. He began his career in the Agricultural Adjustment Administration and Farm Security Administration, working in Washington D.C. and in the farming heartland of America in the Midwest.⁹⁶ With the success of New Deal programs and agricultural advances in the US, the US Department of Agriculture had difficulty justifying the cost of its programs. In other words, American agricultural scientists were victims of their own success. Thus when the UNRRA came calling with an opportunity for agricultural experts to work abroad, scientists like Green

⁹³ Sayward, *The Birth of Development*. Elizabeth Borgwardt, *A New Deal for the World: America's Vision for Human Rights* (Cambridge, Mass.; London: Belknap Press, 2007).

⁹⁴ Newspaper clipping, "Farm Expert to Aid China in Crop Boost," January 28, 1931; Agriculture; Box 114; Narrative Reports 1904-1939, China; Records of the Foreign Agricultural Service, RG 166; NACP.

⁹⁵ US Experts Assist China in Reconstruction, September 28, 1943; Postwar Planning; Box 168; Narrative Reports 1942-1945, China; Records of the Foreign Agricultural Service, RG 166; NACP.

⁹⁶ "Summary of Personal Data." "William John Green Retires." William John Green Papers, Box no. 24, Hoover Institution Archives (hereafter HIA).

jumped at the chance. Green would serve as the Chief of the Agricultural Rehabilitation section in the UNRRA China office, and dictated how UNRRA funding should be spent to help China recover its agricultural regions to prewar levels.

While agricultural advisers like Green came to China full of ideas of the potential of reconstruction for China's future, the reality was that China had problems that ran far deeper than the United States had experienced since the Civil War. China had emerged from one war, lasting over eight years in some regions, and was immediately engaged in a new one as the Nationalist state attempted to eliminate the Communist forces that were spreading from northwest China. With basic agricultural necessities such as fertilizer in short supply and infrastructure over the vast hinterland making distribution difficult even in times of peace, UNRRA struggled to meet even its first stated goal of relief, much less to speak of reconstruction during civil war and revolution. UNRRA's nonpolitical operating mission meant that it was obliged to service both Nationalist controlled and Communist controlled areas equally, distributing aid only in accordance with the need of the populace. In one instance serving on an official UNRRA mission, Green's jeep convoy was mistaken as having been a Nationalist government convoy, surrounded by the Communist Second Army, and taken into custody. When the commanding general was called to camp and realized his fortune upon having captured highly ranked American UNRRA officials, he immediately set them free, sent for Zhou Enlai, and threw an impromptu celebration complete with banners wishing President Truman well, all in the hopes of currying favor among the Americans to provide greater support for Communist controlled areas. Though this case ended in a somewhat jovial situation, it was these nonetheless commonplace events that exacerbated the UNRRA mission.⁹⁷

From the outset, the UNRRA mission appeared destined to be a classic case of development: an idealistic mission that promised miracles through Western manpower, knowhow, and money in order to deliver the masses of famished and fatigued from the weariness of war, yet ultimately ignorant of the specific circumstances under which it would operate and, most critically, unable to address the political realities that underlay the problems it was attempting to "relieve." The Nationalist government, realizing the difficulty that UNRRA would face, established a sister organization, the Chinese National Relief and Rehabilitation Administration (CNRRA), designed to serve as the local agents of development. CNRRA would oversee distribution and report circumstances on the ground. Appointed to the head of CNRRA was Jiang Tingfu (蔣廷黻 Tsiang Ting-fu), a Columbia PhD graduate who had joined the history faculty of Tsinghua University and later was appointed as Chinese ambassador to the United Nations. Upon the inauguration of Herbert Lehman as the Director-General of UNRRA in 1943, Jiang included in his remarks a brief but apt prescription for China's woes: "Of the relief and rehabilitation needs in China, transport comes first. Without transportation facilities, whatever supplies

⁹⁷ William John Green Diary, page 123, 151-152. "China, 1945-1948." William John Green Papers, Box no. 19, Hoover Institution Archives.

and services UNRRA might send to China, they will be piled up at the ports and will be of no use to the Chinese people.”⁹⁸ Jiang’s words were unsurprisingly prescient.

The failure of UNRRA was not just due to the consequences of civil war and revolution. The Americans who manned UNRRA were often not able to overcome the problem of distributing reconstruction efforts to where they were needed in China in the short window of opportunity they had. In a report from the China UNRRA office headquartered in Shanghai in 1946, it was noted that “Although agricultural rehabilitation had been given No. 1 priority during the spring months, lack of [agricultural rehabilitation] personnel and supplies made it impossible to meet all the requests from regional offices. Very few [agricultural rehabilitation] supplies other than those for the Yellow River project had arrived, and UNRRA was being criticized for not having fertilizer, vegetable seeds and hand tools for distribution.”⁹⁹ Unlike Europe where UNRRA was able to follow in the footsteps of the advancing Allied forces and literally reuse the bridges, roads, and railroads rehabilitated for military movement, China was “liberated” entirely at once. As a result, agricultural rehabilitation did not benefit from infrastructure repair, and in fact had to compete with industrial rehabilitation, which the Nationalist government prioritized. At the main port of entry for UNRRA food and fertilizers, Shanghai, shipping traffic was so heavy they would cause delays in just offloading and preparing foods for inland transportation. For a country the size of China, basic issues such as distribution were simply too large to overcome with the manpower assigned to UNRRA.

Jiang Tingfu had even harsher words for UNRRA. In 1947 Jiang spoke bitterly of the CNRRA’s experiences dealing with UNRRA to Rockefeller Foundation’s officer Roger F. Evans, with Evans relaying that “Of 1000 UNRRA technicians and administrators, [Jiang] asserts that 950 Americans were generally far below the standard we could and should have supplied -- romanticists, tourists, puffed-up little pencil pushers, calory-counters [sp], and chart-drawers.”¹⁰⁰ Jiang firmly believed that the Americans did not understand China, and how different of an approach relief and rehabilitation required in China, eventually prompting his resignation in 1947. Having spent less than five years in China, Green was officially recalled when the UNRRA ended its mission in China in 1948 in accordance with UNRRA policy.¹⁰¹ Though long term projects at rehabilitating agricultural and rural industries and domestic production of fertilizer were handed off to the newly formed UN Food and Agriculture Organization, UNRRA nonetheless failed at its stated goals of relieving the war torn regions of China, setting up the discussion in the United States of

⁹⁸ United Nations Relief and Rehabilitation Administration First Session of the Council No. 12, November 11, 1943, Reel DG14 Office of the Director General, United Nations Relief and Rehabilitation Administration Collection, Columbia University Library.

⁹⁹ Summary of China Office Report for March 1946, Shanghai, April 25, 1946, Reel DG15 Office of the Director General, United Nations Relief and Rehabilitation Administration Collection, Columbia University Library.

¹⁰⁰ Roger F. Evans China Diary, May 26, 1947, Folder 430, Box 51, Series 601, RG 1, Rockefeller Foundation, Rockefeller Archive Center (hereafter RAC).

¹⁰¹ William John Green Diary, page 123, 151-152. “China, 1945-1948.” William John Green Papers, Box no. 19, Hoover Institution Archives.

“Who Lost China?” Though UNRRA would provide a lesson in the difficulties of the relief-importation-distribution model of development, its agricultural experts would carry these lessons learned to their next destinations. For many of the scientists, Green included, their transnational careers would bring them back to Asia in a number of years, the next time to Taiwan.

The Joint Commission for Rural Reconstruction

Meanwhile, in 1948, the United States passed the China Aid Act. Just three years earlier the Economic Cooperation Act, more popularly known as the Marshall Plan, initiated American reconstruction aid to Europe and established the Economic Cooperation Administration, the predecessor to the current day US Agency for International Development. The China Aid Act of 1948 was almost a Marshall Plan for China, lobbied heavily by Yan Yangchu who had been living in Washington DC for much of the Chinese Civil War, and it added China as a formal recipient under the Economic Cooperation Administration (ECA). The result of the China Aid Act was the first ECA mission to China, the Sino-American Agricultural Mission of 1948, which aimed to establish a long term joint cooperation committee that would provide not just the short term famine relief that UNRRA attempted, but also a long term development project. The Americans and Chinese who advised the Mission, Shen Zonghan, Jiang Menglin, Yan Yangchu, Raymond T. Moyer, an Oberlin and Cornell agronomy graduate and Christian missionary who had spent significant time in Shanxi province, and Owen L. Dawson, the agricultural attaché at the US Embassy in China, chose to follow the Rural Reconstruction movement and adopt the same name to encapsulate its purpose. In late 1948, Sino-American Joint Commission for Rural Reconstruction (*zhongguo lianhe nongcun fuxing weiyuanhui* 中國聯合農村復興委員會) (JCRR) was established. Its mission was to further development in China, focusing on rural development, and it was through this institution that China Aid Act was to disburse its significant funding.

From its onset, the JCRR was the subject of an ideological divide over how “rural reconstruction” could best be accomplished. At the heart of the debate were the goals of development—what were the best means to benefit the rural population? For Yan Yangchu, the founder of the Mass Education Movement in China, the priority should lay in four areas, a familiar four for those familiar with his MEM ideology: “(1) education, (2) livelihood, (3) health, and (4) self-government.”¹⁰² The goals he thus outlined for JCRR were the same ones of his Mass Education Movement, which was focused on improving rural life through literacy, social education, hygienic practices, and his notions of participatory citizenship in community governance.

In the middle of the spectrum was Jiang Menglin, a graduate of University of California, Berkeley, in botany and later a PhD graduate in education from Columbia, studying under John Dewey. Jiang began his education in the United States as an agricultural scientist,

¹⁰² “Editorial Comment on Exchange of Notes Providing for Establishment of Sino-American Commission on Rural Reconstruction in China,” August 6, 1948; Agriculture 1948; Box 600; Narrative Reports 1946-1949, China; Records of the Foreign Agricultural Service, RG 166; NACP.

continuing his studies in primary education in China on botany and zoology, stemming from an interest in “observing nature.” But his switch to pedagogy and education Jiang attributed to a classmate at Berkeley, who remarked that “though agriculture was very important, there were other studies more vital for China...without being able to solve our political and social problems in the light of modern developments in the West we could not very well solve the agricultural ones.”¹⁰³ Later the realization came as he sought to apply what he had learned in agriculture – “how to raise animals and plants” – to the social world – “how to raise men.”¹⁰⁴ Studying alongside with Hu Shi at Columbia under John Dewey, Jiang came to internalize a pragmatist view toward education, and that learned experience was crucial and practical goals were to be lauded. Jiang returned to China and became the President of the prominent Peking University, and just before being appointed to JCRR, he served as the Minister of Education for the Nationalist government. Like Yan, Jiang thus believed in the importance of education for the rural population, but Jiang was less interested in literacy as the sole means of its delivery. Jiang placed more trust, as did some of the other agricultural scientists, in the dissemination of practical knowledge through agricultural extension and farmers’ cooperatives.

Finally, at the other end was Shen Zonghan, a believer in agricultural development, meaning improving the lives of the rural population through finding and perfecting crop species and methods via applied agricultural research and disseminating these better practices and crops through agricultural extension. As the youngest of the three, Shen was likely the least influential in the initial months of defining the role of JCRR. But of the three, he was also the only one holding a degree in agricultural science, and having served in a formal capacity both as an agricultural researcher and as a bureaucrat in charge of agricultural development. Though his full influence would not be seen until decades after his appointment, his faith in science, and specifically in plant breeding, underlay most of his decision making. In some ways, Shen was the high modernist of the three, the most likely to place his trust in the transformative social power of crop selection to solve the ills of famine.

Much of the intellectual forces driving the Taiwan model derived from the thoughts and experiences of JCRR commissioners and high level technocrats. Chinese commissioners Jiang Menglin, Shen Zonghan, Yan Yangchu, and their American counterparts, all hailed from similar backgrounds as trained scientists and rural reformers. As Chapter 1 examined, ideas of reform, education, and pragmatism defined the values and implementation of JCRR and other agricultural and rural technocrats dating back to the turn of the 20th century. Shen Zonghan wrote in his autobiography of the influence of John Dewey’s lectures in Peking University in the 1910s, which Shen attended. In his journal entry from February 7, 1919, Shen remarked upon Dewey’s argument that “the means by which scientific research discovers truth was nothing other than having a basis in reality,

¹⁰³ Monlin Chiang, *Tides from the West, a Chinese Autobiography* (New Haven: Yale Univ. Press, 1947), 72.

¹⁰⁴ *Ibid.*, 73.

reaching truth through experimentation (杜威謂科學研究真理的方法，不外根據事實，以實驗求得其真理)。¹⁰⁵”

For Shen, Jiang Menglin, and others, the pragmatism endorsed by Dewey was realized through working with those that agricultural development was meant to aid. As Shen wrote to his wife upon becoming Director of the National Agricultural Research Bureau (中央農業實驗所), the intellectual predecessor to JCRR, “I am currently dedicating myself to Chinese agricultural improvement policies, and that is how to disseminate the benefits of scientific improvement to farmers (我現用心於中國農業改進的政策，即如何使科學改良的成果能普及於農民)¹⁰⁶.”

Other ideas were discussed by prominent agricultural and rural development figures who penned editorials in prominent newspapers or sent letters to the Sino-American Agricultural Mission. Some of these advocated “national self-defense” or “political uplifting.” One editorial from *Dagong Bao* feared that the diplomatic privileges offered to the American commissioners was “sacrificing Chinese sovereignty (損中國主權)” and “expanding the scope of extraterritoriality (擴大治外法權的範圍),” in effect raising the specter of continued colonialism in China.¹⁰⁷ Most tellingly, the American embassy noted that almost all editorials referenced the need to “avoid the mistakes made by UNRRA and other organizations.”¹⁰⁸

The American-operated *Shanghai Evening Post & Mercury* titled its editorial about the impending creation of the JCRR “New Deal for Farmers,” a reference to President Franklin Roosevelt’s ambitious social work program in the aftermath of the Great Depression. The editorial hailed JCRR as “the most important and magnificent event which happened to Chinese farmers during the past several hundred years.” The nearly hyperbolic praise was from a larger perspective based on the expectation that China’s economic welfare, which according to the editorial derived approximately 70% of its exports from the agricultural sector, would improve as a whole so long as its agricultural economy prospered. It was also cautious in recognizing that “Chinese agricultural problem is not only physically immense but it is complicated and confusing.” Thus, the relatively large amount of \$3.8 million USD could have been easily misspent. The editorial board thus praised the findings of the Sino-American Agricultural Mission, because “instead of placing an unwarranted emphasis on any one aspect of the rural development, they sought to correlate a number of factors.” In this regard, it urged against acting upon an “erroneous belief that any one program or any

¹⁰⁵ “五年教學生涯,” Shen, Junshan and Huang Junjie 沈君山 黃俊傑. Gengyun Suiyue: Shen Zonghan Xiansheng Zizhuan Ji Qita [耕耘歲月:沈宗瀚先生自傳及其他]. Taipei: Zhengzhong Bookstore [正中書局], 1993.

¹⁰⁶ “中年生活與家庭,” Shen, Junshan and Huang Junjie 沈君山 黃俊傑. Gengyun Suiyue: Shen Zonghan Xiansheng Zizhuan Ji Qita [耕耘歲月:沈宗瀚先生自傳及其他]. Taipei: Zhengzhong Bookstore [正中書局], 1993.

¹⁰⁷ “Bafang Zainan Fuxing Nongcun [八方災難復興農村] [Rural Reconstruction in the Midst of Disasters],” *Ta Kung Pao* [大公報], August 11, 1948.

¹⁰⁸ “Editorial Comment on Exchange of Notes Providing for Establishment of Sino-American Commission on Rural Reconstruction in China,” August 6, 1948; Agriculture 1948; Box 600; Narrative Reports 1946-1949, China; Records of the Foreign Agricultural Service, RG 166; NACP.

one man could be China's rural saviour," interpreted by the American embassy as an "oblique reference" to the commissioner who was the face of the mass education movement, Yan Yangchu.¹⁰⁹

The debates were resolved by the Chinese government through simple appointment. Despite Yan Yangchu's publicly stating his belief that he would be named Director-General of the commission, Jiang Menglin was named the chairman of the five member commission, with Yan Yangchu and Shen Zonghan as the three initial Chinese commissioners, and later, Oberlin in Shaanxi missionary Raymond Moyer and former AACFR member and director of famine relief in China for the Red Cross, John Earl Baker as the two American commissioners.¹¹⁰ Yan left the JCRR shortly thereafter for the United States, where he relocated his American-Chinese Committee of the Mass Education Movement and years later founded his International Institute of Rural Reconstruction, based out of New York, and schmoozed with the political elite of the United States. Just a few years later he would implement his first international project of development in the Philippines, organizing community development projects that emphasized improving literacy through education. Yan would rarely return to China or Taiwan, where the JCRR moved after 1949, and communications with JCRR were rare, much less to speak of intellectual exchange.¹¹¹

Unfortunately, despite the great anticipation for possibilities that JCRR entailed with American funding and Chinese government priority, like the UNRRA, the JCRR made little inroad in China before it was forced to leave. With the Nationalist government losing control of the mainland, it moved the government administration to Taiwan. And as American support followed Chiang's Nationalist government, so too did the JCRR follow Chiang as he fled to the island of Taiwan, a "temporary" relocation until the mainland could be won back from the Communists. However, for the scientists of JCRR, Taiwan became their new home and mission.

Conclusion

The Republican era was not only characterized by large political events such as the consolidation of the Guomindang regime, the Second Sino-Japanese War, and the Communist civil war, but also by intellectual and on-the-ground debates over how to improve the agrarian sector and livelihoods of China's predominantly rural farmers. Foreign missionaries and philanthropic organizations like the American Advisory Committee for Famine Relief and the Rockefeller Foundation contributed funding and expertise to Chinese rural reform movements and centers of agricultural science. Nanking

¹⁰⁹ "Editorial Comment on Exchange of Notes Providing for Establishment of Sino-American Commission on Rural Reconstruction in China," August 6, 1948; Agriculture 1948; Box 600; Narrative Reports 1946-1949, China; Records of the Foreign Agricultural Service, RG 166; NACP.

¹¹⁰ Ibid.

¹¹¹ Correspondences between Shen Zonghan and Yan Yangchu, three letters total, from March 8, 1950 to April 27, 1966; Archive Number 034000000367A; Folder "Yen, James" in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

University and the National Agricultural Research Bureau utilized global networks of agricultural science to implement practices of locating wild crop cultivars, comparing them comparatively for yields and resistance, and then extending them into rural areas for planting by farmers. Rural reform movements, such as the Mass Education Movement and the North China Council of Rural Reconstruction, emphasized literacy education, public health, and other forms of social improvement at the village level. From these disparate conversations emerged different groups of intellectuals, scientists, and approaches that advocated different approaches to agrarian improvement in China.

The intervention of war and the establishment of UNRRA and CNRRA pushed agricultural rehabilitation to a higher profile on the national level. Direct government funding from the United States provided an opportunity in the aftermath of war, but infrastructural damage and political circumstances such as the ongoing Communist civil war hindered UNRRA-CNRRA cooperation and efforts on the ground. The Sino-American Agricultural Mission provided a new opportunity in the creation of JCRR for long-term development, a view that integrated the ongoing changes among missionary, rural reform, and scientific communities in China that had been working from famine relief perspectives. This, in effect, marked the origins of development in China.

Ultimately the ideas and ideologies articulated by these institutions resulted in a spectrum of answers to the fundamental questions of development. How can farmers' livelihoods be improved? How can famine and hunger be eliminated? And how does one bring modernity to a rural and agricultural society? Community-based, grassroots education and social reform, dissemination of knowledge through agricultural education, and high scientific modernization through agricultural sciences, represented the gamut of options that would eventually become the standard language and discourses of development efforts in the Cold War. Community development efforts by the Ford Foundation in India, infrastructure construction by USAID in Afghanistan, agricultural research by the International Rice Research Institute in the Philippines, would all rehash the same discussions that had occurred decades earlier in China by actors who were faced with the very same dilemmas.

In Taiwan, JCRR would eventually make astounding strides in agricultural productivity, led by the increase of chemical fertilizers, the breeding of high-yield crop varieties, and the ability to disseminate those varieties and fertilizer practices through agricultural extension. The success under JCRR proved to be one of the most consequential factors for Taiwan's emergence as a global economic power in the 20th century, as agricultural success proved to be the spur for Taiwan's industrial miracle. As the next chapter will discuss in detail, much of the successes and failures of JCRR resulted from the earlier experimentation in development efforts on the mainland, taking lessons learned and not learned from missionary famine relief, MEM, Nanking University, NARB, and UNRRA.

Chapter 2

The Taiwan Model: Agricultural Development under the Joint Commission for Rural Reconstruction in Taiwan, 1949-1959

“For two decades the growth of the economy has been fueled by the rural sector. Industry took root rapidly because of the foreign exchange, domestic food supplies, and manpower resources that could be drawn from what was fundamentally a farming economy. These contributions of the rural sector were absolutely indispensable to economic modernization in the cities and in industry...The international significance of such a review should be apparent. Other countries, further down the path of development, have tested some of the economic policy routes that Taiwan might follow. Some of what Taiwan has already learned will be useful to others passing through similar stages of development. Some new initiatives which Taiwan is undertaking deserve to be followed closely by any serious student of development.”

- Shen Zonghan (沈宗瀚 Tsung-han Shen), Commissioner and Chairman of the Joint Commission on Rural Reconstruction (JCRR), *Agriculture's Place in the Strategy of Development* (1974)¹¹²

“If the Chinese and the Americans could have applied the lessons of the ‘fifties to China in the ‘thirties and ‘forties, a different history might well have been written.”

- John D. Montgomery, Rufus B. Hughes, Jr., and Raymond Davis on behalf of the US Agency for International Development, in *Rural Improvement and Political Development: The JCRR Model* (1964)¹¹³

Introduction

On October 15, 1961, Taiwanese (ROC) Minister of Economic Affairs Li Guoding (李國鼎, K.T. Li) and Taiwanese Ambassador to the United States Wang Peng (王蓬, Martin Wong) visited the offices of Walt W. Rostow, then serving as Deputy National Security Adviser to President John F. Kennedy. Rostow had risen to fame as an economics professor affiliated with the Center for International Studies at the Massachusetts Institute of Technology (MIT), where he and fellow economist Max Millikan became prominent proponents of “modernization theory.”¹¹⁴ Just a year prior in 1960, Rostow had published his most well-known work, *The Stages of Economic Growth*, that argued nations

¹¹² T.H. Shen, ed. *Agriculture's Place in the Strategy of Development*. Taipei: Joint Commission on Rural Reconstruction, 1974. Academia Sinica Library, Taipei, Taiwan (ROC).

¹¹³ John D. Montgomery, Rufus B. Hughes, Jr., and Raymond Davis. *Rural Improvement and Political Development: The JCRR Model* (Report of a Study on the Chinese-American Joint Commission on Rural Reconstruction), 1964. Land Tenure Center Papers, University of Wisconsin.

¹¹⁴ Gilman, *Mandarins of the Future*.

progressed along a linear path toward modernity, climbing stages from “traditional society” to “take-off” and finally to “high mass consumption.”¹¹⁵

Stages of Economic Growth became a seminal text for not only economists, sociologists, and political scientists observing how economies, societies, and states developed, historically and at the present, but also a guide for policy planners and technocrats hoping to achieve the elusive goal of “becoming modern.” Though modernization theory fell out of favor in the social sciences by the late 1970s, its effect on national and international economic, political, and military policies reverberated for decades after its apogee. At the height of modernization theory’s influence in the 1950s and 60s, US foreign assistance and development expanded drastically, and politicians throughout the First and Third Worlds paid obeisance to economic growth.¹¹⁶ Taiwan was no exception.

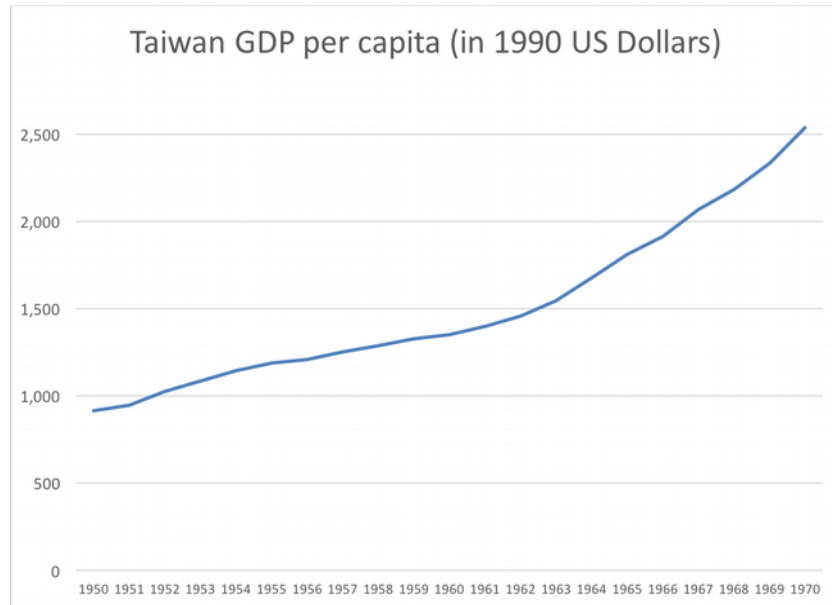
On that day, Li presented Rostow with photos from a “Staging Growth Exhibition,” hosted in Taiwan and dedicated to Rostow’s formula for economic development. One depicted Taiwan in the middle of the “take-off” stage, meaning that Taiwan was in the midst of transforming from traditional to modern, a point that Rostow readily agreed with. Another emphasized a different matter that was a topic of far greater consternation at home. A man’s head was depicted twice. Its first instance illustrated thoughts inside his head, giving “a picture of agricultural activities.” The second showed the same head, but instead of “industrial activities.”¹¹⁷ The point here was clear: modernization required a transition from agrarian economy to industrial.

By the time Li Guoding visited Rostow in 1961, the Joint Commission for Rural Reconstruction (JCRR, 中國農村復興委員會) had been driving agrarian and rural development policy in Taiwan for over a decade, with impressive results. From 1949 to 1961, rice yields increased by 50%, from 1663 kilograms of brown rice per hectare to 2588. Agricultural output nearly doubled over the same period. Overall GDP growth was similar, also increasing by 50% from 1949 to 1961, driven by production in the agricultural sector.

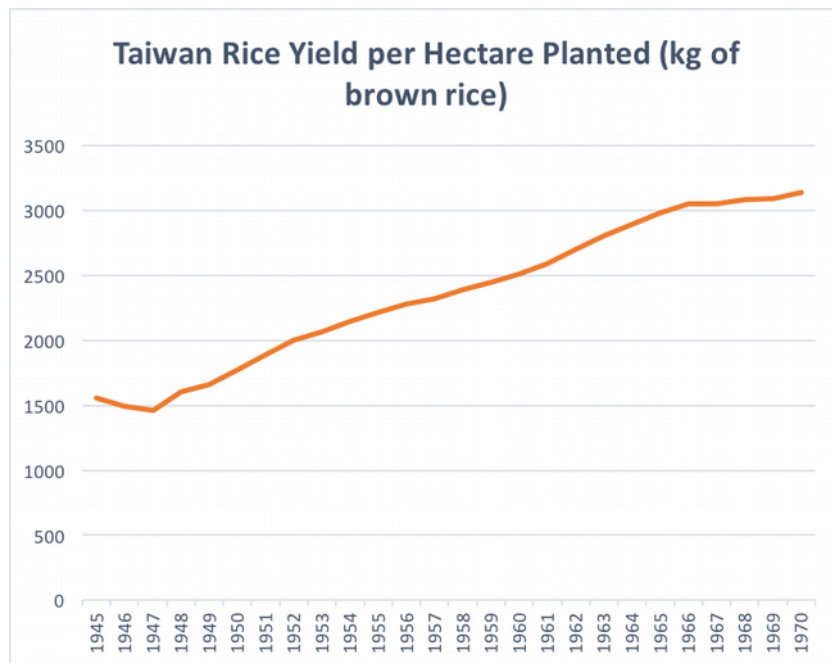
¹¹⁵ W. W Rostow, *The Stages of Economic Growth; a Non-Communist Manifesto* (New York: Cambridge University Press, 1965).

¹¹⁶ For example, in US-Indonesian relations as demonstrated by Bradley R Simpson, *Economists with Guns: Authoritarian Development and U.S.-Indonesian Relations, 1960-1968* (Stanford, Calif: Stanford University Press, 2008). This was true even outside of US-assisted regimes, including China. Karl, *The Magic of Concepts*.

¹¹⁷ “Taiwan’s Economic Development: Meeting at Dr. Rostow’s Office,” Memo, August 15, 1961; 893.00/7-761; Box 2789; Central Decimal File, 1960-1963, China, Internal, Economic Aid; Records of the State Department, RG 59; NACP.



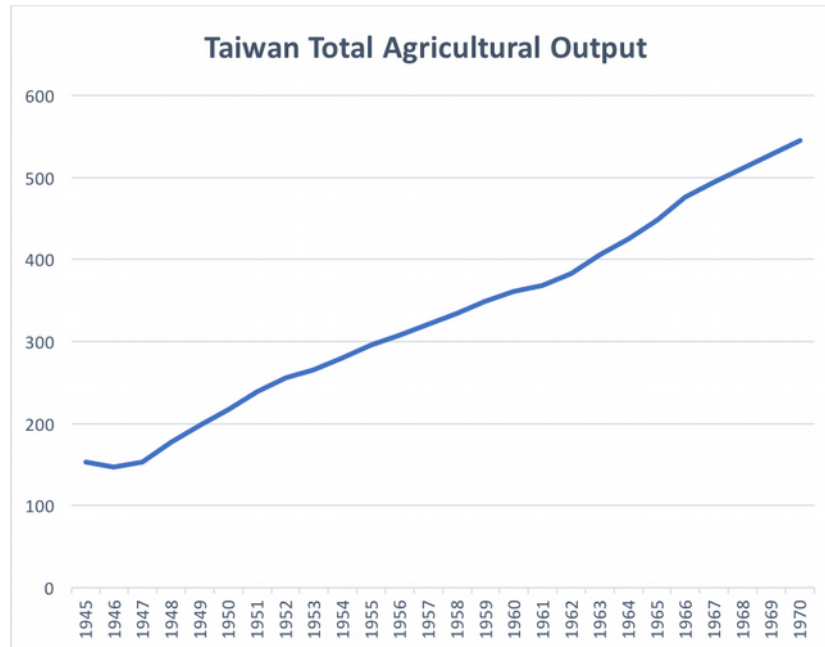
Graph: Taiwan's GDP per capita (in 1990 US Dollars)¹¹⁸, 1950 to 1970.



Graph: Taiwan's rice yield per hectare planted (measured in kilograms of brown rice), 1945 to 1970.¹¹⁹

¹¹⁸ The Maddison-Project, <http://www.ggdcc.net/maddison/maddison-project/home.htm>, 2013 version.

¹¹⁹ Lee Teng-hui and Chen Yueh-eh, Growth Rates of Taiwan Agriculture, 1911-1972 (Joint Commission for Rural Reconstruction, 1975), Academia Sinica Library, Taiwan



Graph: Taiwan's total agricultural output, 1945 to 1970.¹²⁰

This correlation between agricultural success and overall economic growth should not be underestimated—agriculture made modern Taiwan possible. This linkage was understood historically, from the highest echelons of political leadership of the Guomindang, to the mid-level technocrats in charge of implementing economic and agricultural policy, down to ordinary farmers, laborers, and citizens whose understandings of their own national histories were shaped by state media, political rhetoric, the historical legacy of agricultural strength that Taiwan carried forth internationally in decades to follow.

This chapter examines the rise of agrarian development in Taiwan. Agrarian development portended and became integral to the Republic of China's reimagining of postcolonial Taiwan as a (de facto) nation-state.¹²¹ Taiwan became a new testbed for agrarian practices, integrating Chinese expertise and experiences, Japanese colonial infrastructure and social organizations, and American capital. The results impressed. Taiwan by the 1960s had achieved sustained success across the spectrum of agricultural development, from crop productivity, to agricultural exports, to caloric intake, and finally to GDP growth. In a matter of one to two decades, Taiwan transformed itself from an agrarian export colony providing rice and sugar to the Japanese empire instead to a success story of economic development, one of the Asian Tigers (or Asian Dragons) that would become famous in the 1970s.

¹²⁰ Lee Teng-hui and Chen Yueh-eh, *Growth Rates of Taiwan Agriculture, 1911-1972* (Joint Commission for Rural Reconstruction, 1975), Academia Sinica Library, Taiwan

¹²¹ Nominally, of course, Taiwan was a province of the Republic of China.

As this success unfolded, Taiwan also became a matter of political and academic renown. In some international development circles, particularly networks centered on or involving the United States and its Cold War allies, Taiwan became known as home to the “JCRR Model,” referring to the success of agricultural policies under the Joint Commission on Rural Reconstruction. As later chapters will delve into, key aspects of agrarian development on Taiwan were marketed abroad as inherent to Taiwan’s approach to agricultural development.

The core of this “Taiwan model” included a focus on rural social organizations (e.g. farmers’ associations, irrigation associations), agricultural science (e.g. plant breeding, entomology, soil science), and agricultural extension (the process of disseminating agricultural practices, seeds, and implements from centers of research and production to rural villages and farms). Other aspects were also touted, depending on the circumstances, including land reform (discussed in Chapter 4), education, and international exchanges (especially among technocrats and scientists). However, for the most part, the aforementioned three aspects of social organizations, science, and extension, were emphasized, mostly due to Taiwanese practitioners arguing that these aspects were most applicable to relatively poorer, decolonizing states like Taiwan, and were the most easily transplantable to other nations in terms of ease of implementation.

The chapter will delve into detail about the specific institutional and intellectual origins of constitutive elements of the Taiwan model, tracing back to roots in mainland China (bridging the experiences in Chapter 1), as well as other actors, including Taiwanese farmers, Japanese imperialism, and American Cold War capital. From this aspect, this chapter is as much a history of an idea, the Taiwan model, as much as it is a history of agricultural science, rural Taiwan, Guomindang technocrats, and human interactions with the natural world.

Understanding this history of the Taiwan model accomplishes a number of goals. First and foremost, it helps explain why Taiwan was successful in agricultural development. The historicization of the Taiwan model also elucidates its political origins, namely how these disparate practices became packaged together and then marketed to showcase Taiwan’s modernization and expertise.

Though American development practitioners and later social scientists utilized “model” to refer to Taiwan’s agrarian policies under JCRR, Taiwanese practitioners themselves rarely used the term “model” to refer to their own experiences, instead preferring less rigid terms such as “strategy,” “experience,” or “approach.” (For that matter, “Taiwan” was also usually only used in its strictest sense, as in describing the place from which these model was refined, and not to imply that practices were Taiwanese and not Chinese as might be interpreted today.)¹²² However, the construction and discourse stemming from the context of its usage, in particular for literature geared toward public

¹²² Practices were almost always represented as “Chinese” (or “our nation” 我國 in internal documents) to denote that the Republic of China regime was still fundamentally one that laid claim to all of China and was the true representative to the skills and values of the Chinese people.

and international audiences, is in line with how we would imagine a model in sociotechnical terms. Taiwanese practitioners argued in favor of selected practices over others for the purpose of its reproducibility and utility in contexts outside of Taiwan. They also emphasized that the Taiwan model was unique, not because its individual constitutive elements were innovated or pioneered by Taiwan, but because Taiwan had selected and invested in certain aspects that it deemed most efficient, and proved it through its development experience in the 1950s and 60s. This final element was critical in bringing together this package as a model; Taiwan's success itself spoke for the necessity of examining its strategy of development as an worthy of study and dissemination.

The origins of the Taiwan model is important in illuminating the later enterprise to which it gives rise, and that is the marketing and implementation of the Taiwan model abroad in its international development missions to Africa, Asia, and Latin America as explored in the following chapters. To understand the political exigencies of that enterprise also necessitates looking at the underlying experiences and practices that Taiwanese international development advertised. Though much of what is represented abroad is indeed grounded in reality, a fine-tooth examination of this history yields that the success of the Taiwan model was a convergence of a number of historically-contingent factors that, ironically, made the model difficult to reproduce elsewhere.

Perhaps most importantly, this is also an on-the-ground perspective of a salient aspect of Taiwanese history—its evolution from a predominantly agrarian and rural society into a modern one. Outside of the realm of gross domestic product is also a story of how agrarian practices transformed the cultural, social, political, and environmental landscape of Taiwan. Efforts at village level reform led to campaigns inculcating modern practices of hygiene, capitalism, and democracy. The mandate for efficient distribution of seeds and knowledge led to highly-organized and integrated social units of farmers' associations. A faith in the infallibility of science led to the rise of the Guomindang technocracy and generations of families hoping for their children to become agricultural technicians and engineers. And increased reliance on Green Revolution methods produced a reliance on fertilizers and pesticides.

As a subject of immense discussion, particularly during the 1980s and 1990s when studies of East Asian economic success reached its apogee, Taiwan's development history is rich in scholarly literature. Sociologists, political scientists, and economists have written of Taiwan's development success more broadly, both in comparison to other Asian Tigers, and as a standalone case.¹²³ However, few of these focus on agricultural success of Taiwan, either giving its full attention to agricultural development or to the on-the-ground practices of agrarian reform. Historians have discussed the importance of science and technology policies to state-building in modern Taiwan, including a seminal work by Megan Greene.¹²⁴ Though the importance of science and technology to development is

¹²³ Gold, *State and Society in the Taiwan Miracle*. Wade, *Governing the Market*. Ezra F. Vogel, *The Four Little Dragons: The Spread of Industrialization in East Asia* (Harvard University Press, 1991)..

¹²⁴ Greene, *The Origins of the Developmental State in Taiwan*.

undeniable, Greene focuses largely outside of the agricultural sector, yet some of the most important investments and innovations to emerge from Taiwan, including semi-dwarf rice, were in agricultural science.

In the realm of Taiwanese agricultural development, several specialists have written on the matter over the years. Foremost is Taiwanese scholar Huang Chun-chieh, whose numerous books in English and Chinese on Taiwan have laid a foundation for studies like this.¹²⁵ Though substantively Huang covers the innovative aspects of Taiwanese development, which he terms the “Taiwan Experience” (*Taiwan jingyan* 台灣經驗), I focus more on how the Taiwan model came to exist. This includes not just examining the practices underlying the model, but also how and why the model was constructed as such, and this ties into earlier and later chapters to paint the continuity between the historical contingencies that produced the model and the purposes of nation-building, decolonization, and international diplomacy, to which the model would be later deployed.

Finally, there is also a plethora of scholarly works written by former or contemporary agricultural experts themselves, not least of which include the aforementioned Lee Teng-hui and JCRR Commissioner and Chairman Shen Zonghan, who is central throughout this narrative.¹²⁶ American academics and technocrats, who often visited or served as consultants for JCRR, also wrote about Taiwan’s agricultural successes.¹²⁷ Their accounts contain firsthand intimacy of Taiwan’s agrarian practices, oftentimes from those who imagined and implemented them. However, because of this, I take them as primary sources to be examined critically. These texts serve to illuminate their authors’ intentions but also represent how they intended to represent their own legacies, and as such are important for understanding the construction and usage of the Taiwan model.

The Taiwan Model

What was the Taiwan model? The term was not often invoked by Taiwanese practitioners themselves internally; instead it was often manifested in front of international audiences. Xie Senzhong (謝森中 Sam C. Hsieh), a JCRR agricultural economist who later published prolifically with the Asian Development Bank in the Philippines, gave a lecture at the Philippine Academy of Sciences and Humanities as part of the President F.E. Marcos Series on Chinese and Civilization on August 29, 1969. Titled

¹²⁵ Chun-chieh Huang, *Taiwan in Transformation 1895-2005: The Challenge of a New Democracy to an Old Civilization* (Transaction Publishers, 2011); Chun-chieh Huang, 農復會與台灣經驗 [*Nongfuhui yu Taiwan jingyan*] [*The JCRR and Taiwan Experience*] (Sanmin Books Press, 1991).

¹²⁶ Teng-hui Lee, *Intersectoral Capital Flows in the Economic Development of Taiwan, 1895-1960* (Ithaca [N.Y.]: Cornell University Press, 1971). Zonghan Shen, *Agricultural Development on Taiwan Since World War II* (Ithaca, N.Y.: Comstock Pub. Associates, 1964). Zonghan Shen, ed., *Agriculture’s Place in the Strategy of Development: The Taiwan Experience* (Taipei: Joint Commission on Rural Reconstruction, 1974). Zonghan Shen, *The Sino-American Joint Commission on Rural Reconstruction; Twenty Years of Cooperation for Agricultural Development* (Ithaca: Cornell University Press, 1970).

¹²⁷ Raymond P. Christensen, *Taiwan’s Agricultural Development: Its Relevance for Developing Countries Today* (Washington, D.C.: U.S. Dept. of Agriculture, Economic Research Service, Foreign Development and Trade Division, 1968). Joseph A Yager, *Transforming Agriculture in Taiwan: The Experience of the Joint Commission on Rural Reconstruction* (Ithaca, N.Y: Cornell University Press, 1988).

“Taiwan’s Model of Agricultural Progress,” it underscored the importance of figuring out how to improve food production in the predominantly agrarian states of Asia. Like other presentations of Taiwan’s development history, it laid out quantitative facts: national income (gross domestic product), adjusted for inflation, grew at an average rate of 7.7% annually from 1952 to 1969. The average Taiwanese diet intake was 2400 calories. 97% of school-aged children attended school. Life expectancy reached 66 years of age (compared to 70 years in the United States). Two factors explained this success, in his perspective:

1. “Technological: the increasingly productive technologies, the hardware, knowledge, and skills that increase people’s capacity for manipulating physical forces and transforming resources into outputs.”
2. “Organizational: the re-grouping under new rules end of mutually helpful behaviour that enable them to generate and put to widespread use the increasingly productive technologies”¹²⁸

Xie was examining this distinction through the lens of an economist. Technological change would push the production possibilities frontier, allowing for the increased production of guns and butter (or in the case of Taiwan under the GMD, guns and rice). In economic terms, this was intensive growth, meaning growth achieved as a result of improving productivity without increasing factor inputs. This was preferable to extensive growth, which is achieved only by increasing inputs to the productive process, such as labor or natural resources. In the postcolonial context, opportunities for extensive growth were limited. Population growth strained the resources of the state, requiring additional food, education, and health infrastructure. Developing economies often lacked access to natural resources. Intensive growth was the type that would allow the “take-off” that Rostow and other economists envied.

For an economist, technology was defined broadly. In the agricultural realm, it included basic sciences, such as the plant and soil sciences, as well as the improved seeds and chemical fertilizers that basic sciences produced that served as intermediary inputs for a final product (such as canned mushrooms). It also implied more practical and applied knowledge, such as knowing what crops responded best to what types of chemical fertilizers, or how far apart sweet potatoes should be planted, or how many growing seasons of rice one would expect from a certain region. This type of “know how” was, generally speaking, emphasized by JCRR as much as scientific research was.

As Chapter 1 described, the key pathway for the cultivation and distribution of the latter form of technology, practical knowledge, was agricultural extension. Extension focused on the dissemination of aforementioned knowledge and practices, as simply the production of pesticide sprayers and improved seeds did not produce increased yields without knowing what to do with them. Because technologies were often tested and perfected within the centers of agricultural knowledge, such as universities or experiment

¹²⁸ “Taiwan’s Model of Agricultural Progress,” S.C. Hsieh, page 11, August 28, 1969, Folder “Phil. Academy of Sciences & Humanities Program - 5th Lecture Pres F.E. Marcos Series on Chinese Culture and Civilization Manila 29 August 1969,” Box 15, Sam Hsieh Collection, Stanford East Asian Library.

stations where new crop cultivars were planted and compared, efficiently and thoroughly spreading new ideas from the core to periphery became as significant of a problem as researching technologies in the first place.

From a practical perspective, knowing which villages and farmers should be shown what sorts of farming demonstrations already posed significant obstacles. Crucial to the success of extension efforts in Taiwan were farmers' associations and other such rural social organizations that allowed for easier dissemination of agrarian knowledge. These organizations served on multiple fronts: providing a crucial intermediary role between center and periphery for the purposes of demonstration and training, organizing rural peoples into distinct and manageable units, and also providing local self-governance to allow for managing distribution of seeds, fertilizer, and water.

Farmers' associations, irrigation associations, agricultural credit banks, the Provincial Land Bureau, extension training centers, experiment stations, and even JCRR itself were the organizations that Xie referred to as creating the "conditions for a mutually helpful behavior necessary to achieving [productive] technology."¹²⁹ Xie was careful to contextualize these factors within the specific circumstances of Taiwan's developmentalist state ("a stable government guided by a strong commitment to use its power to achieve technical advancement") and a Taiwanese culture of productivity ("a people guided by a traditional obligation to be as productive as possible for the sake of improving the income and status of their families"). Nonetheless he encouraged his Filipino audience to take what factors they could learn from Taiwan and apply it to their own "culture."

Though Xie approached agricultural development from the vantage point of someone trained as an agricultural economist, there are common factors and overlap between his outlook and what was represented elsewhere, by agricultural scientists especially, as representing the core of Taiwan's agrarian development. This chapter focuses on the most commonly occurring themes in the Taiwanese agricultural missions abroad, to Africa, Asia, and Latin America, as well as in academic publications in Taiwan and in the United States.

Agricultural science was the first of these, and specifically for the purpose of improving crop yield through improved seeds (plant breeding), chemical fertilizers (agricultural chemistry and soil science), and pest control (entomology). Next was agricultural extension, specifically demonstration and training, especially through print media and extension agents. Finally, there were rural organizations like farmers' associations and 4-H (Hands, Heart, Head, Health), the rural youth organization imported from the US, that emphasized village and community reform.

¹²⁹ "Taiwan's Model of Agricultural Progress," S.C. Hsieh, page 12, August 28, 1969, Folder "Phil. Academy of Sciences & Humanities Program - 5th Lecture Pres F.E. Marcos Series on Chinese Culture and Civilization Manila 29 August 1969," Box 15, Sam Hsieh Collection, Stanford East Asian Library.

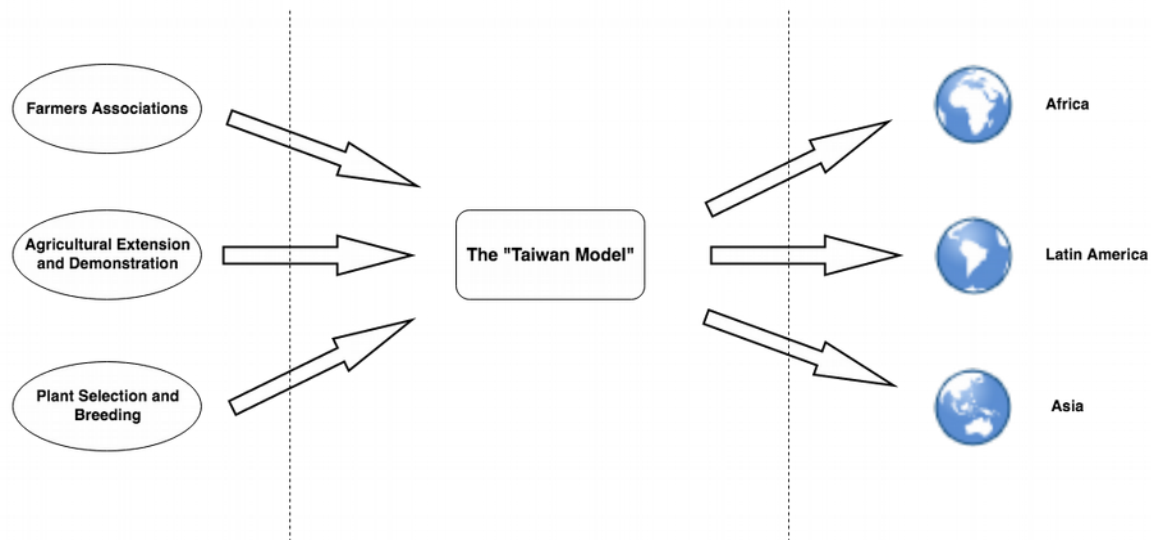


Figure: A diagrammatic representation of how the Taiwan model arose and became utilized. The leftmost column shows the various elements of the Taiwan model that were experimented and tested in Republican China. The center column, the focus of this chapter, examines how these disparate elements came to represent a specific and synergistic approach. The rightmost column, the focus of Chapters 3, 4, and 5, examines how this model became represented and utilized elsewhere in the world.

Land reform was also sometimes included in the “Taiwan Model” but was dependent on political context. For example, missions to autocratic regimes in Africa often did not include any mention of land reform, which would have been politically difficult to carry out since political rule in many African postcolonial states depended upon elites who tended to own large plots of land. In other places, where land reform was seen as politically expeditious, like South Vietnam, Taiwanese teams showcased land reform to a certain degree—enough to draw attention to Vietnamese efforts at implementing it, but not enough to raise questions as to why land reform was not being implemented more thoroughly. Chapter 4 discusses this in further depth.

As indicated by the subtle changes in the representation of the Taiwan Model, it should be noted that the concept of a Taiwan model was constructed *ex post facto* and is thus neither predetermined nor teleological. The particular combination of these ideas was the result of specific social, spatial, and cultural circumstances that shaped the experiences of the Taiwanese intellectuals who eventually marketed these approaches abroad. Nonetheless, the active selection of these approaches and the rejection of others, combined with a proven track record of success, made this combination somewhat unique to Taiwan.

Farmers’ Associations

From an agricultural science perspective, the ability to develop new technologies for increased production was merely half of the equation. The other half involved making sure that these new technologies and knowledge reached rural areas of need. While agricultural extension emphasized the channels for this distribution—the use of extension agents, demonstration fields, and training centers—these intermediaries still required access to farmers. As James Scott, Timothy Mitchell, and other anthropologists and historians have raised, even having knowledge of where rural farmers resided and the types of environmental conditions they farmed was itself an issue of modernization.¹³⁰ Farmers' associations partially filled this role by providing an administrative structure for a bidirectional knowledge transfer with central government institutions like JCRR. Farmers' associations provided a way to organize rural villages that allowed for an easy reception of regulations, such as land reform, and implements, such as fertilizer and pesticides. They also conveyed information in the opposite direction, giving the center knowledge about how the periphery was organizing, utilizing, and responding to agrarian changes.

As with agricultural science, Japanese colonialism also left behind a legacy in rural social organizations, specifically in farmers' associations. For Japanese colonial administrators, farmers' associations provided a key role for centrally-promoted efforts at scientific farming. From 1950 to 1951, W.A. Anderson, a professor of rural sociology at Cornell, served as a consultant to JCRR. Over a period of five months, he investigated the state of farmers' associations in Taiwan, as well as two and a half weeks studying farmers' association reorganization under General MacArthur's Supreme Command Allied Power (SCAP) in Japan. The result of his study was published by JCRR.

Taiwan was ceded from China to Japan in 1895 after the first Sino-Japanese War under the terms of the Treaty of Shimonoseki. In the Japanese imperial system, Taiwan served as an agricultural colony primarily exporting sugar and rice to the rest of the empire. Under Japanese administration, agricultural commodities comprised 80% of the value of Taiwan's exports, and nearly 60% of Taiwan's population was involved in the agricultural sector.¹³¹ Farmers' associations in Taiwan originated in the early 20th century, often organized by farmers themselves, and became co-opted by Japanese colonial administrators in 1907 who saw the benefit in utilizing associations. Japanese administrators provided regulations, member hierarchies, and fee collections across the island's associations, and organized them by function between cooperatives (for financial economy of scale) and farmers' associations (for agricultural extension and education). Anderson remarked that under Japanese administration, farmers' associations had formed a culture among the farming population “that understands and appreciates technical advances” in agricultural science “and seeks their benefits.”¹³² In colonial Taiwan, farmers' associations were also the only

¹³⁰ Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics, Modernity* (University of California Press, 2002).

¹³¹ Wolf Isaac Ladejinsky, *Agrarian Reform as Unfinished Business: The Selected Papers of Wolf Ladejinsky*, ed. Louis Walinsky (Oxford University Press, 1977), 96.

¹³² Anderson, W.A. “Farmers' Associations in Taiwan: A Report to the Joint Commission on Rural Reconstruction Economic Cooperation Mission to China,” p. 1. Council of Agriculture Library, Taipei, Taiwan (ROC).

form of organization, thus ensuring that rival rural organizations did not compete for local power or interfere with administrative efforts. The ROC inherited these advantages after retrocession.

Nonetheless, under JCRR, farmers' organizations underwent further reform. During Japanese colonial rule, farmers' associations were a part of centralized governance. Top-level administrators in farmers' associations were appointed by the colonial government and usually held by Japanese as opposed to Taiwanese individuals. In provincial level farmers' associations, for example, the Japanese Governor-General served as the chairman, and Japanese district magistrates likewise served as chairmen of local associations.¹³³ JCRR Commissioner Shen Zonghan wrote that during the colonial period "farmers' associations were dominated by landlords and the local gentry who knew nothing about agriculture and farming and cared still less."¹³⁴ Though Shen was writing to highlight the accomplishments of JCRR in contrast with earlier colonial rule, Japanese administration was indeed modernist in the sense that it sought centralization of rural governance in order to maximize production from Taiwan's agricultural sector for its imperial needs.

The ROC similarly sought maximization of the agricultural sector since it in effect taxed the agricultural sector through the fertilizer barter system. This tax-in-kind was collected through the a system where farmers were required to pay for state-supplied fertilizer with rice at an exchange ratio far below the market value for rice. But it also sought non-economic goals through farmers' organizations. The first study of farmers associations in Taiwan occurred in the summer of 1949, while JCRR was still operating in the mainland, under the direction of Zhang Zhiwen (章之汶 C.W. Chang), a specialist in agricultural extension and the Dean of the College of Agriculture and Forestry at Nanking University (following the footsteps of Shen Zonghan). Zhang's recommendations outlined the important role that farmers associations would take up as the on-the-ground organizations through which agricultural extension would occur, the first of his seven recommendations. In a trend that would be continued, he further recommended that "Agricultural Associations shall become a democratic organization of the people, for the people, and by the people," echoing the familiar language of Abraham Lincoln.¹³⁵

Zhang's initial recommendations resulted in the first set of reforms to the farmers associations in Taiwan, with existing farmers associations and cooperatives being merged, providing the function of both extension and credit services. JCRR Chairman Jiang

¹³³ Shen, T.H., "Farmers Associations in Taiwan," p. 2. Second International Seminar on Change in Agriculture, September 1974. Land Tenure Center Library, University of Wisconsin.

¹³⁴ Shen, *The Sino-American Joint Commission on Rural Reconstruction; Twenty Years of Cooperation for Agricultural Development*, 72.

¹³⁵ Though this wording was possibly the result of the secretary recording meeting minutes at the time, as the report by Zhang was produced originally in Chinese and translations to English were still in process. Zhou, Xiuhuan 周琇環, ed., *Nongfuhui Shiliao 農復會史料* [Documentary Collection on Joint Commission on Rural Reconstruction], vol. 2, Taipei: Guoshiguan 國史館 (Academia Sinica), 1995, p. 438.

Menglin invited W.A. Anderson the following year to study the next steps for the further development of farmers associations at that “critical juncture.”¹³⁶

Anderson’s study further built on Zhang’s suggestions of democratization by recommending the ROC government enact legislation dictating that voting membership and electable candidates be limited to families engaged primarily in farming work. The result of this change was, in effect, to create Anderson’s vision of local, democratic self-governance. Like most rural sociologists during the mid-20th century, Anderson embraced the inherent ideal of a community as an organizing unit of society. As historian Daniel Immerwahr has argued, rural sociologists represented a “low modernist” brand of communitarianism that sought development via decentralization as opposed to the centralization espoused in “high modernism.” Unlike modernization theory’s objective to industrialize societies through economic improvement, rural sociologists worked for “the preservation of rural society” and a “cultural approach.”¹³⁷ Cornell, as was the case with agricultural science, was a leading global center for rural sociology and communitarianism.

Anderson was no exception. He praised the potential of Taiwan to become “the most efficient and productive agricultural and rural life program powered by democratic principles in the Orient,” calling for the ROC to take Taiwan’s “heritage of organization, knowledge, and ambition and make it work along democratic lines to build the whole life of rural people.”¹³⁸ In other words, democratic principles became just as important as economic productivity, and farmers’ associations were key to fostering local democracy. As such, Anderson was deeply concerned that farmers’ association reform would accomplish goals such as “the development of beauty in the person and his surroundings to enhance harmony and symmetry and promote spiritual well-being” and “right social relations to achieve, within the home, the community, the nation, and internationally, social-civic cooperation” in addition to the traditional development goals of economic welfare and sanitary and healthy living.¹³⁹ Shen Zonghan argued that these changes allowed for farmers to “practice democracy by choosing the best men among themselves to direct and supervise...and by taking an active part in discussions.”¹⁴⁰

After integrating farmers associations and cooperatives, the associations provided a number of services for farmers. Anderson performed surveys of what farmers perceived as the most important roles served, and they included, roughly from most important to least

¹³⁶ Jiang Menglin to W.I. Myers, May 23, 1951; Archive Number 034000000351A; Folder “Myers, W.I.” in “Shen Zonghan Letter Drafts” [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

¹³⁷ Immerwahr, *Thinking Small*, 44–45.

¹³⁸ Anderson, W.A. “Farmers’ Associations in Taiwan: A Report to the Joint Commission on Rural Reconstruction Economic Cooperation Mission to China,” p. 1. Council of Agriculture Library, Taipei, Taiwan (ROC).

¹³⁹ Anderson, W.A. “Farmers’ Associations in Taiwan: A Report to the Joint Commission on Rural Reconstruction Economic Cooperation Mission to China,” p. 3. Council of Agriculture Library, Taipei, Taiwan (ROC).

¹⁴⁰ Shen, *The Sino-American Joint Commission on Rural Reconstruction; Twenty Years of Cooperation for Agricultural Development*, 74.

important: furnishing rural credit, distribution or sale of fertilizer and other such goods required for production, giving technical advice to farmers, handling of daily administrative necessities, marketing services, rice milling, warehousing, transportation, and public health. In essence, these associations functionally served as middlemen for transactional services such as obtaining necessary farming supplies and knowledge and for wholesaling agricultural products.¹⁴¹

From a finance perspective, farmers' associations had combined the functions of credit cooperatives that allowed farmers to pool their capital and benefit from distributing risk pools in order to allow steady access to loans for purchasing seeds and fertilizers. Historically, as economic historians like Philip Hoffmann have argued, the development of capital markets has been correlated with the rise of modern and robust economies as well as economic growth.¹⁴² In France, Germany, the United States, and other large agricultural societies, cooperatives were crucial to providing credit where they were hitherto unavailable to farmers in the 19th and early 20th centuries.¹⁴³

That credit became a top priority of JCRR was one of the key factors to the success of farmers organizations. Shen Zonghan, during his PhD training at Cornell, found mentorship under William I. Myers, then a professor of agricultural economics at Cornell specializing in farm finance. Myers had a long career as an expert in agricultural credit, serving as deputy governor of the Farm Credit Administration in the US facilitating mortgages for farmers. Shen and Jiang Menglin corresponded frequently with Myers, both in discussing agricultural credit and also in administrative matters of furthering institutional ties between Cornell and Taiwan.

Early in 1951, along with Zhang Zhiwen and W.A. Anderson's reforms and with oversight from JCRR and the Provincial Department of Agriculture and Forestry, farmers associations also began modernizing their credit services. Showing that modernization could exist alongside low modernist goals of democratization, Taiwanese farmers associations streamlined bookkeeping and financial record keeping in order to help facilitate loans.¹⁴⁴ When Shen Zonghan was informed by American JCRR Commissioner Raymond Davis years later in 1959 that Myers was retiring and looking to travel, Shen seized the opportunity to look to invite Myers to Taiwan as a JCRR agricultural economics consultant.¹⁴⁵

¹⁴¹ Anderson, W.A. "Farmers' Associations in Taiwan: A Report to the Joint Commission on Rural Reconstruction Economic Cooperation Mission to China," p. 16. Council of Agriculture Library, Taipei, Taiwan (ROC).

¹⁴² Philip T. Hoffman, Gilles Postel-Vinay, and Jean-Laurent Rosenthal, *Priceless Markets: The Political Economy of Credit in Paris, 1660-1870* (University of Chicago Press, 2000).

¹⁴³ Timothy W. Guinnane, "Cooperatives as Information Machines: German Rural Credit Cooperatives, 1883-1914," *The Journal of Economic History* 61, no. 2 (2001): 366-89.

¹⁴⁴ Jiang Menglin to W.I. Myers, May 23, 1951; Archive Number 034000000351A; Folder "Myers, W.I." in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

In the resulting report written in 1960, Myers raised a series of issues regarding agricultural credit. Generally, Myers described, creditors were more eager to lend to large industrial enterprises rather than the small family farms that predominated the Taiwanese economy. As a result, the agricultural sector represented roughly one-sixth of all capital invested in Taiwan, but produced one-third of Taiwan's gross domestic product. This discrepancy in the quantity of credit lending meant Taiwanese farmers were underserved by existing credit markets.

Second, Myers recorded average interest rates for farmers at exorbitant rates, ranging from 18% for a secured loan under a one-year period, to 22% for a six-month unsecured loan, compounded monthly. In comparison to interest rates on deposits at banks, lending to farmers was higher by at least 50%, with the average interest on a six-month deposit at 12.6%.¹⁴⁶ Furthermore, credit was typically offered in the short-term, often with repayment windows too short to be useful for farmers who depended on the sales of produce in order to repay debts.

And finally, the report found that eight different types of institutions, ranging from government to state-owned enterprise to private banks, provided credit to farmers: Land Bank, Cooperative Bank, farmers' associations, Taiwan Sugar Company, the Provincial Food Bureau, Tobacco and Wine Monopoly Bureau, JCRR, commercial banks, and mutual savings and loan companies. They offered multitudes of loan types, for land purchasing to agricultural marketing, that often overlapped between the various lenders. Myers noted the multitude of options "tend[ed] to perplex the borrowers, and impair the efficiency due to lack of coordination."

Myers lauded that credit reform began in 1955, which involved the use of United States International Cooperation Administration (ICA) funding to farmers associations' for the purpose of making loans more accessible resulted in lower interest rates and longer term credit being made available. He further suggested additional reforms. Myers urged for restrictions on farmers' associations from redepositing their capital into non-agricultural banks, thus preventing a further pull of agricultural capital toward the industrial sector, where investors experienced better returns and less risk.¹⁴⁷ (Ironically, Minister of Economic Affairs Li Guoding wrote that one of the achievements of land reform was to reallocate capital from the agrarian sector to the industrial sector, where it was needed to fuel economic growth.)¹⁴⁸ He also suggested the establishment of a long-term credit fund that would help provide stable credit supply to farmers' associations from the government.

¹⁴⁶ W.I. Myers, "Farm Credit," January 6, 1960; Archive Number 034000000351A; Folder "Myers, W.I." in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

¹⁴⁷ W.I. Myers, "Farm Credit," January 6, 1960; Archive Number 034000000351A; Folder "Myers, W.I." in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

¹⁴⁸ Guoding Li, *Economic Transformation of Taiwan, ROC* (London: Shephard-Walwyn Publishers, 1988), 402.

Within the year, Shen Zonghan had worked to help convince the government to implement Myers' suggestions. The Council for US Aid (CUSA), which managed ICA funding to Taiwan, had previously opposed JCRR directly providing credit services ("considerable pressure from CUSA to get JCRR out of the loaning business"). CUSA eventually relented, permitting US counterpart funds from ICA to provide direct grants to JCRR's Agricultural Credit Division, a ten-man division that brought on American credit specialist Kenneth Boyden as its Division Head from 1961 to 1964.¹⁴⁹ The Agricultural Credit Division then designed a long-term credit program to discourage the redepositing of capital away to non-agricultural investments.¹⁵⁰

Under Boyden these plans solidified as the Unified Agricultural Credit Program, which sought to streamline and standardize credit lending practices and regulations across farmers' associations in Taiwan. The Program sought to eliminate the confusion between the various types of lending organizations and provide farmers associations' with the ability to provide most types of agricultural credit for their members.¹⁵¹ By 1964, Boyden's End of Tour Report analyzed results of the program, indicating that 194 of the roughly 300 farmers' associations in Taiwan were enrolled in the Program, with about one-quarter of all farmers' associations members being educated about the new Program services. 130,000 loans were made since the start of the Program in 1961, totaling \$16,250,000 USD by 1964.¹⁵²

In agricultural credit, Taiwan integrated a key aspect of capitalist modernization: financialization through capital markets and debt raising to encourage individual intensive agriculture. Xie Senzhong, in corresponding with American JCRR commissioner Gerald Huffman in 1965, also underscored the importance of financialization for the purposes of economic growth. Referring to a recent publication by the renowned University of Chicago agricultural economist Theodore W. Schultz on the transformation of "traditional" to "modern" economies, Xie wrote that "In view of the limited land resources in agriculture in Taiwan, I still think there is a must to inject more capital inputs in agriculture...capital requirements [for agricultural resources development or agricultural base expansion and increasing short-run output increase on farms] may come from financing organizations, JCRR or grants, and farmers own income and savings."¹⁵³ In other words, capital was crucial

¹⁴⁹ End of Tour Report - Kenneth E. Boyden, Credit Advisor, November 1961 to June 1964, May 28, 1964; Agr - Economic Conditions; Box 306; Narrative Reports 1962-1965, Taiwan; Records of the Foreign Agricultural Service, RG 166; NACP.

¹⁵⁰ Shen Zonghan to W.I. Myers, undated (summer 1960?); Archive Number 034000000351A; Folder "Myers, W.I." in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

¹⁵¹ Agriculture - Dr. W.I. Myers Report on Agriculture in Taiwan, April 9, 1962; Agr - Economic Conditions; Box 306; Narrative Reports 1962-1965, Taiwan; Records of the Foreign Agricultural Service, RG 166; NACP.

¹⁵² End of Tour Report - Kenneth E. Boyden, Credit Advisor, November 1961 to June 1964, May 28, 1964; Agr - Economic Conditions; Box 306; Narrative Reports 1962-1965, Taiwan; Records of the Foreign Agricultural Service, RG 166; NACP.

¹⁵³ S.C. Hsieh to Gerald Huffman, August 30, 1965; Archive Number 034000000342A; Folder "Hsieh, S.C." in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

for intensive agricultural productivity growth for the Taiwan model. This type of capitalist modernity went hand-in-hand with technological modernity of fertilizers and pesticides that were critical for Taiwan's agricultural productivity increases. But they also complemented other types of modernization, including social organization, and to be discussed later, rural reform.

Fertilizer was another aspect prioritized by JCRR in conjunction with farmers' association reform. Under the pre-war imperial economy, Taiwan first imported chemical fertilizers from Japan in 1902, which were crucial for rice productivity, especially for the selected high-yield varieties that became increasingly important under Japanese colonial rule and the Guomindang.¹⁵⁴ World War II disrupted the import of chemical fertilizers and impacted rice production yields under Guomindang control. Resuming imports of fertilizer became a top priority for postwar rehabilitation immediately after retrocession for both the Guomindang administrators of the island as well as the United Nations Relief and Rehabilitation Administration (UNRRA, see Chapter 1). In 1946, rice production yields were at near historic lows, bottoming around 35 kilograms per hectare (kg/hectare). In the years of 1946 and 1947, the 136,300 metric tons of fertilizer acquired by UNRRA in Taiwan resulted in an increase from 630,000 metric tons of rice to 1.06 million, an almost 40% increase in yield.¹⁵⁵ In 1949, when the JCRR took over, a significant portion of funds were directed for acquiring fertilizer. By 1949, effective fertilizer distribution resulted in a production of 1.2 million tons of rice, and by 1952 fertilizer usage resulted in a 2 million ton yield, well surpassing the highest prewar output level of 1.4 million tons in 1935.¹⁵⁶

Fertilizers, especially chemical fertilizers, were one of the key factors responsible for this drastic increase in yield, and were behind the Green Revolution globally as well as in Taiwan (see Chapter 5). JCRR provided oversight to the distribution of fertilizer but could not micromanage amounts at the village level. Instead, fertilizer was distributed to the Provincial Government Food Bureau, and from there to local level farmers' associations. To ensure that fertilizer was being efficiently distributed and properly utilized, the JCRR employed inspectors, who were usually young, recent Taiwan college graduates proficient in speaking the local Taiwanese dialect (Minnan or Hakka) or Japanese, the languages most farmers would have understood.¹⁵⁷ These inspectors surveyed villages judging the reactions to reception of fertilizer. This system later developed to employ permanent "extension workers," predominantly comprised of "farm advisers" who were responsible for educating approximately 1000 farm families in agricultural practice. Each township usually had one or two farm advisers, and farm advisers reported directly to district (xian 縣) extension supervisors. Specialist training came from the ROC Provincial Department

¹⁵⁴ Supervision over Fertilizer Distribution in Taiwan since 1949, United States. Economic Cooperation Administration miscellaneous records, XX679-10.V, Hoover Institution Archives.

¹⁵⁵ Ibid.

¹⁵⁶ "Food and Fertilizer Technology Center." Folder 1, Joint Commission On Rural Reconstruction in China (United States and China) Miscellaneous Records, Box no. 2, Hoover Institution Archives.

¹⁵⁷ Ibid.

of Agriculture and Forestry (PDAF), agricultural technical schools, training centers, research institutes.¹⁵⁸

Though fertilizers helped Taiwan reached ever-increasing production records, fertilizer usage was also not without its problems. W.I. Myers raised in his report on farmers' associations credit that the practice of paying for fertilizer, which was controlled by the Provincial Food Bureau, in kind with rice was less than ideal for farmer welfare and productivity.¹⁵⁹ This fertilizer-for-barter system "discourage[d] intensive fertilizer use by overcharging for fertilizer and paying less than the market price for rice."¹⁶⁰ In effect, fertilizer-for-rice payment imposed by the government imposed a "hidden tax" on farmers through the discrepancy in market values between the rice and fertilizer, a fact that Shen noted in his private correspondence with Myers.¹⁶¹ However, Shen Zonghan believed that replacing this fertilizer-for-rice system would have been politically difficult for the Guomindang regime, most likely because the rice payments were often requisitioned for feeding Taiwan's significant and expensive armed forces.¹⁶² Shortly after the report in 1960, JCRR instead secured from the government, after discussions rising all the way to Vice President Chen Cheng, a minor reduction in the exchange price of fertilizer-for-rice from a 1:1 (metric ton) exchange ratio of ammonium sulfate to paddy rice to 1:0.9, a modest improvement yet far short of Myers' recommendations.¹⁶³

The island of Taiwan also posed ecological dilemmas. Taiwan lacked significant natural resources with the exception of its agricultural land and inland forests. Heavy rainfall and rapid decomposition from high temperatures resulted in little organic matter accumulation, and thus relatively low soil fertility. Furthermore, only coastal regions possessed easily-tilled, flat, arable land. Arable land accounted for 30% of Taiwan's overall landmass, with the remaining mostly inland regions too mountainous to farm easily.¹⁶⁴ Forests provided resources in timber and cinchona (used to produced the antimalarial drug quinine), which Japanese colonial administrators also exported.¹⁶⁵ And Taiwan's coastal access gave it easy access to fishing. But timber and fishing were still relatively

¹⁵⁸ William John Green. "End of Tour Report," page 1. William John Green Papers, Box no. 24, Hoover Institution Archives.

¹⁵⁹ W.I. Myers to Shen Zonghan, March 15, 1963; Archive Number 034000000351A; Folder "Myers, W.I." in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

¹⁶⁰ Agriculture - Dr. W.I. Myers Report on Agriculture in Taiwan, April 9, 1962; Agr - Economic Conditions; Box 306; Narrative Reports 1962-1965, Taiwan; Records of the Foreign Agricultural Service, RG 166; NACP.

¹⁶¹ Shen Zonghan to W.I. Myers, October 22, 1962; Archive Number 034000000351A; Folder "Myers, W.I." in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

¹⁶² Shen Zonghan to W.I. Myers, April 11, 1960; Archive Number 034000000351A; Folder "Myers, W.I." in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

¹⁶³ Shen Zonghan to W.I. Myers, "Farm Credit," July 16, 1960; Archive Number 034000000351A; Folder "Myers, W.I." in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

¹⁶⁴ Li, *Economic Transformation of Taiwan, ROC*, 285.

small compared to the agricultural sector. In agriculture, due to Taiwan's tropical to subtropical climate, water-intensive crops like rice tended to flourish, and these required control of water resources, both to prevent drought and flooding. (This climate also had its downsides, as typhoons destroyed crops with regularity.) Japanese administrators engaged in large water infrastructure projects, like the Chianan (嘉南 *Jianan*) irrigation canal built through Chia-yi and Tainan.¹⁶⁶ Similarly JCRR under the Guomindang built with US funding the Shimen reservoir (石門水庫 *Shimen shuiku*) and dam serving Taoyuan and Taipei. Irrigation at the rural level introduced social dynamics and tensions on top of ecological ones.

Though most JCRR reforms involved applied research and dissemination of practices, some mandated reforms were not well received by farmers. Social dissatisfaction with policy directives and reforms rarely reached the upper echelons of the JCRR; the bureaucratic system of the postwar KMT state on Taiwan left policy and research decisions to the relatively small-scale JCRR and left local administrative issues to farmers' associations and especially association leaders, who were usually farmers. Reports of farmer resistance to JCRR policies had to be filtered through multiple levels up the bureaucratic chain before it reached the commission policy makers. Thus, discussion of resistance was relatively rare within JCRR documents. In many cases, policies enacted top-down forced redistributions of privileges.

In one instance related by a JCRR consultant working on irrigation economics, Taiwanese farmers objected to reforms of irrigation management under "irrigation squads" or "irrigation groups." In Taiwan, farm parcels were organized into "rotational units" or "rotational areas" for the purposes of simplifying irrigation management.¹⁶⁷ On occasion, rotational units would have irrigation re-routed or otherwise managed differently. Farmers whose lands were located near the head of the system had first access to incoming irrigation water, and those farmers whose land happened to be located at the end of the irrigation system would theoretically be more prone to receiving insufficient water should the system fail at any point. Whenever changes to irrigation management resulted in certain farmers being moved to the end of an irrigation system, sometimes they protested these changes, leading to their arrests and being incarcerated for brief periods before they were released.¹⁶⁸ These instances demonstrated that though the ROC government reformed farmers' organizations for self-representation, policies dictated nonetheless created winners and losers, with little social recourse for those who felt aggrieved under Guomindang authoritarianism.

Harvest Magazine

Though farmers' associations provided crucial human capital for centralized agricultural planning, they were not the only pathway for knowledge dissemination. As

¹⁶⁶ This was the subject of the popular 2014 Taiwanese film, *Kano*.

¹⁶⁷ H.J. Tong to Gil Levine, June 12, 1968; Archive Number 034000000346A; Folder Document Drafts "L" in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

¹⁶⁸ Professor Gil Levine, former JCRR consultant, interview by the author, 19 October 2013, Cornell University.

Chapter 1 demonstrated, efforts like the Mass Education Movement had utilized a variety of written and visual media to complement education in rural villages in northern and southwest China. In 1951, JCRR worked with the United States Information Service (USIS, the overseas arm of United States Information Agency responsible for Cold War propaganda projects like Voice of America), the Provincial Department of Agriculture and Forestry, the Provincial Government Information Office, and the Provincial Farmers' Associations, to develop a new avenue of disseminating knowledge: *Harvest* magazine (*Fengnian zazhi* 豐年雜誌).

Harvest targeted the four million rural farmers in Taiwan through bimonthly issues with “agricultural and health guidance, government and marketing announcements...with broad appeal to all segments of rural life, so interesting and useful that each issue will be eagerly awaited.”¹⁶⁹ *Harvest* was distributed to rural areas at subsidized prices, and had articles in both Chinese and Japanese, which was the more familiar language for many who had only been educated under Japanese colonial rule. (However, Japanese language was to be secondary to Chinese, usually provided as summaries instead of as equal languages, and eventually phased out as Chinese language education took root. This was as a part of Guomindang efforts to decolonize and de-Japanicize Taiwan.¹⁷⁰) *Harvest* possessed both push and pull factors: on the one hand, it would push new techniques through illustrations and photographs in its issues, describing how they produced better results for farmers. On the other hand, it also demonstrated successful cases of these new practices, providing incentive for readers to also want to achieve the bountiful harvests shown in the color photograph.

Like W.A. Anderson's community development efforts, *Harvest* was also meant to showcase ideals of social and personal livelihood for rural populations. JCRR Chairman Jiang Menglin, a former Minister of Education during the Republican era on the mainland, was keen to use media like *Harvest* to counter communist ideology, which had “ideals behind it.” Though Taiwan was ruled under Guomindang martial law and communist insurrection was less likely on the island, the loss of the mainland was likely behind concerns of potential communist sympathy, and ostensibly counter-communist idealism would prove useful for Chiang Kai-shek's future retaking of the mainland. Thus *Harvest* too needed to “get through...the hope and inspiration, [to] let people visualize better life [sic].”¹⁷¹ This translated through positive messages and idealized roles, through inspirational news stories and fictional accounts that read like morality tales. In this sense it also served as propaganda, to champion the benefits of state-led agricultural development, as well as to bring back to the rural populations news of successes across Taiwan and elsewhere in the world. As Chapter 4 will show, these included the eventual

¹⁶⁹ USIS and JCRR Office of Information and Education to JCRR, “Rural Periodical Project, Operations and Budget,” April 14, 1951. Robert Sheeks Personal Papers.

¹⁷⁰ Conversation between Chiang Menglin and Willard Rappleye, “Rural Periodical Project,” p. 4. Undated (1950?). Robert Sheeks Personal Papers.

¹⁷¹ Conversation between Chiang Menglin and Rappleye, “Rural Periodical Project,” p. 5-6. Undated (1950?). Robert Sheeks Personal Papers.

international missions where Taiwanese agricultural technicians aided developing nations in Africa, Asia, and Latin America.

— 9 — 友 朋 小 年 豐 日五十月七年十四國民華中

給小朋友的信

親愛的小朋友們：本刊是新創的定期農報，目的是在對農村的友人們盡可能的服務，以增進農業的知識，改善農民的生活，在這裡，所有關係的消息和國際間對於農民有利益的消息，將儘量集中報導。

本刊兒童版，是專為小朋友們預備的，裡面有故事，新聞，笑話，漫畫，勞作，玩具，值得介紹的新發明，新知識和對於小朋友們的身心方面有益，有意義和有趣味的寫作。

本刊的文字，將使用最通俗最淺近的寫法，並且大多數是用圖畫來說明，使小朋友們一看就能明白。我想小朋友們一定是很喜歡的。

小朋友們，假如你們也有好的笑話或故事，請從郵局寄來，我們如認為有刊登的意義，一定藉本刊來介紹給其他的小朋友們，同時也酌量贈送你們一點紀念品。

祝你們健康進步。

兒童編輯室啓

岳飛的成功

岳飛是宋朝的名將，他曾經為抵抗侵略，復興民族，盡過極大的努力，把他的生命貢獻給抗戰復國的偉大事業，這是大家都知道的，但是他的勤奮好學和他的勤從良好的教訓却是成就他偉大事業的原因。

岳飛年幼時，因為家鄉遭遇了很嚴重的水災，損失了所有的財產，僅僅和他的母親住在很破爛的房子，靠他的母親做工，勉強過着很窮苦的生活，他雖然窮得連書和紙筆都買不起，但是仍舊由母親口授他讀書，有一天，他從外面回家，帶來了一籃河砂和一些樹枝，請母親用樹枝在砂上教他寫字，這樣就解決了缺乏紙筆的困難，因為他由勤奮而得着高深的學識，所以能造就成為偉大的人格。

在他長大成人，預備從軍衛國的時候，他的母親怕他意志不夠堅定，就在他背上用針刺了「精忠報國」四個字，要他時刻記住，他忍着痛苦，很愉快的接受母親的教訓，而且永遠不敢忘記，他一生做人行事，都是以國家為前提，因為堅定了他精忠報國的決心，所以每次作戰，都是奮不顧身，立下了很多輝煌的戰功，達到了報國的目的。

小朋友們，你們羨慕岳飛偉大的成就嗎？你們是可能和他同樣的成就的，只要你們能勤勉好學，就能有高尚的人格，能接受良好的教訓，就能有正確的作為，事業的成功是不會太困難的，小朋友們，努力罷，現代的中國正需要一個現代的岳飛呢！

最近新聞

不諳水性溺水溺死

臺北中華晚報登載「六月二日下午五時許，本市漳州街水池裡，發現男童浮屍一具，死者名游誠，十歲，家住任和平西路，為着不諳水性，被水淹斃，慘遭滅頂，此可為一般喜愛游泳的兒童的家長們戒。」

經調查後，計臺灣省四五月分游泳溺斃者二十九人，成人十三名，兒童十六名，溺斃地點，多在池塘、溪邊、河邊。

大家熟知運動要有助身體健康的，而游泳是各類運動中很好的一種，所以游泳的技術，無論男女，

Article: One story, titled “Yue Fei’s Success,” depicts the hard working habits of famous Song general Yue Fei.¹⁷²

Harvest consisted of various sections designed to educate rural residents in new agricultural methods and techniques, news reports, sanitary health and wellbeing practices, and inspirational stories. Various sections targeted different segments of rural populations, and among the youth sections, “stories” (故事) were commonly told to uphold behaviors and moral norms. One such story was titled “Yue Fei’s Success” and depicted the hard working habits of famous Song general Yue Fei, who has served as a historical exemplar of loyalty in China. The story began with the contributions of Yue Fei to society, first fighting off invasion, then reviving the people (*fuxing mingzu* 復興民族), and finally sacrificing “his life for the great cause of a war of resistance and reviving his nation” (把他的生命貢獻給抗戰復國的偉大事業). But Yue Fei’s greatness did not begin on the battlefield, so the story continued; it began at home, as a child. Yue was raised in a poor family that was unable to purchase paper or brush for learning to write, and so “one day he returned home with a bucket of sand and some tree branches and thus resolved the problem of his lack of paper and brush.” The story was meant to illustrate the determination of Yue Fei to study and thus achieve greatness and legend. Thus the story concluded with a reminder to the child audience that just as Yue achieved his noble moral character (高尚的人格) and accepted his excellent training (接受良好的教訓), so too can

¹⁷² *Harvest Magazine (Fengnian 豐年)*, Volume 1, No. 1 (July 15, 1951), p. 9. Harvest Publishing (*Fengnian she* 豐年社), Taipei, Taiwan.

“young friends” (小朋友們) become a “contemporary Yue Fei that our China today needs!” (現代的中國正需要一個現代的岳飛)¹⁷³.



¹⁷³ Harvest Magazine (*Fengnian* 豐年), Volume 1, No. 1 (July 15, 1951), p. 9. Harvest Publishing (*Fengnian she* 豐年社), Taipei, Taiwan.

Illustration: Titled “Good Habits,” this short cartoon depicted daily health and hygiene practices for children to follow in the youth section of *Harvest Magazine*.¹⁷⁴

As indicated by the original objectives of *Harvest*, its architects, Jiang Menglin and Americans Willard Rappleye and Robert Sheeks, envisioned targeting the language and medium of the magazine toward the literacy and interests of a rural audience. This included visual and literary elements that would draw interest, including art and comics. Another image depicted above demonstrated this with illustrations of proper hygiene for village youth. In the six-panel animation, a child is shown performing various habits that encouraged healthy living, from washing hands before eating, to daily bathing, to sleeping with the window open. These were continuations of public health campaigns that originated in Republican-era China and were seen as important for eradicating disease and improving rural livelihoods.

4-H

To supplement the work of farmers' associations in public health and youth education, and continuing a trend of such community development from efforts like the North China Rural Reconstruction Movement on the mainland (see Chapter 1), JCRR established 4-H clubs throughout rural Taiwan. 4-H were rural community youth clubs that originated in the United States beginning in 1914. The four “H’s,” which represent Hand, Heart, Head, and Health, represented the club’s dedication to inculcating work ethic combined with modern practices of public health and education. As historian Amrys Williams has written in her doctoral dissertation on 4-H in the United States, the US Department of Agriculture Extension Service encouraged the founding of 4-H clubs for two objectives: “the immediate improvement of rural conditions through the teaching of new practices to young people in the context of the farm home, where other members of the family would take notice and follow their lead; and the long-term future development of agriculture that would result from children learning and internalizing these methods as they grew into adults with their own farms and children.”¹⁷⁵ These same objectives translated to Taiwan, where a history of rural youth education traced back to Yan Yangchu’s Rural Reconstruction Movement and Jiang Menglin’s work as the Minister of Education in the Republican era (see Chapter 1).

JCRR produced an English language promotional video on 4-H titled “Lee Yu’s 4-H Banner”¹⁷⁶ in 1974. Filmed in Bifengli (碧峰里), a village in Nantou County (南投縣) in rural central Taiwan, an unnamed narrator follows the story of a young Taiwanese boy, Lee Yu, as he accidentally happens upon a local 4-H chapter vegetable demonstration field. The opening scene depicted Lee Yu and his friends playing in the fields, in a scene implied as representative of unproductive village youth. They chased a rabbit into a nearby 4-H

¹⁷⁴ *Harvest Magazine (Fengnian 豐年)*, Volume 1, No. 1 (July 15, 1951), p. 9. Harvest Publishing (*Fengnian she 豐年社*), Taipei, Taiwan.

¹⁷⁵ Amrys O. Williams, “Cultivating Modern America: 4-H Clubs and Rural Development in the Twentieth Century” (Ph.D., The University of Wisconsin - Madison, 2012), 8–9, <http://search.proquest.com/pqdtglobal/docview/1667768749/abstract/FDE9DAFBDE454566PQ/1>.

¹⁷⁶ Date is according to USAID records; the video may have been produced earlier. “Lee Yu’s 4-H Banner,” February 1974; Records of USAID, RG 286.95; NACP.

demonstration field, which then provided a stark contrast: men dressed in standardized 4-H uniforms, complete with the four-leafed clover symbol of 4-H emblazoned upon green jackets and white caps, applying chemical fertilizers or pesticides across a field burgeoning with green vegetables. The uniformity, application of modern technology, and stunning results in the color video were clear—this was modernity in action.



Film: A group of local children happen upon a vegetable field being run by the local 4-H chapter. Shown here is usage of modern chemicals and lush, green fields attended to by 4-H workers in uniform.¹⁷⁷

The rest of the video then proceeded to demonstrate the various activities sponsored by 4-H chapters in Taiwan. The local 4-H chairman showed Lee Yu and his friends to the 4-H administered village. In one scene, ballots were handed out to 4-H members for elections for the local 4-H chapter chairman. These demonstrations of democracy in action were representative of community development aims to inculcate democratic practices and ideals at rural and youth levels. JCRR sought to leverage local-level democratic processes as a form of self-administration, and also as an ideological form of agrarian development that emphasized community democracy.

¹⁷⁷ "Lee Yu's 4-H Banner," February 1974; Records of USAID, RG 286.95; NACP.



Film: 4-H worker administering ballots for local 4-H chairman elections.¹⁷⁸

In another scene, village women are shown working on handicrafts, an example of how gender affected agrarian development. As historian Kenneth Pomeranz has observed, rural handicrafts have served a valuable economic function in China dating back centuries.¹⁷⁹ Women, who did not always work in planting, maintenance, or harvesting in the fields, have supplemented household income by producing handicrafts for sale in local markets. 4-H similarly encouraged such activities. In the scene from “Lee Yu’s 4-H Banner,” rural women are shown in a central village location working on handicrafts under the instruction of a 4-H worker. Though this aspect was not heavily emphasized in the film, it nonetheless demonstrated a gendered division of the rural family: children participating in youth 4-H activities, men working in the field applying pesticides and fertilizers, and women at the village working on handicrafts.

¹⁷⁸ “Lee Yu’s 4-H Banner,” February 1974; Records of USAID, RG 286.95; NACP.

¹⁷⁹ Pomeranz, *The Great Divergence*.



Film: 4-H women working on rural handicrafts.¹⁸⁰

Explicitly “modern” practices were also emphasized by 4-H in Taiwan. Another scene demonstrated an example of how Taiwanese youth could be productive for their villages, showing how raising fowl for sale and hens for eggs could be fun and also generate income. In demonstrating youth agrarian activities, a 4-H female worker was shown with a young boy, who is holding a pencil and paper pad. As the woman collected eggs from hens in the chicken coop, the boy recorded these numbers in his journal. This method of quantification provided youth training for rural farmers to become more scientific, in a Taylorist sense. Though left implied, the idea of quantification would prove to be useful for farmers later, in calculations such as amount of fertilizers, pesticides, or seeds necessary for ideal production, as well as financialization of production and sales. These practices of quantification were in line with other efforts by JCRR to reduce waste, increase precision, and improve knowledge of agrarian processes for better implementation and planning.

¹⁸⁰ “Lee Yu’s 4-H Banner,” February 1974; Records of USAID, RG 286.95; NACP.



Film: Children practicing journaling of egg production from hens.¹⁸¹

Agricultural Science

Chapter 1 discussed the rise of agricultural sciences in Republican China, including the experiences of agronomist and plant breeder Shen Zonghan. In 1949 the Guomintang regime retreated to Taiwan following its defeat to the Chinese Communist Party on the mainland, and Shen and numerous other scientists affiliated with JCRR and the Ministry of Agriculture and Forestry also accompanied the move to the island. With them, they brought over not just their scientific expertise, with a significant number having been trained in the United States, but also accumulated experiences of crop selection and improvement methods in the varied natural and social ecologies of China.

In addition to the experience and expertise brought over with Guomintang rule (along with repressive authoritarianism, the White Terror, and martial law), Taiwan benefitted (and likewise suffered from) from Japanese colonial development. Colonial administrators established significant advances in agriculture, ranging from agricultural research stations throughout Taiwan, to farmers' associations, and agricultural infrastructure such as irrigation canals. Japanese agricultural universities such as the Taihoku Imperial University (臺北帝國大學), reorganized as National Taiwan University after the Nationalist takeover, and the Taiwan Advanced Academy of Agronomy and Forestry (臺灣總督府高等

¹⁸¹ "Lee Yu's 4-H Banner," February 1974; Records of USAID, RG 286.95; NACP.

農林學校), later renamed National Chung Hsing University (國立中興大學), trained future generations of Taiwanese agronomists and scientists that remained after retrocession. By 1945, the Nationalist government had inherited an island that possessed a foundation for future development.

JCRR encouraged institutionally-driven agricultural science research. This policy entailed the development of Taiwan's university system to supply the research talent necessary for new research institutes as well as support from the Guomindang state bureaucracy to prioritize science and technology as a growth industry.

In one example of the dozens of new agricultural research institutes that emerged from the postwar development period, the Plant Protection Center was established in Taichung in 1960. The goal of the Center was to provide research to battle plant diseases and pests. It combined the biological sciences—taxonomy, physiology, pathogenicity, and histopathology of microorganisms—with field trials in order to bring basic science with agricultural application. It employed field trials of chemical based pesticides as well as non-chemical, natural pest deterrents.¹⁸² By combining scientific research with an applied goal, the Plant Protection Center was representative of 20th century changes to agricultural science that have been associated with the Green Revolution, as well as its negative consequences of over reliance on toxic chemicals and polluted runoff. (Chapter 5 will discuss the rise of Green Revolution-influenced scientific research in Taiwan.)

In another example of the marriage of science and industry, the Taipei District Agricultural Improvement Station requested funding from the JCRR for a study on “Post-harvest Physiology, Handling and Storage Techniques for Fresh Vegetables and Fruits.” Science and technology was not just limited to improving productivity yields from crops. Technocratic planners also ensured that science and research be applied to industrial operations, sales, and exportability—in this case, distribution. The report remarked that “Due to inadequate handling, transit, and storage of fresh vegetables, the losses during the handling and marketing stages in Taiwan are tremendous. Inadequate handling and transit were also responsible for the poor quality and low market value of fresh fruits on the foreign markets as reported in the past.”¹⁸³ Benefits of distribution research were two-fold. Proper handling of vegetables during distribution would minimize direct losses due to damage and lack of refrigeration, and indirectly, an increase in quality at distribution destinations throughout Taiwan would result in a higher market value for vegetables. The proposed study researched post-harvest physiology of vegetables and fruits to discover new transport methods and practices to ensure that they would reach destinations at optimal ripeness and condition. The application of research thus was broadly applied to many aspects of the agriculture industry.

¹⁸² “Plant Protection Center.” Folder 2, Joint Commission On Rural Reconstruction in China (United States and China) Miscellaneous Records, Box no. 9, Hoover Institution Archives.

¹⁸³ “Studies on Post-harvest Physiology, Handling and Storage Techniques for Fresh Vegetables and Fruits.” Folder 2, Joint Commission On Rural Reconstruction in China (United States and China) Miscellaneous Records, Box no. 5, Hoover Institution Archives.

The JCRR saw dozens of funding requests on a monthly basis that were not just limited to traditional rice and sugar crops. In September of 1968, it received requests for research into a variety of agricultural related industries, reflected a vast diversification of the agriculture industry. This spectrum included breed selection for peanuts, farm mechanization, cropping patterns, fruit diseases and insects, forest management systems computer simulations, watershed management, tree breeding and bamboo research, kiln drying for hardwoods, fisheries development, and management of farmers' associations.¹⁸⁴ By the late 1960s, development that had previously been focused on rice had expanded into tuna fisheries, highland timber, and tropical fruits.

Applied scientific research was practiced with fervor for an increasing variety of domestic products and needs. Ducks raised and sold for human consumption are typically a sterile cross of two duck breeds, one used for its low fat content and the other for its distinctive meat qualities. The hybrid offspring, however, is sterile. Typically breeding the Peking duck hybrid involves a lengthy process of mating, but by the 1960s Taiwanese scientists perfected artificial insemination to a process of mere minutes per female duck.¹⁸⁵ The resulting breeding program allowed for an enormous boost in Peking duck breeding. In another display of applied research methods and attempts at innovation, in 1969 a request was made to the JCRR for funding to research the use of bamboo as a replacement for steel in reinforced concrete.¹⁸⁶ The broadening application of science research resulted in productivity increases across the island.

Aside from this marriage of applied scientific research to agriculture, the JCRR also served a second yet important purpose – facilitating professional exchange and educational development. The JCRR largely sought experts abroad when the appropriate expertise could not be found in Taiwan, or when domestic research institutes sought to bring in international experts for educational purposes. The majority of these experts were from “developed” nations – the US, Japan, Germany, Israel, etc. The exchange of personnel and training across so many different nations demonstrates the transnational nature of agricultural development of the time. Many of the agricultural experts who lectured or participated in conferences in Taiwan were also commonly invited to a half dozen other developing nations.

Conference participation by agricultural scientists sponsored by the JCRR demonstrates a wide range of agriculturally-related pursuits. Applied research using cutting edge science and technology was the theme for international educational exchanges as well. In one interesting example, the Food and Agriculture Organization of the United Nations (UNFAO) and the International Atomic Energy Agency (IAEA), through a joint division between the two, hosted a meeting for the rising field of

¹⁸⁴ Folder 1, Joint Commission On Rural Reconstruction in China (United States and China) Miscellaneous Records, Box no. 9, Hoover Institution Archives.

¹⁸⁵ Billings, “Bruce Hadley Billings mimeograph: A study of the role of science and technology in Taiwan,” 24-25.

¹⁸⁶ Folder 5, Joint Commission On Rural Reconstruction in China (United States and China) Miscellaneous Records, Box no. 2, Hoover Institution Archives.

radiobiology. The JCRR sponsored one scientist, C.H. Huang, to participate in a November 1969 meeting of the FAO/IAEA at Knoxville, Tennessee, on “Use of Seeds as Biological Monitors for Neutron Irradiations.”¹⁸⁷ The goal was to further study the use of neutrons for seed irradiation.

In another example, the JCRR facilitated two Taiwan representatives to the Rural Youth in Agricultural and Rural Development conference held February 18 to March 15 1969. Sponsored by the German Foundation for Developing Countries in close collaboration with the UNFAO, the conference encouraged planning for “the design of nationally integrated programmes suitable for a more massive mobilization of the resources of youth for agricultural and rural development.” Taiwan’s participation was just one of many developing countries, and while traveling to the conference, the JCRR also approved for the two delegates to stop at the Netherlands and Denmark to “observe their agricultural extension work which has been successfully carried out or strongly supported by the farmers’ cooperative organizations.”¹⁸⁸

Finally, JCRR institutionalized a trend of sending its own scientists abroad for training and education in the centers of agricultural innovation, which by the postwar was usually the United States. JCRR’s own commissioners, including Jiang Menglin and Shen Zonghan, underwent graduate education in the US (at Columbia’s Teacher College and Cornell agronomy, respectively). One of the more prominent examples was a Taiwanese agricultural economist with JCRR who went to Cornell for his doctoral degree, Lee Teng-hui (李登輝 Li Denghui). Lee had written his dissertation, titled “Intersectoral Capital Flows in the Economic Development of Taiwan, 1895-1960,” on the importance of resources flowing out of and in to the rural and agricultural sector, arguing that these contributed to growth in other sectors of the economy and thus overall development.¹⁸⁹ The dissertation won the American Agricultural Economics Association award for outstanding doctoral dissertation.¹⁹⁰ Writing in the foreword of the 1971 book edition published by Cornell University Press, Lee’s doctoral dissertation adviser and prominent Cornell professor agricultural economics John Mellor explained that Taiwan “offers an unusual opportunity” to examine a model of development where “first, substantial investment in agriculture and development of the agricultural sector, and then, form that base of agricultural development, major transfers from the agricultural to the nonagricultural sectors.” Lee’s intervention comes in because “there seems little evidence that such a pattern has in fact

¹⁸⁷ “Recommending approval for CH Huang to Attend the Meeting on the Use of Seeds as Biological Monitors for Neutron Irradiations at Knoxville, Tennessee.” Folder 23, Joint Commission On Rural Reconstruction in China (United States and China) Miscellaneous Records, Box no. 4, Hoover Institution Archives.

¹⁸⁸ “Rural Youth in Agricultural and Rural Development.” Folder 5, Joint Commission On Rural Reconstruction in China (United States and China) Miscellaneous Records, Box no. 2, Hoover Institution Archives.

¹⁸⁹ Teng-Hui Lee and Cornell University, “Intersectoral Capital Flows in the Economic Development of Taiwan, 1895-1960” (University Microfilms, 1969).

¹⁹⁰ “American Agricultural Economics Association: Reports and Minutes 1968-69,” *American Journal of Agricultural Economics* 51, no. 5 (1969): 1645-99.

been followed by presently developed countries,” implying that Taiwan was one of the first to successfully implement this theory of agriculture-led economic development.¹⁹¹

At the time, Lee had been an agricultural economist working in JCRR, publishing numerous articles and books demonstrating the importance of JCRR’s impact on the overall economic development of Taiwan. After returning to Taiwan with his PhD, he quickly progressed through the ROC bureaucracy, eventually being chosen as Vice President by Chiang Ching-kuo, son of Chiang Kai-shek, and then being elected as Taiwan’s first democratically-elected President in 1996. That such an important figure in Taiwanese history rose from the roots of agricultural success in Taiwan was not coincidental. For Lee’s contemporaries, agricultural development became the primary question of his generation.

Conclusion

By 1965, Taiwan was classified a “developed nation” and a “graduate of AID”¹⁹² (US Agency for International Development or USAID) by the United States. Although this resulted in the cessation of US funding, JCRR continued operating until 1972 to continue disbursing leftover USAID funds and ROC government funds that took the place of USAID funds. In 1978, JCRR ceased to function as a joint council as the last American commissioner, Bruce Billings, returned to the United States and was not replaced. JCRR then became renamed the Council for Agricultural Planning and Development. By the 1970s, the story of Taiwan’s economic growth had shifted from agriculture to industry, and industrial growth became the face of the Taiwan miracle.

Nonetheless, the agricultural history of Taiwan’s miracle was a crucial precursor for Taiwan’s economic growth and emergence as a modern society. Unique elements of Taiwan’s agricultural planning and circumstances emerged both domestically and abroad. Farmers’ associations, established under Japanese colonialism but reformed under the Guomindang, allowed top-down centrally planned policies, technologies, and practices to reach rural spaces. Development planners created new pathways for knowledge dissemination, including visual media like *Harvest* magazine that focused on rural audiences through accessible language and relevant knowledge. JCRR also imported American ideas, like 4-H, combined with experiences of community development from the Republican era. Organizations like 4-H and farmers’ associations inculcated ideals of community-based democracy and public health that attempted to reshape rural norms and practices.

In the agricultural sciences, JCRR heavily invested in the system of agricultural universities, research institutes, and experiment stations that would generate Green Revolution methods of high-yield crop cultivars, chemical fertilizers, and pesticides. Though this narrative is familiar, basic science was also oriented toward applied uses, such as fruit marketing or produce transportation. These new fields of scientific research

¹⁹¹ Lee, *Intersectoral Capital Flows in the Economic Development of Taiwan, 1895-1960*.

¹⁹² Billings, Bruce. “Bruce Hadley Billings mimeograph: A study of the role of science and technology in Taiwan,” 2.

emphasized practical applications and non-laboratory forms of scientific knowledge in line with rural needs. Combined with this was also a focus on international exchanges, particularly drawing upon foreign expertise and centers of training.

Individually, these practices were not unique to Taiwan, but taken together, they contrasted with practices elsewhere by focusing on the social context for development. In general, higher cost approaches like dam building and infrastructure were eschewed in favor of privileging knowledge and technology. This approach played to the strengths of development in Taiwan—the preexisting social organizations and infrastructure left by Japanese colonialism, the experiences of Guomindang technocrats, and the availability of US-based expertise and funding—and more importantly, it was successful, as proven by agricultural productivity numbers.

Though at the time, Taiwanese development practitioners did not think of their work as engaging in a Taiwanese-specific manner, by the 1960s, Taiwanese technocrats and intellectuals began to market the uniqueness of Taiwan's methods and successful record abroad. This marketing evolved in different cases to a package of ideas that could be easily understood as a model for other nations to follow. This "Taiwan model" most often included the utilization of agricultural science, the dissemination of better methods and practices to the rural populace through agricultural extension, and the fostering of rural social organizations like farmers associations. As the next chapter will explore, these specific aspects also possessed particular political utility, as they echoed with the needs and limitations of developing nations in Africa, Asia, and Latin America where Taiwan sent its agricultural technical teams.

Chapter 3

In the Vanguard: Taiwanese Agricultural Development Missions to Vietnam and Africa, 1959-1971

The colonial powers can no longer use the methods of the past to continue their plunder and oppression. The Asia and Africa of today are no longer the Asia and Africa of yesterday. Many countries of this region have taken their destiny into their own hands after long years of endeavours.

- Zhou Enlai, Premier of the People's Republic of China, in 1955 speech to the Bandung Conference¹⁹³

Introduction

On a chilly December evening in 1978, Deputy Minister of Foreign Affairs Yang Xikun (楊西崑, Yang Hsi-kun) presided as the flag of the Republic of China was lowered amidst a light drizzle in the grounds of the ROC embassy, Twin Oaks, in Washington, DC.¹⁹⁴ An 18-acre estate located in the wealthy Cleveland Park residential neighborhood of Washington, Twin Oaks served for over forty years as the residence of the ROC diplomat to the United States from 1937 to 1978. In 1979, with the severance of diplomatic relations between the ROC and the United States, Twin Oaks ceased to serve as the official embassy for the ROC.

Yang's presence at that fateful moment was befitting of the irony of the ROC's 1970s international history. Taiwanese and African newspapers dubbed Yang "Mr. Africa" (非洲先生 *feizhou xiansheng*), a reference to the internationalization diplomacy of Taiwan during the 1960s, aimed at obtaining United Nations allies among the newly decolonizing and vote-carrying nation-states of Africa and Asia. On the ground, this diplomacy consisted of the ROC sending agricultural technical teams abroad, beginning with South Vietnam in 1959. Like most later missions, this one began modestly—just over a dozen technicians, specializing in plant breeding, irrigation, fisheries and farmers associations, who were then tasked with helping Vietnamese state-led efforts at crop improvement and rural welfare. In Taipei, however, this diplomacy was a concerted effort by the ROC to leverage its success at agricultural technology and science as a form of soft diplomacy, buoying its international prestige via humanitarian action.

In 1961 these efforts were organized into "Operation Vanguard" (先鋒案 *xianfeng an* or 先鋒計劃 *xianfeng jihua*) under direction of the ROC Ministry of Foreign Affairs (MOFA)¹⁹⁵.

¹⁹³ 1898-1976 Zhou Enlai, *Main Speech by Premier Zhou Enlai, Head of the Delegation of the People's Republic of China, Distributed at the Plenary Session of the Asian-African Conference* (History and Public Policy Program Digital Archive, 1955), <http://digitalarchive.wilsoncenter.org/document/121623>.

¹⁹⁴ "ROC Flag-Raising Ceremony Held at Twin Oaks in D.C., First Time in 36 Years," *Kuomintang News Network*, accessed February 1, 2016, <http://www1.kmt.org.tw/english/page.aspx?type=article&mnum=112&anum=15631>.

¹⁹⁵ Eventually these technical assistance missions abroad became institutionalized under a separate entity, the International Cooperation and Development Fund.

These newly emerging “Third World” allies were crucial for the ROC’s continued international existence. When the ROC regime was defeated by Communist forces in 1949 and retreated to the mainland, it continued to be recognized as the legitimate government of all of China and thus retained control of its crucial seat in the UN. Almost immediately after its victory, the PRC, led by Foreign Minister Zhou Enlai, sought that UN seat. Albania, at the time one of the closest international communist allies of the PRC, continually introduced resolutions in the UN to recognize the PRC as the official representative of China, which would delegitimize the ROC and force the ROC to forfeit the seat it held. This led to a unique global Cold War battle between the PRC and ROC, waged culturally, economically, and developmentally in order to win influence among vote-carrying nations that would support their respective UN positions. Yet efforts to curry favor among African and Asian nations ultimately proved a failure for the ROC; in 1971, the ROC lost its seat in the United Nations, and by 1979, the United States formally extended diplomatic recognition to the PRC in lieu of the ROC.

The efforts of the ROC amidst a diplomatic proxy war with the PRC is largely told as one of states and statesmen—secret deals made behind closed mahogany doors, Nixon and Kissinger, and Zhou Enlai and Deng Xiaoping. Though the Cold War is crucial throughout this history, what is lost in this narrative of high diplomacy was a little known yet robust development campaign launched on the part of the ROC Ministry of Foreign Affairs to secure its international position. This campaign of development diplomacy reached over two dozen African and Asian nations at its peak, and continues until the present. American dollars secretly funded these efforts, postcolonial leaders across the Third World welcomed Taiwanese technical missions, and all the while, Taiwanese technocrats outlined a vision of the developing world as following in the footsteps of Taiwan’s own modernization.

This chapter recovers a lost history of Taiwan’s development — its agricultural technical missions abroad to the developing world. It focuses specifically on the agricultural technical missions to Africa and Vietnam, “Operation Vanguard,” and it discusses the visions of modernity contained within the missions as shaped by the Chinese technocrats in charge of their implementation. The chapter simultaneously explores the international and global circumstances constraining the actions of the ROC leading it toward “development diplomacy” as well as on the ground consequences of this diplomacy. In other words, it is necessary to unpack the meanings of modernity, the Third World, and the Cold War in order to understand how they influenced what types of agricultural technologies and practices Taiwanese technicians were implementing in places like Chad, Cote d’Ivoire, and Vietnam. It argues that ROC foreign policy and science officials packaged elements of Taiwan’s agricultural development history into a Taiwanese model that they portrayed as being better suited for the tropical and subtropical agrarian societies of Africa and Southeast Asia. And that this portrayal became essential to the ROC’s search for an identity after losing the mainland.

The history of Taiwan's development missions abroad is important for our understanding of the waging of the Cold War on the ground, the transformation of development toward South-to-South connections, and the evolution of international worldviews among postcolonial societies like Taiwan. Funded by US dollars, Operation Vanguard was a form of soft power exertion by the United States in order to obtain better diplomatic conditions for its ally, the ROC. As a secondary benefit, the United States also sought to bring decolonizing nations into its orbit and away from the allure of communism. In the early Cold War, programs like Point Four, the Economic Cooperation Administration, and its later iterations brought direct US technical aid to nations in Africa and Asia. Vanguard represented a step forward, moving from a hub-and-spokes model with the US in the center to a distributed web of development with US allies aiding one another (albeit with US clandestine funding). Taiwan served as a front, a guise under which the US could attain its Cold War objectives.

However, Vanguard serving as a proxy for funneling US dollars did not detract from the robustness of the theories and practices embedded within Vanguard missions, nor did it remove the agency of Taiwanese development practitioners who co-opted Vanguard to demonstrate the superiority of Taiwanese development. Since its funding status was kept secret, Vanguard planners possessed significant leeway to exercise intellectual freedom in constructing their model of development. Drawing upon their own technical expertise, Taiwanese development goals reflected an idealized image of Taiwan itself. This reflection was deeper than a matter of technical comparative advantage. Many of the Taiwanese elites who had overseen the rapid growth in agricultural production in Taiwan took particular pride in its success, especially vis-a-vis other decolonizing nations internationally. Furthermore, by the 1960s, Chiang Kai-shek's repeated rhetoric of retaking the mainland began to appear increasingly unrealistic as the PRC consolidated its regime and built up its military force. The reality of possible permanent separation from the mainland began to set in. In staking their international interactions upon a rising international standard of nation-building—economic development—Taiwanese intellectuals were beginning to locate a postcolonial identity through South-to-South aid.

Despite the importance of Vanguard to Taiwan and US Cold War interests, relatively few scholars have written about this episode of international history. PRC missions have been examined by scholars such as Deborah Brautigam (examining agricultural technical assistance) and Gregg Brazinsky (in the context of Sino-American competition during the Cold War).¹⁹⁶ Historian Simon Toner has written about how Vietnamese state officials looked to Taiwan and South Korea as potential development models.¹⁹⁷ In the English

¹⁹⁶ Deborah Brautigam, *Chinese Aid and African Development: Exporting Green Revolution*, International Political Economy Series (Macmillan Publishers Limited, 1998). Gregg A. Brazinsky, *Winning the Third World: Sino-American Rivalry during the Cold War* (Chapel Hill: The University of North Carolina Press, 2017).

¹⁹⁷ Simon Toner, "Imagining Taiwan: The Nixon Administration, the Developmental States, and South Vietnam's Search for Economic Viability, 1969–1975," *Diplomatic History*, March 7, 2017, doi:10.1093/dh/dhwo57.

language literature, political scientist John Garver had written about ROC assistance to Vietnam in his book, *The Sino-American Alliance*, albeit only briefly and largely within a political context.¹⁹⁸ Geography scholars Kathleen Baker, Richard Edmonds, and Shiu-Shen Chien have written about more contemporary Taiwanese overseas development assistance, but have not discussed these from a historical perspective.¹⁹⁹

The most thorough analysis of the Vanguard missions come from Philip Hsiao-pong Liu's (劉曉鵬) doctoral dissertation, a diplomatic history of the Vanguard missions to Africa.²⁰⁰ In the Chinese language literature, historian Wang Wen-lung (王文隆) has similarly written of the Vanguard missions to Africa.²⁰¹ Though the diplomatic history is key to understanding the rise of Vanguard, this chapter seeks to examine not just foreign policy and geopolitical calculations, but also the content of Vanguard missions and what they meant to those practicing development. Within the policy blueprints, mission reports, and even propaganda articles and speeches, a picture emerges of Taiwan's efforts at utilizing its development expertise as a means of postcolonial identity. This chapter illuminates why development and post-colonialism converged in this era, and what it meant for the evolution of development history and Taiwan.

The United Nations

The founding of the United Nations in 1945 from the ashes of World War II saw the Republic of China included as one of the permanent members of the United Nations Security Council. Serving as a permanent member on the Security Council proved valuable to the ROC's international interests. In 1955, the ROC used its Security Council veto power to prevent the admission of Mongolia as a member of the United Nations, pursuant to its claim over Mongolian territory from the founding of the ROC in 1911 as a continuation of Qing territory. In 1949 after the Communist victory over the Guomindang (GMD), the Republic of China became a government-in-exile, exercising de facto governance over the island of Taiwan, and governing the rest of China only in name. The Chinese Communist Party (CCP) established the People's Republic of China on the mainland. Despite losing control of the majority of its previously governed territory, the ROC retained its seat in the United Nations, though this would not last long.

Shortly after the establishment of the PRC, beginning in January 1950, Chinese Foreign Minister (and later also Premier) Zhou Enlai sent messages, relayed via Communist

¹⁹⁸ Garver, *The Sino-American Alliance*.

¹⁹⁹ Baker and Edmonds, "Transfer of Taiwanese Ideas and Technology to The Gambia, West Africa." Chien, Yang, and Wu, "Taiwan's Foreign Aid and Technical Assistance in the Marshall Islands."

²⁰⁰ Hsiao-pong Liu, "The Making of an Artificial Power: American Money and 'Chinese' Technicians on African Soil, 1961-1971" (Doctoral Dissertation, The University of Chicago, 2006). Liu also authored an article in the *China Quarterly* derived from his dissertation. Philip Hsiao-pong Liu, "Planting Rice on the Roof of the UN Building: Analysing Taiwan's 'Chinese' Techniques in Africa, 1961-present," *The China Quarterly* 198 (2009): 381-400, doi:10.1017/S0305741009000368.

²⁰¹ Wen-lung Wang, 外交下鄉，農業出洋：中華民國農技援助非洲的實施和影響 *Waijiao Xiaxiang, Nongye Chuyang: Zhonghua Minguo Nongji Yuanzhu Feizhou de Shishi He Yingxiang* [Diplomacy Goes to the Countryside, Agriculture Goes Abroad: The Practice and Influence of the Republic of China's Agricultural Assistance to Africa] (Taipei: National Cheng-chi University, 2004).

nations like Yugoslavia, contesting the legitimacy of the Guomindang (“Chinese Kuomintang reactionary remnant clique”)²⁰². By the 1960s PRC ally Albania began submitting resolutions to the United Nations General Assembly to recognize the PRC in lieu of the ROC. These received the support of the communist bloc of nations. In 1961, in response to this, the United States and its allies in the United Nations put forth UN General Assembly Resolution 1168, which dictated that any change stemming from two governments contesting legitimacy over a seat be regarded as an “important question,” thus requiring a supermajority vote of two-thirds of the General Assembly before any action is taken.²⁰³

Resolution 1168 gave the ROC a temporary respite, but with decolonization coming into full force, new nations among the former European colonies in Africa were joining at a rapid rate. Western nations that voted predominantly with the United States and that outnumbered the communist bloc, in contrast, were fixed in number. Given the arithmetic reality, ROC Foreign Ministry planners understood that they needed votes among the newly decolonizing nations in order to prevent a supermajority from forming on behalf of Beijing to oust the ROC.

²⁰² “United Nations Security Council Document S/1462; Letter Dated 21 February 1950 From the Representative of Yugoslavia to the Secretary-General,” accessed February 8, 2016, <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/NL5/014/62/PDF/NL501462.pdf?OpenElement>.

²⁰³ United Nations, *Official Records of the General Assembly, Sixteenth Session: Annexes*, 66, accessed February 8, 2016, [http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/1668\(XVI\)](http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/1668(XVI)).

AFRICAN VOTE SHIFT ON CHINESE REPRESENTATION			
(Resolution calling for expulsion of GRC and seating of the Chinese Communists)			
<u>1963</u>			
<u>Country</u>	<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Burundi	x		
Cameroon		x	
Chad		x	
Congo (L)		x	
Dahomey		x	
Libya		x	
Rwanda		x	
Senegal		x	
CAR		x	
Congo (B)		x	
Ethiopia			absent
Nigeria			x
Mauritania			x
Sierra Leone			x
Tunisia			x
<u>1965</u>			
<u>Country</u>	<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Burundi			x
Cameroon			x
Chad			x
Congo (L)			absent
Dahomey			not participating
Libya			x
Rwanda			x
Senegal			x
CAR	x		
Tunisia			x
Congo (B)	x		
Ethiopia	x		
Nigeria	x		
Mauritania	x		
Sierra Leone	x		
<u>NEW STATES (1965)</u>			
<u>Country</u>	<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Kenya	x		
Zambia	x		
Gambia		x	
Malawi		x	

Photograph: State Department document showing projected votes among African nations on UN resolution calling for the expulsion of the ROC and replacement with the PRC.²⁰⁴ At the bottom there is a list showing new states joining the UN that had the potential to shift the balance of votes.

Vietnam

In 1955, Ngo Dinh Diem took power as prime minister of the newly established Republic of Vietnam (RVN). The RVN was established by the partitioning of Vietnam to a

²⁰⁴ "African Vote Shift on Chinese Representation," undated (1965?). Folder "Vice Minister Yang Visit December 1965"; Box 2; Bureau of East Asia and Pacific Affairs, Office of ROC Affairs, 1951-1978; Records of the State Department, RG 59; NACP.

communist north (the Democratic Republic of Vietnam) and a non-communist south supported by the US. By then, US aid had been increasing after French losses to communist insurgency in Indochina, and Vietnam was seen as a crucial territory that required US guidance and tutelage.²⁰⁵ Several prominent American development experts were appointed to serve in Vietnam, including the land reform expert attached to the US Department of Agriculture, Wolf Ladejinsky (see Chapter 4). As historian Edward Miller has explained, experts like Ladejinsky and others who determined technical aid and rural reconstruction policy in Vietnam all had prior experience in other Asian countries²⁰⁶. This was certainly the case for William H. Fippin, director of agriculture for US Operations Mission to Vietnam (USOM/Vietnam).

Before he served as USOM Director of Agriculture in Vietnam, William H. Fippin served from 1952 to 1957 as one of two American commissioners for the Sino-American Joint Commission on Rural Reconstruction (JCRR) in Taiwan. Beginning in 1949, JCRR was the highest-level agricultural policy making body for the island. Fippin was a specialist in farmers organizations who had overseen several of the farmers association reforms in the early years of JCRR tenure.²⁰⁷ As a result of his five years in JCRR, Fippin was not only intimately familiar with the operations and speciality of JCRR in farmers associations, but also held that Taiwan was a particularly successful case of agricultural development. In 1957, the International Cooperation Administration (one of the predecessors to the modern-day US Agency for International Development) moved Fippin to Vietnam, an area of increasing security concern. For Vietnam in particular, agricultural development became a key concern of not just the Americans in Vietnam and in Washington, but also for the Diem government. Shortly after his arrival, Fippin wrote to former colleague JCRR Commissioner Shen Zonghan that “the agricultural program is the largest and in their eyes most important (except of course the military)” for the Vietnamese, especially in the context of seeking American aid to fight the growing communist threat.²⁰⁸

On April 4, 1959, in a memorandum to the Deputy Minister of Foreign Affairs, a Taiwanese Foreign Affairs official in Vietnam wrote that “in discussion with USOM Agricultural Director Fippin and Vietnam Agricultural and Forestry Minister Le Van Dong, the US has prepared \$300,000, to invite twenty or thirty foreign agricultural experts to lead assistance (協助 *xiezhù*).²⁰⁹” The initial decision to invite Taiwanese experts was largely

²⁰⁵ Edward Garvey Miller, *Misalliance: Ngo Dinh Diem, the United States, and the Fate of South Vietnam* (Cambridge, Mass: Harvard University Press, 2013), 72.

²⁰⁶ *Ibid.*, 79.

²⁰⁷ Jiang Menglin to W.I. Myers, May 23, 1951; Archive Number 034000000351A; Folder “Myers, W.I.” in “Shen Zonghan Letter Drafts” [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

²⁰⁸ August 31, 1957. Letter from William H. Fippin to Shen Zonghan. Archive number 034000000337A, “沈宗瀚文件稿 (4箱)” [Shen Zonghan Document Drafts (“Fippin, W.F.”)], Council of Agriculture, Executive Yuan, Academia Historica Archives, Taiwan.

made at the behest of Fippin, stemming from his experience as JCRR commissioner. The Taiwanese official in Vietnam continued, “Because of Fippin having been in Taiwan for many years, and having worked well with many people within our agricultural circles, he has strongly advocated to invite [experts] from our side. The Vietnamese Agricultural and Forestry Minister, however, is interested in hiring French experts.”²¹⁰ The Vietnamese preference for French experts was unsurprising given the long colonial relationship between France and Indochina. The decision to choose Taiwanese experts was a bit more unusual.

Vietnamese officials within the State of Vietnam (1945-1954), the predecessor to Ngo Dinh Diem’s Republic of Vietnam government, had as early as 1949 been observing the developments of JCRR in China and Taiwan. In a document from the State of Vietnam Ministry of Public Works and Transportation (Bộ Công Chánh và Giao Thông), possibly a translation of an American publication by Vietnamese officials, JCRR was described as focused on “bringing earnings to the rural population” and “also recognizing the value of long term research and education.”²¹¹ It goes on to explain that JCRR was not a program designed to funnel large amounts of US currency “because experience has shown in Asia, it was difficult, at least in the beginning, to expend large sums quickly and in a reasonable (and wise) manner. On the contrary, it is a lively, dynamic program that begins by finding what is necessary for an ordinary farming family.”²¹² Though it is not entirely clear where this translation originated, it was most assuredly read among officials of the Ministry of Public Works and Transportation, and likely became increasingly important as US support for Vietnam increased under the Diem regime and Vietnamese planners looked to potential joint development projects with the US. In contrast with development programs that are seen as highly capital intensive, a picture emerges of JCRR as being more attuned to the needs of the rural peasant.

²¹⁰ [菲平因在台多年，與我國內額多農業界人士相處甚洽，極力主張向我方聘請。越南農林部長則有意聘法供人] April 4, 1959, “Agricultural Technicians in Vietnam,” Folder 020000030452A, Ministry of Foreign Affairs Collection, Academia Historica Archives. 入藏登錄號020000030452A, 「駐越農技團」, 外交部文件史料, 國史館, 台北市, 台灣。

²¹¹ “à apporter des revenus à la population rurale...reconnaît aussi la valeur des programmes à longue portée de recherches et d’éducation.” Programme de la Commission Mixte Pour la Reconstruction Rurale en Chine [Program of the Joint Commission for Rural Reconstruction in China], 1949, Folder 02 - Tài liệu về chương trình tái thiết nông thôn Trung Quốc năm 1948-1949 (Program about the Joint Commission for Rural Reconstruction program 1948-1949), Bộ Công Chánh và Giao Thông (Ministry of Public Works and Transportation), Trung Tâm Lưu Trữ Quốc Gia II [National Archives Center II], Ho Chi Minh City.

²¹² “car l’expérience avait montré qu’en Asie, il était difficile, au moins au début, de dépenser de grosses sommes rapidement et de façon raisonnable (sagement). Au contraire, c’est un programme vivant, dynamique, qui a commencé par chercher à trouver ce qui est nécessaire à une famille ordinaire d’agriculteurs.” Programme de la Commission Mixte Pour la Reconstruction Rurale en Chine [Program of the Joint Commission for Rural Reconstruction in China], 1949, Folder 02 - Tài liệu về chương trình tái thiết nông thôn Trung Quốc năm 1948-1949 (Program about the Joint Commission for Rural Reconstruction program 1948-1949), Bộ Công Chánh và Giao Thông (Ministry of Public Works and Transportation), Trung Tâm Lưu Trữ Quốc Gia II [National Archives Center II], Ho Chi Minh City.

Nonetheless, the decision to invite Taiwanese development experts in 1959 should mostly be attributed to the presence of William Fippin. Fippin's position as head of USOM/Vietnam Agriculture and as former head of JCRR gave him a direct link to the Taiwanese, but there were also intellectual reasons behind the choice beyond mere coincidence and convenience.

The issue with Vietnam's agrarian "problem" was deep-rooted and structural. The countryside was where the National Liberation Front (Viet Cong) operated and drew support. Both the RVN and the US thus targeted rural areas, hence later campaigns such as "pacification" and Strategic Hamlet that focused on rural areas. But approaches for programs to counter communist insurgency differed between the two allies. Fippin and other US officials realized that Diem's demands were centered on amassing as many US dollars with as few strings attached as possible. Fippin sought to discourage this by emphasizing low-cost, high-impact solutions that could be realistically achieved with American assistance. Translated into policy, this meant focusing on projects that could be easily implemented and would not require significant capital or labor resources. "Water," he wrote, was the "biggest, and most difficult problem, but one that we can do relatively little about. Problem is too large. Have seen an old French estimate that control of the Mekong would run to the magnitude of several billion US dollars. Will be a long, long time before anything much is done in that direction so all we can do is a dab here and a dab there."

Instead, Fippin chose to focus on aspects that the Taiwanese excelled at: "And because of lack of water control we are limited in what can be done about varietal improvement, fertilization, pest control and cultural practices." Coincidentally, these four were the core of JCRR practices dating back to the Cornell-Nanking cooperation and National Agricultural Research Bureau in Republican-era mainland. Taiwan benefitted from an extensive hydrological legacy left by Japanese colonialism—a network of canals that allowed for irrigation—and water infrastructure projects, such as the Shimen reservoir (石門水庫 *Shimen shuiku*) and dam, continued under JCRR with US funding. However, Taiwan's innovations in more easily transferable forms of development were arguably equally if not more important for its production capabilities, and certainly noteworthy for Fippin. Finally, Fippin also observed that "very much of the southern area floating rice is all that can be grown, and yields are pitifully low - slightly over one metric ton per hectare. One crop."²¹³ This single cropping culture coincided with Taiwan's innovations in rice selection and breeding.

From a broader historical perspective, the commencement of missions abroad marked a significant evolution in Taiwan's agricultural development. By 1975, it had become one of the core objectives of the Ministry of Foreign Affairs and the Council for International Economic Cooperation and Development (CIECD) (*guoji jingji hezuo fazhan weiyuanhui* 國

²¹³ August 31, 1957. Letter from William H. Fippin to Shen Zonghan. Archive number 034000000337A, "沈宗翰文件稿 (4箱)" [Shen Zonghan Document Drafts ("Fippin, W.F.")], Council of Agriculture, Executive Yuan, Academia Historica Archives, Taiwan.

際經濟合作發展委員會) of the Executive Yuan, the highest policy making body for international economic cooperation. The CIECD outlined four objectives:

1. Invite economic development officials and technicians from technical cooperation partner nations to observe and study in Taiwan in order to understand our nation's economic development measures.
2. Dispatch ROC experts to technical cooperation partner nations to observe and study in order to discuss possible steps and means of implementing cooperation.
3. Dispatch ROC technicians to technical cooperation partner nations to explain our nation's technical experience and methods with regards to agriculture and industry.
4. Invite technical cooperation partner nations to send technicians to the ROC to participate in lectures, practice, and training.²¹⁴

This four-part strategy was first established with Vietnam, which had sent parties of development experts and technicians to Taiwan since the mid-1950s. By the mid-1960s, Chiang Kai-shek saw technical assistance to other non-Communist Asian regimes as a means to stop Chinese Communist advances, reflecting his belief that North Vietnam was “completely controlled” by the PRC regime, and also that direct military aid as opposed to technical assistance would instead generate backlash.²¹⁵ Chiang viewed actions in Vietnam as part of a greater international anti-Communist effort that could not be limited to the borders of any one country.

In December 1959, the scope of ROC efforts abroad expanded when it sent technical aid missions to Vietnam. The Vietnam missions consisted initially of technicians and scientists in farmers organizations (associations and cooperatives), crop improvement, fisheries, and sugarcane. Over the course of its roughly fifteen years, it expanded to include plant breeding, veterinary medicine, entomology, soil science, and irrigation.

The first 1959 mission was centered on “crop improvement,” with renowned plant breeder Ma Baozhi (馬保之, Paul C. Ma) at its head.²¹⁶ Ma began his career as an agricultural scientist in China, graduating in 1929 from one of the preeminent centers of agricultural science, Nanking University (*jinyin daxue* 金陵大學), followed by his

²¹⁴ 「一，邀請技術合作國家經建官員及技術人員來華考察，以瞭解我國經建措施。二，由中華民國派遣專家赴技術合作國家考察，以研討可能進行合作之項目及方案。三，中華民國派遣技術人員赴技術合作國家，介紹我國農、工等業之技術經驗與方法。四，邀請技術合作國家派遣技術人員來華參加講習接受訓練。」 April 1975, “Republic of China Foreign Technical Cooperation,” Folder “Foreign Propaganda Magazine (Color Version), Chinese-Japanese Economic Newsletter, Operation Vanguard: Third Country Training” Volume 2, Archival Collection Number 36-01-006-025, Academia Sinica Modern History Institutes Archives, Taipei, Taiwan. 「中華民國對外技術合作」，「對外宣傳彩色專刊—中日經濟簡訊、先鋒計畫第三國訓練」第二冊、館藏號36-01-006-025，中央研究院近代史研究所檔案館，台北，台灣。

²¹⁵ Though this belief was relayed via the US embassy in Taipei, and not a direct quote of Chiang's words. Telegram, “President Appreciation for Actions of Non-Communist Asian Peoples in Vietnam,” 7/27/65, #13, “China,” Country File, NSF, Box 238, LBJ Library

²¹⁶ April 1975, “Republic of China Foreign Technical Cooperation,” Folder “Foreign Propaganda Magazine (Color Version), Chinese-Japanese Economic Newsletter, Operation Vanguard: Third Country Training” Volume 2, Archival Collection Number 36-01-006-025, Academia Sinica Modern History Institutes Archives, Taipei, Taiwan. 「中華民國對外技術合作」，「對外宣傳彩色專刊—中日經濟簡訊、先鋒計畫第三國訓練」第二冊、館藏號36-01-006-025，中央研究院近代史研究所檔案館，台北，台灣。

doctorate in plant breeding at Cornell University on fellowship and finally a year researching at Cambridge University.²¹⁷ Upon returning to China in 1934, he took a position with the National Agricultural Research Bureau (NARB, *zhongyang nongye yanjiu shiyansuo* 中央農業研究實驗所), in charge of operating the NARB Guangxi Extension Station. In 1944 he was appointed the head of the Agricultural Division within the Ministry of Agriculture and Forestry (MOAF, *nonglin bu* 農林部) of the Republic of China, as well as later the Deputy Chief for the Agricultural Rehabilitation Commission established by the MOAF to work with the United Nations Relief and Rehabilitation Administration in China. After moving to Taiwan with the Nationalist regime, he became the dean of the College of Agriculture in the flagship National Taiwan University. In choosing Ma as the leader of the first Crop Improvement Mission to Vietnam, the ROC was indicating the importance that the technical mission to Vietnam held. A deeply experienced and well traveled scientist, Ma was likely as highly regarded as far as Chinese officials went (and later continued onward with an appointment as the Dean of the College of Agriculture in the University of Liberia at the request of the UN Food and Agriculture Organization).

Under Ma's guidance, the Crop Improvement Mission produced lengthy reports on the state of Vietnamese agriculture. One of the key reports was published in February 1960, titled "Rice Seed Production in Vietnam."²¹⁸ It detailed the full agricultural system of rice production, beginning with production and following at all steps from production to district farmers, including inspection, storage, distribution, financial subsidies, and dissemination of information. The focus on the full cycle of production to consumer reflected lessons learned from the JCRR experience on Taiwan: basic science was inseparable from the society in which it operated. Thus the application of science also took into account new ideas of applied economics and agricultural extension that worked hand-in-hand with policymaking and social observations. Most of the report recommendations fell into this category.

The primary source of concern was derived from Ma's specialty, plant breeding. The Crop Improvement Team observed that Vietnamese annual rice crops originated from government-run "primary seed multiplication farms." The rice produced from the primary farms would then be sent onward to secondary seed multiplication farms that then produced enough seed to go onward to farmers to plant for the season. The issue is that at the primary level, multiplication seed was only filtered for off-types, those rice varieties that were not intended for distribution onward. As a result, the Team wrote that "the

²¹⁷ 1933, July 15. Announcement of the Graduate School, Official Publication of Cornell University, Vol. 25. Page 141.

1934, July 15. Announcement of the Graduate School, Official Publication of Cornell University, Vol. 26. Page 157. Cornell University Library.

²¹⁸ Tài liệu của phái bộ kỹ thuật Trung Hoa dân quốc ở Việt Nam về việc sản xuất lúa giống ở Việt Nam năm 1960 [Recommendations of the Chinese Technical Team in Vietnam on Rice Production 1960], February 1960, folder 1313, Nha Canh Nông (Directorate of Agriculture), Trung Tâm Lưu Trữ Quốc Gia II [National Archives Center II], Ho Chi Minh City.

desirable level of purity can hardly be thus maintained.”²¹⁹ Furthermore, selection for the primary seed multiplication farms was done fifteen years prior to the report, in 1945, and no further selection was done on a regional basis at the secondary seed multiplication farm level. The Team suggested instead that the government agencies responsible for rice breeding thus work closely with the seed multiplication farms in order to select and produce seeds that were suitable for the local regions they supplied.

Furthermore, the ROC team recommended a series of measures centered on agricultural extension. First they suggested the creation of demonstration fields for proper planting and care of seeds selected by the state. Next, they argued for providing training in conjunction with 4-T, the Vietnamese equivalent of 4-H in the United States that was also funded by US agricultural development missions in Vietnam. 4-T and 4-H were both rural organizations that integrated agricultural and public health practices as a means of community youth activity (see Chapter 2). In the context of the ROC recommendations, 4-T club members would be utilized along with village leaders to disseminate information about seed planting. Other suggestions to help knowledge dissemination included printed materials, similar to the Harvest magazine that was introduced by JCRR in Taiwan (see Chapter 2) and contests for the highest per-unit area of rice production, where the “winning farmer will receive [an] award and will be asked to tell other farmers the ways and means by which he achieve[d] [his] goal.”²²⁰

Ma departed as the head of the Crop Improvement Mission after a year in 1960 and was replaced on a more permanent basis by Jin Yanggao (金陽鎬 Yang-kao King), another prominent agronomist from the University of Nanking and protege of Shen Zonghan. In a report to JCRR authored after the end of the Vietnam mission in 1972, Jin wrote of the initial ideas regarding Taiwan’s first development mission to Vietnam. “Vietnam’s agricultural environment, cultivation methods, and cultural habits on the whole are very close to that of Taiwan’s those who are knowledgeable on the issue all believe that to develop agriculture one must (必須 *bixu*) draw upon the experiences of Taiwan (以台灣借鏡 *yi taiwan wei jiejing*).”²²¹

²¹⁹ Tài liệu của phái bộ kỹ thuật Trung Hoa dân quốc ở Việt Nam về việc sản xuất lúa giống ở Việt Nam năm 1960 [Recommendations of the Chinese Technical Team in Vietnam on Rice Production 1960], February 1960, page 21, folder 1313, Nha Canh Nông (Directorate of Agriculture), Trung Tâm Lưu Trữ Quốc Gia II [National Archives Center II], Ho Chi Minh City.

²²⁰ Tài liệu của phái bộ kỹ thuật Trung Hoa dân quốc ở Việt Nam về việc sản xuất lúa giống ở Việt Nam năm 1960 [Recommendations of the Chinese Technical Team in Vietnam on Rice Production 1960], February 1960, page 21, folder 1313, Nha Canh Nông (Directorate of Agriculture), Trung Tâm Lưu Trữ Quốc Gia II [National Archives Center II], Ho Chi Minh City.

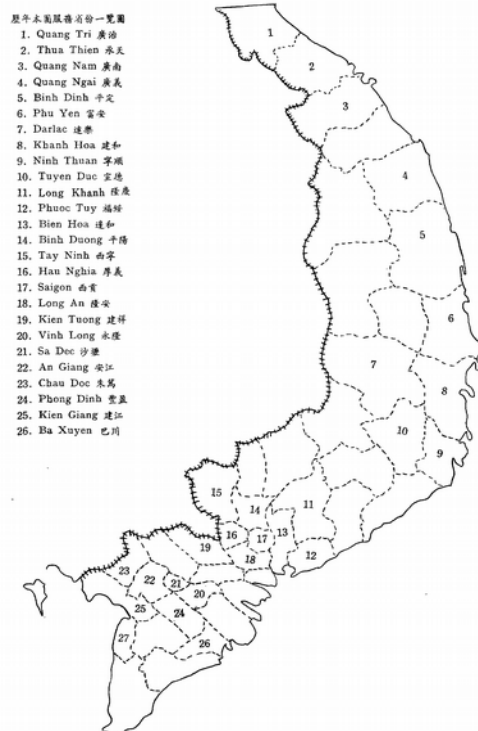
²²¹ [越南之農業環境，耕作方法以及風俗習慣，大體與台灣相近，識者均認為發展農業必須以台灣為借鏡。] Jin Yangguo, “Twelve Years in Vietnam” (十二年在越南), June 1973, Page 4. Joint Commission for Rural Reconstruction. Council of Agriculture Library, Executive Yuan, Taiwan.



會健四省和達問訪長院蔣

Photograph: Jiang Jingguo, Premier of the ROC and son of Chiang Kai-shek, visits a 4-H chapter in Bien Hoa province, Republic of Vietnam.²²²

²²² [越南之農業環境，耕作方法以及風俗習慣，大體與台灣相近，識者均認為發展農業必須以台灣為借鏡。] Jin Yangguo, "Twelve Years in Vietnam" (十二年在越南), June 1973. Joint Commission for Rural Reconstruction. Council of Agriculture Library, Executive Yuan, Taiwan.



Map: The Republic of Vietnam showing provinces where Taiwanese technical assistance was rendered from 1959 to 1973.²²³

The Vietnam mission was also not merely a technical mission with scientific experts—among the greatest needs of Vietnam were perceived to be socio-economic in nature. With the expansion of the Vietnamese Communists in northern Vietnam, the Republic of Vietnam prioritized the needs of its farmers, the most vulnerable to communist organization. Despite attempts to replace French colonial administrators with Vietnamese administrators under Diem's government, rural Vietnamese largely found little difference in their lives. Americans and Vietnamese alike both sought to rectify this problem by focusing on improving life for those living in the countryside. In 1959, Tran Ngoc Lien, the Vietnamese Director General of the Plan Commission, the central commission charged with economic planning, traveled to Taiwan with several other Vietnamese officials to observe Taiwanese farmer's associations firsthand. Afterward, Tran wrote to Fippin requesting Taiwanese experts in farmer's associations and cooperatives. As a result, ten Taiwanese agricultural experts were sent to Vietnam on a six month provisional basis, to

²²³ [越南之農業環境，耕作方法以及風俗習慣，大體與台灣相近，識者均認為發展農業必須以台灣為借鏡。] Jin Yangguo, "Twelve Years in Vietnam" (十二年在越南), June 1973. Joint Commission for Rural Reconstruction. Council of Agriculture Library, Executive Yuan, Taiwan.

“work especially at village levels, he said, encouraging, guiding, training, and assisting Vietnam's newly formed farmers associations to get firmly established and operating.”²²⁴ Along with teams from other “Free World” nations brought in through US mediation, the work of the Taiwanese technical mission would help form the basis of counter-Communist insurgency efforts that were designed to win the hearts and minds of the Vietnamese peasants.

From the Taiwanese side, these objectives needed to be translated from diplomatic objectives, defined by the realities of anticommunist warfare, into development policy objectives, defined by organizational directives. On April 9, 1959, the Ministry of Foreign Affairs sent a memorandum to the Ministry of Economic Affairs, which oversaw JCRR and agricultural development policy in Taiwan. In the memo, MOFA outlined the work details. First, “work comes into contact with broad social strata, including central and local, to the lowest stratum of village farmers associations.”²²⁵ Following that, “work scope includes matters related to leading, extension, and training, with achieving farmers association self sufficiency and independence as the objective.”²²⁶ These objectives were supplemented by goals of the farmers association to “produce agricultural products.”²²⁷ The focus on the lowest levels of Vietnamese social strata reflected the rural emphasis of development from the Taiwanese model and also the diplomatic desire to engage at the village level. The Taiwanese success at organizing farmers associations and using them as the unit by which to distribute fertilizers and engage in distribution of knowledge via extension in this case dovetailed with Vietnamese and American objectives.

In defining how these projects would be carried out, Taipei chose a different approach from the US. Whereas the ICA and its predecessors chose to send experts with extensive scientific training for its missions abroad, MOFA instead requested blue collar technicians. The same April 9 memo continued that “workers do not require higher education, but rather require long term service in farmers associations or related organizations as well as wide ranging practical experience managing farmers associations or related organizations.”²²⁸ This change was pragmatic, reflecting the importance of on-the-ground

²²⁴ “Agricultural Technicians in Vietnam,” April 3, 1959, Folder 020000030452A, Ministry of Foreign Affairs Collection, Academia Historica Archives. 入藏登錄號020000030452A, 「駐越農技團」, 外交部文件史料, 國史館, 台北市, 台灣。

²²⁵ “工作接觸層甚廣, 包括中央與地方, 至最底層之鄉鎮農會” Memo from Ministry of Foreign Affairs to Deputy Minister of Economic Affairs, April 9, 1959, “Agricultural Technicians in Vietnam,” Folder 020000030452A, Ministry of Foreign Affairs Collection, Academia Historica Archives. 入藏登錄號020000030452A, 「駐越農技團」, 外交部文件史料, 國史館, 台北市, 台灣。

²²⁶ “工作範圍包括指導, 推動及訓練各項有關事宜, 以達到農會能自動自主為目標” Memo from Ministry of Foreign Affairs to Deputy Minister of Economic Affairs, April 9, 1959, “Agricultural Technicians in Vietnam,” Folder 020000030452A, Ministry of Foreign Affairs Collection, Academia Historica Archives. 入藏登錄號020000030452A, 「駐越農技團」, 外交部文件史料, 國史館, 台北市, 台灣。

²²⁷ “以生產農貨”

experience interacting with “the lowest stratum” of rural society. It also saved on costs—technicians received significant hardship bonuses for working abroad in Vietnam, and many were eager to take the salary bump.

Taipei was also the center of policy determinations for their missions, and thus the source of intellectual visions for what those missions would entail. Taiwanese missions were subject to the strict scope as outlined by higher officials within MOFA, MOE, and JCRR, meaning that technicians on the ground did not have as much leeway to make policy on the ground or deviate too far from centrally defined objectives. This was, in effect, a limitation of the politically-motivated nature of Taiwanese international development that would become more obvious in the later missions to Africa.

Representing Vanguard at Home

In Taiwan, the continued demand for Taiwanese development assistance abroad was continually reported on domestic news outlets. On a regular basis from 1959 until 1974, newspaper articles delivered updates on the progress and incidents of the Taiwanese team in Vietnam. Though often short, they compensated for their brevity with regularity. Changes in team leadership, project accomplishments, and particularly contract renewals were all reported on by major Taiwanese newspapers. These newspapers, which at the time were run by or closely affiliated with the Guomindang regime, served official state interests, to report on the efforts of the ROC abroad helping other developing nations.

One particular incident in 1963 involving the death of agricultural technician Zhang Dusheng (張篤生, Chang Tusun) demonstrated the importance of Vanguard to ROC foreign policy officials. Zhang Dusheng was an Taiwanese rice technician who was killed in the line of duty by Vietnamese communist forces near Saigon. Zhang was born in 1935 and raised in Tainan, in southern Taiwan. After graduating from Tainan No. 1 High School, he enrolled in the Taiwan Provincial Agricultural College in Taichung (today National Chung Hsing University 國立中興大學) for his secondary education. Upon graduation, he underwent training as a reserve officer, and was assigned to grassroots political organization work. After completing his military service, he taught at the Yuanlin Agricultural School (員林農校 Yuanlin Nongxiao) briefly in 1961 before moving on to work at the Taichung District Agricultural Improvement Station (台中農業改良場 Taizhong Nongye Gailiang Chang) where he worked for two years in rice improvement. On October 10, 1963, he left Taiwan to join the Taiwanese Agricultural Technical Assistance Team to Vietnam.

On November 13, 1963, Zhang was in a jeep returning to Saigon after visiting a rice experiment station approximately 40 *li* (kilometers) outside of Saigon, when his convoy was ambushed by Vietnamese communist forces and Zhang was killed (“遭越共伏擊死亡”) along with a Vietnamese translator.²²⁹ Based on an interview I conducted with a Taiwanese rice technician who had also participated in Taiwan’s later development missions abroad, it seems that Zhang’s incident was less likely the cause of an aggressive and purposeful ambush but rather a tragic accident. Taiwanese technicians would on

²²⁹ “農夫會定期追悼張篤生,” 聯合報 United Daily News, November 20, 1963.

occasion be caught in the middle of military operations. Indeed, another incident involving three Taiwanese technicians being surrounded by Vietnamese communist troops occurred in Hue in 1968, but usually the Taiwanese technicians emerged without issue due to intervention by allied forces.²³⁰ My interviewee expressed it was likely that Zhang's group may have panicked upon being ambushed by Vietnamese communists, who usually did not explicitly target Taiwanese agricultural technicians for attacks, and was unfortunately killed as a result of panicking and attempting to flee instead of surrendering and being taken prisoner. One memorandum sent by the Taiwanese technical team to a Vietnamese agricultural official referenced "Vietcong snipers" as being responsible for Zhang's death.²³¹ Yet newspaper portrayals of the incident left out details of the incident, instead pointing to the patriotic nature of Zhang's work and the work in general conducted by the Taiwanese agricultural technical teams.

Newspaper editorials, especially those from Guomintang-affiliated papers, United Daily News (聯合報 *Lianhe Bao*) and Cheng Hsin Daily News (徵信新聞報 *Zhengxin Xinwenbao*, which later became China Times 中國時報), provided venues for the Guomintang to use development as a means of propaganda.

One United Daily News article cited Provincial Department of Agriculture and Forestry Director Zhang Huiqiu (張慧秋, H.T. Chang), who after being interviewed following Zhang Dusheng's death, stated that Zhang Dusheng was "exactly the type of youth that our country needs (正是國家所最需要的)." Elaborating further, Zhang Huiqiu explained that young technicians like Zhang Dusheng served a crucial role. Since 1953, Taiwan's agriculture "had primarily relied on practical and relatively simple experimental research results (主要依賴實用性的比較簡單的試驗研究的結果)," but by 1963 "had already attained such high levels, that in order to further develop, it requires engaging in even more refined and profound research (但現在本省的農業已達到很高的水準，再要改進，必須從事較精密高深的研究)." Thus, going abroad to Vietnam represented positive opportunities for experts like Zhang, where work in Taiwan was often poorly compensated ("待遇菲薄") such that they could "on the one hand accomplish our national mission of assisting our allies,

²³⁰ Shen Zonghan to Austin B. Sanford, April 26, 1968; Archive Number 034000000357A; Folder Document Drafts "S" in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan. Shen Zonghan to Willie Cook, April 26, 1968; Archive Number 034000000330A; Folder Document Drafts "C" in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

²³¹ "News releases regarding death of JCRR technicians by Vietcong snipers," Office Memorandum, Dec. 2, 1963, From the Chinese Technical Mission to Vietnam on Crop Improvement to Doan Minh Quan, Chief, Rice Service. Folder 842 - Bản dịch các bài báo Taiwan liên quan đến cái chết của ông Tu-Sun-Chang, thành viên phái đoàn kỹ thuật canh nông Trung Hoa Dân Quốc đến Việt Nam năm 1963 (Translation of Taiwan newspapers concerned about the death of Tusun Chang; he is a member of the Chinese Agricultural Mission to Vietnam 1963), Nha Canh Nông (Directorate of Agriculture), Vietnam National Archives II, Ho Chi Minh City.

and on the other hand, after accumulating savings, return home to work with peace of mind (一方面達成我國協助友邦的任務，一方面可於略有積蓄後返國安心工作。)²³²

Zhang Huiqiu's goal in emphasizing aspects of pragmatism and advanced research not only reinforced that Taiwan possessed unique and useful expertise (see Chapters 1 and 2), but also informed the domestic Taiwanese audience why Taiwanese youth needed to be abroad in Vietnam, to benefit both their own careers and their nation. Though Zhang Dusheng's status as *benshengren* (本省人), or native Taiwanese, was not explicitly mentioned in these accounts (as official accounts would not acknowledge such ethnic divisions), his birthplace of Tainan was mentioned on occasion. Many of the blue collar technicians who worked in rural areas in Taiwan and then were sent abroad to Vietnam and other foreign locales in the 1960s were *benshengren* like Zhang Dusheng, as opposed to the bureaucrats and scientists in positions of power like Shen Zonghan and Ma Baozhi, who were *waishengren* (外省人, mainlanders). This common background perhaps made international development more sympathetic to *benshengren* audiences, tying in the political and diplomatic objectives of the *waishengren* Guomindang with the sacrifices made by *benshengren* on behalf of representing Taiwan abroad.

In another instance, Cheng Hsin Daily News published an editorial obituary that was then translated by the Ministry of Foreign Affairs and sent to the Vietnamese Directorate of Agriculture:

[Zhang] is one of the many technical experts who are away from their homes to help foreign nations, as under-developed as or more under-developed than ours, in developing their resources. ... They have enabled many of them to understand more correctly of the industrious spirit and the scientific knowledge of our countrymen... Their contribution in foreign countries are as great as in their own country.²³³

The language of development is wrapped up in humanitarian principles, demonstrating both camaraderie as well as expertise. The need for Taiwanese aid abroad and Taiwanese willingness to put their lives on the line to help other nations gave the Taiwanese a sense of nationalistic pride, demonstrating superior Taiwanese qualities of "industriousness" and "scientific knowledge." And though the primary audience was for a domestic audience, the Ministry of Foreign Affairs also sought to demonstrate the importance of Taiwanese-Vietnamese friendship.

The Vietnam mission proved to be, at least in terms of continued demand, a success for the Taiwanese. The original six month mission was extended to three years. In 1961, JCRR attempted to reassign the leader of the farmer's association team, Yang Yukun (楊玉昆, Y.K. Yang) back to Taiwan, where farmer's association work needed his attention. But this

²³² "張篤生在越殉職," 聯合報 United Daily News, November 16, 1963.

²³³ "Condolence to Tusun Chang," Cheng Hsin Daily News, Taipei. November 17, 1963. Translated document located in Folder 842 - Bản dịch các bài báo Taiwan liên quan đến cái chết của ông Tu-Sun-Chang, thành viên phái đoàn kỹ thuật canh nông Trung Hoa Dân Quốc đến Việt Nam năm 1963 (Translation of Taiwan newspapers concerned about the death of Tusun Chang; he is a member of the Chinese Agricultural Mission to Vietnam 1963), Nha Canh Nông (Directorate of Agriculture), Vietnam National Archives II, Ho Chi Minh City.

resulted in a deeply impassioned plea from Lien to JCRR Chairman at the time, Jiang Menglin:

The establishment of numerous Strategic Hamlets has greatly improved security conditions in the rural areas and will afford greater opportunities to more effectively expand the services of our [Farmers Associations]. This situation intensifies the urgent need of the specialists who have become familiar with our conditions... Mr Chairman, I must earnestly request that you reconsider your three year service policy in the light of the present situation in Vietnam. We are deeply engaged in an active war, and our resources are stretched to the maximum. The focus of this war is in the country-side and among the rural people. Experienced direction and leadership is of special importance at this time.²³⁴

With the implementation of the Strategic Hamlet program that sought “pacification” of rural villages by increasing support and thus ostensibly lessening rural ties with communist insurgents, the Republic of Vietnam sought Taiwanese expertise in rural organization.

By 1968, the “miracle rice,” IR-8, developed out of the International Rice Research Institute in the Philippines was being distributed to Vietnam. Taiwanese technicians participated in demonstrating how to plant and cultivate IR-8. Assistant Director for USAID/Vietnam, James P. Grant, who was born and raised in Beijing as the son of Canadian missionaries and became a longtime development advocate, wrote to Shen Zonghan of his visit to a Taiwanese demonstration plot near Bien Hoa where IR-8 was being planted. He remarked of “the fine work done by your JCRR technicians in Vietnam” in helping to transform the formerly “crude demonstration plot” to “a major rice research center” on his second visit a year later. He included to Shen a New York Times clipping showcasing the gift of IR-8 from Vietnam to the United States, a symbol of its gratitude as appreciation for the US introducing the new cultivar in Vietnam.²³⁵

By 1970, the US had expended \$2,036,088 (USD) for the Taiwan missions, paying for capital costs involved in technical assistance.²³⁶ In a 1972 evaluation of the contract with the ROC, USAID Deputy Associate Director for Food and Agriculture in Vietnam, Ralph Gleason, described the Taiwanese mission as attaining mission goals “in a very practical manner...for instance, demonstration fields were elaborately set up and operated by the contractor as an intermediate goal towards attainment of the final goal of widespread extension of improved varieties and cultural practices.” As a result, “farmers benefiting

²³⁴ “Agricultural Technicians in Vietnam,” November 17, 1961, Folder 020000030453A, Ministry of Foreign Affairs Collection, Academia Historica Archives. 入藏登錄號020000030453A, 「駐越農技團」, 外交部文件史料, 國史館。

²³⁵ James P. Grant to Shen Zonghan, November 25, 1968; Archive Number 034000000339A; Folder Document Drafts “G” in “Shen Zonghan Letter Drafts” [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

²³⁶ Contract Evaluation, May 3, 1972, Folder 3832 - hồ sơ kiểm soát ngân khoản hợp đồng với phái bộ hợp tác tái thiết nông thôn- Trung Quốc về yểm trợ tổng quát canh nông cho Việt Nam năm 1969-1973 (Auditing financial contracts with the Joint Commission for Rural Reconstruction about general support for agriculture in Vietnam in 1969-1973), Cơ quan phát triển quốc tế Hoa Kỳ (USAID), Trung Tâm Lưu Trữ Quốc Gia II [National Archives Center II], Ho Chi Minh City.

from CATG assistance have experienced substantial increases in income through increased harvests of crop produce of high value.” However, Gleason cast doubt on the ability of the Republic of Vietnam to fulfill its end of the agreement, stating that “final goal of nation-wide extension rests in the capacity and competence of the cooperating country,” and then ended by lamenting that “more could have been accomplished if host country support were more adequate.” In a matter of a few years, Gleason was proved right.²³⁷ Despite the “intermediate” success of the Taiwanese technical mission in realizing higher incomes and a system of extension and demonstration, these efforts were ultimately unable to save the Republic of Vietnam regime. Taiwanese missions were continually renewed until 1974, until the fall of Saigon and the demise of the Republic of Vietnam ended Taiwanese missions to Vietnam.²³⁸

Africa

In 1961, the ROC Ministry of Foreign Affairs officially inaugurated its various international development missions under the Operation Vanguard project. Officially it consisted of technical missions, like the one to Vietnam, except under Vanguard it had expanded its scope from one mission to one country to what would eventually be over two dozen. Unofficially, with the rise of the People’s Republic of China as an international power and the scant likelihood of the GMD wresting the mainland back from the Communists, the Vanguard program was the Foreign Ministry’s attempt at agricultural development diplomacy. It offered technical missions, with Taiwanese technical expertise and American funding, to African nations in exchange for diplomatic support, especially in the emerging global Cold War against the Soviet Union and PRC. The US funded Vanguard with the hopes of using its proxy ally to build an alliance among developing nations – a Global South ally in the Global South. This means of currying international favor became more important as the Communist bloc in the United Nations attempted to replace the seat of the Republic of China with that of the People’s Republic of China on the mainland, which was increasingly being viewed as the legitimate and rightful representative of China.

In Africa, Taiwanese teams met political circumstances in which they could take advantage of their status as outsiders with no colonial legacy. ROC Foreign Minister Shen Changhuan (沈昌煥 Shen Chang-huan), in recalling an anecdote to US Vice President Hubert Humphrey, described being in Brazzaville in 1963, where while “crossing the Congo river, he had been stopped and would have been shot had he not been able to point out that his skin was neither white nor black.” Shen related that in Africa “he found suspicion

²³⁷ Auditing Report of JCRR, November 14, 1970, Folder 3832 - hồ sơ kiểm soát ngân khoản hợp đồng với phái bộ hợp tác tái thiết nông thôn- Trung Quốc về yểm trợ tổng quát canh nông cho Việt Nam năm 1969-1973 (Auditing financial contracts with the Joint Commission for Rural Reconstruction about general support for agriculture in Vietnam in 1969-1973), Cơ quan phát triển quốc tế Hoa Kỳ (USAID), Trung Tâm Lưu Trữ Quốc Gia II [National Archives Center II], Ho Chi Minh City.

²³⁸ “Agricultural Technicians in Vietnam,” November 13, 1971, Folder 020000030454A, Ministry of Foreign Affairs Collection, Academia Historica Archives. 入藏登錄號020000030454A, 「駐越農技團」, 外交部文件史料, 國史館。

of all white people,” as well as little patience for “American red tape and other difficulties” that produced results too slowly. Instead Shen saw an appreciation for “such things as 10,000 cakes of soap, matches and the like--small things but quickly available for all to see.” Humphrey replied that “cultural, technical assistance and information activities are not expensive and the [Republic of China] can perhaps do better in these activities than the U.S.”²³⁹

The Vanguard program sent technical missions to over a dozen African nations, beginning in 1960 with Liberia.²⁴⁰ In the 1975 document on technical cooperation, Vanguard missions were described as following five steps:

1. Land Reclamation Work: Reclaiming a predetermined area of jungle, swamp, wilderness, hills, inside the city into usable farmland for tillers.
2. Experimentation Work: In accordance with local climate, water resources, land type, and other natural environmental factors, implement variety, planting season, fertilizer amount, and planting methods comparative experiments. Use these selected improved varieties, most suitable planting seasons, and appropriate planting methods for the usage of demonstration and extension.
3. Demonstration Work: Using improved varieties, appropriate planting techniques, and new agricultural implements to perform demonstrations of plantings. In order to increase production results, farmer viewing and emulation meetings are held to initiate local farmers' interests and to build their confidence.
4. Training Work: Our tilling teams in Africa utilize a “learning while doing” method, while working on a field, using practical manual work methods, leading African farmers in using agricultural implements, and to familiarize them with our planting methods.
5. Extension Work: Uses the agricultural production techniques and experience obtained from each step of experimentation, demonstration, and training, to encourage African farmers to practically adopt these in order to improve farmers' lives and agricultural development.²⁴¹

²³⁹ Memos Vol. II, “US ROC Relations,” 2/15/65, #73a, “China,” Country File, NSF, Box 238, LBJ Library

²⁴⁰ Shih-Shen Chien, Tzu-Po Yang, and Yi-Chen Wu, “Taiwan's Foreign Aid and Technical Assistance in the Marshall Islands,” *Asian Survey* 50, no. 6 (November 1, 2010): 1184–1204, doi:10.1525/as.2010.50.6.1184.

²⁴¹ 「開墾工作：係將預定區域內的叢林，沼澤，荒野，和丘陵地予以開墾，使成為可作農耕之用的田地。試驗工作：根據當地氣候，水源，土環等自然環境，進行品種，植期，施肥量及栽培方法等之比較試驗，用以選擇優良品種，決定適當植期與妥善栽培方法，以供示範推廣只用。示範工作：將優良品種，用適當的栽培技術，新的農業器材作示範栽培，以顯示增產效果，耕觀摩會的舉行來引發當地農民的興趣並建立他們的信心。訓練工作：我駐非農耕隊採用「做中學」的方法，在耕作現場上，用實際操作的方式，指導非洲農民使用農機具，熟悉我們的栽培技術。推廣工作：是把試驗示範和各階段所獲得的農業生產技術與經驗，鼓勵非洲農民實際採用以改善農民的生活和農業的發展。」 April 1975, “Republic of China Foreign Technical Cooperation,” Folder “Foreign Propaganda Magazine (Color Version), Chinese-Japanese Economic Newsletter, Operation Vanguard: Third Country Training” Volume 2, Archival Collection Number 36-01-006-025, Academia Sinica Modern History Institutes Archives, Taipei, Taiwan. 「中華民國對外技術合作」，「對外宣傳彩色專刊—中日經濟簡訊、先鋒計畫第三國訓練」第二冊、館藏號36-01-006-025，中央研究院近代史研究所檔案館，台北，台灣。

Methods 2 through 5, laid down in 1975, mirrored the same principles that underlay agricultural development stretching back to 1920. The agricultural development plan that Taiwanese planners had laid out for Africa were the same methods that Chinese and Taiwanese development planners themselves had touted at home. A focus on experimentation that produced both seeds and practices followed by demonstration and extension to rural farmers dated back to the Cornell-Nanking program and the National Agricultural Research Bureau.

For the agricultural scientists in JCRR who were tasked with planning the missions, the Vanguard program became a point of pride. Taiwan was, like many of its Vanguard targets, a colony just three decades prior to the start of Vanguard. But in the eyes of the development planners, Taiwanese ingenuity, determination, and skill allowed it to not only resume exporting agricultural products, by the late 1960s becoming a heavyweight exporter in canned fruits and mushrooms, but also to have the unique insight of what it is like to rapidly succeed as a developing, decolonizing nation. JCRR Commissioner Shen Zonghan, in correspondences with his American agronomist colleagues, would often reiterate proudly that Taiwan had a lot to teach the world. In the context of the ongoing Cold War, this representation of success was necessary in order to contrast its model of development with the communist model from the PRC, which also competed on the notion of Third World solidarity. As a consequence, Taiwanese technical missions attempted to duplicate the Taiwanese agricultural miracle.

This became evident in the Sino-African Agricultural Technical Cooperation Conference (SAATCC) (*Séminaire Afro-Chinois pour la Coopération Technique Agricole*), hosted from July 26 to 30, 1965, in Ivory Coast. Organized by the ROC Ministry of Foreign Affairs, it invited agricultural experts and bureaucrats from Taiwan and over a dozen African nations, including Ivory Coast, Liberia, Cameroon, Senegal, Sierra Leone, Congo, Gabon, French Upper Volta (Haute Volta, today Burkina Faso), Congo-Leopoldville (Zaire), Madagascar, Niger, Rwanda, Chad, and Togo. ROC officials included Shen Zonghan, Ministry of Foreign Affairs diplomats, as well as various other heads of experiment stations, crop improvement stations, and fertilizer associations in Taiwan. Also included were the Taiwanese team leaders of the various Vanguard missions, including Vietnam Crop Improvement Mission head and later FAO official Ma Baozhi, and his successor as the Vietnam Mission head, Jin Yanggao.

The conference began with an opening speech by an ROC diplomat describing the importance of agriculture, both for humankind and for their respective nations. The speech began with hope and praise: “Africa is expansive and possesses ample resources, its soil fertile, and possesses optimal conditions for agricultural development; that is to say, it possesses the fundamental conditions to build a strong and prosperous nation” (建立富強國家的基本條件).²⁴² He further exhorted that if Africa were to “increase research and

²⁴² “非洲地大物博，土壤肥沃，都具有發展農業的優良條件，也就是說具有建立富強國家的基本條件” 中非農技合作討論會 [Sino-African Agricultural Technical Cooperation Conference], July 16, 1965, Page 1828, Archive Number 020000039124A, Ministry of Foreign Affairs Collection, Academia Historica.

improvement in agricultural techniques, each African ally's future would be limitless.”²⁴³ The ROC's goal was to “contribute all of its agricultural knowledge, experience, and techniques...under a common desire and objective, to assist our African allies to fully utilize their own manpower, intelligence, and resources, to increase production, improve the environment, and raise citizen living standards.”²⁴⁴ Under the Vanguard program, Taiwan emphasized its friendship as well as its experience, using its role to educate and lead African nations toward self-reliance and success.

After establishing their vision for how Taiwan would benefit African nations seeking to improve their respective citizens, Taiwanese leaders then moved on to qualify Taiwan's bona fides and to describe what constituted Taiwan's success in agrarian development. Shen Zonghan, who in 1965 had recently been promoted to Chairman of JCRR after the passing of Jiang Menglin, presented a detailed analysis of Taiwan's development history as an introduction for African dignitaries in the first substantive speech of the conference. Shen began immediately with drawing parallels, pointing out that Taiwan's “environment and agricultural development are, in many respects, similar to those of the African countries.”²⁴⁵

Shen continued on to describe most tropical and subtropical countries in the world as “confronted with somewhat similar problems,” that “they have not yet adequately developed their natural resources and their economies are primarily agricultural.” As a result, “poor and dissatisfied, they are easily taken in by Communist propaganda.” Shen was referring obliquely to the rival diplomatic efforts by the PRC and by the USSR to likewise sway the Third World.²⁴⁶ In associating communism with propaganda, he was dismissing the legitimacy of communist methods in actually creating better livelihoods: “Only with increased farm production and increased income can their livelihood be bettered and the social and political order be stabilized and democratic institutions strengthened.”²⁴⁷ Discrediting communist methods were important to Shen, as in fact many of the reasons to which Shen would later appeal regarding the suitability of Taiwanese methods in some respects appeared similar to communist agricultural development. Specifically, themes of self-reliance, low capital investment, and utilization

²⁴³ “如果能在農業技術上加以研究改進，則非洲各友邦之前途實不可限量” 中非農技合作討論會 [Sino-African Agricultural Technical Cooperation Conference], July 16, 1965, Page 1828, Archive Number 020000039124A, Ministry of Foreign Affairs Collection, Academia Historica.

²⁴⁴ “貢獻所有之農業知識，經驗及技術...在一個共同願望及目標之下，協助非洲友邦充分運用自己的勞力，智慧和資源，增加生產，改善環境，提高國民生活水準” 中非農技合作討論會 [Sino-African Agricultural Technical Cooperation Conference], July 16, 1965, Page 1828, Archive Number 020000039124A, Ministry of Foreign Affairs Collection, Academia Historica.

²⁴⁵ 中非農技合作討論會 [Sino-African Agricultural Technical Cooperation Conference], July 16, 1965, Page 1866, Archive Number 020000039124A, Ministry of Foreign Affairs Collection, Academia Historica.

²⁴⁶ See Brazinsky, *Winning the Third World*. and Jeremy Friedman, *Shadow Cold War: The Sino-Soviet Competition for the Third World* (Chapel Hill: The University of North Carolina Press, 2015). for more on the Sino-US and Sino-Soviet competition, respectively, for the Third World.

²⁴⁷ 中非農技合作討論會 [Sino-African Agricultural Technical Cooperation Conference], July 16, 1965, Page 1866, Archive Number 020000039124A, Ministry of Foreign Affairs Collection, Academia Historica.

of native resources and labor resembled agricultural development policies in the PRC.²⁴⁸ Taiwanese officials pointed out that communist methods were often far more violent and radical, relying on forced collectivization and sometimes the loss of lives, though these were more often raised in discussions of land reform as opposed to agricultural development (see Chapter 4).

Following a history of agriculture in Taiwan first under Japanese colonialism and then under the transition to the Nationalist government, Shen went on to describe the contributions of JCRR and its role in guiding agricultural development, starting by:

[building] up a small but highly qualified technical staff, put its fingers on the most important production and marketing problems, established priorities among them, and made grants to stimulate the expansion of agricultural research, education and extension in order to solve those problems. It has also assisted the government in implementing land reform, reorganizing farmers' associations, and planning and coordinating agricultural programs for the economic development of Taiwan.²⁴⁹

This story of agricultural development being led by certain state policies focusing on research, education, and extension, as well as focusing substantively on land reform and farmers associations, reflects the unique aspects of the Taiwanese approach to agricultural development. These aspects were indeed grounded in reality (see Chapter 2), but by the 1960s these characteristics began to be solidified into what I have termed “Taiwan model” that was packaged and marketed throughout the Third World, at conferences like SAATCC, by officials such as Shen Zonghan.

Shen laid out the benefits of the Taiwan model. Complemented by graphs and projections, Shen listed off the impressive statistics of the Taiwan miracle. “Aggregate agricultural output of crops, livestock, fisheries and forest products in 1964 almost doubled that of the 1950-1952 average or that of the prewar peak year. The average annual growth rate of agriculture was 6.0 percent under the First Four-Year Plan, 4.6 percent under the Second, and 4.9 percent under the Third.” Most impressive was the growth in rice productivity, which increased in “per hectare yield from 1,998 kg. of brown rice in 1952 to 2,937 kg. in 1964.” These figures supported “an expanding population” as well as the maintenance of “a large military force.”²⁵⁰

²⁴⁸ For a superlative history of these ideas within PRC agricultural development, see Schmalzer, *Red Revolution, Green Revolution*.

²⁴⁹ 中非農技合作討論會 [Sino-African Agricultural Technical Cooperation Conference], July 16, 1965, Page 1868, Archive Number 020000039124A, Ministry of Foreign Affairs Collection, Academia Historica.

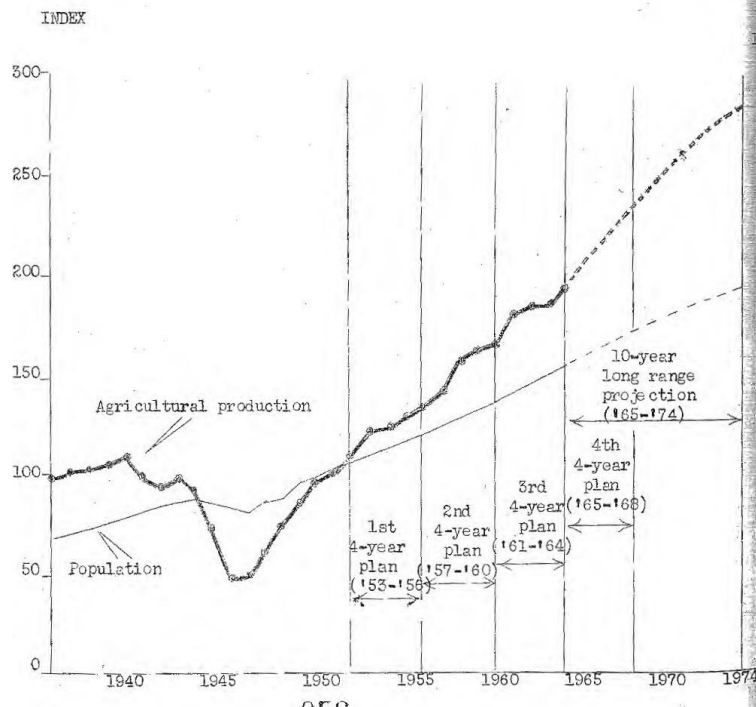
²⁵⁰ 中非農技合作討論會 [Sino-African Agricultural Technical Cooperation Conference], July 16, 1965, Page 1868, Archive Number 020000039124A, Ministry of Foreign Affairs Collection, Academia Historica.

1875

Figure 1

TREND OF POPULATION & AGRICULTURAL PRODUCTION IN TAIWAN

(1950-52 = 100)



Graph: Agricultural production from prewar (under Japanese colonialism) to postwar (under the Guomindang) as well as projected production figures into the future. Included and likely shown to audience members in Shen Zonghan's speech to the Sino-African Agricultural Technical Cooperation Conference held in Ivory Coast from July 26 to 30, 1965.²⁵¹

Shen attempted to collate the concrete steps of the Taiwan development model that would be replicable for his African audience, breaking them down into “(1) resources endowment, (2) technological factors, (3) organizational factors, (4) economic incentives, and (5) human incentives.” Among these, Shen honed in on those aspects that once again characterized the Taiwan model. Resource endowment Shen rapidly dismissed, even going

²⁵¹ 中非農技合作討論會 [Sino-African Agricultural Technical Cooperation Conference], July 16, 1965, Page 1875, Archive Number 020000039124A, Ministry of Foreign Affairs Collection, Academia Historica.

so far as saying that the resource endowment of Taiwan “is only moderate,” which was a fair assessment. Technological factors were attributable to basic and applied research, in improved varieties of plants and livestock, cultivation, fertilizer, and pesticide methods, and usage of irrigation and soils. Organizational factors reflected the other end of the Taiwan model spectrum, also dating back to the Republican-era in China, where special focus was paid to social organizations such as farmers organizations and extension “for channeling the resources and the technology down to the village and farm level for increasing output.”²⁵² In other words, Shen was describing the marriage of science and society that was at the heart of the Taiwan model.

Economic incentives demonstrated the qualities of Taiwan’s state-capitalist approach to development that more sharply divided it from communist development. Shen elaborated that economic incentives involved capitalistic mechanisms that provided stable markets and subsidies for farmers, including “land reform,” “supported...guaranteed, or negotiated prices,” “improved marketing systems of export crops,” “adequate supply of farm requisites such as fertilizers, pesticides, farm implements, and feeds,” and “the supply of agricultural credit.”²⁵³ These were all elements of Taiwan’s approach to state-sponsored capitalism, combining elements of free market principles, such as credit mechanisms for private farmers and compulsory but financialized sales of land holdings (see Chapter 4 for more on the capital raising techniques used in Taiwan’s land reform), combined with state subsidies, aid, and regulatory oversight in order to provide stability and availability of critical supplies and market access.

The final element, human incentives, conveyed something that the previous elements did not, which was the closest to a direct political intervention into the state level. Though the state was closely involved in setting economic incentives and structuring markets, these policies are set from the top-down or laterally across political-social organizations. In contrast, in describing human incentives, Shen began to describe how a developmentalist state is comprised: “a progress-oriented stable government,” “a small group of agricultural leaders with advanced training and long experience,” “a large number of graduates from agricultural colleges and vocational schools working in government and private organizations,” and “an intelligent and literate farming population.”²⁵⁴ These factors were indeed crucial for Taiwan’s own miracle, and what is ironic about Shen’s list of “human incentives” is that the African audience members were likely imagining that these “incentives” were in fact the resource endowment that Taiwan had been lucky to possess. Addressing these were likely the most difficult to accomplish and least technical in nature, as they involved significant changes to both the nature of the state and of society and culture surrounding education, literacy, and wealth, that Shen’s audience likely lacked the

²⁵² 中非農技合作討論會 [Sino-African Agricultural Technical Cooperation Conference], July 16, 1965, Page 1872, Archive Number 020000039124A, Ministry of Foreign Affairs Collection, Academia Historica.

²⁵³ 中非農技合作討論會 [Sino-African Agricultural Technical Cooperation Conference], July 16, 1965, Page 1872, Archive Number 020000039124A, Ministry of Foreign Affairs Collection, Academia Historica.

²⁵⁴ 中非農技合作討論會 [Sino-African Agricultural Technical Cooperation Conference], July 16, 1965, Page 1872, Archive Number 020000039124A, Ministry of Foreign Affairs Collection, Academia Historica.

capability, and in many cases, the desire, to address. Instead, here and in other instances of development, these issues are depicted as technical or economic or educational, when in fact they are fundamentally political and require reform at deep, structural and cultural levels.

Wrapping up his speech, Shen pointed to the signs of success and encouragement from the missions established in the early 1960s up until 1965. In Ivory Coast, he proudly presented results of the Taiwanese assistance team planting 93.97 hectares of rice “according to Chinese cultural practices,” with some teams even reporting “that the per unit area yield of various crops planted in the demonstration fields is even higher than the highest per unit area yield achieved in Taiwan itself.” Shen attributed this to “to the fact that most of your lands are virgin lands which have never been cultivated before and, therefore, are rich in plant nutrients.” This was cause for immense optimism for Shen, who added that “Such being the case, if your lands properly utilized, their productivity will certainly be very high.” Thus, Africa’s natural fertile soils, its “plentiful supply” of labor, combined with Taiwanese guidance to bring an “emphasis on trial and extension so as to make it easier for the local farmers to accept Chinese cultural practices” would bring “very bright” prospects. Taiwanese methods, combined with the natural African abundance of fertility and labor, could overcome other obstacles, such as the lack of capital, since in “the initial stage of agricultural development not much capital is needed anyway.”²⁵⁵ For Shen, the Taiwan model was the pathway for Africa to greater productivity and better livelihoods, as its strengths suited the strengths of Africa, and its low-capital methods compensated for its weaknesses.

By 1969, Operation Vanguard missions were ongoing in 20 African countries: Liberia, Ivory Coast (Côte d’Ivoire), Gabon, Rwanda, Senegal, Sierra Leone, Niger, Cameroon, Upper Volta (Haute Volta, today Burkina Faso), Chad, Togo, Malawi, The Gambia, Congo-Kinshasa (Democratic Republic of the Congo), Dahomey (Benin), Malagasy Republic (Madagascar), Botswana, Lesotho, Central African Republic, and Ghana. Vanguard at that point also included four missions to Latin America (Chile, Brazil, Dominican Republic) and Asia (Thailand), with annual PL480 allocation from the United States exceeding \$650 million New Taiwan Dollars.²⁵⁶ Behind the scenes of Vanguard was the tireless politicking of Yang Xikun, the famous “Mister Africa.” Yang had studied international relations at Columbia University and then served as a bureaucrat with the Guomindang in various roles within the foreign service. By 1958 he was participating in the ROC delegations to the United Nations, and by 1959 was appointed Director of the West Asian Department of the MOFA, then Director of the African Affairs Department. American observers in the State

²⁵⁵ 中非農技合作討論會 [Sino-African Agricultural Technical Cooperation Conference], July 16, 1965, Page 1873-1874, Archive Number 020000039124A, Ministry of Foreign Affairs Collection, Academia Historica.

²⁵⁶ “Project Agreement between the Department of States, Agency for International Development, and the Ministry of Foreign Affairs, an Agency to the Government of the Republic of China.” November 25, 1969. Archive Number 055-431-3-0009, Folder 中美資源交換計畫先鋒案部分, Taiwan National Archives (國家檔案管理局), Taipei, Taiwan (ROC).

Department credited Yang as the “initiator and executor” for the MOFA’s United Nations diplomacy strategy in Africa.²⁵⁷

In 1969, Vice Minister of Foreign Affairs Yang Xikun penned two letters, the first to the Taiwanese agricultural experts, copying several important technocrats in JCRR and across ROC government bodies, expressing his appreciation and reflections on the value of the Vanguard missions. On May 24, 1969, Yang wrote that Vanguard missions “were not only establishing a historical example by the Chinese people for the African people...but furthermore have redressed the mistaken impressions of the Chinese people due to the infiltration and subversion caused by the invasive nature of the Maoist bandits (毛匪).”²⁵⁸ To that end, he wrote a second letter directed to the agricultural development team leaders and technicians on the ground in Africa to further encourage their work in assisting their “African allies.”

The internal letter to the agricultural technical teams repeated several of the principles that Shen had presented to his African audience: the uniqueness of Taiwan’s contributions, the importance of their work, and the success they achieved. Yang emphasized that “industriousness and frugality (克勤克儉)” was a “traditional virtue of us Chinese people,” and that since “African countries were just like ours, we are all developing countries,” it was necessary to practice the same industriousness and frugality agricultural work in Africa. The goal was to “spend as little in order to achieve the greatest results” so that “after leaving Africa, our African friends could also accomplish what we did.”²⁵⁹ These points emphasized the uniqueness of Taiwan’s development approach, and also reiterated that Taiwan’s successes made that approach more easily taught and implemented in other similar developing contexts.

The letter also revealed Yang’s insight into the purpose of agricultural technical cooperation, and how it benefitted Taiwan as well as a greater humanitarian mission. He wrote:

We are a developing nation (開發中的國家). In these past few years, that we can unexpectedly participate in the economic development of other developing countries, especially with regards to agricultural productivity, and serve the people of our allied African nations, win their trust, and furthermore attain such ardent support and approval

²⁵⁷ “Yang, Hsi-kun (Yang, H.K.),” 1973. Folder Visits 1973; Box 13; Bureau of East Asia and Pacific Affairs, Office of ROC Affairs, 1951-1978; Records of the State Department, RG 59; NACP.

²⁵⁸ “不僅為中國人民與非洲人民建立了史無前例...而且還糾正了由於毛匪侵略成性，滲透顛覆的劣跡在非洲所造成對中國人民的錯誤印象。” Zhang Lixing 張力行. Yang Xikun yu Feizhou 楊西崑與非洲 [Yang Xikun and Africa]. Taipei: Zhonghua Wenwu Publishers [中華文物出版社], undated, p. 2.

²⁵⁹ 克勤克儉是我們中國人的傳統美德，也是創立任何事業的必要條件。我們在非洲工作，也必須牢記這一點。非洲國家，跟我們中國一樣，都是發展中的國家，我們一方面固然要【勤】，另一方面也必須要【儉】。。。。我們在非洲為非洲友邦服務，隨時要把握我一個原則，那就是，花最少的錢以求收到最大的效果。只有這樣，我們能做的事，在我們一旦離開非洲以後，非洲友邦也能做，這是一點不錯的。 Zhang Lixing 張力行. Yang Xikun yu Feizhou 楊西崑與非洲 [Yang Xikun and Africa]. Taipei: Zhonghua Wenwu Publishers [中華文物出版社], undated, p. 8.

in our country and abroad, ought to be the greatest honor that all of those working in agriculture can hope to achieve.²⁶⁰

Yang appealed directly to the sense of pride among the Taiwanese for working from humble beginnings and with modest resources to accomplish enormous tasks abroad. These tasks were not merely to further diplomatic objectives, but also to serve the betterment of peoples internationally, and to bring meaning to agricultural work.

However, in many of its African missions, the replication of the Taiwan experience met significant obstacles. As historian Philip Hsiaopong Liu has written, with faith in the production capabilities of its rice seed and technology, one Taiwanese MOFA official wanted to replace African diets of maize and cassava with rice. For the average Taiwanese, rice formed the backbone of daily diet. But Taiwanese rice, usually of the starchy, sticky ponlai (蓬萊 *penglai*) variety, was bred for a Taiwanese consumer, meaning that it suited Taiwanese cultural taste preferences. When Taiwanese technical teams produced rice in Liberia, for instance, local market conditions meant that imported rice was often cheaper than the rice that the Taiwanese were able to produce locally.²⁶¹ This was a consequence of both the low cost of imported rice and its higher demand vis-a-vis rice brought over by the Taiwanese for local production. Cultural affinities for particular foods and its effect on food markets have of course been an issue in China, Taiwan, and elsewhere in the world for centuries, including in reaction to the Green Revolution and monocultures, and should not have come as a surprise for the Taiwanese teams in Africa.²⁶²

Furthermore, the success of Taiwanese rice depended in part upon conditions that were fairly unique to Taiwan's economic and social circumstances: the availability of capital to purchase agricultural machinery and chemicals and a relative surplus of available agricultural labor that allowed for cheap, labor intensive processes like planting and harvesting rice. Without the ability that JCRR had possessed to shape the political economy through state policies and access to the top echelons of government to implement changes and intervene in society, Taiwanese technical missions could only rely upon success within their small, contained demonstration plots. Taiwanese teams tended to cherry-pick locations with high fertility potential for their demonstration funds, and with an abundance of American funding through Vanguard, they were able to purchase irrigation pumps, fertilizers, pesticides, and labor that would not have been sustainable for locals without access to foreign capital. Thus, after Taiwanese teams left and equipment were taken with them or fell into disrepair, many of these demonstration farms reverted to old farming methods prior to Taiwanese arrival.²⁶³

²⁶⁰ “我們也是一個開發中的國家，這幾年來，我們居然能夠參加其他開發中國家的經濟建設，特別在農業增產方面，能為非洲友邦人民服務，得到他們如此的信任，並獲得國內外如此熱烈的支持和讚譽，這應該是各位從事農業工作者在職業上所能希望得到的最高光榮。” Zhang Lixing 張力行. Yang Xikun yu Feizhou 楊西崑與非洲 [Yang Xikun and Africa]. Taipei: Zhonghua Wenwu Publishers [中華文物出版社], undated, p. 6.

²⁶¹ Liu, “Planting Rice on the Roof of the UN Building,” 391.

²⁶² See, for example, Seung-Joon Lee, *Gourmets in the Land of Famine: The Culture and Politics of Rice in Modern Canton*, 1st edition (Stanford, Calif: Stanford University Press, 2011).

²⁶³ Liu, “Planting Rice on the Roof of the UN Building,” 390.

In other instances, Taiwanese teams achieved limited success. Liu provided Rwanda as a counterpoint, where a relatively cheaper cost of agricultural labor and the use of Malagasy rice as opposed to Taiwanese rice allowed for more successful rice production.²⁶⁴ In another example, Foreign Minister Shen Changhuan, related how the Taiwanese team to Dahomey allowed it to “save \$500,000 a year by producing itself materials for packing bags which it had previously had to import.”²⁶⁵ Yet productivity gains and cost savings often did not translate to lasting impact or long term improvement in livelihood. Former JCRR Commissioner Bruce Billings reported on his trip to Africa in 1969 that successes were often complicated. In Sierra Leone, the farm supervised by Taiwanese technicians was “able to sell veg[etables] at a lower cost than those produced on other native farms” which led to native farmers being “not happy” with the Taiwanese for introducing unwelcome competition. Because Taiwanese teams were limited largely to supervising a handful of farms for demonstration purposes, they were not able to extend the technologies and methods on a broad scale to insure equitable distribution like in Taiwan, and conversely inspired counterproductive jealousy.²⁶⁶

In Ivory Coast, politics and diplomacy also limited the ability of Taiwanese teams. From 1964 to 1965, Ivory Coast was one of the rotating temporary members of the UN Security Council, and thus a particularly important target for the Ministry of Foreign Affairs. Like most Vanguard missions, the Ivory Coast mission was limited in resources and manpower. In part because of these limitations, the Vanguard mission selected the personal farm of Ivory Coast President Félix Houphouët-Boigny as a model farm. Billings argued this was because “the fact that the President does have a farm with Chinese technicians is important in gaining the cooperation of the natives.” However, this justification obscured the ultimate goal of the Vanguard missions, which were fundamentally political in nature—to secure votes for the ROC in the UN. In Ivory Coast, the benefits brought by Chinese techniques were not seen by Ivory Coast farmers. “The rice produced by the presidential farm is given over to the Army,” or in other words, directly supported President Houphouët-Boigny’s regime. Billings furthermore wrote that most farm labor in Ivory Coast was imported from Mali “due to the affluence of the natives,” referring to the relative wealth of Ivory Coast compared to its poorer neighbors.²⁶⁷ Though investments in agricultural cash crop exports continued to bring wealth to Ivory Coast in decades to follow, Taiwanese development did not always bring techniques to the bottom rungs of subsistence farmers as might have been implied when Vanguard was reported by the media within Taiwan.

Indeed, though development proved to be successful in raising wealth among Taiwanese farmers, increasing caloric intake among Taiwanese rural populations, and

²⁶⁴ Ibid., 392.

²⁶⁵ Memos Vol. II, “US ROC Relations,” 2/15/65, #73a, “China,” Country File, NSF, Box 238, LBJ Library

²⁶⁶ “Meeting on October 14 with Dr. Caton,” Folder “Comments and Reports - Bruce Billings,” Bruce Billings Personal Papers.

²⁶⁷ “Meeting on October 14 with Dr. Caton,” Folder “Comments and Reports - Bruce Billings,” Bruce Billings Personal Papers.

freeing up agricultural labor for industrialization, in Africa these long term changes were far less pronounced. Vanguard missions were hamstrung by politics in most instances, where the supposedly apolitical techniques taught by Taiwanese teams could not overcome structural issues such as inequitable distribution of resources, limited native government support, and the politics of diplomacy. The United States also limited the scope of Vanguard mission, discouraging its providing technical assistance outside of agriculture.²⁶⁸ Billings also lamented this, implying that “if the Vanguard project could include projects other than those directly tied to agriculture” then perhaps even greater results could have been achieved.²⁶⁹ As described by anthropologist James Ferguson, this “anti-politics machine” of development touted its technical ability to transcend politics, but successful development more often than not required not just technical capability but also political will and reform.²⁷⁰

By 1971, support for the PRC taking over the seat of the ROC as “China” gained enough traction such that the ROC no longer could trade any more favors for votes. The pro-PRC bloc soon gained a supermajority, and the US, the ROC’s staunchest ally, had acquiesced to this reality. United Nations General Assembly Resolution 2758 passed, formally recognizing the PRC as the legitimate government of China. The ROC had withdrawn its representative just prior to the vote, due to Chiang Kai-shek’s perception that withdrawing prior to a vote would save face and prove less damaging to the international prestige of the ROC than being forced out by a vote.²⁷¹ effectively ending its campaign to remain in the UN.

As a consequence of the resolution, the US ceased to fund the Vanguard program through its PL480 counterpart funds. Missions to most Vanguard nations were withdrawn or significantly reduced, though they would continue for certain allies who continued diplomatic recognition of the ROC under a different government agency, the CIECD.

Conclusion

Despite the short-lived status of Vanguard, its efforts nonetheless marked an interesting turn in light of greater histories about decolonization, the global South, development, and knowledge. By the 1960s the Chinese elite of the Guomindang had begun to lose sight of regaining the mainland. For Chiang Kai-shek, military reconquest was always at the fore, but for the mid-level bureaucrats in the Ministry of Foreign Affairs and JCRR, Taiwan had become a new home and governing reality. The Vanguard missions provided an opportunity to expand that horizon. Abroad, they provided proof of national greatness, that Chinese techniques and technology were as useful, if not more useful, than those practiced by the United States or Japan. ROC missions abroad dedicated to these

²⁶⁸ 中美資源交換計畫先鋒案部分 [Sino-American Resource Exchange Plan Vanguard Section], December 10, 1966, Archive Number 055-431-3-0009, Taiwan (ROC) National Archives 檔案管理局.

²⁶⁹ “Meeting on October 14 with Dr. Caton,” Folder “Comments and Reports - Bruce Billings,” Bruce Billings Personal Papers.

²⁷⁰ Ferguson, *The Anti-Politics Machine*.

²⁷¹ Cable, “Nationalist China’s Position in the UN,” 4/16/64, #68, “China,” Country File, NSF, Box 237, LBJ Library

technologies could put these to use for those nations and peoples who needed them because hunger and poverty still plagued them. These humanitarian actions reinforced the notion that because the ROC could afford to be a donor abroad, that it had conquered these issues at home. And carving out this international niche as a groundbreaking nation in agricultural development allowed the ROC to perceive itself as being in the international “vanguard.”

The home front was perhaps even of greater importance for many of these intellectuals and bureaucrats. By pointing to the demand for ROC technical assistance abroad, and by reinforcing its position as one of humanitarian goodness, agricultural technology became a means of proving the success of the ROC state to a domestic audience. No longer was Taiwan a sleepy colonial backwater that planted rice for others abroad. It became the producer of technologies, the model for others to follow. This sense of legitimacy provided immense propaganda value for a regime that needed continued support from the average citizen to justify its authoritarian rule and Chiang’s continued quest for military build-up. It also provided a sense of nationalism for the GMD elites, which by the 1960s, after growing increasingly disillusioned about the prospects of retaking the mainland, also began to show signs of agitation against Chiang.²⁷²

The idea of being in the vanguard and providing a model for others to follow was also unique from a historical perspective because of the Cold War in Asia and the state of development at the time. Unlike the Cold War in Europe or in the United States, Taiwan’s Cold War was waged primarily for its international legal status, an almost existential question of whether it was a state at all. Development was one field in which this unique Cold War produced rival scientific and technical regimes between the ROC and PRC. While development had largely been practiced by what were considered “First World” and “Second World” powers like the US and the Soviet Union, the engagement of a former colonial territory like Taiwan in the field marked a significant shift. Today South-to-South cooperation is far more commonplace, but in the 1960s Taiwanese aid to Third World countries was novel and a source of pride for both Taiwanese and Americans (who saw Taiwan as an “Agency for International Development graduate”). The introduction of practices from a former colonial space also meant technologies and practices evolved from social settings quite different from US and Soviet development. Thus, emphasis on farmers associations, for example, proved to be a unique area of contribution in many Vanguard missions. Taiwan’s contribution in farmers associations, combining top-down and bottom-up knowledge techniques, demonstrate that knowledge can coalesce in different ways when constructed in South-to-South networks.

²⁷² “The Taiwan Situation,” April 15, 1965, Memo, #14, “China GRC 1964-1965-1966, Box 15, Komer Files, NSF, LBJ Library.

Chapter 4

Rescuing History from Land Reform: The Land Reform Training Institute, 1968-1979

“On the other hand, many poor peasants are still living in poverty for shortage of the means of production, with some getting into debt and others selling or renting out their land. If this tendency goes unchecked, it is inevitable that polarization in the countryside will get worse day by day. Those peasants who lose their land and those who remain in poverty will complain that we are doing nothing to save them from ruin or to help them out of their difficulties.”

- Mao Zedong²⁷³

Introduction

Published in 1966, William Hinton’s documentary book on land reform in China, *Fanshen*, set off a discussion of land reform internationally.²⁷⁴ Hinton was an American who first visited China in 1937 and later joined UNRRA in 1947 as a tractor technician and instructor (see Chapter 2), then stayed after the Communist revolution in 1949 to witness land reform under Mao Zedong

.²⁷⁵ Mao had land redistribution programs carried out by local cadres across China through the 1950s, in some areas of central south China seizing and redistributing about 40 percent of cultivated land from landlords and benefitting about 60 percent of the population.²⁷⁶ Hinton observed and participated in land reform in Long Bow village (Zhangzhuangcun 張莊村) in Shanxi province for about five years. Like his contemporary China commentator Edgar Snow, Hinton became a public proponent of the People’s Republic of China and the regime that oversaw “the great anti-imperialist and anti-feudal revolution which transformed China.”²⁷⁷

Partially in response to this episode as well as earlier collectivization in the Soviet Union under Stalin, American academics began discussing the merits of land reform, both under postcolonial regimes in Asia as well as under American guidance.²⁷⁸ Contrary to expectations by Marxist thinkers who believed communism would take root in urban areas dominated by proletarian factory workers, communism became influential in primarily agrarian societies where land was concentrated in the hands of landlords who rented out land to tenant farmers. In places like Vietnam where communist forces had won the hearts

²⁷³ Zedong Mao, *Selected Works of Mao Tsetung*, 1st ed., vol. 5 (Peking: Foreign Languages Press, 1977), 202.

²⁷⁴ William Hinton, *Fanshen; a Documentary of Revolution in a Chinese Village* (New York: Monthly Review Press, 1967).

²⁷⁵ Daniel Vukovich, “William H. Hinton (1919-2004): Obituary Essay,” SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, July 6, 2010), <http://papers.ssrn.com/abstract=1633870>.

²⁷⁶ Jonathan D. Spence, *The Search for Modern China* (WW Norton & Company, 1990), 516.

²⁷⁷ Hinton, *Fanshen; a Documentary of Revolution in a Chinese Village*, ix.

²⁷⁸ Ezra Vogel, “Land Reform in Kwangtung 1951-1953: Central Control and Localism,” *The China Quarterly*, no. 38 (June 1969): 27-62.

and minds of agrarian villages through seizing land from landlords and redistributing it to farmers, the alternatives held little sway. By the early 1970s when opposition was rising in the US public against the continued military intervention in Vietnam, the failure of American land reform became a popular rallying point. Al McCoy, writing for the left-leaning academic periodical *Bulletin of Concerned Asian Scholars*, argued in 1971 that American-led land reform in Asia, contrary to publicized successes in Japan, Taiwan, and South Korea, “has been an unqualified failure.” For McCoy, American interest in counter-revolutionary strategy ultimately chose to side with the landowning elites upon which they depended for political support rather than “genuine land reform” that breaks the power of landlords and tackles the “central problems of tenancy.” This critique of “the myth of land reform as panacea” would resonate throughout the discussion of land reform in the Cold War.²⁷⁹

Some in the development field began to battle communist ideology on its own grounds, offering non-communist alternatives to appealing political ideas like land redistribution. This chapter discusses one non-communist alternative that emerged in the late 1960s with the partnering of Taiwan and the John C. Lincoln Foundation, a US based institution dedicated to the dissemination of 19th century economic thinker Henry George’s ideas. Long relegated to the fringes of economic thought in the US, Georgism was revived in the 1960s and deployed by Taiwanese Cold Warriors and US based land economists as a less radical communism.

For Taiwan, the founding of the LRTI provided an opportunity to pursue global leadership through its development expertise. In contrast with Vanguard missions (see prior chapter), which were largely conducted through bilateral in pursuit of specific foreign policy payoffs with vote-carrying African nations, the LRTI provided Taiwan with a far broader reach. LRTI assisted nations that sent technocrats to Taiwan spanned Barbados, Bolivia, Brunei, Colombia, Cook Islands, Costa Rica, Dominican Republic, Ecuador, El Salvador, Fiji, Guam, Guatemala, Haiti, Honduras, India, Indonesia, Iran, Khmer, Korea, Lesotho, Malaysia, Micronesia, Nicaragua, Panama, Paraguay, Philippines, Solomon Islands, Sri Lanka, Thailand, Tonga, Uruguay, Vietnam, and Western Samoa.²⁸⁰ In a highly politicized recrafting of Guomindang consolidation of power after its 1949 move to the island, Taiwanese development leadership were able to once again utilize its narrative of development success in land reform for its efforts at internationalization. Development became the platform upon which Taiwan would seek its place among other decolonizing powers in the Cold War world, and land reform became one of its earliest vehicles.

Though it has received relatively little attention in the past several decades in the development literature, the history of land reform as development politics was emblematic

²⁷⁹ Though land reform largely fell off the radar by the late Cold War, this leftist critique of American foreign policy tending to support right-wing authoritarian regimes continued well after land reform exited center stage. Alfred McCoy, “Land Reform as Counter-Revolution: US Foreign Policy and the Tenant Farmers of Asia,” *Bulletin of Concerned Asian Scholars* 3, no. 1 (1971): 16.

²⁸⁰ October 20, 1978. S.K. Shen, Report to the Tenth Annual Meeting of the Board of Directors, Land Reform Training Institute, Land Reform Training Institute Library.

of what development meant to developer and developed. And what little scholarship has been done on land reform has been unsatisfactorily politically tinged, either by a glowing Cold War fueled optimism, or by a deep cynicism for land reform as a thinly veiled excuse for American neo-imperialism. Institutions like the Land Reform Training Institute, which quickly lost the interest of the world by the late 1970s, have as far I know not been discussed in any English language literature, and only in spurts in the Chinese language literature.

Utilizing archives that I have not seen used by any scholar — the Lincoln Foundation papers at the University of Hartford and the archives of the Land Reform Training Institute²⁸¹ — as well as documents from the Land Tenure Center in the University of Wisconsin, this chapter attempts to “rescue history” from land reform while contextualizing the role of land reform in the technopolitics of development.²⁸² It argues that land reform should be understood as different “keys,” namely land reform as historical narrative, and land reform as technopolitics.²⁸³

Land reform as historical narrative refers to the construction of a historical narrative *ex post facto* in order to support a political goal — the ability to claim unparalleled technical expertise in the field of development attributable to unique historical experiences and success. Land reform as technopolitics refers to the wielding of that claimed expertise as a Cold War political sword and shield. Land reform as technopolitics provided not only an ideological basis for the ROC’s diplomatic alliance-building in the Global South, but also a shield for its political legitimacy at home, justifying its military dictatorship with a social welfare agenda that contrasted sharply with the Communist foil across the Taiwan Strait.

²⁸¹ Based on my conversations with archivists at both the University of Hartford and LRTI, I have been informed I was the first to access both archival collections in their terms as employees of the institution.

²⁸² I borrow the term coined by Prasenjit Duara in his historiographical book exploring the interpretation of history for nationalistic purposes. Prasenjit Duara, *Rescuing History from the Nation: Questioning Narratives of Modern China* (Chicago: University of Chicago Press, 1995).

²⁸³ And here I borrow the term from Paul Cohen, whose innovative exploration of the Boxer Rebellion through three “keys” also explores the ways in which history is utilized and understood. Paul A. Cohen, *History in Three Keys: The Boxers as Event, Experience, and Myth*, New Ed edition (New York: Columbia University Press, 1998).



Photograph: A storage closet at the Land Reform Training Institute serving as an archive. Only a few piles remain of pre-1990 documents, heavily water damaged and after years without proper dehumidification in tropical weather. Picture taken by author in 2013.

Since the Cold War, land reform has seen relatively little discussion outside of specific contexts. In Taiwan, some sociologists and land economists have begun revisiting land reform and reevaluating its claims to success and origins, though largely for the purpose of better understanding domestic social class relations during the early Guomintang regime.²⁸⁴ In the US, land reform has recently gained some discussion in the case of South Vietnam during the 1960s and 1970s, including contention over how different facets of American policymakers had considered the importance of land reform to its international anti-communist efforts.²⁸⁵ Land reform, however, was acknowledged as successful in East Asia, and especially Japan and Taiwan, in the postwar era. Despite its success and importance, there is almost no scholarship on land reform in Taiwan from new

²⁸⁴ Shih-Jung Hsu, Shirong Xu, and Xinhuan Xiao, "The Impacts of Class Differentiation and Cultural Construction on Post-War Land Reform in Taiwan" (Second Workshop on the Land Reform in East Asia, Academia Sinica, Taipei, Taiwan: Information Service for East Asian Research Program for Southeast Asian Area Studies, Academia Sinica, 1999). Shirong Xu and Xinhuan Xiao, "Taiwan Tudi Gaige Zai Shenshi - Yi Ge 'Neikunshuo' de Changshi 台灣土地改革再審視——一個「內因說」的嘗試," *Taiwanshi Yanjiu* 台灣史研究 8, no. 1 (June 2001): 89-124.

²⁸⁵ David A. Conrad, "Before It Is Too Late: Land Reform in South Vietnam, 1956-1968," *Journal of American-East Asian Relations* 21, no. 1 (March 2014): 34-57, doi:10.1163/18765610-02101002.

international history that seeks to understand its transnational dimensions using multinational archival research.

This chapter seeks not only to bridge a significant gap in the literature of land reform, it also attempts to seriously address the discourse of land reform as it fit into the larger jigsaw puzzle of development. For an agricultural miracle that was advertised so heavily upon the success of the Guomindang in breaking the power of the landlords, by the 1970s the story of Taiwan's agricultural success had shifted almost entirely to Green Revolutionary terms—high yield crop cultivars, chemical fertilizers, and irrigation. The marvels of high science and technology, in other words, had buried the anti-communist allure of land reform. Hidden in this transformation is a discussion of what land reform meant to Taiwan, the United States, and the Third World, as well as changing global understandings of modernity.

Land Reform Pre-1949

Land reform as a political discourse arose near the early 20th century through speeches and writings by Sun Yat-sen (Sun Zhongshan 孫中山) in the course of promulgating his Three Principles of the People (*sanmin zhuyi* 三民主義). Sun, first President of the Republic of China, perhaps the most famous Chinese revolutionary of the modern era, and today considered the “Father of China,” outlined at various points through his early career the idea of *minshengzhuyi* (民生主義), the People's Livelihood, and one of the Three Principles. Sun articulated a vision of land equalization through “taxing unearned increments from the sale of urban or suburban land, with a view to slowing down building speculation.”²⁸⁶ As historian Marie-Claire Bergere has astutely raised, this was not the land redistribution that would become the predominant understanding of land reform in the 1960s, but rather a moderate form of Henry George's single tax on land (to be discussed in detail shortly). In Sun's version, landowners provided estimates of their land, at which they would be taxed one percent by the state, with the understanding that the state would be able to purchase the land at its declared value. Other prominent Chinese intellectuals in Sun's circle (and later prominent GMD politicians), including Zhu Zhixin (朱之鑫) and Feng Ziyou (馮自由), ardently defended this moderate Georgism from what they perceived as the more radical form of land reform espoused by socialists.²⁸⁷

In contrast with Sun Yat-sen's Georgist influenced views toward land reform, Chiang Kai-shek, de facto ruler of China after the Northern Expedition (1926-1928) until the Communist takeover in 1949, understood the political expediency of land redistribution. In a speech in 1932, Chiang argued for the importance of land reform as a “fundamental problem of China” in light of the early battles against the entrenched Jiangxi Soviet led by the fledgling Chinese Communist Party, and later attempted to rival some of the Jiangxi Soviet reforms by attempting land redistribution in reclaimed Jiangxi territories.²⁸⁸

²⁸⁶ Marie-Claire Bergère, *Sun Yat-Sen*, trans. Janet Lloyd (Stanford, Calif: Stanford University Press, 1998), 167.

²⁸⁷ *Ibid.*, 169–70.

²⁸⁸ Jay Taylor, *The Generalissimo: Chiang Kai-Shek and the Struggle for Modern China* (Cambridge, Mass: Belknap Press of Harvard University Press, 2009), 100.

However, as Jay Taylor has argued, land reform during the Republican era under Chiang was markedly conservative. Land reform entailed purchasing of lands as they went on sale and organizing cooperatives that would allow renting land to the landless, but not the forced seizure of land from landowners and redistribution to landless as the Communists had enacted in the Jiangxi Soviets.²⁸⁹ In Taylor's formulation, this was not merely Chiang and the GMD paying lip service to land reform, but rather the desire to moderate their actions so as to not upset existing social order. Other historians, like Stephen Averill, have posited revisionist accounts of the GMD, arguing GMD desires for land reform were genuine but merely failed to take hold.²⁹⁰

Outside the conservative land reform ideas of Sun and Chiang and the radical redistribution of the Communists existed another school of land reform associated with Xiao Zheng (蕭铮 Hsiao Tseng) and Chen Guofu (陳果夫). Xiao was a GMD technocrat trained at Peking University and later influential in the Republican-era idea of land economics (*dizheng* 地政). As an early member of the GMD, Xiao held close personal connections with the conservative right of the GMD, especially with the Central Club Clique (*zhongyang julebu zuzhi* 中央俱樂部組織) led by brothers Chen Guofu and Chen Lifu (陳立夫). Though not a prominent figure in the GMD, Xiao after 1949 became one of the key proponents associated with land reform in Taiwan alongside Chen Cheng, and the history of his ideas of land reform in the Republican era prove an interesting lost history.

Historian Larissa Pitts has argued that the “land problem” in Republican China was a constructed phenomenon. Indeed by international comparison, Pitts points out that China's rate of tenancy in 1939 at 19% was significantly lower than Mexico at 79% and England at 85%.²⁹¹ Compounding the historiographical problem, Pitts also argues that the GMD Right began to champion land redistribution in spite of its identity and politics as an urban (as opposed to rural), industrial (as opposed to agrarian), and landowner/capitalist (as opposed to landless farmer) supporting entity. What would explain such a contradiction?

The discourse of land reform remains largely a post-1949 phenomenon, one that had co-opted history in order to wield moral authority over the mandate to rule. Land reform became the means by which competing regimes—whether the GMD or the CCP, and by the Cold War, decolonizing regimes and intervening superpowers—could demonstrate their commitment to the downtrodden masses that after the 1949 revolution proved to be the political forces that toppled regimes and started revolutions. In the instance of Xiao and other erstwhile land reformers, the post-1949 historiography has reconstructed a

²⁸⁹ Ibid., 107.

²⁹⁰ Stephen C. Averill, “The New Life in Action: The Nationalist Government in South Jiangxi, 1934-37,” *The China Quarterly*, no. 88 (December 1, 1981): 594-628.

²⁹¹ Larissa Pitts, “From Revolution to Reform: Xiao Zheng and the Land Reform Movement of the GMD Right” (Unpublished Research Paper, University of California, Berkeley, 2012), 18. Original statistics from Barbara Sands and Loren Brandt, “Land Concentration and Income Distribution in Republican China,” in *Chinese History in Economic Perspective*, ed. Thomas G. Rawski and Lillian M. Li (Berkeley: University of California Press, 1992), 179-207.

narrative extending backward into the Republican era, arguing that land reform had roots in Chiang Kai-shek, the GMD Right, Sun Yat-sen and the Three Principles, and even as far as the Taiping Rebellion set against the imperial Qing court. While these retroactive claims enjoyed a gamesmanship of increasing radicalism in terms of challenging the power of the landlords, the actual intellectual lineages and policies enacted bely a far more conservative history of land reform that was rarely radical. In other words, land reform was, for the most part, a constructed problem (with tenancy rates relatively low compared to other agrarian societies) designed for a technopolitical purpose *ex post facto*. From this history we can spring forward across 1949 and into the even more contested history of the 1950s.

Land Reform in the 1950s

The 1950s saw the most crucial watershed in the Taiwanese land reform narrative, a series of reforms that eventually culminated with the hitherto unexpected, a land to the tiller reform that resulted in the forcible purchase of private lands and redistribution to landless tenants. Like land reform in the Republican era, 1950s land reform became an object of historical debate, especially in terms of judgements over the impetus for reform. In 1948 with the involvement of the Sino-American Joint Commission for Rural Reconstruction, both the United States and the Republic of China sought to claim ownership of land reform. Objectively speaking, the answer likely lies somewhere in the middle, but discursively what is more interesting is the intellectual lineage in both claims and the political payoffs for both parties.

From the American perspective, Taiwan was one of a multitude of Asian countries undergoing rapid decolonization under American control, whether under military occupation (Korea, Japan) or in cooperation (Taiwan, the Philippines). In situating the history of land reform of Taiwan with a broader US and the world context, Taiwan should be considered one in the series of Asian land reform cases nominally contributed to by a group of American land technocrats including Wolf Ladejinsky.

Ladejinsky, of Ukrainian Jewish heritage, had emigrated as a young boy to the United States after his family's lands near Kiev were overrun amid the chaos of the Russian Revolution and eventually seized by the Bolsheviks. After settling in Hoboken, New Jersey, he studied economics at Columbia University and then rose to prominence as one of the regional experts in the US Department of Agriculture (USDA), compiling agricultural reports on Asia.²⁹² By 1941, he had written extensively in the official journal of the USDA, around 22 articles in total, on the agrarian problems of Asia, discussing the Soviet Union, India, Japan, Korea, Indonesia, Manchuria, and Malay.²⁹³ In 1945, he joined General MacArthur's Supreme Commander for the Allied Powers (SCAP) in Tokyo to aid in the postwar plan to redistribute the lands of the Tokyo landed elite. Like Germany, Japanese militarism was believed by American military planners to have been propped by the feudal elite who contributed the military officers of the Japanese Imperial Army. As John Dower

²⁹² Cullather, *The Hungry World*, 97–98.

²⁹³ Ladejinsky, *Agrarian Reform as Unfinished Business*, 23–24.

and other historians have shown, the Americans believed dismantling the power base and the concentration of power held in the hands of the few would encourage democratization and eliminate the roots of militarism.²⁹⁴ Ladejinsky's experience from Japan made him an expert on land reform with the USDA's Foreign Agricultural Service throughout the rest of Asia, including Taiwan.

In 1937, Ladejinsky published an article in the USDA's *Foreign Agriculture* journal titled "Japan's Agricultural Crisis" where he laid out clearly the agrarian problem plaguing Japan. For Ladejinsky, Japan was in a Malthusian state where its rapidly increasing population was working on increasingly small and untenable plots of land, and to make matters worse, Japanese tenancy rates were extraordinarily high. He cited statistics of 7.5% of households owning 50% of land in Japan, and rent for the landless tenants averaging 50% to 60% of crop yield.²⁹⁵ He argued state policies were ineffective, and believed rural farmers of Japan, whom he had considered the genuine engines of Japanese prewar growth, could not "be achieved by self-help, spiritual regeneration, and the oft-repeated statement that the farmers are the mainstay and backbone of the nation." Instead, he argued, "the plight of the Japanese farmer can be alleviated to some extent by scaling down indebtedness, lowering interest rates, improving credit facilities, levying more equitable taxation, and by making a serious attempt to eradicate the evils of the existing tenancy system."²⁹⁶ In other words, the state needed to take concrete steps in regulating and establishing credit institutions, economic policies, and taxes that would help alleviate the stress on land tenancy.

After the defeat of Japan and the establishment of American occupation in Japan, SCAP, through a series of back and forth demands with the Japanese Ministry of Agriculture and Diet, orchestrated a series of land reform bills. By October 1946, the series of land reform laws allowed for compulsory purchases of lands from landowners for resale to tenants. Tenanted lands in excess of 1 hectare (4 in Hokkaido) were seized, and owner cultivated lands in excess of 4 hectares seized if productivity was deemed unsatisfactory. Purchases were accomplished through land bonds, through which landowners received bonds bearing 3.6% interest that would mature over 30 years, and tenants purchasing land could pay cash or installed payments over 30 years at 3.2% interest.²⁹⁷ Further laws restricted the holding of land by absentee landlords, strict ceilings on rent for land that was tenanted, and bans on corporations from purchasing land.²⁹⁸ Recently economists like Toshihiko Kawagoe have argued that land reform as forced by the Americans upon Japan in the immediate postwar was a social success, permanently destroying the landed elite in

²⁹⁴ John W. Dower, *Embracing Defeat: Japan in the Wake of World War II* (New York: W.W. Norton & Co./New Press, 2000), 75–76.

²⁹⁵ Ladejinsky, *Agrarian Reform as Unfinished Business*, 40–41.

²⁹⁶ *Ibid.*, 48.

²⁹⁷ Toshihiko Kawagoe, *Agricultural Land Reform in Postwar Japan: Experiences and Issues*, Policy Research Working Papers (The World Bank, 1999), 27–28, <http://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-2111>.

²⁹⁸ *Ibid.*, 34.

Japan and creating a large rural population that voted effectively for the conservative Liberal Democratic Party.²⁹⁹ However, Kawagoe has remained more cautious about the economic payoffs — farm sizes shrunk even further after land reform, and he credits rapid growth in agricultural productivity to technological and other factors.

Having completed the successful breaking up of the landowning social class in Japan, Ladejinsky began to solidify his notion of what effects American land reform would have. In 1948, in an article in *Foreign Affairs* designed to reach a wider audience, Ladejinsky argued that the prior two years of reform in Japan had engendered “a moderate middle-class revolution, designed to create a stable system of capitalistic democracy” and “loosened the fetters that held the Japanese people that reactionary forces would find it difficult to tighten them again.” For Ladejinsky, the key differentiating factor of American occupation led reform in postwar Japan was the linking of the economic with the social. For all of the good it would entail for the future of the Japanese citizen, the reforms also were careful “not [to] inhibit the fullest utilization of Japanese labor, managerial skill, and indigenous natural resources; nor are they of a kind which would prevent extension of American credits sufficient to cover imports of raw materials and the cost of new capital equipment as well as the investment of foreign capital.”³⁰⁰ These disclaimers were careful echoes of Ladejinsky’s earlier writings on the flaws of Communist collectivization in the Soviet Union, and Ladejinsky’s version of land reform compatible with old fashioned American democracy and capitalism. He carried these ideas with him after leaving Japan for his next destination in 1949, Taiwan.

In 1949, the Nationalist regime retreated to the island of Taiwan, a supposedly temporary position while Chiang Kai-shek could regroup his forces and retake the mainland from the Communists. In Taiwan, the Nationalists faced a new political-social scenario. Unlike on the mainland, where the GMD was somewhat dependent on local landed gentry and elites for governing rural areas, Taiwan had operated under a half century of Japanese imperialism.³⁰¹ With the small size of the island, the relative ease through which the island could be administered using existing Japanese imperial structures of state control, and the million soldiers that moved to Taiwan under the GMD military, the Guomindang did not derive his political legitimacy in cooperation with the Taiwanese rural landed class. In effect, this freed up the Nationalists to enact land reform without drawing the ire of political constituents.

Before Chiang’s arrival, a number of high-level GMD bureaucrats had already set up in Taiwan a provincial government since retrocession in 1945. Among these was Chen Cheng (陳誠), who in 1949 was appointed Governor of Taiwan and would later be promoted to Premier of the ROC in 1950 and finally Vice President in 1954. Chen had risen through the ranks primarily as a military man, a graduate of the prestigious Baoding (保定)

²⁹⁹ Ibid., 8.

³⁰⁰ W. I. Ladejinsky, “Trial Balance in Japan,” *Foreign Affairs* 27, no. 1 (1948): 115, doi:10.2307/20030167.

³⁰¹ For an example of ROC struggles with local control, see Prasenjit Duara, *Culture, Power, and the State: Rural North China, 1900-1942* (Stanford, Calif: Stanford University Press, 1988).

and Whampoa (*Huangpu* 黃埔) academies and a longtime general under Chiang serving through the Northern Expedition, the Civil War, and the Second Sino-Japanese War.

Chen served a crucial role in land reform history. According to an oral history of then-JCRR Secretary Jiang Yanshi (蔣彥士, Y.S. Tsiang), the decision to enact land reform in Taiwan originated from a conversation between then JCRR Chairman Jiang Menglin and Commissioner Robert Moyer and Chen Cheng. The content of this conversation was simple: was Taiwan willing to undertake land reform? According to Jiang, Chen's answer was "I want to do it. We must do it (我要做, 必須要做)."³⁰² Chen thus became the key figure attributed with the enforcement and innovation in land reform in the 1950s that became heavily politicized by the Guomindang in the 1960s and 70s as a success narrative. In 1961, Chen authored a well-cited history of land reform in Taiwan in English.³⁰³ Chen's *Land Reform in Taiwan* became the standard narrative through which both Taiwanese and American land economists came to understand the policies behind land reform in Taiwan in a rather uncritical and ahistorical manner.

In 1949 on Taiwan as governor, Chen began to enforce the 1930 Land Law that had set a ceiling of 37.5% of annual crop yield as the maximum rent for land tenants. This was the so-called "375 Reform" (三七五), the first of three series of reforms enacted in the Taiwan land reforms of the 1950s. A previous short-lived governor of Hubei on the mainland prior to 1949, Chen later argued in *Land Reform on Taiwan*, that he and the GMD government had always wanted to implement the 375 Reform on the mainland, and did so first in Guangdong, Hunan, his administered province of Hubei, and Zhejiang.³⁰⁴ The inability to successfully maintain the rent ceiling across China, he argued, was the fault of "a variety of obstacles," which he hinted as being the outbreak of war with Japan. He further asserted that by 1940 all of Hubei was theoretically operating under the rent ceiling, though the historical record is far less certain of this assertion.

Nonetheless, the actions taken in Taiwan were of an effective nature. As sociologists have examined, land rent was indeed problematic in Taiwan prior to 1949. According to statistics from Japanese colonial surveys, in 1937 average rent prices for prime land island-wide was 52.43%, for lower grade 45.29%.³⁰⁵ Historical surveys from 1924 and 1927 demonstrated that rent prices generally did not deviate more than a few percentage points from these numbers, though rent prices were not held in check by contracts and could increase by the landlord's decree on a year to year basis.³⁰⁶ The 375 Reform also required

³⁰² Chun-chieh Huang, ed., 中國農村復興聯合委員會:口述歷史訪問紀錄 (中央研究院近代史研究所, 1992), 156.

³⁰³ Cheng Chen, *Land Reform in Taiwan* ([Taipei]: China Pub. Co., 1961).

³⁰⁴ Ibid., 18–19.

³⁰⁵ Chih-ming Ka, *Japanese Colonialism In Taiwan: Land Tenure, Development, And Dependency*, Revised edition (Westview Press, 1998), 154.

³⁰⁶ Hsu, Xu, and Xiao, "The Impacts of Class Differentiation and Cultural Construction on Post-War Land Reform in Taiwan," 20.

landlords to lodge written contracts with township governments and established committees that would calculate annual yields from which rent prices were derived.³⁰⁷

As would be expected, side effects from the 375 Reform produced a lengthy discussion in Chen's manuscript. Problems ranged from inaccurate land categorization and grading to refunding excessive security deposits to reduced water services provided by landlords post-reform³⁰⁸. For Chen, these matters were of a technical nature. In each scenario, he outlined a rational state response: state intervention, oversight and inspection committees, reevaluation, further changes to legislation, etc. Never in doubt was the good of land reform. In the section discussing the results of the 375 reforms, Chen cited government surveys of villages post-reform in 1951 performed by inspection teams, using markers such as "seven families have built new houses...40 families have bought draft cattle...25 families have had marriage celebrations" to demonstrate the "betterment of the tenant farmers' livelihood."³⁰⁹ While the actual administration of land reform entailed careful before and after measurements and multiple variables to consider land value and tenancy rates, the social results received only cursory, almost, anecdotal evidence with no comparison basis.

The second series of land reforms — the sales of public lands— ran from 1948 to 1958, with a peak of 1951 after the passing of the Regulations Governing the Sale of Public Farm Lands to Establish Owner-Farmers in Taiwan Province. After the retrocession of Taiwan to China in 1945, the Nationalist government seized control of Japanese government owned lands in Taiwan, including direct county and municipal lands and state owned enterprise lands, as well as private lands owned by Japanese individuals. These lands, according to Chen, accounted for about 21% of total farmland on Taiwan, a total of 434,981 acres.³¹⁰ Through a system of inspection and applications, tenant farmers of these lands were qualified for purchase. The sale price was set at 2.5 times the total annual yield of the main crop, paid in ten annual installments without interest. To avoid fluctuations in currency value, payment was allowed in farm products.³¹¹

Chen stated the goal of selling public lands was to take a first step toward private land redistribution. Leading through example, he argued, would demonstrate the resolve of the state striving toward its land reform ideals. "How could it be possible to make private landlords content if the Government continued to own a large amount of cultivated lands without offering them for sale and remained [sic] a landlord itself?" Chen continued to attribute this fervor to Sun Yat-sen once again, quoting a number of articles from the ROC Constitution that though emphasized *minsheng*, though nonetheless vague in their prescriptions of "equalization of landownership and restriction of private capital in order to attain a well-balanced sufficiency" and "the State shall, in principle, assist owner-

³⁰⁷ Ibid., 28.

³⁰⁸ Chen, *Land Reform in Taiwan*, 29-40.

³⁰⁹ Ibid., 43-44.

³¹⁰ Ibid., 49.

³¹¹ Ibid., 58.

farmers and persons who make use of the lands by themselves.³¹² Though Sun's Three Principles were likely not the foremost concern of GMD state planners, the sale of public lands was nonetheless successful in placing land into the hands of formerly landless tenants, effectively increasing the number of farming families tilling land they owned.

The third and final reform was arguably the most crucial for the overall land reform narrative — compulsory land redistribution, or the land-to-the-tiller (*gengzhe you qitian* 耕者有其田) program. Land-to-the-tiller began as draft legislation in 1952 and passed the Legislative Yuan in 1953. The legislation allowed for two steps: the compulsory purchasing of all tenanted land in excess of a prescribed amount by the GMD government, and the sale of that land to tillers. The entire process was financed through credit mechanisms issued by the Land Bank of Taiwan, providing landlords with bonds whose interest would be paid through the income stream of annual payments by tillers over ten years. 344,092 acres in total were purchased by the ROC state and resold to 194,823 farm families. Land-to-the-tiller also provided legal oversight to ensure that newly sold lands remained in the hands of tillers and not resold, implementing annual inspections of resold land as well as generous loans to disincentivize quick sale in times of financial hardship.³¹³

For Chen, the point of pride of land-to-the-tiller was not that it had broken the power of the landlords, but rather that the process was supposedly lawful and fair to the landlords. Chen wrote that “while shaking off the shackles of the tenancy system for the farmers in order to improve their living conditions, the enforcement of the land-to-the-tiller program should also take into account the interests of landlords so as not to cause them to suffer too great a loss.”³¹⁴ The obvious foil was the confiscation of land across the strait under the CCP. Under the GMD land-to-the-tiller program, land was compensated through a 70/30 ratio of land bonds to stock in recently privatized state owned enterprises. Land bonds matured over ten years and provided an annual interest rate of 4%. As a form of substitution for income from land rents, Chen and GMD planners thought that they could encourage landlords to take an interest in industrial development. Thus, they privatized the formerly state-owned Cement Corporation, Pulp and Paper Corporation, Industrial and Mining Corporation, and Agricultural and Forestry Development Corporation through public offering of shares.³¹⁵ For Chen, this was in stark contrast with the Communists who “have acted contrary to every principle of human nature” in confiscating land “without compensation.”³¹⁶ Despite claims to altruism, scholars have rightfully pointed out that landlords in Taiwan often did not realize the value of the bonds and stock certificates they were issued, and in many cases ironically offloaded their shares immediately to private investors, not anticipating the exponential growth in value those shares would see in decades to come.³¹⁷ Instead, after the February 28 incident of 1947 (二二八事件) and the following White Terror in which the GMD regime cracked down on

³¹² Ibid., 55.

³¹³ Ibid., 69–81.

³¹⁴ Ibid., 67.

³¹⁵ Ibid., 68, 77.

³¹⁶ Ibid., 67.

supposed local Taiwanese resistance, landlords feared opposing government initiated land reform and obliged in the face of authoritarian power.³¹⁸

For the GMD, land reform also held a secondary benefit (or primary benefit, depending on one's vantage point). By granting ownership of land to those who cultivate it, GMD state planners provided the proper economic incentive for full development of land. Prior to land reform, farmers would be reluctant to make capital intensive improvements to their land due to the uncertainty of tenancy. At any point, they could be forced off the land, disincentivizing long term improvements. Furthermore, with excessive rent, farmers were unable to accumulate savings or finance capital intensive purchases. Chen called this the "psychological factor," and argued this was responsible for the rise in purchasing and financing of agricultural equipment and farm implements after the land-to-the-tiller reform was implemented.³¹⁹ Though this may indeed be the case, as historian Emily Hill has argued, if one considers all the factors increasing overall annual yield in agricultural growth, the influence of land ownership incentives for capital improvement is still less than what she argues is the single most important factor in Taiwan (and China's) "Green Revolution": chemical fertilizer.³²⁰

In September 1949, as a special adviser to the Joint Commission on Rural Reconstruction (JCRR), Wolf Ladejinsky confirmed many of the points that Chen had outlined in his 1961 volume. Tenancy rates were too high, land too sparse, rent too onerous, and as a result, the Taiwanese farmer suffered. "Tenancy as an agrarian institution is not an evil, but it becomes one when tenancy conditions are heavily weighted in favor of landlord against tenant. Taiwan is a case in point," Ladejinsky wrote in a memorandum to JCRR Chairman, Jiang Menglin (蔣夢麟). In a tone markedly different from Chen's technical narrative, whose only venture into social awareness was limited to citing vague idealized notions of Sun Yat-sen or the Three Principles, Ladejinsky condemned the exploitation of the farmer in Taiwan in no uncertain terms. In Taiwan he perceived the potential for another communist uprising. "One does not have to be a believer in the theory that a man's economic position determines his social and political status, but this is certainly true in tradition-bound rural Taiwan." The result of this, Ladejinsky argued, is a permanent social divide (though Ladejinsky is clear to avoid "class" as a descriptor): "the attitude of the officials of every level toward the various types of farmers is also symptomatic of the fact that as long as the tenant continues to remain in the lowly economic position, the social barriers within the community will persist." Unchecked, it would become a "fertile ground for political extremism and civil dissension."³²¹

³¹⁸ Hsu, Xu, and Xiao, "The Impacts of Class Differentiation and Cultural Construction on Post-War Land Reform in Taiwan," 2.

³¹⁹ Chen, *Land Reform in Taiwan*, 84.

³²⁰ Emily Hill, "Rice Supplies and the Chinese-American Partnership in Taiwan, 1950s" (Queen's University, 2011).

³²¹ Ladejinsky, *Agrarian Reform as Unfinished Business*, 110–12.

On a following trip to Taiwan in 1951, Ladejinsky remarked that there was significant improvement for the farming population of Taiwan. The government had reduced the “rural burden of taxation” by overseeing an increase in commodity prices for rice and sweet potato (thus increasing incomes for rice and sweet potato farmers) relative to other commodity goods. Ladejinsky continued to liaise with Chen Cheng and push for further political reform.³²² Unfortunately, just a few years later in 1954, Ladejinsky was forced out of his role with the Foreign Agricultural Service.³²³ Land reform continued onward without Ladejinsky in other American Cold War allied nations like Vietnam, Indonesia, and the Philippines, but unlike Japan or Taiwan, land reform largely was unable to enact meaningful change to challenge the power of landlords and benefit farmer livelihood.³²⁴

Taiwan’s success with land reform began to be seen as a special circumstance. US President Dwight D. Eisenhower, in a speech to a rally in Taipei in 1960, proclaimed:

A great economic accomplishment of the past ten years was your program in land reform. Due to its fair and democratic conception and execution it has become a model for similar reforms in other lands. It dealt successfully with one of the fundamental problems the Chinese people have faced throughout history. Moreover, in it you achieved much more than a fair and equitable adjustment--you produced both social dynamism and economic growth. That reform, founded on Sun Yat-Sen's three peoples principles and executed with due regard for law and for private property, stands in sharp contrast to the brutal regimentation of your countrymen on the mainland. There they are often herded into the soul-destroying labor brigades of the Commune System. But free China knows that a system in which the farmer owns the land he tills gives him the incentive to adopt advanced fertilization, irrigation and other farming techniques.³²⁵

Deconstructing land reform to separate narrative from historical context is not an easy task. It is difficult to dispute, however, either through oral history interviews or quantitative surveys, that land reform was a success in Taiwan. It was implemented and continued to maintain land ownership among farmers, staved the return of absentee landlords, and contributed to a meteoric rise in agricultural production (and arguably to the subsequent rise in industrial growth — the idea that agricultural productivity frees up agricultural labor for industrial labor). But the question of what its exact driving motivations were is more muddled. Nonetheless, the subsequent twenty five years, from roughly 1950 to 1980, crystallized a narrative of land reform as miraculous. Whether for

³²² Letter from Wolf Ladejinsky to Raymond Moyer, August 21, 1951. Oberlin College Archives, Raymond T Moyer Collection, Series 2, Box 1, “Correspondence (Incoming and Outgoing), 1948-1953”

³²³ Though historians like Nick Cullather have attributed this to the rise of McCarthyism and the linking of Ladejinsky’s more radical ideas of land reform with communism, documents from his correspondence with close friend and personal confidante Raymond Moyer show that the case was more complicated, involving alleged insider trading, specifically his purchase of shares in a subcontractor awarded by the Foreign

Operations Administration and through his advice.” Oberlin College Archives, Raymond T Moyer Collection, Series 2, Box 1, “Correspondences.” Cullather, *The Hungry World*, 94.

³²⁴ For Vietnam, see Conrad, “Before It Is Too Late.”. For the Philippines, see Immerwahr, *Thinking Small*.

³²⁵ <http://www.presidency.ucsb.edu/ws/?pid=11832>

the purposes of fighting communism, economic growth, or state consolidation, land reform would become the panacea for economic, social, and political ills. More importantly, because Taiwan was one of the few countries to claim it was able to successfully implement and maintain land reform, it became one of the formative elements of the Taiwan development model, as advertised to the Third World.

The Land Reform Training Institute

The watershed moment for Taiwan's internationalization of development with regards to land reform arrived in 1966 with the World Land Reform Conference. In 1963, the United Nations Economic and Social Council's Social Commission began to undertake studies on land reform, publishing a Report on the World Social Situation containing information on land reform in Asia, Africa, the Middle East, and Latin America. These interests filtered to the United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas and finally to the UN Food Agriculture Organization (FAO), where during a conference convened in its twelfth session, FAO Director B.R. Sen was asked to organize another conference specifically on the issue of land tenure and agrarian reform programs. This culminated in resolution 1078 to organize the 1966 World Land Reform Conference, co-sponsored by the UN, FAO, and International Labour Organization, held in Rome.³²⁶ Representatives from 81 countries and territories and 19 international NGOs attended the conference, including a majority from "less developed countries." Philippe de Seynes, the UN Under Secretary for Economic and Social Affairs, traced the intellectual lineage for the 1966 conference back to Wisconsin, and FAO Director Sen began the meeting by stating that there was a "veritable crisis in the world food and agriculture situation."³²⁷

According to one account by a participant from the University of Hartford, historian and political scientist James R. Brown, the conference started with an overall theme of pending Malthusian doom, the idea that population was rapidly growing in the Third World while agricultural productivity was relatively level. In moving toward solutions, speakers like Professor D.G. Kare, adviser to the Reserve Bank of India, argued the conference should remain a technical one. This raised the ire of the representative from the Soviet Union, Professor Lebanov, as well as Belarussian and Polish representatives, who argued that land reform was fundamentally a social and political subject. The debate ballooned into a miniature Cold War of ideologies. In Brown's words, the Soviet bloc representatives co-opted the conference to serve as a platform for their agenda, attempting to sway representatives from the Third World that land reform was a naive endeavor and "nothing could be done about land reform or changing land tenure unless the whole form of government was changed."³²⁸

³²⁶ James R. Brown, "World Land Reform Conference," in *1966 International Seminar on Land Taxation, Land Tenure, and Land Reform in Developing Countries* (Hartford: John C. Lincoln Institute, University of Hartford, 1967), 88–91.

³²⁷ *Ibid.*, 92.

³²⁸ *Ibid.*, 97.

Despite the objections from Communist state representatives, the resolution and discussions of the conference produced a number of tangible discussions regarding best practices of land reform. In instances where land reform was understood in social contexts, societal factors were understood as technical in nature. For example, almost all delegates understood that there was a “complementary relationship” between land reform and community development or “peasant organization” (according to Brown, a wide ranging definition for groups ranging from “home economic clubs of peasant women” to “highly organized peasant syndicates”) but as Brown portrays it, there was “considerable disagreement” regarding whether community development was a precondition or result of land reform.³²⁹ This chicken and egg conundrum seemed to belie arguments about the social or technical nature of land reform itself. If community development preceded land reform, likely the emphasis was first on the social — community development, as historian Daniel Immerwahr has argued, was “an effort to shore up small-scale social solidarities, to encourage democratic deliberation and civic action on a local level, and to embed politics and economics within the life of the community.”³³⁰ Thus the village and the peasant became the primary agents of importance, and it was through their organization and power that reform could be enabled. In the latter case, if land reform preceded community development, then it appears that the peasants were the objects, formerly locked into untenable situations, and freed through breaking the shackles of tenancy.

The issue received little more than a few sentences of discussion from Brown, but its treatment by Brown was undeniably technical. Instead of reconciling the importance of discussing which preceded which, land reform or community development, Brown provided the analysis that “organized peasant movements have proven helpful in overcoming [legal] obstacles” to land reform that may be initiated by vested interests, and afterward can “also help to integrate the new land holders into their communities and cooperatives.”³³¹ What had been an entire school of thought for a number of rural sociologists about communitarianism and the value of local village communities thus became merely a catalyst for ensuring that the formula for land reform could be carried out more efficiently.

The conference further brought land reform under the umbrella of technical development practices through its resolution. After a unanimous vote at the Plenary Session, the conference recommended that the UN and FAO begin to organize conferences and workshops on land reform, provide assistance to countries requesting it for land reform planning and implementation, publish further studies and reports on land reform, increase visibility of land reform at future conferences of the FAO, Social Commission of the UN, etc., and finally, encourage “all the developed nations to extend adequate economic and technical assistance, on request, to the developing countries in land reform and related fields” and “the exchange of experts, personnel, and trainees in the field of

³²⁹ Ibid., 109.

³³⁰ Immerwahr, *Thinking Small*, 4.

³³¹ Brown, “World Land Reform Conference,” 109–10.

agrarian reform” among UN members.³³² The final recommendations of the conference set land reform as one of the major agendas for international development in the international organization space. This internationalization of land reform created new opportunities for “developed nations” to gain a foothold in the international arena, especially in the highly contested political space sensitive to both communist and non-communist nations and crucial to the struggle for influence within the Third World.

As part of the conference goal, member countries contributed working papers, usually based on their experiences with land reform, to share with other delegates at the conference. The representatives from the Republic of China submitted a paper based off of the history of land reform in Taiwan. Highly technocratic in nature and resembling an abridged version of Chen’s *Land Reform in Taiwan*, it differed not in its basic narrative but rather further deviated from Chen’s 1961 book through an even more divergent historical redrafting of land reform. The report began with the obligatory nod to Sun Yat-sen’s *sanminzhuyi*: “the policies and programs of land reform implemented in Taiwan by the Government of the Republic of China are based on the teaching of Dr. Sun Yat-sen, Founder of the Republic,” which advocated that “the State shall have the supreme power in disposing land and that all unearned increment from the land shall be enjoyed by the public.”³³³ This claim regarding the “principle of the Equalization of Land Rights” was mildly deceptive, of course. Sun’s elaboration of land reform, though supposedly in service of the People’s Livelihood, did not elevate the rights of the state to seize land beyond fair recompense, the value underlying the derived taxes, and did not benefit the common citizen beyond ensuring that landowners paid taxes on their land to the state. It continued onward with obeisance to then-dictator of the ROC on Taiwan, Chiang Kai-shek, to claim that these policies were enacted by Chiang in Zhejiang in 1927, an unlikely occurrence given that Chiang was in the midst of the Northern Expedition to reunify China under his control and attempting to consolidate his power in collaboration with the very urban industrialists of Zhejiang who would be the wealthiest landowners. Like Chen, it identified the source of land reform as the 1930 Land Law dictating the 37.5% rent ceiling, and went further than Chen to argue that the 375 policy, among others of the 1930 Land Law (progressive land taxation, compulsory purchase of excess tenanted land for resale to tenants, maximum size limits of tenanted land, etc.) were implemented in Zhejiang, Jiangsu, Hubei, Fujian, Guangxi, Guizhou, and Sichuan, but were “frustrated by the long and continuous wars between the Government on one hand and the warlords, Communists and Japan on the other.” It further remarked that “these reforms therefore passed unnoticed by the outside world”³³⁴.

Like Chen and other reports at the 1966 conference, the report from the ROC produced a work that would be useful on a technical basis. The historical narrative contained policy specificities, contingency planning bases, and thoughts on proper

³³² Ibid., 120.

³³³ Chinese Delegation to the United Nations, “Land Reform in the Republic of China,” in *Readings in Land Reform*, ed. Sein Lin (University of Hartford, 1970), 304.

³³⁴ Ibid.

procedures and actions that would allow for it to be replicated in different contexts. As such, the renarrativization was not just for political stakes in shining a positive light on the achievements of the Kuomintang on Taiwan, but rather forging a new narrative that would become the basis for international development praxis. In describing the effects of land reform, for example, the economic payoffs were always prominently discussed, but social consequences too became salient. “Before land reform, rural poverty had caused social unrest and political disturbance in the rural areas.” After land reform, the report continued, “social justice was promoted and social order was stabilized. When the majority of the population are property owners, they eventually show more interest in community activities and social work.”³³⁵ “No matter how gradual and peaceful its implementation may be, [land reform] will inevitably involve a revision of the existing social organization and economic structure,” it continued. “Wealth, power, and status formerly monopolized by landlords will, after the reform, be shared by farmers who gradually become organized and powerful in the field of production and other activities.”³³⁶ To minimize the problem, the report called for the government to actively employ education and training to properly support these social groups as they shift into their new roles. In other words, land reform was not a social problem that called for a social solution. It was a technical problem that called for a technical solution, which the document embodied, and as a consequence of the solutions outlined by the 1966 report, technical solutions also had salutary effects for traditional society as perceived from the perspective of the modernizing state.

Furthering this rationale was the introduction of all sorts of state apparatuses through which the state would be able to rationally understand and map traditional societies — through land surveying, accurate counts of acreage and production yields and crop varieties — in a James Scott imagining of the realm of the modern state.³³⁷ In the case of the 1966 report, it recounted the bureaus created to help administer land reform: “the supporting programs consist of a wide range of activities...includ[ing] farm production, farm credit, land use improvement, water conservation and farmers’ organizations, etc.” These programs required the support of the Provincial Department of Agriculture and Forestry, the Provincial Water Conservancy Bureau, the Provincial Food Bureau, the Land Bank and the Cooperative Bank, etc., all “features” and institutions “common to the government organization in a unitary State. They seem to be one of the factors which contribute to the more effectiveness, efficiency and economy in the administration of public programs of the Government.”³³⁸ This transformation of what land meant to the state became subsumed as the defining modern logic under this newly refashioned land reform narrative. The technical then begat the modernizing, the rational, and the developmental.

³³⁵ Ibid., 307.

³³⁶ Ibid., 319.

³³⁷ Scott, *Seeing like a State*.

³³⁸ Chinese Delegation to the United Nations, “Land Reform in the Republic of China,” 309–11.



Photograph: Fourth from left (standing) is Shen Shike, present at the signing of an agreement between ROC Minister of Economic Affairs Li Guoding (seated, front left) and a representative of the Food and Agriculture Organization (FAO), December 22, 1967.³³⁹ Also present is JCRR Chairman Shen Zonghan, to the right of Shen Shike.

The first World Land Reform Conference brought not just a platform for the Republic of China to showcase its land reform efforts, it also put ROC land reform in contact with a number of American land reform scholars who at the same time were also collaborating with American philanthropists interested in the issue of land reform both domestically and abroad. Among these was the John C. Lincoln Foundation, named after its eponymous founder, and whose involvement was crucial in the establishment of the Land Reform Training Institute.

John C. Lincoln was an entrepreneur who started the Lincoln Electric Company in 1895. He invented the first portable welding machine, and Lincoln Electric became one of the leading firms producing portable welders and innovating arc welding, an industry that encountered insatiable demand especially during World War II. The result was rapid growth for the Lincoln Electric Company, rising to eventually become the largest arc welding company in the US by 1975 and the subject of a number of Harvard Business Review cases.³⁴⁰ In addition to his business acumen, Lincoln Electric became well known for its labor practices — despite not having any union workers, Lincoln Electric offered guaranteed employment, employee stock-ownership plans, and bonuses based on company revenues, all practices that were revolutionary at its time.³⁴¹

³³⁹ “1967年12月22日，經濟部長李國鼎先生與國際糧農組織（Food Agriculture Organization）代表簽訂世界糧食方案，農復會主任委員沈宗瀚先生（右五）、陶聲洋先生（右四）、楊家麟先生（左三）、省地政處長沈時可先生（左四）。” Academia Sinica. <http://ktli.sinica.edu.tw/profile%20image/forgien/un.html>

³⁴⁰ Garry Emmons, “Classic Cases Live On at HBS — HBS Working Knowledge,” August 15, 2005, <http://hbswk.hbs.edu/item/4949.html>.

³⁴¹ Ibid.

Outside of the Lincoln Electric Company, Lincoln founded the John C. Lincoln Foundation in 1946, dedicated to “teach and expound the ideas of Henry George, as they appear in his book, ‘Progress and Poverty.’³⁴²” Lincoln was a devout Christian who had written a book on his faith (*Christ’s Object in Life*), and biographer Raymond Moley has argued that Lincoln’s Christian faith defined his belief in the necessity of a “natural law” for economics, a way to “equalize opportunities” and “eliminate involuntary poverty.”³⁴³ Lincoln had read *Progress and Poverty* and subsequently believed in the possibilities of Georgist ideas on land taxation and ownership to help people in this manner. He began to contribute to the Henry George School of Social Science in New York and published a number of short pieces through the school on land, such as “Should Land Have Selling Value?” and “Stop Legal Stealing.”³⁴⁴ The mission statement for the Foundation included a quote attributed to John C. Lincoln, stating his belief that the Foundation should “through the dissemination of proven truth to change the standards of economic education and of public opinion, and thus contribute to a more just and productive life for free men and women.”³⁴⁵ As such, the Lincoln Foundation guiding principles included “a broad treatise on the science of economics,” an economics, it clarified, that expounded a “liberal” tradition that valued “economic liberty within nations” and “freedom of commerce and trade between nations.”³⁴⁶

The allure of Henry George for Lincoln and other Americans lay in George’s egalitarian vision for economic growth without trampling on property rights or opening the floodgates for exploitation. In the eyes of his followers, George was a middle ground between ruthless laissez faire capitalism and the radical communism of Marx. But Henry George never took hold in the academic or policy mainstream and instead enjoyed popularity largely among the lay population — readers like John C. Lincoln who had little influence in Washington, D.C.

As contemporary economist Phillip J. Bryson has argued, George had been historically marginalized because of his utilization of classical economics at a time when neoclassical economics became the new paradigm in academic and policy circles, or as Bryson has phrased it, “as George presented his theory to the world, classical theory was already doing its best to

slip quietly into the dustbin of history.”³⁴⁷ Furthermore, George’s lack of formal academic training did not aid his being taken seriously among other economists, and some scholars such as Bryson have even gone so far as to argue that George’s popularity in spite of his lack of training garnered jealousy among professional economists. But it was likely the controversial “single tax,” what Joseph Schumpeter called a “policy panacea,” the

³⁴² “The Lincoln Foundation,” 1963, p. 8. Box 1. Lincoln Institute Collection, University of Hartford Archives.

³⁴³ Raymond Moley, *The American Century of John C. Lincoln* (Duell, Sloan and Pearce, 1962), 153.

³⁴⁴ *Ibid.*, 163.

³⁴⁵ “The Lincoln Foundation,” 1963, p. 7. Box 1. Lincoln Institute Collection, University of Hartford Archives.

³⁴⁶ “The Lincoln Foundation,” 1963, p. 8. Box 1. Lincoln Institute Collection, University of Hartford Archives.

³⁴⁷ Phillip J. Bryson, *The Economics of Henry George: History’s Rehabilitation of America’s Greatest Early Economist*, 1st ed (New York: Palgrave Macmillan, 2011).

“nationalization not of land but of the rent of land by a confiscatory tax,” that made George such a polarizing figure.³⁴⁸ The “single” aspect of the single tax made it particularly unappetizing for policymakers — George argued that all taxation should be abolished save that on land, a rather radical solution that became less feasible as the modern nation-state evolved in the late 19th and 20th centuries to depend on multiple sources of taxation for its revenue.

Yet Georgists found this exact aspect to provide an answer to a problem that George first recognized in the 1870s, the problem from which the title of his book is derived, which is why poverty increases despite overall progress in wealth. In *Progress and Poverty*, George argued that “poverty deepens as wealth increases, and wages are forced down while productive power grows, because land, which is the source of all wealth and the field of all labour, is monopolised.”³⁴⁹ George came to this conclusion after spending significant time in California and seeing the monopolization of land in advance of railroad construction by the Central Pacific Railroad. In combination with speculation and railroad subsidies, ownership of land granted a select few private parties enormous wealth as railroads increased overall productivity, but the wage laborers saw none of this wealth. The next step, George argued, was the understanding that land should be owned by all: “The equal right of all men to the use of land is as clear as their equal right to breathe the air — it is a right proclaimed by the fact of their existence.”³⁵⁰ Thus, private ownership of land led to what George argued to be “the enslavement of labourers,” since the “ownership of the land on which and from which a man must live, is virtually the ownership of the man himself, and in acknowledging the right of some individuals to the exclusive use and enjoyment of the earth, we condemn other individuals to slavery.”³⁵¹ The idea that private ownership of land is inherently unnatural and exploitative formed the basis for his theory.

The solution that George outlined was the single tax, a method he devised to avoid the dispossession of land from any landowners yet still accomplishing his goal of ending exploitation and inequity. The single tax called for the abolishment of all taxes except for one single tax on land value, and this tax would provide economic fruit for everyone, or as George argues, through this manner in effect “land, no matter in whose name it stood, or in what parcels it was held, would be really common property, and every member of the community would participate in the advantages of its ownership.”³⁵² He believed that the single tax “in every civilized country, even the newest” would produce revenue “sufficient to bear the entire expenses of government.”³⁵³ Moreover, taxing landowners would take the burden of taxation off the laboring classes. And finally, a single tax would be simple to collect administratively, reducing the size of government by freeing it from the duties “to prevent and punish evasions, to check and countercheck revenues drawn from so many

³⁴⁸ Quoted in *Ibid.*, 6.

³⁴⁹ Henry George, *Progress and Poverty* (Cosimo, Inc., 2005), 234.

³⁵⁰ *Ibid.*, 240.

³⁵¹ *Ibid.*, 246–47.

³⁵² *Ibid.*, 288.

³⁵³ *Ibid.*, 288–89.

distinct sources.”³⁵⁴ It appealed to those, who like George, harkened to the ideals of Herbert Spencer and Jeffersonian democracy.³⁵⁵

George did not make his appeal of a single tax merely for the benefit of the laborers whom he perceived to be suffering under land monopolization. His greatest appeal was to the policymakers, that “the rise of wages, the opening of opportunities for all to make an easy and comfortable living, would at once lessen and would soon eliminate from society the thieves, swindlers, and other classes of criminals who spring from the unequal distribution of wealth.”³⁵⁶ In other words, George argued that single taxation had the secondary benefit of improving societal welfare through its ability to provide for the basic necessities of those who would otherwise turn to crime. It was a pragmatic argument, on the basis that a rising tide would lift all boats, but also one that appealed greatly to the development experts of the mid-Cold War who were concerned with the betterment of societies in the Third World.

The Lincoln Foundation operated largely within the confines of the United States to implement its vision of applied Georgism. An example of its early projects in disseminating Georgist ideas through education included funding an adult school for economics, the Lincoln School of Public Finance, in Claremont, California. But it was after John C. Lincoln passed away in 1959, that his youngest son, David Lincoln, took over as the President of the Foundation³⁵⁷ and began to seriously engage university faculty interested in land reform and look outward to bring Georgism to the rest of the world. In 1966, the same year as the first World Land Reform Conference held by the United Nations, the John C. Lincoln Foundation funded a new institute at the University of Hartford for the promotion of Georgist land reform studies: the John C. Lincoln Institute. Initially coordinated to help fund various seminars and studies, it officially became a school in 1974, the Lincoln Institute of Land Policy, before being finally merged with the John C. Lincoln Foundation in 2006 to become a single foundation and study institute.³⁵⁸

Selected to run the Lincoln Institute as its director was land economist Archibald Woodruff. Woodruff earned his PhD in economics from Princeton, then taught at University of Pittsburgh, and became dean of the School of Government at George Washington University. In 1965, just a year prior to the founding of the Lincoln Institute, he joined the University of Hartford as provost. In 1967, he became the chancellor of University of Hartford, a post he served (though its position was changed to president) through to his retirement in 1977.³⁵⁹ An academic and in university administration, Woodruff was in a position to leverage his intellectual interests in Henry George into a

³⁵⁴ Ibid., 320.

³⁵⁵ Ibid., 322.

³⁵⁶ Ibid., 320.

³⁵⁷ { | anon. The Lincoln Legacy | History, no date | | zu:50765:24S8QRU3}

³⁵⁸ “About the Lincoln Institute of Land Policy,” accessed May 13, 2015, <http://www.lincolninst.edu/aboutlincoln/>.

³⁵⁹ Thomas W. Ennis, “Dr. A. M. Woodruff, Economist,” *The New York Times*, August 28, 1984, sec. Obituaries, <http://www.nytimes.com/1984/08/28/obituaries/dr-a-m-woodruff-economist.html>.

position of academic power, and through the funding of the Lincoln Foundation, into international soft power.

Woodruff was perhaps unique for having been an advocate of Georgism as an academically trained economist. By the 1960s, when Woodruff was in the prime of his career as a professor, Georgism had fallen to the wayside along with most other classical economic theorists. Yet Woodruff attempted to revive Georgism for the Cold War world, as an American response to Karl Marx and the influence of communism internationally. In a paper titled “A Comparison Between Henry George and Karl Marx in their Approach to Land Reform” first presented at University of Hartford in 1966 (and in 1970 republished by the University of Hartford in a volume of essays on land reform), Woodruff established an explicit contrast between George and Marx. “Karl Marx and Henry George,” he began, “alike in odd ways and totally different in others, were both utopians. Each was deeply outraged at the evil he saw in the world about him, each had a vision of a better society, each prescribed a remedy for the world’s ills and each crusaded for his cause.”³⁶⁰ The parallels Woodruff established helped burnish George’s credentials as a sympathetic figure whose views on social inequality were similar to Marx’s.

Part of Woodruff’s paper reads as an exegesis of classical economics. He began with the common theoretical foundation for both Marx and George, which is Ricardo’s posited relationship between labor and wages, capital and interest, land and rent, and finally, entrepreneurship and profits. Woodruff explained that George adopted Ricardo’s interpretation of the “Iron Law of Wages,” that real wages tended in the long run to decrease to a minimum necessary for sustenance, as the primary assumption of the aforementioned relationships. At the same time, Woodruff also crafted an intellectual history of both Marx and George. He argued “each was inflamed with moral indignation over the fact that the rich grew ever richer while the poor grew no less poor,” with Marx witnessing this event in Germany, Paris, and London, and George in California.³⁶¹ This indignation over growing wealth inequality drove and informed both thinkers to consider the underlying economic causes for inequality.

Furthermore, he portrayed George as every bit as intelligent as insightful as more prominent economists, emphasizing that George was once invited to lecture at the University of California, and then implied the reason for George’s outsider status was his willingness to critique economics as a discipline. Woodruff wrote “The main trouble with economics, George specified, lay in the fact that theory fell short of the natural usefulness of the subject. Worst of all, economics had arrayed its *laissez faire* [sic] ideas against improvement and reforms in behalf of the working classes.”³⁶² Woodruff was an iconoclast for having the courage to stand against mainstream economics to give voice to the laboring classes, almost like an American Karl Marx. The difference, then, was not their experiences with societal problems or their turn to economics to understand the problems,

³⁶⁰ Archibald Woodruff, “A Comparison Between Henry George and Karl Marx in Their Approach to Land Reform,” in *Readings in Land Reform*, ed. Sein Lin (University of Hartford, 1970), 1.

³⁶¹ *Ibid.*, 4.

³⁶² *Ibid.*, 13.

but rather their philosophical beliefs as to who to resolve this inequality. And here, the difference Woodruff argued, laid in practicality and revolution.

Woodruff depicted the contrast between Marx and George as one of prescribed solutions. According to Woodruff, George “opposed revolution just as much as he opposed entrenched landlords.”³⁶³ Marx, on the other hand, “left no blueprint for actions,” or as Woodruff put it more aptly, “Marx’s thinking stopped on the day of revolution.”³⁶⁴ Revolution would lead to utopia in Marx’s world, and utopia was in reality left to the hands of improvised revolutionaries like Lenin who were willing “to use almost any tactics to keep control of the revolution.”³⁶⁵ With Woodruff citing fifty years of communist control in Russia, he concluded that Marxism may have been the “basic scripture of Communism,” but actual rule stemmed from the pragmatism of the Marxians in power. These resulted in situations where the peasantry who were “hungry” for revolution, instead suffered as “Stalin liquidated the peasantry with a kind of cheerful brutality hardly matched in all history.”³⁶⁶ In other words, Marx may have been concerned about the laboring classes, but his solution left power to those whom history had proven to betray the farmers and laborers who were supposed to benefit.

In contrast, Woodruff wielded economic history for the purpose of rehabilitating George’s single tax. Woodruff summarized the intellectual battle instigated by Henry George’s single tax idea in the United States. Critics of George challenged the basic premise of his interpretation of the Iron Law, that progress necessarily entailed poverty and that rent on land did not in fact absorb the benefits of progress, while also arguing that a single tax on land was foolhardy in that it was inelastic and unresponsive for public fiscal needs.³⁶⁷ Woodruff argued that though the single tax was not practical in contemporary times, it did effect a number of positive outcomes, including more complicated means of assessing property taxes (based on carefully calculated depth tables and corner influence tables), as well as spawning the social reform movement led by idealists such as Carry Nation, Frances Willard, Eugene Debs, and the Garrisons. And while other tax sources were necessary, Georgism was still applicable after it “had matured into much modulated advocacy of the site value tax,”³⁶⁸ which had the same benefits as George’s single tax in that it 1) was efficient, 2) discouraged letting land go unused or underused, and 3) encouraged urban land use, thus reducing urban sprawl and speculation. He cited the benefits of a “heavy progressive land tax” as having been responsible for “the breakup of huge estates” in Australia and New Zealand, and furthermore cited “a similar land reform” occurring in the “Island of Formosa” (Taiwan³⁶⁹).

³⁶³ Ibid., 18.

³⁶⁴ Ibid., 9.

³⁶⁵ Ibid.

³⁶⁶ Ibid., 9–10.

³⁶⁷ Ibid., 19.

³⁶⁸ Ibid., 21.

³⁶⁹ Ibid., 22.

In short, the basic gist of Woodruff's argument was that Georgism provided a rational and mild alternative to the uncontrolled revolutionary radicalism of Marxism for the world. And that while it may be difficult to implement a Georgist "tax solution" because "in most under-developed countries a small power elite controls the machinery of government and will not acquiesce in any reform program which would involve their fiscal detriment," in fact, Woodruff pointed out, "experience would indicate that most elite power groups are also intelligent and as such aware that while fiscal reform may indeed curtail some of their privilege, it lacks the total completeness of the guillotine." Marxism was an alternative that was absolute in its revolutionary fervor, and in the cases where Marx was entering the hearts and minds of the agrarian populations, Georgism offered a genuine solution to alleviate inequality while allowing developing world elites to keep their heads.

Under Woodruff's guidance, the first seminar funded by the new Lincoln Institute was the Hartford Seminar on Land Taxation, Land Tenure and Land Reform in Developing Countries in 1966.³⁷⁰ The seminar brought together academics and bureaucrats from a number of institutions and countries — Australia, the Vatican, Denmark, Jamaica, University of Bombay, the United Kingdom, University of Oregon, FAO, University of Ghana, Venezuela, London School of Economics, and of course, the Republic of China — to discuss issues of land taxation, tenure, and reform. And it was at this seminar where an opportunity emerged for Woodruff and the Lincoln Foundation to put their Georgist ideas into actual implementation for their development world ideals.

The ROC representative was Shen Shike (沈時可 or Shih-ko Shen), the director of the Taiwan Provincial Government Land Bureau (*taiwan sheng dizheng ju* 台灣省地政局). Shen had been a local land administrator on the mainland with the KMT before moving to Taiwan as director of the Land Bureau there in 1946. Having overseen the actual administration of the various land reform laws, Shen became an ambassador for land reform abroad by the late 1960s, representing the ROC at conferences like the one held at University of Hartford by the Lincoln Foundation, as well as land reform missions to countries like Iran in 1967.³⁷¹ At the University of Hartford 1966 Seminar, Shen presented a paper titled "Land Taxation as Related to the Land Reform Program in Taiwan" detailing the recent history of Taiwan's land reform to a University of Hartford audience. Beyond the value of its content to historical representation of land reform, the presentation was also the beginning of a political, business, and intellectual relationship between the Republic of China and the Lincoln Foundation.

Shen began his presentation paper with an array of remarkable statistics stemming from land reform in Taiwan: an increase in owner-cultivators from 58 to 87 percent (as

³⁷⁰ James R. Brown's aforementioned report from the 1966 World Land Reform Conference was presented here at this Hartford Seminar, whose papers were later compiled and published in a volume by the University of Hartford.

³⁷¹ Shike Shen and Ligeng Zhang, eds., *Taiwan Tu Di Gai Ge Wen Ji* [臺灣土地改革文集] (Taipei Shi: Nei zheng bu, 89), 15., "Taipei Mission To Help Land Reform in Iran," *Taiwan Today*, September 10, 1967, <http://www.taiwantoday.tw/ct.asp?xItem=156382&CtNode=451>.

opposed to tenant farmers), increase in land ownership by owner-cultivators from 57 to 90.6 percent, a 259.6 percent increase in the average income of farmers, and an astounding rise in standard of living of 346.8 percent (though no methodological footnote provided as to how this was calculated). But farmers were not the only ones to benefit. Landlords saw an equally impressive gain of 307 percent increased income, while overall agricultural productivity grew 110.2 percent. Most importantly, industrial productivity increased 322.4 percent, a result Shen attributed to the increase in number of landlords engaged in commerce and industry of 128.9 percent.³⁷² The dizzying heights of land reform made clear the stakes of Shen's paper — Taiwan was a success story of land reform, and land reform that contributed directly to the industrialization success of a third world nation upon which other success stories could be patterned.

Having already established the bona fides of Taiwan's land reform, the burden on Shen was explaining how land reform was accomplished successfully. To this end, the mythologizing of land reform history was once again redeployed for the purposes of explaining the origins of land reform. Shen harkened back, as Chen Cheng and other land reform luminaries, to "Dr. Sun Yat-Sen's theory of equalization of land rights and his 'land-to-the-tiller' doctrine."³⁷³ The specific phrasing of 'land-to-the-tiller' was of course a neologism reimposed upon Sun Yat-Sen — while Sun was an advocate of a more progressive form of land taxation that would allow for some income equalization (the "theory of equalization of land rights), the Three Principles of the People did not advocate for the land to the tiller (*gengzhe you qitian* 耕者有其田) that eventually became the lynchpin policy of Taiwan's 1950s land reforms. Aside from this single reference, however, Shen's exposition was largely historically accurate. Shen provided the standard narrative of rural land reform in the 1950s, beginning with rent reduction, sale of public lands, and finally the land to the tiller redistribution. In greater depth, he delved into Sun's idea of a land increment tax providing for local reconstruction and the public good, an idea borrowed from Henry George. As such, Shen's paper focused on aspects of land reform dealing specifically with taxation in rural and urban contexts.

In the urban context, Shen laid forth the foundations of taxation policy. True to Sun's outlines a half century earlier, the ROC had implemented a policy of self valuation that allowed landowners to determine the value of their land themselves, with the check being that the state was allowed to legally purchase the property at the self reported taxable value (and indeed the state performed its own valuations for this purpose). The policy streamlined administration of taxes. This complemented other land taxation policies, including progressive tax rates and varying special case taxes on vacant land, land for public use, and land transferred or sold, that all encouraged land development and maximized revenues.³⁷⁴

³⁷² A. M. Woodruff et al., eds., *International Seminar on Land Taxation, Land Tenure, and Land Reform in Developing Countries* ([West Hartford: John C. Lincoln Institute, University of Hartford, 1967), 305–6.

³⁷³ *Ibid.*, 305.

³⁷⁴ *Ibid.*, 323–30.

Shen's paper sparked a rigorous discussion from observers interested in the specifics of Taiwan's success. Woodruff raised the comparison of India to Taiwan, and specifically how Taiwan succeeded where India failed despite the underlying ideas of land reform being largely similar. (This topic would continue to interest him intellectually well into his retirement, as he had been working on a manuscript titled "Comparison of Socio-Economic Structures in Taiwan and India, Effects of Land Reform" that was then compiled and published posthumously in 1984.³⁷⁵) Shen replied that it was due to careful planning combined with a cautious and long term approach. M. L. Dantwala, a Professor of Economics at the University of Bombay, interjected at that point and pointed out the difference in size between the two nations where the "sheer magnitude of the scale of operations makes the task formidable," and the inability of the Indian state to focus on land reform as the ROC government did due to other urgent governance needs.³⁷⁶ He also pointed out the importance difference in starting points of farmers, a point that had been echoed by Shen in other publications.³⁷⁷ Another participant of the seminar, Yitzchak Abt, an Israeli agricultural counselor stationed in the Israeli Embassy at Venezuela, added further that "it is proximity to existing urban concentration which counts," emphasizing the importance of urban development to overall national growth.³⁷⁸ Indeed, additional doubts arose with regards to Taiwan's urban land reform, and specifically the policy of self-assessing land valuation. Daniel Holland at the Sloan School of Management at MIT added that in the Latin American contexts, few nations would be able to adopt the self assessment method because of the lack of "a 'credible threat' of enforcement" that would discourage landowners from underpaying taxes by undervaluing their land.³⁷⁹

Despite the issues raised regarding the portability of Taiwan's solutions to other contexts, Shen ended the discussion with a suggestion. He urged the participants that, "in view of the importance of the seminar and the contributions made by such outstanding participants, it would be well to consider the prospects of a permanent organization set-up to follow up these problems and for further research."³⁸⁰ Though Shen continued to provide suggestions in discussing other papers drawing upon Taiwan's experience, the official record did not contain a prolonged discussion of this idea, which would eventually come to fruition as a joint project between the ROC and the Lincoln Foundation — the Land Reform Training Institute.

A mere two years after the 1966 seminar held in Hartford, the Land Reform Training Institute (LRTI) was established in Taoyuan, Taiwan. Shen Shike, the Provincial

³⁷⁵ "Comparison of Socio-Economic Structures in Taiwan and India, Effects of Land Reform," 1984. Box 1. Lincoln Institute Collection, University of Hartford Archives.

³⁷⁶ Woodruff et al., *International Seminar on Land Taxation, Land Tenure, and Land Reform in Developing Countries*, 351.

³⁷⁷ See, for example, the importance of the Japanese legacy in Shen and Zhang, *Taiwan Tu Di Gai Ge Wen Ji* [臺灣土地改革文集], 18.

³⁷⁸ Woodruff et al., *International Seminar on Land Taxation, Land Tenure, and Land Reform in Developing Countries*, 352.

³⁷⁹ Ibid.

³⁸⁰ Ibid.

Government Land Bureau Director who had represented the ROC at the Hartford seminar two years earlier, had been corresponding with Woodruff in April 1968, to establish a “Land Reform Research Institute” (土地改革研究中心 *tudi gaige yanjiu zhongxin*) that would “allow other countries planning to undertake land reform or in the process of implementing land reform and experiencing difficulties to send representatives and undertake research” (俾使亦擬從事土地改革或已實施土地改革發生困難之國家，均可派員前來從事研究)³⁸¹. This was realized as a training institute, emphasizing the role the institution would serve in helping other developing nations.

For the Lincoln Foundation, an Institute hosted in the Third World by a successful case of land reform (one of the few internationally at the time) provided a compelling venue for enacting land reform internationally. Woodruff reiterated this, eight years after the founding of LRTI, when he proclaimed that demonstrations held in the United States “would mean little” to those from developing countries. Instead, in Taiwan they could “point out that twenty five years ago [the] island was primitive,” and thus “if the Republic of China could do it [land reform] with the resources it had, they [other developing countries] could also do it in their own countries.”³⁸² Furthermore, Taiwan was doubly appealing as the intellectual successor to Henry George. Through Chiang Kai-shek and the KMT regime’s continued obeisance to the Three Principles of Sun Yat-sen, the Lincoln Foundation believed that Taiwan carried the torch of Henry George into the modern era. For the ROC state, land reform provided another opportunity to showcase the abilities of the KMT regime in economic development and social improvement. The Lincoln Foundation recognized the political agenda of the ROC as well, and as a consequence influenced the selection of a Executive Secretary, the de facto director of the Institute, whom they perceived to be young, bright, and most importantly, not beholden to the political motivations of the KMT regime — none other than Shen Shike.³⁸³

Located in Taoyuan, approximately an hour outside of the capital of Taipei, the LRTI consisted of several buildings housing offices, dormitories, classrooms, and a library dedicated to providing formal instruction and training for Third World bureaucrats in land reform. The ROC and the Lincoln Foundation agreed to co-fund the LRTI (the ratio ranged from 70/30, respectively, to 50/50, during the first decade, depending upon the fiscal year), for a test period of three years, after which its existence would be contingent upon votes to renew its status by its Board of Directors.³⁸⁴

³⁸¹ April 8, 1968. Report by Shen Shike to Huang Jie, Chairman of the Taiwan Provincial Government. Archive Number 00502011309. Taiwan Provincial Government Committee Meeting Records, Taiwan Provincial Government Historical Records, Academia Historica, Digital Archives Taiwan. 典藏號:00502011309。臺灣省府委員會會議等會議檔案, 國史館臺灣文獻館, 國史館, 典藏台灣。

³⁸² Land Reform Training Institute Eighth Annual Meeting, October 15, 1976, Land Reform Training Institute Archives.

³⁸³ James C. Riddell, former Instructor with the Land Reform Training Institute and former Chief of the Land Tenure Service of the Food and Agriculture Organization, interview by author, 13 May 2013, International Center for Land Policy Studies and Training (Taiwan, ROC)

³⁸⁴ “Second Annual Report,” July 7, 1970, page 9. Land Reform Training Institute Archives.

The Board of Directors, belied the importance that the LRTI held to the ROC; its list of associated directors read as a “Who’s Who” in Taiwan’s development circles, pulling in from land economics academia and famous historical figures associated with land reform of the 1950s. It was co-chaired by Shen Zonghan (沈宗瀚), then also the Chairman of the ROC’s main agricultural development policy making body, the Joint Commission on Rural Reconstruction (JCRR; see Chapters 1, 2, and 3), and David C Lincoln, son of John C. Lincoln and head of the Lincoln Foundation. Also on the board was Li Guoding (李國鼎, K.T. Li), the famous Minister of Economic Affairs who was the public face of Taiwan’s industrial development policy; Xiao Zheng, the aforementioned land economics (*dizheng*) intellectual who had co-authored with Chen Cheng the authoritative history of land reform in Taiwan during the 1950s, and by 1968 headed his own institute, the Director of the Chinese Research Institute for Land Economics, as well as Chairman of the Board of Directors for the Land Bank of Taiwan, which had been charged with underwriting the land bonds that were crucial in the land-to-the-tiller reform; and Pan Lianfang (潘廉方, L. F. Pan), former legislator in the Legislative Yuan and also an ROC representative of land reform who had served on the ROC land reform mission to Iran with Shen Shike in 1967. On its Executive Committee, in charge of actual administration, included as Co-Chairmen Shen Shike, whose official title was Executive Secretary, and Archibald Woodruff. Also sitting on the committee were representatives from the Lincoln Foundation, JCRR, the Taiwan Land Bank, the Council for International Economic Cooperation and Development (CIECD, the equivalent policy making body of JCRR for economic development, and headed by Li Guoding)³⁸⁵.

In essence, the intellectual and historical threads that had been evolving into various schools and historical narratives of land reform, each with their political goals and visions for how land reform would change the world, culminated here, at the LRTI. The land economics of Xiao Zheng, rooted in the idea that land reform was the child of Sun Yat-sen and the Guomindang revolution, with the hopes of the next generation of land economists like Shen Shike and Pan Lianfang, who sought to modernize the world in Taiwan’s image, and the enablers, Archibald Woodruff and David Lincoln, for whom Henry George and John Lincoln’s wishes could be fulfilled through the vessel of Taiwan’s land reform experience and expertise. The LRTI became the institution that would showcase Taiwan’s land reform successes to the world and provide them with the firsthand knowledge necessary to battle radical communism in their own backyards.

³⁸⁵ “What is the Land Reform Training Institute?,” undated (1971?), page 11, Land Reform Training Institute Archives.



Photograph: The Land Reform Training Institute building in Taoyuan, Taiwan, which was renamed the International Center for Land Policy Studies and Training in 2000. Picture taken by author in 2013.

In September 1972, the third year during which the LRTI ran training classes for international participants, Archibald Woodruff sent Alan S. Wilson, a retired vice chancellor of administration at the University of Hartford (and former director of the Hillyer Institute, one of University of Hartford's predecessor schools), as an outsider with no knowledge of land reform to observe a regular session of the LRTI in process.³⁸⁶ Wilson had been deeply impressed by the operation and execution of the LRTI. In a report written for the directors of LRTI and the Lincoln Foundation, he wrote "The progress the Institute has made is nothing short of remarkable. It is a fine, well-run school, already having made an impressive record of achievement."³⁸⁷ In response to the international events of the 1960s, Wilson argued that the LRTI should not forget its "international service goals":

Since 1968, several emerging countries in Africa and South America have encountered renewed attacks by Socialists and Communists aimed at taking over their governments. Farmers face a hopeless future without land reform. These countries cannot wait nor can they help themselves.³⁸⁸

The directive of the LRTI was to help the farmers against the global tidal wave of communism, against which Wilson, like his colleague Woodruff, believed they were helpless. This emphasis on its goal defined the course curriculum.

The LRTI curriculum was structured around sessions of two types: regular, lasting eight weeks (initially eleven weeks then shortened in accordance with participant

³⁸⁶ "Mary S. Wilson, 90," *Hartford Courant*, May 29, 1999, http://articles.courant.com/1999-05-29/news/9905290225_1_county-ywca-mary-wilson-alan-wilson.

³⁸⁷ Alan S. Wilson, "Suggestions for LRTI" (draft manuscript), undated (1972), page 4. Folder "Land Reform." Box 1. Lincoln Institute Collection, University of Hartford Archives. Final draft in Alan S. Wilson, "A Report to the Board of Directors of the Land Reform Training Institute," undated (1972), Land Reform Training Institute Archives.

³⁸⁸ "Suggestions for LRTI," undated (1972), page 4. Folder "Land Reform." Box 1. Lincoln Institute Collection, University of Hartford Archives.

feedback) and recurring on a regular basis, and short, one-off sessions that were tailored toward special missions (usually of single national origin and similar social/professional background, i.e. For a group of Vietnamese farm leaders). The regular session served the core mission of the Institute in providing training in best methods of land reform for participants from developing nations throughout Asia (and starting in 1972, Latin America). LRTI set each session to have approximately thirty participants. Selection was accomplished through the recommendation of hosting departments from various foreign countries.³⁸⁹

As an example, the fifth regular session, held from March 15 to May 15, 1971, consisted of twenty seven foreign participants from Khmer (Cambodia), Brunei, Thailand, Vietnam, (South) Korea, the Philippines, and the US Trust Territory of the Pacific Islands. Participants were a mix of government bureaucrats, farm leaders (usually from farmers associations), and landlords. Titles and professions varied, but generally were related to land policy, administration, and economics. A random sample of the fifth session included an Assistant Agricultural Officer and Land Officer from Brunei; Assistant Chief of the National Tax Administration and a Cadastral Engineer from the Kyongki Provincial Government from Korea; a Land Reform Project Team Leader from the Land Authority in Quezon City and a Provincial President of a chapter of the Federation of Free Farmers in the Philippines; a Dikes and Ditches Project member of the Royal Irrigation Department and a Second-Grade Economist from the Ministry of National Development in Thailand.³⁹⁰

The inclusion of the various stakeholders was a fact that Shen Shike highlighted in his annual reports. Shen's Third Annual Meeting report claims that "the farmer leaders and priests from the Philippines reacted very favorably and suggested that the Institute invite more farmers to attend the course."³⁹¹ Though Shen undoubtedly desired to cast the feedback of participants in a positive light, the manner by which he chose to frame the positivity is telling. Namely, Shen emphasized the efficacy of land reform in changing the opinions of farm leaders, priests, mayors, and landlords. These were social classes outside of the authoritarian state, and in most cases internationally, the key leaders that policymakers sought to win over in order to achieve land reform through cooperation and not by force (a la the Communists). These were the same classes who were the erstwhile benefactors of Taiwan's land reform (at the expense of the state, so the narrative went), and that their revelations after attending LRTI were in accordance to the goals of Taiwan-styled land reform marked the success of the Taiwan land reform paradigm that Shen sought to market to the John C. Lincoln Foundation and other Americans and foreign development actors.

³⁸⁹ "What is the Land Reform Training Institute?," undated (1971?), page 17, Land Reform Training Institute Archives.

³⁹⁰ Shen Shike, "Third Annual Meeting," May 16, 1971. Pages 15-16. Land Reform Training Institute Archives.

³⁹¹ Shen Shike, "Third Annual Meeting," May 16, 1971. Page 4. Land Reform Training Institute Archives.



Photograph: A framed photo of the Fifth Session Commencement Ceremony, May 15, 1971. Picture taken by author in the LRTI Library.

The curriculum of the regular session focused on theories and best practices of land related topics with a significant number of courses based upon Taiwan's own history of land reform. The third session, for example, featured courses on the general purpose and theory of land reform, including "The Importance of Land Reform to Developing Countries," and others discussing general problems in implementation as well as land reform specifically in the context of Southeast Asian countries. The technical aspects of land administration were also taught: Cadastral Survey, Land Value Assessment, Land Taxation, Aborigine Land, to name a few.

Taiwan's success was featured heavily, and especially those aspects that curriculum designers perceived to be unique about the Taiwan case. Five courses were offered specifically on the history of land reform in Taiwan, ranging from a general course on land reform, to specifics about its political background, effects on farm economy, economic development strategy, and "Changes in the Social Aspect of Taiwan's Land Reform." The last reinforced the point that Taiwan land reform was primarily to effect social change, but the terms in which the curriculum was presented nonetheless made it clear that the practice was technical in nature. The course on the political background elucidated the "political principles underlying land reform in China," specifically modeled on the "3-phase implementation of land reform" that Taiwan had used in the 1950s to successfully

implement reform.³⁹² This represented a familiar trope now, that all success could be traced back to the founding father, Sun Yat-sen, and his political ideals.

To complement land reform, a series of courses were also presented on agricultural extension, on Farmer's Organization, the Land Bank of Taiwan, the Cooperative Bank of Taiwan (responsible for allowing low interest purchasing of fertilizer on credit, perhaps the single greatest input factor to Taiwan's agricultural productivity growth), and Irrigation Associations. Agricultural extension and the ability of Taiwan to disseminate/extract knowledge and correctly administer the distribution of water, credit, and fertilizer depended heavily on these local social organizations. Agricultural extension was the other interlocking piece with land reform to form the basis of the Taiwan agricultural miracle (see Chapters 3 and 4), and important for the ROC planners to convey for foreign participants. These were complemented by observation visits into the field to see land reform in action.³⁹³

Foreign scholars were invited to teach at the regular sessions. The first few regular sessions featured only a three scholars each, largely those associated with the Lincoln Foundation or University Hartford, including Archibald Woodruff and the Associate Director of the Lincoln Institute, Sein Lin. Starting with the Third Session, in pursuit of further internationalization, LRTI sought to diversify the visiting lecturers, including scholars and officials from FAO Rural Institutions Office, Iran Central Organization for Rural Cooperation, the Philippines Federation of Free Farmers, an agricultural economist from Thailand, and Japan's Asian Institute of Economics Affairs.³⁹⁴ Internationalizing its faculty meant the LRTI was able to claim greater authority over its land reform methods. Though it was based primarily on the Taiwan success narrative, it was also important to bring in alternative perspectives in order to demonstrate solidarity and wide applicability throughout the developing world.

Aside from the emphasis on the social cooperation and effects of land reform, the curriculum also highlighted and drew upon other aspects of Taiwan's 1950s history that put it in contrast with Communist land reform. One course sought to advise how "landlords [could] invest their capital derived from Land-to-the-Tiller Program," an aspect of Taiwan's 1950s land reform that was heavily advertised as having provided the capital for investment into Taiwan's nascent industries at the time, giving a much needed capital transfer from rural to urban economies, as well as creating a new social class of industrial capitalists who were rewarded for their "cooperation" in land reform with ostensible wealth.

Complementary to the training sessions, LRTI faculty were also sent abroad to evaluate and advise developing nations in land reform potential. These were conducted for a

³⁹² "What is the Land Reform Training Institute?," undated (1971?), pages 34-35, Land Reform Training Institute Archives.

³⁹³ Shen Shike, "Second Annual Meeting," June 25, 1970. Page 28. Land Reform Training Institute Archives.

³⁹⁴ "What is the Land Reform Training Institute?," undated (1971?), pages 23, Land Reform Training Institute Archives. Shen Shike, "Second Annual Meeting," June 25, 1970. Page 8. Land Reform Training Institute Archives.

number of reasons. One was political, in order for the ROC state to conduct development diplomacy with its developing world neighbors, who would send attendees on an annual basis. Another was to follow up on training that was initiated at LRTI and were to be continued with land reform implementation back in the trainee's native lands.

One such example was one of the many visits by Vietnamese groups, this time led by the Republic of Vietnam's (RVN) Director of Land Reform Bui Huu Tien in July 1970. Minister of Land Reform, Agriculture, Forestry and Fisheries Development Cao Van Than wrote subsequent to the visit in a letter to RVN Prime Minister Tran Thien Khiem of Taiwanese land reform. Cao described the Taiwanese model in terms laid out by LRTI curriculum, citing the Sun Yat-sen's *minsheng* (People's Livelihood), the 1950s narrative of three-stage land reform culminating in land-to-the-tiller, as well as the complementary vehicles to land reform in agricultural credit, farmers associations, agricultural extension, etc. In the report, he also attributes the success of Taiwanese land reform to several factors: 1) the state and its ability to mobilize "colossal human and material resources," 2) complementing land reform with "information, promotion, education at the correct level," 3) peace, and 4) complementary programs (see aforementioned list³⁹⁵). It is interesting to note that the first two are compliments to the ability of the ROC state to enact a modernist agenda. Mobilizing resources en masse and ensuring information dissemination were firmly in the realm of technocratic ability. Ultimately, though, peace may have been most crucial in securing the long term success of land reform, particularly when comparing Taiwan to war-torn Vietnam.

Just months earlier in February, the LRTI had hosted a group of 14 landlords from Vietnam. Shen wrote in the Second Annual Report that the landlords were deeply affected by what they saw.

These groups were all greatly impressed by what they saw and what they learned in Taiwan. After the landlords came back to Vietnam, the Land to the Tiller Act was passed. They told their people how their attitude toward land reform changed from objection to support after their visit to Taiwan. The mayors and the farmer leaders said that they would persuade the government to carry out land reform and arouse the farmers' attention to it.³⁹⁶

Shen portrayed the visit as a success in changing the minds of not just the farmers who would ordinarily be the primary benefactors of land reform, but instead for having changed the minds of landlords. Though Shen did not clarify the reasons for their change of heart, Shen's implication was that landlords saw something in Taiwan they liked to replicate in Vietnam, presumably using their compensation as investment capital in nascent industries. The small number of landlords who visited Taiwan, however, did not

³⁹⁵ 'Phiếu trình Thủ Tướng Chính Phủ về việc phái đoàn Việt Nam quan sát công cuộc Cải Cách Điền Địa tại Đài Loan và phái đoàn Đài Loan quan sát công cuộc Cải Cách Điền Địa tại Việt Nam' [Report to the Prime Minister regarding Vietnamese delegation's observation of land reform in Taiwan and Taiwanese delegation's observation of land reform in Vietnam], 24 September 1970, folder 27033, Phủ Thủ Tướng [Office of the Prime Minister], Trung Tâm Lưu Trữ Quốc Gia II [National Archives Center II], Ho Chi Minh City.

³⁹⁶ Shen Shike, "Second Annual Meeting," July 7, 1970, Land Reform Training Institute Archives.

likely account for a shift in public opinion. And land-to-the-tiller as a project was already gaining steam in Vietnam well before the visit to LRTI.

In August 1970, a month after Bui's visit, both Archibald Woodruff and Shen Shike were invited and traveled to South Vietnam. As part of their visit, they were present at land title issuing ceremony in Ba Tri in Kien Hoa province as part of the implementation of the new Land to the Tiller Act of 1970. Ba Tri, however, was notable as a model "pacified" district. As part of the US and RVN pacification campaign, Ba Tri received special attention through development support.³⁹⁷ It was likely that the ceremony in Ba Tri served an official showcase to demonstrate the benevolence of the regime in an attempt to win the hearts and minds of villagers. Though both the US and RVN governments pushed for a nationwide implementation of the 1970 act, it came arguably too late for Vietnam.³⁹⁸ Nonetheless, the report by Minister Cao still stated that Shen would do his best to make sure "the work that Vietnam had and was carrying out will be popularized/disseminated more effectively in Taiwan by him and his organization to obtain active material and spiritual support of the friendly countries of the free world."³⁹⁹

³⁹⁷ Richard A. Hunt, *Pacification: The American Struggle for Vietnam's Hearts and Minds* (Westview Press, 1995), 190.

³⁹⁸ Conrad, "Before It Is Too Late," 57.

³⁹⁹ 'Phiếu trình Thủ Tướng Chính Phủ về việc phái đoàn Việt Nam quan sát công cuộc Cải Cách Điền Địa tại Đài Loan và phái đoàn Đài Loan quan sát công cuộc Cải Cách Điền Địa tại Việt Nam' [Report to the Prime Minister regarding Vietnamese delegation's observation of land reform in Taiwan and Taiwanese delegation's observation of land reform in Vietnam], 24 September 1970, folder 27033, Phủ Thủ Tướng [Office of the Prime Minister], Trung Tâm Lưu Trữ Quốc Gia II [National Archives Center II], Ho Chi Minh City.



Photograph: LRTI Executive Secretary Shen Shike (left) welcoming South Vietnamese Minister of Land Reform, Cao Van Than (right), to LRTI⁴⁰⁰

By 1977, LRTI complemented Taiwan's overall development efforts and land reform became an integrated part of the Taiwan development model. JCRR Commissioner Jiang Yanshi (蔣彥士 Y.S. Tsiang) represented this best in a 1977 symposium honoring the centenary of the publication of *Progress and Poverty*. Speaking in front of audience of the major development bodies of Taiwan, JCRR and LRTI, as well as the Lincoln Institute and Academia Sinica, the central government-funded research center, Jiang reminded the audience in the welcome speech that "Since its founding, the Republic of China has considered land reform policy to be a major national goal." In a narrative that had become *de rigueur*, Jiang went on to discuss how land-to-the-tiller and equalization of land rights were two of the key programs of Sun Yat-sen's Three Principles of the People. He highlighted the 15 billion NTD "collected from the incremental tax of land value for social welfare collection" as a sign of the ROC's dedication, and praised Sun for putting "two different progressive ideas from the Chinese and the West into a concrete workable political principle."⁴⁰¹

Jiang's comments, in addition to those from David Lincoln, Archibald Woodruff, Xiao Zheng, Li Denghui and other scholars and development experts associated with land

⁴⁰⁰ "What is the Land Reform Training Institute?," undated (1971?), page 11, Land Reform Training Institute Archives.

⁴⁰¹ Lindholm, Richard and Sein Lin, ed. *Henry George and Sun Yat-sen: Application and Evolution of their Land Use Doctrine*. Cambridge: Lincoln Institute of Land Policy, 1977, p. 5.

economics and the Lincoln Institute were regularly published in Lincoln Institute publications destined for international audiences.⁴⁰² As with most of these publications, they portrayed land reform as an essential aspect of developing “economic efficiency and democratic political institutions.”⁴⁰³ One of the papers, by Chen Sun, produced a diagram to demonstrate how Sun Yat-sen’s Three Principles integrated the best parts of socialism and capitalism and created a middle path:

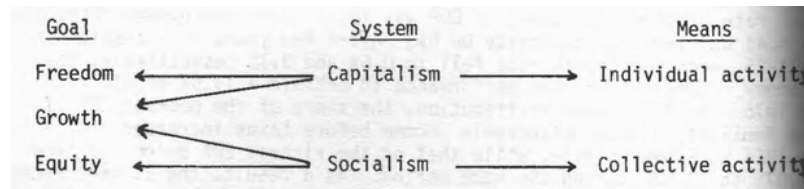


Figure: According to Chen Sun, under existing capitalist and socialist systems, only two goals could be accomplished: either freedom and growth, or equity and growth.

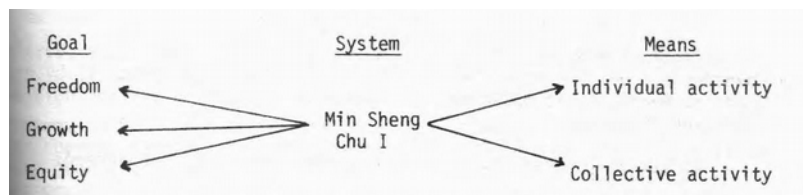


Figure: Under Sun Yat-sen’s *minshengzhuyi* (Principle of Livelihood, or *Min Sheng Chu I*), all three goals could be reached, through combining both individual and collective activities.⁴⁰⁴

The same diagram utilized by Chen Sun in the centenary publication was later reused in Li Guoding’s 1988 book, *Economic Transformation of Taiwan, ROC*.⁴⁰⁵ Unlike Chen’s paper, however, Li’s book reached a far greater audience. As the Minister of Economic Affairs (1965-1969) and later Minister of Finance (1969-1976), Li presided over the period of rapid economic growth in Taiwan, and thus became one of the most public figures of Taiwan’s economic transformation in the 1960s and 70s. His writings on economics have been well publicized, and for him the importance of *sanminzhuyi* and land reform was important for ensuring an “improvement in the distribution of wealth, increased access to education, and a greater social mobility,” an ideal he attributed to Confucius.⁴⁰⁶ This diagram illustrated the new ideological norm for the LRTI, that Sun Yat-sen and Henry

⁴⁰² Xiao Zheng authored a short paper on the use of Georgist taxation principles in the German concession of Qingdao, whose progressive taxation policies were “vitally important” but “unfortunately abolished” after the transfer of Qingdao to Japan in 1915. Lindholm, Richard and Sein Lin, ed. *Henry George and Sun Yat-sen: Application and Evolution of their Land Use Doctrine*. Cambridge: Lincoln Institute of Land Policy, 1977, p. 124.

⁴⁰³ Lindholm, Richard and Sein Lin, ed. *Henry George and Sun Yat-sen: Application and Evolution of their Land Use Doctrine*. Cambridge: Lincoln Institute of Land Policy, 1977, p. 4.

⁴⁰⁴ Lindholm, Richard and Sein Lin, ed. *Henry George and Sun Yat-sen: Application and Evolution of their Land Use Doctrine*. Cambridge: Lincoln Institute of Land Policy, 1977, p. 42-43.

⁴⁰⁵ Li, *Economic Transformation of Taiwan, ROC*, 409.

⁴⁰⁶ *Ibid.*, 402.

George provided a third way for the developing world, literally in-between the extremes of socialism and capitalism.

The LRTI also functioned as a host to visiting scholars funded by the Lincoln Foundation to perform research on land reform while being associated with LRTI. Theodore Reynolds Smith was one of these fellows. Smith graduated with a PhD in economics from Claremont Graduate University, specializing in land economics. As part of his appointment at the LRTI, he performed research and published a monograph with the Lincoln Institute at University of Hartford titled *East Asian Agrarian Reform: Japan, Republic of Korea, Taiwan and the Philippines*. The book was a primer to land reform in Asia. It covered the basics: why bother with land reform, different ways to accomplish it, and an analysis of results from the cases mentioned in the title. Though largely based upon secondary sources, Reynolds was representative of a type of literature that sought to publicize the Taiwanese case in the English language scholarship, while also inserting a Georgist influenced theoretical lens to contextualize its success in the Cold War.

East Asian Agrarian Reform was written for a general audience, and in its narrative of 1950s land reform, borrows some from the English language publications of Xiao Zheng and Chen Cheng. Its narrative began, predictably, with Sun Yat-sen as the Three Principles of the People, which then led to the Land Law of 1930 and its amendment in 1946. It included quotes from Xiao Zheng, referenced as “one of the leading authorities on Chinese land tenure,” in a discussion of how the Guomindang had attempted land-to-the-tiller reform in the face of the Communist Civil War. Yet it diverges in a more realistic assessment of why the GMD turned to land reform, namely its failure in comparison to the fervor that the Chinese Communists had for land reform. (And here Smith quotes William Hinton’s *Fanshen* as evidence of Communist success at land reform). For Smith, then, land reform on Taiwan became a way to reconcile that failure, as well as a means through which the GMD “could remove the landowners from their role of political prominence in village life.”⁴⁰⁷

Smith was also skeptical of the official Taiwanese narrative in his analysis of Taiwanese claims that landlords successfully transitioned from landowners to industrial capitalists, citing a study performed by National Taiwan University in 1965 arguing that 98% of ordinary and 90% of large landowners sold their stock holdings that they received in compensation for seized lands.⁴⁰⁸ Smith concluded that “the initial corporation ownership experience of the majority of Taiwanese landowners was much less rewarding than had been the holding of land. To some extent this experience served to alienate many former landlords from an industrial system which actually offered a tremendous potential for economic gain.”⁴⁰⁹ Nonetheless, that did not stop Smith from still recommending the Taiwan case as a success and its ability to “serve as a model for all those concerned.”⁴¹⁰

⁴⁰⁷ Theodore Reynolds Smith, *East Asian Agrarian Reform: Japan, Republic of Korea, Taiwan and the Philippines* (Hartford, Conn, 1970), 17, <http://catalog.hathitrust.org/api/volumes/oclc/2022508.html>.

⁴⁰⁸ Ibid., 90.

⁴⁰⁹ Ibid., 102.

⁴¹⁰ Ibid., 103.

Finally, Smith was reserved in one other common development practice often associated with land reform, community development. Theoretically Smith understood that community development would be beneficial to the implementation of land reform by providing “supporting services,” namely the evolution of “new mechanisms of communication between the people and the government.”⁴¹¹ The problem was, Smith argued, that community development did so in a manner that often instigated new “anti-status quo” effects that were in fact counterproductive and potentially “even more damaging.” He argued that community development “may lead individuals seriously to question the status quo...increasing awareness of the peasant population” that would create “political tensions.” These were a specific threat to totalitarian regimes that relied upon the “repression of human rights,” which if did not respond to “awakening cries of the people” would allow “the crevasse of alienation to grow.”⁴¹² This viewpoint was both in line (theoretically) yet in contradiction (in terms of Smith’s perceived actual observations of land reform and community development in practice) to the opinions of other development agencies such as FAO, which with the Bureau of Social Affairs of the UN Secretariat, published a background paper for the 1966 World Land Reform Conference in Rome entitled “The Relationship Between Land Reform and Community Development” that argued though land reform was enacted by the state and community development sought to empower the people, “it is, however, important to point out that community development and land reform are complementary to each other. Land reforms are often a precondition for successful community development activities. Community development in turn mobilizes and organizes popular effort to ensure the attainment of the objectives of land reform.”⁴¹³

The Taiwan case, Smith noted, was exceptional in that a fine balance was struck between community development and general agrarian reform that allowed for stability and growth. He cited “that the Chinese success is an involved evolutionary process” involving successful farmers’ associations and the unique objectives and support given to JCRR for agricultural extension that “were identical with our previous definition of community development” (that is, serving as a new mechanism of communication between the people and the government).⁴¹⁴ This stood in contrast to Korea and the Philippines, where community development was under prioritized in comparison to industrial development in Korea, and where community development was performed in a “paternalistic” and “domestic imperialis[t]” manner in the Philippines.⁴¹⁵ Thus again Taiwan is held up as an exemplar, though Smith did not appear to reinforce the

⁴¹¹ Ibid., 183.

⁴¹² Ibid., 185.

⁴¹³ Food and Agriculture Organization of the United Nations, “The Relationship Between Land Reform and Community Development,” 1966. Page 2. Land Tenure Center Collection, Agricultural Economics Library, University of Wisconsin, Madison.

⁴¹⁴ Smith, *East Asian Agrarian Reform*, 192, 197.

⁴¹⁵ Ibid., 204, 211.

reproducibility of its success, instead seemingly pointing to the historical and institutional contingencies that allowed for the evolution of its success.

Through Smith's example we saw the effect that LRTI had on helping insert Taiwan into an international discussion of the applicability of its development experience to land reform studies. Though Smith's monograph appeared to have reached a limited audience based on its publication by the Lincoln Institution and its limited presence in libraries, the advertisement of the Taiwan case also was taken on by John C. Lincoln's daughter, Lillian Lincoln Howell.

Lillian Howell founded the KTSF TV station in the San Francisco Bay Area, one of the first stations to focus on Asian language programming directed toward the Asian American viewer market. Following in her father's footsteps, she established the Lillian Lincoln Foundation in 1985, funding video media projects on topics of philanthropic interest, such as micro-lending for women in the developing world, primary education in Japan, and land reform in Taiwan.⁴¹⁶ One documentary funded by the Foundation and produced in 1987 was entitled "Taiwan: Winds of Change." The 28-minute documentary attempted to explain how Taiwan changed from an "economic basketcase" to an "economic success" in a mere forty years. It featured interviews of farmers who had benefitted from land reform discussing the social changes it had enacted. In its narrative for the establishment of the Republic of China on Taiwan, land reform naturally followed the principles of Sun Yat-sen calling for democracy, livelihood, and nationalism.

The documentary featured the commentary of Arlo Woolery, executive director of the Lincoln Institute from 1974 to 1986 and a member of the Board of Directors of LRTI, as well as interviews of Taiwanese farmers.⁴¹⁷ Woolery pointed out the economic benefits of land reform, that farmers have a greater incentive to develop land if they owned it, or in his words "there is an old saying that the most valuable fertilizer you can have on land is the footprint of the owner." One, LY Chuang, a former tenant farmer in Taoyuan, stated "I was overjoyed with land reform. And then I had a right to the land I cultivated. I no longer worried at the end of the year that the landlord might take the land back. I made a more secure life for me and my family."⁴¹⁸ In a scene minutes later, YC Chuang, younger brother of LY Chuang, is shown driving a new Mercedes Benz sedan, with the narrator stating that Chuang had "traded his tractor for this Mercedes" using savings from his family farm that allowed them to start a plastics manufacturing company.

In addition to the social benefit for those below, Woolery made sure to emphasize that landowners were incentivized to sell land because of the potential for "great profit" in the stock in state owned enterprises they received. The documentary interviewed a former landlord as well, Chenlu Chow, who said "most of the landlords were opposed to the idea" of land reform, and that landlords thought that land reform was "unfair" to the landlords,

⁴¹⁶ { | anon. KTSF Owner Lillian Lincoln Howell Dies At 93 | TVNewsCheck.com, no date | | | zu:50765:NV4FNJGH}

⁴¹⁷ "In Memoriam...Arlo Woolery," accessed July 8, 2015, https://www.lincolnst.edu/pubs/192_In-Memoriam---Arlo-Woolery.

⁴¹⁸ Lillian Lincoln Foundation, *Taiwan: Winds of Change* (Dateline Productions, Inc., 1987).

but “looking back,” he thought “land reform was wise” to allow investment for development. Chow is shown in his three story house playing with his grandchildren, described as “semi-retired” because of the investments he made in a bus company using the capital from his sold land.⁴¹⁹ This was, of course, an unusual case in light of the surveys raised by Theodore Smith and UC Berkeley sociologist Thomas Gold, who was interviewed in the documentary immediately after the depiction of the landlord stating that fact.

The LRTI was extended beyond its initial three year trial period due to its early successes, and its rapid growth in the 1970s expanded its country participant list to represent a great part of the Third World. It hosted visiting scholars and consultants throughout the 1970s and 1980s from prominent development agencies and universities interested in land reform. But by the late 1980s, land reform began to experience a global decline. Owing in part to the failure of Communist regimes internationally, and also in part due to the decreased emphasis on rural development in favor of urban industrial growth, land reform became a relic of the earlier Cold War era. Organizations like FAO and the University of Wisconsin shuttered their land tenure centers and rural organization units in the 1990s, as development moved into the domain of the International Monetary Fund and the World Bank, where structural adjustment lending became the paradigm.

By 2000, the Land Reform Training Institute changed its name to reflect the lack of international interest in “reform”; it became the International Center for Land Policy Studies and Training (ICLPST). Today its participants are few and its facilities, once the pride of the institute in 1969, lies in disrepair, with continual leaks from the tropical rainstorms that pass through Taiwan, empty offices for visiting scholars, mildewed and decaying books from an improperly dehumidified library that had suffered through a roof collapse during a recent typhoon, stray dogs playing in the front lawn of the Institute, and tiled decor lining the dimly lit hallways unchanged from the 1960s.

Its curriculum changed as well. Though it still hosts government bureaucrats from the Global South, the ICLPST instead focuses on aspects of land policy with contemporary relevance: land administration and policy in urban settings. Other institutes like the Land Reform Museum (財團法人土地改革紀念館 *caituan faren tudi gaige jinianguan*) in Taipei that also host short term courses for international scholars have likewise undergone the same adjustment, except they have attracted a new group of government officials who have a particular interest in Taiwan’s other development success, that of a transition from a rural economy to an urban economy: party cadres from the People’s Republic of China.

Conclusion

Land reform became the soft power complement to military interventions, for as long as communists continued to threaten in the farming villages of Africa, Asia, and Latin America, the hearts and minds of the Third World mattered more than all of weapons that could be brought to muster internationally. For the Lincoln Foundation associated land economists who had deified Henry George, land reform was the shield and sword against radical communism. Land reform represented the benevolence of capitalism for both

⁴¹⁹ Ibid.

farmers and landowners, and philanthropists like David C. Lincoln believed in its power to help complete his father's mission of social deliverance without subjugation to communism.

This narrative is deeply relevant to understanding development and its relationship with the Cold War. By the 1960s the global political discourse centered on communism, and the revival of Henry George from the footnotes of economic history and the convictions of Georgist economists in proposing Georgism as the solution for oppressed agrarian societies of the world symbolized a softer Cold War stance. The agricultural miracle of Taiwan in the 1950s and 60s provided thinkers like Lincoln Foundation economists with the ability to tenuously associate Georgism, which they retroactively associated with Sun Yat-sen, with land reform under the Guomindang. In contrast with military interventions, development provided an opportunity to stop the halt of communism with the carrot as opposed to the stick. And by appealing to both protecting land rights and private property as well as providing for the social good of the entire population, Taiwanese land reform sought to find a third way among the extremes of other economic systems to appeal to other developing nations.

More importantly, for Taiwan, it provided an opportunity for its political and technocratic elite to reimagine its own history and national identity. Land reform granted the GMD the moral high ground it had formerly ceded to the Communists by demonstrating its commitment to the downtrodden masses and that it was not the party of the capitalists, the industrialists, and the landlords. Furthermore, through attempting to internationalize its (constructed) development experience, Taiwan elevated land reform from the realm of historical narrative to reality-via-development. From LRTI course materials to economic history pieces written by US based Georgist economists, Taiwan cobranded its 1950s agricultural miracle with its land reform, transforming it from an authoritarian island under martial law to the paradigm of enlightened benevolence for the Third World.

Development for Taiwan became more than an attempt at rationalizing the future — it became a public colonization of modernity, one where the *mission civilisatrice* was both an integral part of Taiwan's modern identity as nation-state struggling to find its post-1949 identity without *de facto* control over its erstwhile territory, as well as a reflection of what its hopes were for its idealized future. In this mission, the construction of a historical narrative of land reform provided the credentials it needed to prove its destiny as a modern state. The post-1949 Nationalist state was an enlightened, benevolent, patriarchal state in that vision. It followed the principles of the Founding Father, Sun Yat-sen, in supporting the livelihood of the people. Land reform was the proof that all could benefit — farmers, landowners, and the state — in the quest for modernity. It recovered from its mistakes in the fight against the Communists on the mainland, and demonstrated that social equality could be accomplished without class conflict, violence, or violating the sanctity of private property and capitalism. And, most importantly, it proved that social equality was

compatible with the foremost goal of the developmental state: economic growth, the search for wealth and power that had seemingly eluded the Communists.

The international arena became the crucial audience through which the ROC could justify its newfound enterprise. Its history with land reform meant it carried a burden to save other developing nations from the grasp of communism, a technopolitical version of the white man's burden. In this vision, Taiwan alone, as one of the few successful cases of land reform, understood the unique difficulties of balancing growth with social equality while fighting the rapacious laissez faire capitalists and the radical Communists. Taiwan could lead a crucial coalition of embattled Third World nations on the brink of falling to Communist insurgents back toward a middle path of social betterment and economic growth. In a world where Taiwan had been marginalized as a state dependent upon the graces of the United States and in constant ideological, military, and existential threat from the Communists on the mainland, Taiwan carved out a unique international niche.

Chapter 5

Globalizing the Green Revolution: Taiwanese Vegetables, Fertilizer, and Scientific Networks in the Global South, 1969-1989

“Because the Taiwan story is largely a success story, I believe that professionals in the development business should spend time studying the development history of the island”

- Bruce H. Billings, final American commissioner in the Joint Commission for Rural Reconstruction⁴²⁰

“There is no need to elaborate on the importance of research in agriculture, as it is from research that improved techniques and better varieties come to make production increases possible.”

- Shen Zonghan⁴²¹

Introduction

In 1968, Robert L. Brown, the Counselor for Economic Affairs in the US Embassy at Taipei wrote to Josiah Bennett, the Country Director for the Republic of China within the State Department, about the potential for the “internationalization” of science in Taiwan. The topic being discussed was a Taiwanese proposal for funding a scientific institute that reflected a “Chinese willingness and interest in making a substantive contribution in the region in the field of industrial research and development.” In evaluating the idea, Brown wrote that the “institute could focus its activities on those areas in which the Chinese have the most to offer the region in terms of training or research and in advising the Chinese on the means by which they can “market” the considerable amount of scientific “brain-power” which is now in Taiwan.”⁴²²

Although Brown and Bennett were discussing a proposal for industrial research and science, the decade following 1968 saw the establishment of centers for agricultural science in Taiwan instead (industrial research centers would follow in the 1980s and 1990s). Similar to the Vanguard missions and the Land Reform Training Institute, agricultural science centers represented Taiwan’s efforts to leverage its scientific and technological expertise internationally. Whereas Vanguard missions emphasized Taiwan’s low-capital,

⁴²⁰ Bruce Hadley Billings, “Bruce Hadley Billings mimeograph: A study of the role of science and technology in Taiwan,” p. 2, 1973, Box 1, Hoover Institution Archives.

⁴²¹ T.H. Shen. Review of “Rice Production.” Archive Number 034000000342A; Folder Document Drafts “Hsieh, S.C.” in “Shen Zonghan Letter Drafts” [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

⁴²² Letter, Robert L. Brown to Josiah Bennett, March 24, 1967; Hornig Visit to Taiwan and Advance Team 1978; Box 6; Bureau of East Asia and Pacific Affairs, Office of ROC Affairs, 1951-1978; Records of the State Department, RG 59; NACP.

practical solutions for other developing nations, and the Land Reform Training Institute represented a moderate, capitalist alternative to communist land reform, the agricultural research centers of the 1970s represented Taiwan's turn to scientism, joining a rising trend in international development: the Green Revolution.

Coined by USAID Director William Gaud, the phrase "Green Revolution" referred to the usage of high-yielding crop cultivars, such as rice or wheat, that responded well to intensive methods of cultivation, namely increased inputs of chemical fertilizers and pesticides. Norman Borlaug, the plant breeder who in the 1940s pioneered high-yield, semi-dwarf wheat in Mexico, won a Nobel Peace Prize in recognition of his contributions to agricultural science. The increases in production made possible through high-yield varieties and fertilizers proved a paradigm shift in development practice. Previously fears of a "Malthusian trap," referring to Thomas Robert Malthus's thesis that population growth would always outstrip food supply and thus strain developing economies, preoccupied international development planners and led to initiatives like family planning.⁴²³ The Green Revolution made such measures unnecessary, as it allowed food supplies to match and even exceed population growth. The Green Revolution was not without its problems, however, as in the decades since it has created a reliance on chemical fertilizers and pesticides, thus wreaking havoc on natural environments, as well as a reliance on monocultures (single crop agriculture) that has limited economic flexibility and created dependencies on improved seeds. Nonetheless, in the 1970s, the Green Revolution was seen as the promising future of international development, and the biggest advance in the fight against world hunger.

This chapter discusses the globalization of Taiwan's expertise in agricultural sciences. Focusing on two institutions, the Food and Fertilizer Technology Center (FFTC, 糧食肥料技術中心 *liangshi feiliao jishu zhongxin*), founded in 1971, and the Asian Vegetable Research and Development Center (AVRDC, 亞洲蔬菜研究發展中心 *yazhou shucai yanjiu fazhan zhongxin*), founded in 1972, it explores how Taiwanese scientists sought to leverage Taiwan's expertise in plant breeding, plant physiology, soil science, entomology, chemical fertilizer, and food industry via global networks. Organized through and often times funded by the US government and US-based philanthropic organizations like the Rockefeller and Ford Foundations, these multilateral networks connected Taiwan with other American Cold War allies, such as Japan, South Korea, the Philippines, Thailand, etc., for the purpose of regional development. For Taiwan, these networks represented another means to internationalize—relying upon science to advance its foreign relations and to build a new identity behind its scientific leadership.

The emergence of these scientific networks are important for several reasons. Chapters 2, 3, and 4 discussed the emphasis on farmers' associations, agricultural extension, and other forms of social organization and rural reform. This chapter focuses on the other end of the spectrum, the high modernist faith in science and technology. The marketing

⁴²³ Matthew James Connelly, *Fatal Misconception: The Struggle to Control World Population* (Cambridge, Mass: Belknap Press of Harvard University Press, 2008).

success of the Green Revolution made science and technology one of the predominant trends in international development in the 1970s, surpassing and eclipsing, for example, community development and land reform.⁴²⁴ FFTC represented the shift in emphasis toward intensive cultivation and its underlying ingredient, chemical fertilizers. AVRDC focused on the other part of the Green Revolution formula, which was seeds. The idea that seeds selected in an experiment center could save millions of lives appealed to popular opinion, at a time when humans were traveling into outer space and possibilities for modern science seemed limitless.

Furthermore, this chapter focuses on the importance of food, which also tangentially addresses food politics. The FFTC (and another private research center in Taiwan, headed by Ma Baozhi after his return from the University of Liberia, the Food Industry Research and Development Institute) emerged as developed shifted away from just resolving basic hunger needs to food as industry. By the 1970s, Taiwan had become, among other things, one of the world's leading exporter of canned pineapples and mushrooms. In reaching this position, Taiwan developed special expertise in high-value foods for export (something that would be the equivalent of organic and heirloom varieties in the present day). AVRDC also represented a different aspect of this by focusing on Taiwan's tropical and subtropical climate and its multitude of vegetable varieties. In marketing vegetables, as opposed to rice, maize, or wheat that came at the beginning of the Green Revolution, AVRDC represented another ongoing shift, that from satisfying basic caloric intake to a more diversified view of nutritional science, involving vitamins and minerals.

Finally, these scientific institutes shifted Taiwan's internationalization towards American Cold War allies, and in particular regional allies in Asia. Practical due to already existing ties from US involvement in the region, they also allowed Taiwan to forge closer international ties after the loss of its seat in the United Nations to the PRC in 1971, an event that precipitated the cessation of formal diplomatic relations with many countries. Though AVRDC and other centers in Taiwan were not included within the Consultative Group for International Agricultural Research (CGIAR), the group that included the famous International Rice Research Institute and the International Maize and Wheat Improvement Center (CIMMYT), they nonetheless achieved a certain level of international attention and recognition for Taiwan. The multilateral scientific networks forged a new path for Taiwan's soft power strategy, a path that was followed with later industrial research centers.

As a chapter on the history of science and networks of knowledge, this chapter will elucidate further on the interactions between the politics of knowledge within the context of international relations and postcolonial imaginings. It utilizes official sources obtained directly from the libraries and private archives of the Asian Vegetable Research and Development Center and Food and Fertilizer Technology Center in Taiwan, complemented with archival materials from Academia Historica, Academia Sinica, the Rockefeller

⁴²⁴ The other major trend emerging in the 1970s was from the World Bank's focus on fighting poverty. Sharma, *Robert McNamara's Other War*.

Foundation, and Ford Foundation, ranging from commentaries on technical reports and grant requests, to personal correspondences between many of the leading figures involved in establishing these institutes.

The Green Revolution has been a well-researched topic among historians, with John Perkins and Nick Cullather producing important works examining its ties to the Cold War and the political contexts for its agricultural science.⁴²⁵ Seeing the Green Revolution as embedded within the Cold War stems from a larger trend within the history of science, and science and technology studies (STS) at large, to understand science as being contextualized by its social and political environment. Bruno Latour's understanding of actor-network theory (ANT) is particularly apt in studying scientific networks during the Cold War, as is Sheila Jasanoff's sociotechnical imaginary for how these scientists and modernists saw the Green Revolution as the future of human society.

The Green Revolution has also been well critiqued, particularly from anthropology, environmental, and postcolonial studies, for its production of monocultures, pollution of natural environments resulting from its increased utilization of harmful chemicals, and giving rise to corporations like Monsanto that have patented sterile, high-yielding crops, thus producing dependencies. The Green Revolution and its accompanying development regime have upended "traditional" means of agriculture, seen among Green Revolutionaries as backward, resulting in a derision and rejection indigenous methods of agriculture that have in some cases produced unforeseen negative consequences, including increased poverty and class stratification.⁴²⁶

Taiwan was not immune to the negative effects of the Green Revolution. Anthropologists have examined, for example, the dependency of rice farming on fertilizers and the subsequent environmental damage caused by the increased utilization of chemicals.⁴²⁷ Though the deleterious results of the Green Revolution are undeniable, at the height of this narrative in the 1970s, the Green Revolution was still perceived as a miraculous advance in agricultural science and international development. That science could forever resolve hunger held significant sway among scientists and policymakers alike. It was this instance of scientific euphoria, before DDT and Monsanto came to dominate headlines, and however misguided it may have been, that this chapter explores.

Rice

By the 1970s, modern science had become increasingly in the public eye. Nuclear weapons, missions to outer space, and medicinal advances captured the attentions of state governments as well as the general public. In agricultural sciences, there was also an expansion in breadth and depth, from the numbers of specialties such as rice germoplasm,

⁴²⁵ Perkins, *Geopolitics and the Green Revolution*., Cullather, *The Hungry World*.

⁴²⁶ Akhil Gupta, *Postcolonial Developments: Agriculture in the Making of Modern India*, Writing in Book edition (Durham: Duke University Press Books, 1998)., Raj Patel, "The Long Green Revolution," *The Journal of Peasant Studies* 40, no. 1 (January 1, 2013): 1–63, doi:10.1080/03066150.2012.719224.

⁴²⁷ Kuei-Mei Lo and Hsin-Hsing Chen, "Technological Momentum and the Hegemony of the Green Revolution: A Case Study of an Organic Rice Cooperative in Taiwan," *East Asian Science, Technology and Society* 5, no. 2 (June 1, 2011): 135–72.

to the degree of specialization that scientists and institutions would dedicate to the study of rice germoplasm. Centers for agricultural scientific research were not new by any means to the Cold War era, to the postwar era, or even to the 20th century. In the United States, Japan, and China, research centers, experiment stations, and universities working in agricultural science had been collecting, comparing, and selecting higher-yielding varieties for generations. Chapter 2 discussed some of the more specialized research centers that emerged in the postwar era on Taiwan, such as the Plant Protection Center established in 1960, that brought the basic sciences of studying plant diseases to practical applications that could be field-trialed and disseminated through extension.

However, the late 1960s saw a proliferation in these centers in continuation of this trend, with even more finely defined specialties, and more importantly, increasingly globalized networks of cooperation and knowledge exchange. In addition to centers focusing on plant protection (discussed in Chapter 2), vegetables, and fertilizer (both to be discussed in this chapter), there were proposals for research and demonstration centers in other aspects of Taiwan's agricultural success, such as one in irrigation.⁴²⁸ This shift toward an international outlook coincided with the rise of Operation Vanguard and the Land Reform Training Institute, both of which sought to convey the Taiwan Model for a global audience. Whereas centers like the Plant Protection Center were primarily looking inward, toward Taiwan as its primary beneficiary, new centers of the 1970s looked outward, first regionally within Asia, and then globally to Africa and Latin America.

Research centers began to look outward as early as the 1950s, particularly to areas that possessed similar climates and environments to Taiwan. In 1958, the Taiwan Agricultural Research Institute (TARI) submitted a grant request to the Rockefeller Foundation for a "Program of Studies on the Causes of Low Yield of Rice in Tropical and Sub-Tropical Regions" and the establishment of an "Insect Identification Center for Southeast Asia." TARI was formerly an agricultural experiment station founded in 1895 by the Japanese colonial government on Taiwan, then became reorganized as an agricultural research institute. After retrocession in 1945, the institute was rechristened as TARI. TARI eventually became responsible for 8 experiment stations throughout Taiwan, ranging in specialties from cotton to tea, which was typical of experiment stations in order to approximate local growing conditions and crops suited for the different regions of the island.

In the grant request, TARI framed their project in terms of the unique environmental aspects of Taiwan: "The Tropic of Cancer passes through the island, and its climate is such that both the *Japonica* and *Indica* types of rice can be grown there. For this reason, Taiwan is an ideal place to undertake studies of rice, particularly with reference to the comparative environmental requirements of these two types." The proposal continued to list the shortcomings of each type, with *Indica* possessing a higher tolerance for low fertility soil

⁴²⁸ H.J. Teng to S.C. Hsieh, September 19, 1969. Archive Number 034000000342A; Folder Document Drafts "Hsieh, S.C." in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

and higher temperatures but a low response to fertilizer, while *Japonica*, a shorter grain rice that was preferred by the Taiwanese, flourished in more temperate climates and seemed to be limited in tropical ones. It framed its research globally, highlighting their stock of 2,285 rice varieties from all over the world. And it referenced efforts conducted by other international organizations in regional rice research, for example, efforts by the UN Food and Agriculture Organization in producing *Japonica-Indica* crosses to select for high fertilizer response in tropical climates.⁴²⁹

TARI was not the only institute that the Rockefeller Foundation and other organizations were looking to. Because rice was a staple crop providing basic sustenance for a great portion of Northeast, East, and Southeast Asia, numerous international development organizations sought to increase rice yields to resolve ongoing malnutrition in Asia. Encouraged by positive results from their efforts to improve maize and wheat in Mexico led by Norman Borlaug, the Rockefeller and Ford Foundations helped found the International Rice Research Institute (IRRI) in the Philippines.⁴³⁰

IRRI drew upon a diverse group of scientists with nationalities throughout Asia and the United States. Ma Baozhi, the agronomist who had served previously as the dean of the College of Agriculture in National Taiwan University and the head of the Taiwanese crop improvement mission to Vietnam (see Chapter 3), joined as a founding trustee. A number of scientists from Taiwan, such as plant geneticist Zhang Deci (張德慈, T.T. Chang) and plant pathologist Ou Shihuang (歐世璜, Ou Shu-huang) who served as divisional head at the request of the Rockefeller Foundation.⁴³¹ Shen Zonghan joined later as well on the Board of Trustees, and he oversaw training exchanges and cooperation in rice breeding between Ou Shihuang and the JCRR Plant Industry division. Though many of these elite scientists had trained in the United States, they nonetheless had experience carried from their work experiences in their home countries.

Taiwan's contribution to international rice research was not just in human capital. It also provided one of the key scientific innovations in the most famous product of IRRI and one of the most famous of the Green Revolution: miracle rice. Miracle rice was a moniker given to a specific varietal of rice, IR-8, that emerged from the varietal improvement project of IRRI. IR-8, a semi-dwarf variety of rice, was high yielding, produced more grain per stalk of rice, and was more responsive to chemical fertilizers that were crucial to Green Revolution. IR-8 was cross-bred from two cultivars. The first was Peta, a fast growing and responsive variety from Indonesia, but it was a tall breed, meaning it was prone to falling over during typhoons and high winds, submerging the rice grains underwater or exposing it to ground-based rodents and other pests. The other was a cultivar from Taiwan, *dee-geo-*

⁴²⁹ Taiwan Agricultural Research Institute Rice Research, November 1958, Folder 11, Box 2, Series 605D, RG 1.2 Projects, Rockefeller Foundation, RAC.

⁴³⁰ For more on the history of IRRI, see Cullather, *The Hungry World*.

⁴³¹ T. W. Mew and Colin McClung, "Shu-Huang Ou, 1912 to 2001," *Phytopathology* 92, no. 1 (January 2002): 32–32, doi:10.1094/PHYTO.2002.92.1.32.

woo-gen (低腳烏尖 *dijiao wujian*) or more commonly known by its acronym, DGWG. DGWG possessed the key dwarfing gene *sd1* that allowed IR8 to resist toppling over.⁴³²



Photograph: A comparison between IR-8 (left) and its two parent varieties: Peta (middle), an Indonesian variety that was hardy but tall, and thus prone to toppling over, and Dee-geo-woo-gen, or DGWG (right), the Taiwanese variety that possessed the dwarfing gene to allow for the semidwarf characteristic of IR-8.⁴³³

Zheng Deci was one of the three main plant geneticists recognized for working on IR-8, and his familiarity with Taiwanese rice varieties like DGWG likely helped in the development of IR-8.⁴³⁴ Zhang, in addition to being a graduate of Nanking University and a student of Shen Zonghan, was a JCRR scientist from the Plant Industry division. As much as IR-8 was celebrated for its technical success and production figures versus local varieties, it was also the internationalization of science that excited so many development practitioners and scientists. The global backgrounds of the key scientists of the IR-8 team, consisting of the United States, Mexico, Colombia, and Taiwan, facilitated knowledge of varieties from all over the globe, and allowed for the selection of specific genes that they sought. In Zhang's letter to his mentor, Shen Zonghan, he specifically referenced the precedent set by Taichung No. 1, another semi-dwarfing variety of rice from Taiwan, that had already been adopted and grown in India, thus paving the way for easier acceptance of IR-8.⁴³⁵ Increased globalization, which can be traced back centuries to the acclimatization

⁴³² Peter Hedden, "The Genes of the Green Revolution," *Trends in Genetics* 19, no. 1 (January 2003): 5–9, doi:10.1016/S0168-9525(02)00009-4.

⁴³³ International Rice Research Institute.

⁴³⁴ "Beachell, Chang, Jennings Receive Scott Award," August 1969. Archive Number 034000000330A; Folder Document Drafts "C" in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

⁴³⁵ T.T. Chang to Shen Zonghan. November 20, 1969. Archive Number 034000000330A; Folder Document Drafts "C" in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

movement of the 19th century that sought non-native species for improvement of local environments, seemed to be the future of science.

Vegetables

In 1971, a complement to IRRI specializing in vegetables was established: the Asian Vegetable Research and Development Center (AVRDC) (*yazhou shucai yanjiu fazhan zhongxin* 亞洲蔬菜研究發展中心). An official history published by AVRDC from 1993 credited the initial idea to Frank Parker, an Assistant Director for Research and Technology at USAID. According to that narrative, the idea for a center specializing in vegetables emerged just soon after the founding of IRRI, in 1962.⁴³⁶ Parker was an agronomist trained at the University of Wisconsin with significant experience internationally, in India and with the UN Food and Agriculture Organization. A letter from Eugene Black, former President of the World Bank and at the time special adviser to President Johnson, wrote to David Bell at the Ford Foundation describing the need for AVRDC. With the cereal grains of CIMMYT and IRRI, wheat and rice, providing a raw caloric boost to the underdeveloped areas of the world, USAID saw “the need to augment and improve the high starch diet of the people in East Asia, and to increase rural income by upgrading the production, processing and marketing of vegetables.”⁴³⁷ This evolution in treatment of agriculture and food moved it to beyond addressing a basic social need, hunger, and instead to a more holistic understanding of human livelihood and health based on nutrition and household income. By the following year, USAID formally sent requests to 12 of its operating missions in Southeast Asia to seek hosts for a new center dedicated to tropical vegetables. Taiwan was particularly keen to see that the center be established in Taiwan.⁴³⁸

Jiang Yanshi (蔣彥士, Y.S. Tsiang), who was Frank Parker’s roommate while visiting a conference at MIT in 1964, introduced Parker to horticulturalist and Plant Industry Division Head at JCRR, Lu Zhilin (陸之琳, C.L. Luh), who would eventually serve as the Associate Director of AVRDC. From there, the proposal was elevated to ROC Minister of Economic Affairs, Li Guoding (李國鼎, K.T. Li) and ROC Premier Yan Jiagan (嚴家淦, C.K. Yen), who made the center a priority in discussions with USAID Director David Bell. Though a formal proposal was drafted by Lu and submitted to USAID by 1965, the center would not come to fruition until 1971 because USAID (in part driven by a desire within Congress for cost sharing from America’s Asian allies) was unwilling to bear the full costs of the project alone. JCRR Chairman at the time, Shen Zonghan, spent over half a decade pursuing funding from the Rockefeller Foundation, Ford Foundation, and Cornell University, before finally securing the funding he needed. In 1972, AVRDC finally opened its doors in Shanhua, Taiwan.

⁴³⁶ Alan Mark Fletcher, *The AVRDC Story: Twenty Years of Service to Tropical Agriculture*, Publication No. 93-406 (Taipei, Taiwan: Asian Vegetable Research and Development Center, 1993), 23.

⁴³⁷ Eugene Black to David Bell, July 6, 1967. Reel L-250 L67-435. Ford Foundation Archives, New York, NY.

⁴³⁸ Fletcher, *The AVRDC Story: Twenty Years of Service to Tropical Agriculture*, 23.



Photograph: The Asian Vegetable Research and Development Center (today the World Vegetable Center) in Shanhua, Taiwan, near Tainan. Photo taken by author in 2013.

The AVRDC hosted a research staff from a half dozen Asian nations – Taiwan, Vietnam, the Philippines, Japan, Korea, and Thailand.⁴³⁹ Shen Zonghan, who at the time served as the Chairman of the AVRDC Board of Supervisors, already had in mind Robert F. Chandler, who was due to retire at the end of his term as director of IRRI. Chandler had been instrumental in establishing IRRI as its first director, and according to the official narrative, the Board members who came from the Asian nations preferred an American as a director.⁴⁴⁰ Chandler's background, having established the highly successful IRRI during its first decade, undoubtedly appealed to Shen, who wanted AVRDC to be Taiwan's IRRI.

The idea for the center was to serve the people of tropical and subtropical climates of East and Southeast Asia. The large variety of vegetables in this region was daunting for AVRDC at its beginning, so an initial focus was placed on six fruits and vegetables: tomato, soybean, mungbean, sweet potato, white potato, and Chinese cabbage. Many of these vegetables were considered staple crops, as in they were widely cultivated, in the cases of the legumes and potatoes, provided a relatively large amount of calories. As would be expected, AVRDC's basic mission was in the improvement of these vegetables. This included locating and storing different varieties from throughout the world, selecting varieties that produced higher yields and higher quality crops (as defined by resistance to

⁴³⁹ "Conclusions of the Conference on the Establishment of the Asian Vegetable Development Center," 166, folder 36-16-006-023, Ministry of Economic Affairs Collection, Modern History Institute Archives at Academia Sinica (「亞洲蔬菜研究發展中心」, 檔號36-16-006-023).

⁴⁴⁰ Fletcher, *The AVRDC Story: Twenty Years of Service to Tropical Agriculture*, 32.

disease, pests, and adverse climates).⁴⁴¹ AVRDC operated under a \$1.5 million/year annual budget in its first 5 years, a substantial amount to which most AVRDC member countries contributed around 5 to 10 percent, with the rest being covered by Taiwan, the United States, the Asian Development Bank, and the Ford and Rockefeller Foundations.

Shen Zonghan, on the opening ceremony day, attributed the basic mission of AVRDC to improving the “normal diet” of the average Asian citizen.⁴⁴² Among reasons attributed to for founding a vegetable research center included the following:

First, because vegetables were already widely grown throughout the region, acceptance of increased production would be more likely than if exotic crops were introduced. Second, because vegetable production is labor intensive, production increases would lead to greater employment of rural people. Third, the income potential per unit of land is higher for vegetable crops than for cereal grains. Fourth, vegetable crops by their very nature are suited to production either in home gardens or for commercial production for local consumption or export. Fifth, employment could be increased through postharvest handling and processing of vegetables.⁴⁴³

These objectives spoke to improving agricultural industries, agricultural productivity, and rural livelihood. AVRDC’s early supporters recognized the difficulty of Green Revolutionesque introduction of foreign cultivars: local cultures were not always open to the taste of new foods. The improvement of local vegetables thus became a major objective of AVRDC. Simultaneously, vegetables provided broader economic benefits, due to its higher profit margins and ability to be grown at both small and large scales, which had the benefit of improving mass agricultural industries as well as employment and revenues for individual farmers at rural and village levels. Finally, postprocessing meant that vegetables would spawn dependent industries that would leave further opportunities for economic growth.

AVRDC staffed scientists in plant breeding, plant pathology, plant physiology, soil science, and chemistry, the typical sciences that constituted Green Revolution technologies of seeds, fertilizers, and pesticides.⁴⁴⁴ Like JCRR, TARI, and the other agricultural research centers of the 19th and 20th centuries, AVRDC collected cultivar samples, planted them comparatively in different experiment plots, and recorded results for analysis of factors such as response to fertilizer, resistance to disease, crop yield, etc. The difference was AVRDC’s scope was far larger—in addition to collecting seeds globally, it sought to test its seeds for climates that would be applicable across Southeast and East Asia.

⁴⁴¹ Ibid., 48.

⁴⁴² “Address by Chairman T. H. Shen at the Opening Session of the Conference on the Establishment of the Asian Vegetable Development Center,” 16 August 1968, 175, folder 36-16-006-023, Ministry of Economic Affairs Collection, Modern History Institute Archives at Academia Sinica (「亞洲蔬菜研究發展中心」, 檔號36-16-006-023).

⁴⁴³ Fletcher, *The AVRDC Story: Twenty Years of Service to Tropical Agriculture*, 24.

⁴⁴⁴ Ibid., 44.

Also like JCRR, AVRDC trained scientists globally in Taiwan. As explained by AVRDC Training Director to Ford Foundation President David A. Bell, AVRDC training aimed to allow trained scientists, technicians, and extension agents to return to their home countries and “have the opportunity to make their own selections from the crosses they made while studying at AVRDC and to develop the production technology appropriate for their own local donctions[sic].⁴⁴⁵” This type of localization where trainees were given the expertise to make their own decisions based on their knowledge of local conditions showed the deference to local knowledge and a desire to make AVRDC seeds globally applicable. Ford Foundation reviews of AVRDC programs noted positively that these many of the individuals trained were often worthy of travel grant funding, the “accomplishment per dollar of expenditure has in fact been very high at the Center.”⁴⁴⁶

In 1979, in a reflection of changes within the agrarian development field, AVRDC received a grant from USAID to fund an additional field of science to its existing Green Revolution portfolio of plant, soil, and pest sciences: nutrition.⁴⁴⁷ The addition of nutrition as a field of study reflected the successes of international agricultural development. With the increase in chemical inputs and the usage of high-yield varieties that responded well to fertilizers, many former Global South nations had fulfilled the basic caloric needs of their citizens. Instead, the development field turned its attention to making sure that diets provided healthy levels of minerals, vitamins, and other aspects of nutritional sufficiency. Vegetables played well into this evolution past staple crops, and the addition of mustard green, cauliflower, snap pea, radish, and pepper in 1981 demonstrated that there was demand for vegetables beyond the staple crops such as legumes and potatoes that were the core of AVRDC’s efforts in the 1970s.⁴⁴⁸

1980 also saw a complement to nutrition, which was a focus in AVRDC research on home gardens. In another sign of the evolution of international agricultural development, the focus on mass growth of agriculture, especially in centrally distributed seeds and fertilizers, became complemented with a focus on rural household villages. In explaining the rise of home garden research, Fletcher wrote that a small four-by-four meter garden could provide “enough vegetables to provide a family of five with a significant percentage of their recommended dietary allowance of protein, calcium, and iron, and complete requirements for vitamins A and C.”⁴⁴⁹ Fletcher also explained that home gardens were generally tended to by women since women were “generally responsible for the family’s food.” As a result, 80% of those involved in AVRDC’s home garden programs in the Philippines, Indonesia, and Thailand were female.⁴⁵⁰

⁴⁴⁵ Raymond William to David A. Bell, April 17, 1975. Reel L-250 L67-435. Ford Foundation Archives, New York, NY.

⁴⁴⁶ Lowell S. Hardin to AVRDC File, June 18, 1976. Reel L-250 L67-435. Ford Foundation Archives, New York, NY.

⁴⁴⁷ Fletcher, *The AVRDC Story: Twenty Years of Service to Tropical Agriculture*, 59.

⁴⁴⁸ *Ibid.*, 66.

⁴⁴⁹ *Ibid.*, 70.

⁴⁵⁰ *Ibid.*

As John Perkins and Nick Cullather and others have written, the standard narrative of the Green Revolution has been one of Cold War politics: the advocacy of science in order to advance a vision of Green modernity as opposed to a Red one. Taiwan was no exception to politics, though its goal was less one of a Cold War proxy in this case. By 1971, the Republic of China had lost its seat in the UN to the PRC. This led to the paring back of Vanguard missions and efforts by the MOFA to use development diplomacy for UN votes (see Chapter 3). Country-to-country missions led by MOFA continue to the present, largely to ROC allies that continue to maintain diplomatic relations. AVRDC and other international science research centers based in Taiwan did not follow that path, however.

With less of a foreign policy directive, AVRDC was led by scientists such as Shen Zonghan and Ma Baozhi (who would later serve as the Chairman of the Board after Shen's retirement), who advocated for science leadership on a regional, and later global basis. These efforts reflected a modernist faith in science. As Yan Jiagan (who was Premier of the ROC at the time AVRDC was being discussed as an idea but later became Vice President and then President following Chiang Kai-shek's death) described in the tenth anniversary speech of the founding of AVRDC:

I can say without reservation that the work of AVRDC has by association cast a most favorable reflection on the ROC. The Center in many ways serves as a window to the world, enabling those who might not otherwise see our island come and judge for themselves. And, by implication, AVRDC's successes are our successes: they are the successes of our people who work here, the success of the good neighbors who live in the vicinity of the Center, and they are the success of our national research programs that in many instances work side by side with AVRDC.⁴⁵¹

Like the Vanguard missions, they also demonstrated Taiwanese expertise in modernist science to the rest of the world. These efforts continued along Cold War networks, relying upon expertise and funding from US allies in Asia such as Japan, Korea, the Philippines, Thailand, and Indonesia. Often the narrative of the Green Revolution is of politics being constrained by science, or in other words, of Cold War efforts to demonstrate the superiority of scientific modernism belied by the dependence of Green Revolution chemicals and monoculture. However, in AVRDC and other institutions in Taiwan, the problem was more acutely science constrained by politics.

Immediately after its founding, efforts by AVRDC to seek international integration met political obstacles. PRC policymakers, in seeking to delegitimize the Nationalist regime on Taiwan, objected to its inclusion into international organizations. Robert Chandler wrote of the difficulties in obtaining financial support from other governments and non-government foundations due to a reluctance to run counter to PRC interests, that "if it were not for the Geo-political factors, the going would not be quite so rough."⁴⁵² More importantly, AVRDC's attempt to join the Consultative Group of International Agricultural

⁴⁵¹ "卸任總統後：亞洲蔬菜研究發展中心" [Post-Presidency: AVRDC]. November 1983. Archive Number 006000000460A; Yan Jiagan Collection [嚴家淦]; Academia Historica Archives 國史館, Taipei, Taiwan.

⁴⁵² Robert F. Chandler to Lowell S. Hardin, May 16, 1972. Reel L-250 L67-435. Ford Foundation Archives, New York, NY.

Research (CGIAR), was continually blocked. From 1971 to the 1980s, numerous founding member nations of AVRDC as well as the Asian Development Bank withdrew their support, and in 1974 the Rockefeller Foundation, one of the key institutions behind the founding of AVRDC, likewise withdrew its funding.⁴⁵³ Other CGIAR institutions took up mission that AVRDC had set out to accomplish in 1971, for example the International Board for Plant Genetic Resources and the International Institute of Tropical Agriculture.

The resulting isolation of AVRDC frustrated the goals of its planners, which was to seek regional leadership through science and expertise. Yan Jiagan praised the efforts of AVRDC despite it operating with what he bemoaned as “the smallest staff and the smallest budget of any of the international food crop improvement center.”⁴⁵⁴ Though its initial attempts were limited to East and Southeast Asian networks, it was in fact the lack of inclusion into CGIAR, the withdrawal of its international networks, and the resulting limits on its budget that ultimately forced AVRDC into the sidelines as the Green Revolution continued without it. AVRDC would eventually regain its international sponsors and have exchanges with CGIAR decades later, after the 1980s rapprochement with the PRC, but it never quite became the IRRI or CIMMYT that seemed at one point a possibility.

Fertilizer

In another aspect of advancing the interests of the Green Revolution, the Food and Fertilizer Technology Center (FFTC) (*liangshi geiliao jishu zhongxin* 糧食肥料技術中心) was established in 1970 in Taiwan. FFTC was an idea first proposed as a “Food and Fertilizer Bank” by the Taiwanese to the Asia-Pacific Ministerial Council (ASPAC) (*yazhou taipingyang lishihui* 亞洲太平洋理事會) in 1966, a now-defunct annual forum of high ranking foreign ministers from Asia-Pacific nations: Australia, the ROC, Japan, South Korea, Malaysia, New Zealand, the Philippines, the Republic of Vietnam, Laos, and Thailand.⁴⁵⁵

The FFTC was originally conceived of as a bank, not a research-centric institution. The memorandum drafted in 1966 envisioned “an economic agency...to carry out mainly the activities concerning the operation of food and fertilizer warehouses and related financing work.”⁴⁵⁶ In furthering Green Revolution goals, the focus on warehouses was meant to ensure that fertilizers would be able to reach rural villages as efficiently as possible. As the memo further detailed, “preferably the existing warehouses of the participating countries

⁴⁵³ Fletcher, *The AVRDC Story: Twenty Years of Service to Tropical Agriculture*, 56.

⁴⁵⁴ “卸任總統後：亞洲蔬菜研究發展中心” [Post-Presidency: AVRDC]. November 1983. Archive Number 006000000460A; Yan Jiagan Collection [嚴家淦]; Academia Historica Archives 國史館, Taipei, Taiwan.

⁴⁵⁵ “Memorandum on Establishment of Asian-Pacific Food and Fertilizer Bank,” November 15, 1966. Archive Number 034000000327A; Folder Document Drafts “Black, Eugene” in “Shen Zonghan Letter Drafts” [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

⁴⁵⁶ “Memorandum on Establishment of Asian-Pacific Food and Fertilizer Bank,” November 15, 1966. Archive Number 034000000327A; Folder Document Drafts “Black, Eugene” in “Shen Zonghan Letter Drafts” [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

shall be utilized to store the food and fertilizer contributed by participating countries and to distribute them to other participating countries in need of these commodities."⁴⁵⁷ In an effort that reflected the difficulties encountered by UNRRA in postwar China (see Chapter 1), it was clear that the logistics of fertilizer supply, storage, and distribution, the physical infrastructure supporting those logistics, and the market mechanisms of supply and demand between centralized production areas and areas of consumption, i.e. between rural and urban, remained crucial for 1970s agricultural development.

The goal of the Food and Fertilizer Bank was also couched in terms of multinational cooperation and the mutually beneficial goals of cooperative research. It aimed to "promote and increase the production and supply of food in the region through the interflow of food and fertilizer among the participating countries as well as the interchange of production technique and the stabilization of market supplies and prices with a view to solving the food problems now confronting most countries within the region."⁴⁵⁸ It was believed that regional cooperation would be mutually beneficial and produce a greater overall good.

Inherent in this regionalism was the assumption that the way to resolve food shortage was particularly in market mechanisms, of supply and production. Regional integration meant that the fickleness of the market could be overcome by linking supply markets, thus overcoming potential pains due to cycles of increased demand or decreased production. Shen Zonghan in 1967 wrote to his friend and former colleague Xie Senzhong that "fertilizer is the most important" of production requisites, and that the proposal for the Bank would "promote the interflow of fertilizers among the countries through market development, exchange of technical information, credit arrangement and adjustment of demand and supply."⁴⁵⁹ In other words, there was a faith in and a desire to expand upon a capitalist Green Revolution.

By 1968, the name and institution had evolved to a "Center" instead of a "Bank," but FFTC nonetheless retained its emphasis on the technical aspects of getting fertilizer to where it was needed. A JCRR document from that year emphasized "the increase of food production through increased application of chemical fertilizers" and "the need for increased use of fertilizers as a direct and speedy way of uplifting food production in the Asian-Pacific region"⁴⁶⁰ demonstrating once again the importance of chemical inputs for agricultural development. What changed more was an emphasis on technology

⁴⁵⁷ "Memorandum on Establishment of Asian-Pacific Food and Fertilizer Bank," November 15, 1966. Archive Number 034000000327A; Folder Document Drafts "Black, Eugene" in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

⁴⁵⁸ "Meeting the Diplomats from the Nine Countries," 20 February 1967, folder 020000030288A (入藏登錄號020000030288A), Ministry of Foreign Affairs Collection, Academia Historica Archives.

⁴⁵⁹ T.H. Shen. Review of "Rice Production." Archive Number 034000000342A; Folder Document Drafts "Hsieh, S.C." in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

⁴⁶⁰ "Food Fertilizer and Technology Center," December 18, 1968, page 2, folder 2-1, box 2, Joint Commission on Rural Reconstruction Papers, Hoover Institute Archives, Stanford, CA.

specifically: "an exchange of technical information and experiences" instead of a focus on infrastructure and regionalizing supply markets. Thus, like the AVRDC, an emphasis was placed on techniques, technologies, and knowledge in general. Unlike financing, which was part of the original idea for the Bank, knowledge did not engender battles over who was paying for their fair share. And unlike infrastructure development, knowledge did not require capital investments for the construction of warehouses that inevitably had to reside on sovereign territory. Knowledge did not need to be bound by real estate. In the end, the idea of a Center received a warm, but not ecstatic, reception in ASPAC. It was referred to subcommittee, and after 5 years it finally was completed in 1971 in Taipei with representation from Australia, the ROC, Japan, South Korea, Malaysia, New Zealand, the Philippines, the Republic of Vietnam, and Thailand.⁴⁶¹



Photograph: The Food and Fertilizer Technology Center, located on Wenzhou St. in Taipei, Taiwan. Photo taken by author in 2013.

In the 1970 annual report presented to the sixth meeting of ASPAC, FFTC presented the results from its first year of operation. In a pattern that mirrors the approaches of JCRR, LRTI, and AVRDC, FFTC likewise engaged in a host of activities:

- 1) short-term training courses for extension workers from Thailand, Vietnam, and Malaysia
- 2) seminars on "Crop Physiology and Fertilizer Application" bringing together experts from all the FFTC founding member nations except Australia
- 3) writing and disseminating information bulletins, both of more technical nature for a scientific audience and of a general nature for extension workers
- 4) (planned for the following year) a demonstration project
- 5) feasibility and consultative trips⁴⁶²

⁴⁶¹ "Annual Report of the Food and Fertilizer Technology Center for the Asia and Pacific Region for the period ending in December, 1970." Page 5. Executive Board of the Center to the Sixth Ministerial Meeting of the Asia and Pacific Council. July 14-16, 1971. Food and Fertilizer Technology Center, Taipei, Taiwan.

The final aspect, feasibility trips, allowed ASPAC to determine in its early years how best to aid the needs of its members.

The first year consisted of two feasibility trips, surveying Malaysia, Vietnam, the Philippines, Thailand, and Japan. The report of the feasibility trips remarked on a number of aspects. There were concerns over exchange rates in the Philippines making the purchase of fertilizer more expensive for farmers, which created concerns among Filipino policymakers that farmers would as a result use less fertilizers and drive down production. Observations included how credit for fertilizers was extended in Vietnam as well as plans for the construction of a domestic fertilizer production plant, albeit with concerns about whether domestically produced fertilizer would in fact be cheaper than imported fertilizer. In Japan and Thailand, which both produced surpluses of rice and thus were net exporting countries, different problems were recorded. Thailand faced global decreases of rice prices, thus making exports less profitable. Japan, on the other hand, faced a shrinking agricultural labor market due to its rising industrial sector (a problem Taiwan would soon face).⁴⁶³

In synthesizing the findings of these feasibility surveys, FFTC staff wrote that there were common areas of interest for further research and demonstration: irrigation, fertilizer production and trade, fertilizer regulations and marketing, short term consultants, and training courses.⁴⁶⁴ These aspects once again reflected the ongoing changes in Taiwanese agricultural development and the increasing hegemony of the Green Revolution. The international aspect of information sharing and collaboration through training and consulting had served JCRR well, and undergirded the model of LRTI. Applied sciences were also evident. This was true in fertilizer especially, which combined the high modernism of Green Revolution soil science, plant breeding, and chemistry, with an understanding of agricultural economics, development economics, and international trade. Though extension and farmers associations were seen as crucial, they became more a means to an end than vice versa. Democratic ideals in rural development and reform fell to the wayside as modernist capitalism, centralized training and policymaking, and science dominated the 1970s development field.

Reconvergence

Chapter 1 of this narrative began in mainland China, where many of the crucial scientists working on international agrarian development were born and trained. 1949 saw a divergence in paths. Agricultural practices on both sides of the Taiwan Strait proceeded under different networks and scientific systems. On Taiwan, scientific development proceeded in global dialog with an American Cold War network, allowing regular exchanges facilitated by Western institutions such as USAID, the Rockefeller and Ford

⁴⁶³ "Annual Report of the Food and Fertilizer Technology Center for the Asia and Pacific Region for the period ending in December, 1970." Pages 23-29. Executive Board of the Center to the Sixth Ministerial Meeting of the Asia and Pacific Council. July 14-16, 1971. Food and Fertilizer Technology Center, Taipei, Taiwan.

⁴⁶⁴ "Annual Report of the Food and Fertilizer Technology Center for the Asia and Pacific Region for the period ending in December, 1970." Pages 30-31. Executive Board of the Center to the Sixth Ministerial Meeting of the Asia and Pacific Council. July 14-16, 1971. Food and Fertilizer Technology Center, Taipei, Taiwan.

Foundations, UNFAO, the World Bank, and other international organizations. In China, agricultural development also involved global exchanges, though more limited in exposure to international organizations compared to Taiwan.⁴⁶⁵ The early PRC-era, for example, saw an increase in discussion of Lysenkoism in connection with Sino-Soviet scientific exchanges. China was innovating in similar fields of plant breeding, including Yuan Longping's successful breeding of three-line hybrid rice (hybrid rice meaning rice demonstrating hybrid vigor, or heterosis), but without the aid of non-Chinese experts.⁴⁶⁶ For the most part, despite originating from many of the similar institutions and backgrounds, scientists across the two sides of the Strait did not interact much with each other given the ongoing Cold War isolation between their respective governments.

This began to change in the 1970s with increasing exposure via third parties, and increased international attention to China. AVRDC played a role in this "reconvergence" of knowledge networks that began in the 1970s and intensified in the 1980s and 1990s. In 1970, the success of IR-8 as part of the Green Revolution in Asia supposedly prompted Chinese officials to seek some of the seed. An article in the *Times of India* reported on February 19, 1970, that the People's Republic of China had placed orders for IR-8 by proxy, via Nepal and Pakistan. The article also correlated these reports of IR-8 imports with increases in rice yields reported that year, though the report was wrong in stating that dwarf strains "have not been developed by Chinese geneticists, who, like their counterparts in Russia, still have a long way to go before they come abreast of the latest seed technology in the West," as Chinese scientists had been planting semidwarf varieties in the years before the development of IR-8.⁴⁶⁷ The acquisition of IR-8 by the PRC caught the attention of development officials in Taiwan, including Shen Zonghan, whose own personal records of this report included a handwritten note accompanying a report from Zheng Deci highlighting reports of the PRC acquiring IR-8.⁴⁶⁸

AVRDC served as one of the vehicles for reconvergence in the 1980s. Early after its establishment, AVRDC and its first director, Robert F. Chandler, fielded concerns that Taiwan's relatively northern latitude would not produce vegetables well suited for more tropical climates.⁴⁶⁹ AVRDC addressed this a decade later when it established in 1981 the AVRDC Thailand Outreach Program, partially funded by AVRDC and partially funded by the Thai government. Interactions with China began immediately in 1981 when the Thailand Outreach Program Director, Charles Y. Yang (Yang Youdi 楊又迪), visited the PRC along with AVRDC Director Wilbur Selleck.⁴⁷⁰ These visits continued in 1982 and

⁴⁶⁵ Schmalzer, *Red Revolution, Green Revolution*.

⁴⁶⁶ Ibid.

⁴⁶⁷ "Current Topics," *The Times of India*, February 19, 1970. Longping Yuan, Jiming Li, and Yeyun Xin, *Hybrid Rice Technology Development: Ensuring China's Food Security* (Intl Food Policy Res Inst, 2009), 1. Zhonghu He and Alain Bonjean, eds., *Cereals in China* (CIMMYT, 2070), 26.

⁴⁶⁸ T.T. Chang to Shen Zonghan. November 20, 1969. Archive Number 034000000330A; Folder Document Drafts "C" in "Shen Zonghan Letter Drafts" [沈宗瀚文件稿]; Council of Agriculture, Executive Yuan Collection [行政院農委會]; Academia Historica Archives 國史館, Taipei, Taiwan.

⁴⁶⁹ Lowell Hardin to Robert F. Chandler, September 1, 1972. Ford Foundation Archives, New York, NY.

⁴⁷⁰ Fletcher, *The AVRDC Story: Twenty Years of Service to Tropical Agriculture*, 64.

again in 1984, when mungbean varieties collected throughout China were sent to the Thailand regional center for evaluation.⁴⁷¹ The Thailand center during this period began to accept training of PRC scientists and technicians where AVRDC, headquartered in Taiwan, could not accept PRC visitors due to the political circumstances of the Cold War. One such program sent Chinese scientists to Kasetsart University in Thailand for an AVRDC training course on legumes. Another, funded by the Canadian International Development Center, sent over 100 Chinese scientists to the Thailand center for training in mungbean evaluation and selection. By 1988, Chinese scientists constituted the largest national origin of trainees graduated from the Bangkok Regional Training Center.⁴⁷²

In 1984, AVRDC had initiated projects in collaboration with China in a number of tropical vegetables: Chinese cabbage, tomato, sweet potato, soybean, and mungbean. The goals of these projects were in line with the standard mission of AVRDC, which is “to improve yields and quality” of the vegetables, as well as to “strengthen the expertise of Chinese scientists,” assess damage due to plant disease, and to collect local varieties in China to bring back to AVRDC.⁴⁷³ Yang described encouraging officials within the Chinese Academy of Agricultural Sciences and the Ministry of Agriculture, Animal Husbandry, and Fisheries to increase Chinese scientists sent to training courses and conferences abroad, in Thailand and the Philippines, as well as to increase the number of international scientists visiting China.

In terms of seed, Yang dedicated much of the report to graphs and charts comparing the yields of AVRDC selected varieties in mungbean (in Chengdu seeing an average increase of 2.0 tons per hectare) and in tomatoes (in one case in Nanjing, outperforming the highest yielding local variety by 522%) to local varieties grown throughout China. Yang concluded that AVRDC varieties showed a “very significant impact on the agriculture in the People's Republic of China is in the making” with “enthusiasm expressed by both the research scientists and the lay farmers in seeking for AVRDC’s materials.”⁴⁷⁴ Not all varieties outperformed local varieties, as in soybeans planted in Xuzhou underperformed in both total yield and seed size, but nonetheless Yang indicated a silver lining in the possibility to breed in new genetic traits, specifically in resistant to soybean mosaic virus and in good branching character, at the Chinese Academy of Agricultural Science Oil-Seed Crop Research Institute in Wuhan.

Yang remarked that Chinese officials were highly receptive of efforts to work more closely with AVRDC, and indicated this was “facilitated by the trend in Chinese

⁴⁷¹ Jacqueline d’Arros Hughes, Subramanyam Shanmugasundaram, and J. D. H. Keatinge, *The Mungbean Transformation Diversifying Crops, Defeating Malnutrition* (Intl Food Policy Res Inst, 2009), 10.

⁴⁷² “Nationality Distribution of Trainees from AVRDC/TOP Regional Training Office, Bangkok, Thailand.” George Marlowe to David Hopper. September 6, 1988. Page 170. AVRDC Library, Shanhua, Taiwan (ROC).

⁴⁷³ Charles Yang, “Progress Report on IDRC’s Vegetable (China) Project,” page 171. AVRDC Library, Shanhua, Taiwan (ROC).

⁴⁷⁴ Charles Yang, “Progress Report on IDRC’s Vegetable (China) Project,” page 177. AVRDC Library, Shanhua, Taiwan (ROC).

agricultural policy favoring an economic-oriented research and production approach.”⁴⁷⁵ In comparison to the history of agricultural science and scientific farming in the period up until the reform era, the 1980s turned to an abandonment of science as revolution or mass participation, which was a hallmark of socialist scientific farming.⁴⁷⁶ The shift to economic-centered and production-centered policies also meant looking outward and re-engaging global networks that were stronger during the pre-1949 era. As historian Sigrid Schmalzer had argued that the pre-reform era was a careful balancing of *tu* (土, meaning native and indigenous, implying the local knowledge of farmers and of mass participation) and *yang* (洋, meaning foreign, implying the elite knowledge of Western science and of ivory tower research centers), the post-reform era returned to the embrace of *yang* science, through training courses and an embrace of foreign selected high-yielding seeds.

Conclusion

While farmers’ associations and land reform remained important (though strategically utilized, depending on relations with the specific country), high modernist science took a greater role by the 1970s. Unlike land reform, agricultural science appeared more apolitical (more specifically, it touted to be a technical, rather than a political solution; it was not, however, immune from politics). Breeding high-yield seeds for distribution abroad did not rely upon state intervention and was easily accepted by most regimes. And though farmers’ associations and agricultural extension were integral to the Taiwan Model, the appeal of that aspect was sidelined as miracle rice and IR-8 splashed headlines internationally.

In a transition reflective of the agricultural development field as a whole, agricultural science, and specifically Green Revolution sciences that produced high-yielding seeds and chemical fertilizers, became emblematic of the 1970s. Along with it came increasing integration with capitalist modes of development, from integrated regional supply markets, to increased attention on standardized marketing and credit mechanisms, to foreign exchange rates and global commodity prices. In the 1980s these were supplemented further with nutritional sciences, as the basic food problem began to be conquered with increased self-sufficiency among staple crops of Global South countries. With this, minerals, vitamins, and protein came to the foreground as desirable development goals, and vegetables represented a healthy diet as opposed to just a caloric sufficient diet.

In the other aspect of agricultural development changes aside from science, FFTC and AVRDC constituted early instances of multinational, regionally-based cooperation and reimagining of knowledge within networks. Similar to how the Association of Southeast Asian Nations (ASEAN) sought to create a common economic zone with the belief that integration would benefit all member countries, these research institutions represented a step forward in regional East and Southeast Asian integration of science and technology.

⁴⁷⁵ Charles Yang, “Progress Report on IDRC’s Vegetable (China) Project,” page 177. AVRDC Library, Shanhua, Taiwan (ROC).

⁴⁷⁶ Schmalzer, *Red Revolution, Green Revolution*.

Knowledge, like fertilizer supply markets, could benefit from economies of scale, and was not constrained by marginal costs.

This regionalization and globalization also demonstrated an evolution in Taiwan's approach to development. As this narrative has progressed, development had emerged from a sandbox of famine prevention and social welfare ideas, to consolidating a model for domestic policymaking in Taiwan. Then, Taiwan sent bilateral missions abroad, on a South-to-South axis, in the Vanguard missions. With land reform, Taiwan combined a center-periphery model, encouraging developing nations to send technocrats for training in Taipei. Finally, with FFTC and AVRDC, Taiwan sought leadership within international networks, still utilizing Taiwan as a center of knowledge, but in multilateral cooperation with other developing nations. Eventually this even led to a reconvergence back to the sandbox of ideas from the Republican era, when Taiwan and the PRC began to reconnect through IR-8 and vegetable training in the 1980s. Though these knowledge vectors were often the consequences of political conditions, they nonetheless shaped how the different modes of knowledge dissemination and power relations within international development emerged during the 20th Century.

Conclusion

In 1968, USAID commissioned the Economic Research Service of the US Department of Agriculture to conduct a series of studies on “Factors Associated with Differences and Changes in Agricultural Production in Underdeveloped Countries.”⁴⁷⁷ The result was a synthetic volume that comparatively analyzed rates and factors affecting agricultural output growth across 26 developing nations. The second phase of the project involved individual country studies, from which emerged a volume titled *Taiwan’s Agricultural Development: Its Relevance for Developing Countries Today*. The volume contained an even-keeled analysis of nearly all aspects of Taiwan’s agricultural successes and failures. It attributed much of its success to the ability of Taiwan to rapidly extend new technologies to the rural countryside, a factor the authors considered partially a consequence of Taiwan’s colonial legacy.⁴⁷⁸

In Chapter 12, titled “Relevance of Taiwan’s Experiences for Other Countries,” the authors discussed the transferability of Taiwan’s success. “Agricultural conditions in Taiwan are similar to those in many developing countries where population growth is rapid and land and capital resources are relatively scarce. Consequently, the lessons learned from Taiwan’s agricultural development experience may be expected to have more applications and greater relevance than those gained from study of the more economically developed countries where population growth was much slower and land and capital resources much more abundant.” In other words, USAID pointed to the same characteristics of Taiwan’s experience as Vanguard missions did, that Taiwan’s relatively higher population growth, resource scarcity, and low capital availability made it more similar to other developing countries than the experiences and lessons of, for example, the United States.

Yet the next sentences tempered the similarities. “However, organizational arrangements that have been successful in achieving rapid increases in agricultural productivity in Taiwan will not automatically be suitable for transfer to other countries. As in the case of new varieties of crops and breeds of animals introduced from abroad, adaptation of institutional organizations that have been successful in Taiwan may be needed to make them work effectively in other countries.”⁴⁷⁹ The institutional organizations referred to in this sentence refer to a range of institutions that Taiwan possessed—farmers associations, irrigation associations, state-owned enterprises like the Taiwan Sugar Corporation, the Provincial Food Bureau, fruit and vegetable marketing cooperatives, vocational agriculture schools, agricultural improvement stations, and of course, JCRR. These institutions provided key intermediary and state services that allowed for farmers to receive new technologies and to market their produce, for new technologies to be quickly adapted and disseminated to rural areas, for the state to set proper

⁴⁷⁷ Christensen, *Taiwan’s Agricultural Development*, iii.

⁴⁷⁸ Ibid., 78.

⁴⁷⁹ Ibid., 84.

regulations and market incentives. And of course, institutions, more so than seeds and fertilizer, were difficult to transplant. In some ways foretelling the influence of New Institutional Economics in recent years, much of Taiwan's success in development, as well as its inability to reproduce that success elsewhere, can be explained by focusing on institutions.⁴⁸⁰

The study captured the ironies of Taiwan's agricultural miracle. Decades of institution building, technocratic experience, and authoritarian policies, combined with the fortune of inheriting social and physical colonial infrastructure and substantial foreign aid payments, contributed to sustained agricultural productivity growth. When in the 1960s Taiwan built upon this success to market its development expertise internationally, it was also hamstrung by the very factors that propelled its own success. Unable to easily transfer institutions, or fund American-styled projects with massive capital requirements, or overcome political obstacles inherent to development, Taiwan's internationalization efforts met limited success.

Experiences with agrarian development began in a range of contexts in Republican-era China: social reform, infrastructure engineering, agricultural science. The numerous debates and sheer volume of different approaches entailed a number of different possibilities for agrarian development. In missionary communities, this discussion was approached through famine relief, and the observation that relief was an insufficient approach in the long term. Reactive efforts transitioned to proactive efforts, which led to the rise of famine prevention as opposed to merely relief, and thus the roots of agrarian development. Institutions like the National Agricultural Research Bureau integrated several of these approaches, notably a network of agricultural research stations combined with agricultural extension. The United Nations Relief and Rehabilitation Administration and the Chinese National Relief and Rehabilitation Administration demonstrated some of the difficulties in attempting national-scale development using foreign expertise in the face of political obstacles. Many of the "schools" or approaches became integrated toward the end of the Republican-era within the Joint Commission for Rural Reconstruction (JCRR).

JCRR encountered sustained success after its move to Taiwan in 1949. It focused on agricultural sciences, taking over existing research institutions such as experiment stations and centers of agricultural research. More consequentially, it integrated the system of farmers associations established under Japanese colonial rule into an agricultural extension system that allowed for rapid dissemination of practices and knowledge from research centers to rural villages. This included the usage of printed media such as *Harvest*, a periodical that utilized moral tales to inculcate cultural practices such as daily hygiene. JCRR also took advantage of 4-H clubs, designed to organize village youth around

⁴⁸⁰ Douglass C. North, "Institutions," *The Journal of Economic Perspectives* 5, no. 1 (1991): 97–112. Daron Acemoglu, Simon Johnson, and James Robinson, "Institutions as the Fundamental Cause of Long-Run Growth," Working Paper (National Bureau of Economic Research, May 2004), doi:10.3386/w10481.

principles of community involvement, democracy, and modern scientific practices. These pathways allowed JCRR to push for a specific modern vision of development that entailed market-based capitalist approaches and community-organized middlemen while still exercising significant centralized control. Eventually these various approaches of social organization, agricultural extension, and agricultural science were integrated into a “model” of Taiwan’s agricultural development.

Elements of the Taiwan model were represented abroad as part of Taiwan’s international development missions during Operation Vanguard. First in Vietnam, Taiwanese technicians were recruited for their experience and knowledge in establishing and running farmers associations. Then in Africa, Taiwanese teams organized teams in crop improvement, agricultural practices, and farming demonstrations. These missions represented Taiwanese agrarian experiences as particularly relevant for other developing nations like Taiwan; Taiwan occupied a similar tropical climate, possessed few natural resources or capital reserves, and most importantly, had been able to demonstrate sustained success operating under their model. The purpose of these missions was driven by Cold War geopolitics—Taiwan leveraged its development expertise to seek diplomatic favors from other developing nations, especially African nations that could vote in the United Nations. These missions also served a more subtle purpose, to market the technical and political prowess of the Republic of China regime at home and abroad. Through international development, Taiwan was building a postcolonial, national identity for itself, as a leader of the developing world.

Cold War development politics was especially evident in the construction and dissemination of Taiwanese land reform. Sustained by a series of measures limiting tenant rents and capped with a forced land redistribution program, Taiwanese experts advertised Taiwanese land reform as a moderate, capitalist-friendly version of land reform that contrasted with the violence of communist revolution. Joining with the American philanthropic John C. Lincoln Foundation to proselytize the teachings of 19th century economic thinker Henry George, the Taiwanese Land Reform Training Institute hosted training sessions and conferences for dozens of developing nation bureaucrats interested in the Taiwanese land reform history. Yet land reform was a highly selective aspect of the Taiwan Model. It was proudly touted, but in practice forced redistribution was rarely carried out due to its political infeasibility, a reality that plagued development as a whole.

By the 1970s, Taiwanese international development had shifted heavily in favor of agricultural sciences as a result of the Green Revolution. The modern science of vegetables, food, and fertilizer replaced the more socially-oriented pursuit of farmers associations and land reform. Thus Taiwanese institutions focused on high-yielding rice and nutritious tropical vegetables. The Taiwanese attempted to capitalize upon their deep scientific experience by building around multinational scientific research institutes that leveraged its global ties between centers of agricultural knowledge like Japan, the United

States, and itself, with areas where it was needed, like the Philippines and Thailand. These in effect could have still placed Taiwan at the forefront of international agricultural development by providing leadership in development science. But the demise of Taiwan's international position as a result of its lost seat in the UN spelled disaster for Taiwan's international research institutions as they were left out of the prestigious Consultative Group of International Agricultural Research. Taiwan was passed over for funding by numerous institutions, and in relative isolation, its institutions had limited impact in the Global South.

The rise and fall of Taiwanese development reveal a great deal about the broader history and nature of development. In some regards, Taiwanese development followed a similar path as other international development efforts. The wielding of erstwhile superior foreign technologies, whether they be farmers associations or high-yield rice, were sometimes indeed more productive or more suitable than local practices. But these technologies fell flat in the face of political or cultural obstacles. Taiwanese farmers association experts, so desired by the South Vietnam regime to organize its villages, could not "save" Vietnam from the advancing North Vietnamese communist advance. Teams sent to Africa could bring higher-yielding rice, but Taiwanese rice did not necessarily sell well in African markets that did not see as high of a demand for the different-tasting Taiwanese rice.

Similarly Taiwanese development reflected the origins of development as a global project. It arose when the successes of development at home encouraged technocratic elites to go elsewhere in the world and convey their knowledge for the benefit of others. Like American, Soviet, or PRC development in the Global South, this motivation was also deeply political. Taiwanese planners sought to benefit directly from their expertise for its internationalization efforts in the light of the global Cold War with the PRC. It also used international development as a space in which to construct a vision of their own nationalist identity vis-a-vis the world. Taiwan's technical capabilities in agriculture and demand for that expertise internationally allowed for the Guomintang regime to envision itself as a global leader. This vision created opportunities for its bureaucrats at home to justify the regime's continued legitimacy in Taiwan in spite of its loss of international position, increasingly poor odds of retaking the mainland, and its authoritarian rule.

Yet this type of development also contrasts with other types of development. Taiwanese development was notably proud of its bootstrapped path to success. It was modernist yet not in the American style, where modernity flowed from a position of economic wealth. Taiwan touted its success under difficult conditions where capital was scarce. It put farmers' welfare on a relatively high priority, thus putting at least some face value upon land reform, village youth, and nutritional standards. And it accomplished all of this while continually improving agricultural yields, average caloric intake, and exporting higher value agricultural goods.

For Taiwan, development became a source of pride. The sacrifice of technicians like Zhang Dusheng in Vietnam and the presence of Taiwanese teams in African villages demonstrated that they had become a global humanitarian power. And unlike others that achieved such a position through war or colonialism, the Republic of China was even prouder to proclaim it arrived at this position of superiority through nothing more than the hard-working characteristics of the Chinese people. While this narrative glossed over the numerous advantages that Taiwan enjoyed, it was nonetheless a real nationalistic sentiment. And this sentiment was firmly founded upon Taiwan's global interactions.

Today Taiwan continues its international development missions, known as overseas development assistance, in places like the Marshall Islands and Central America. Taiwanese methods have adapted to new changing circumstances of global development. Instead of focusing on rice or vegetables, Taiwanese now offer medical assistance in preventing the spread of diabetes among Pacific Island populations.⁴⁸¹ Yet these missions also operate as political missions; Taiwanese missions are provided to the few dozen nations that continue to recognize the Republic of China diplomatically over the People's Republic of China. And these nations dwindle in number as the PRC offers increasingly larger capital packages and investments than the ROC can.

Ironically, it is the PRC today that has become the leading consumer of the Taiwan Model. The PRC's ongoing transformation from rural to an urban economy poses some of the largest governance challenges for the Chinese Communist Party. Some of these include the strains that rural to urban migration have created on social services, real estate, and urban development. Thus, PRC bureaucrats continue to look toward how Taiwan had managed its own urban development. Previously land reform, an arena where the ROC vehemently objected to PRC methods, is now transformed to land policy management, a field that attracts PRC trainees today.

As much as Taiwan has defined its own identity against that of the PRC, their similar paths in development are more similar than different. Policymakers on both sides of the strait traced their training and formative experiences to some of the same institutions, universities, and government bureaus. The 1949 divide created two different ideological modes of governance, but government officials still relied upon the highly trained scientists to staff their bureaucracy. Many of these scientists were former colleagues at institutions like Nanking University, Peking University, etc. And with the thawing of relations in the 1980s and 1990s between the PRC and ROC, scientific exchanges across the Strait appeared to resume where they had left off in 1949, with comparative plantings of vegetables and grains taking place with Taiwanese and Chinese varieties.

As Taiwan's agricultural sector today represents just 1.8% of its GDP, this history seems of little relevance aside from an interesting and mostly unknown episode of international history. Most Taiwanese of a certain generation today will remember newspaper reports of

⁴⁸¹ Chien, Yang, and Wu, "Taiwan's Foreign Aid and Technical Assistance in the Marshall Islands."

Taiwan's *nongjituan* (農技團, agricultural technical teams) abroad, but few will proactively associate them with the Cold War, with Taiwan's international prestige, or with the process of Guomindang nation-building after Japanese colonialism. Even fewer outside that generation are aware of these missions unless they had a personal connection within their family or extended family to the development enterprise.

As a whole, development today remains a remarkably ahistorical discipline, in which many development economists have turned to increasingly quantitative and “scientific” means of analysis in order to accomplish their goals.⁴⁸² The turn to science is not new; it is only that scientific rigor is now used as a litmus test to determine whether a development initiative is considered productive. What seems to have been lost is the recognition that development is itself not a science in the sense that there is one objective truth that would unlock its secrets. It, too, is subject to the context in which it is constructed and practiced, and is defined and ultimately restrained by the politics, culture, and society under which it is formed. Development is as much about the developer as it is about the developed. The Taiwanese, among most successful students of development in the past century, have learned this lesson.

⁴⁸² MIT's Poverty Action Lab, for instance, runs “scientific experiments” where one village is given development assistance, one village is not in order to serve as a control, and results are compared. Abhijit Banerjee and Esther Duflo, *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*, Reprint edition (New York: PublicAffairs, 2012).

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