

Introduction

On July 26, 1965, agricultural scientist Shen Zonghan (沈宗瀚, T. H. or Tsung-han Shen) presented in front of a group of developing world peers in the Sino-African Agricultural Technical Cooperation Conference (SAATCC, Séminaire Afro-Chinois pour la Coopération Technique Agricole) in Côte d'Ivoire. Organized by the Republic of China (ROC) Ministry of Foreign Affairs, SAATCC invited agricultural experts and bureaucrats from Taiwan and fourteen African nations: Côte d'Ivoire (Ivory Coast), Liberia, Cameroon, Senegal, Sierra Leone, Congo, Gabon, French Upper Volta (Haute Volta, today Burkina Faso), Congo-Leopoldville (today Zaire), Madagascar, Niger, Rwanda, Chad, and Togo. Numerous Taiwanese agricultural scientists and technicians accompanied Shen to the conference, among them directors of experiment stations, crop improvement stations, and fertilizer associations in Taiwan, as well as senior scientists in charge of ROC agricultural development teams throughout the African continent. Shen's presentation was nominally about agricultural development and how to best achieve it. But his presentation was also part of a longer and much more consequential history of how scientists, technicians, state planners, and other officials imagined the Republic of China on Taiwan as a vanguard nation of the developing world.

Shen was among the most decorated agricultural scientists in Taiwan. With a doctoral degree in agronomy from Cornell, he had worked his entire life in the agricultural sciences, first in China and then after 1949 in Taiwan. In the same year SAATCC was held, Shen was promoted to chairman of the Joint Commission on Rural Reconstruction (JCRR, 中國農村復興聯合委員會, Zhongguo Nongcun Fuxing Lianhe Weiyuanhui), the government body that had been charged with designing and enacting agricultural development in the ROC. The post-

World War II era saw agricultural scientists like Shen make an increasingly public case for the importance of science and technology, which helped lead to rapid agricultural economic growth and rural social uplift. While Shen had worked largely in the confines of China and Taiwan, global decolonization and the intensifying Cold War of the 1960s provided Taiwanese scientists another platform: the developing world.¹

In his speech to his African counterparts, Shen Zonghan spoke not of his personal experiences as a plant breeder but rather as a representative of what he framed as a Taiwan agrarian miracle. According to Shen, Taiwan could serve as a model for Africa. He showcased graph after graph demonstrating remarkable agricultural growth in Taiwan, as well as its benefits for Taiwanese society and the economy. Most prominent was the growth curve, a visualization of economic growth that went on to become a motif for Taiwanese development presentations given around the world (figure 1).²

Shen argued that most tropical and subtropical countries in the world were “confronted with somewhat similar problems,” namely that “they have not yet adequately developed their natural resources and their economies are primarily agricultural.” As a result, they are “poor and dissatisfied” and “easily taken in by Communist propaganda.” His solution: “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.”³ Shen implied that his African peers should learn from the path laid by Taiwan.

Superficially, Shen’s statements were a simple assertion of political economic relationships: as productivity and rural livelihoods improved, the state would benefit as well. But Shen’s speech was also part of a broader, state-building project in Taiwan and the rest of the world. State leaders and technocrats were advancing seemingly universal, modernist, and scientific claims in order to consolidate their power. The focus on incomes and production was one example, reflecting the burgeoning influence of economics and social science.⁴ Many African members in the audience listening to Shen in 1965 similarly deployed science and economics to support their own state-building projects, some as autocratic as the ROC.⁵

The ROC, led by the single party rule of the Guomindang under Chiang Kai-shek, controlled Taiwan through martial law and a regime of terror that violently repressed, imprisoned, or executed dissenters. By the 1960s, the GMD had seized upon the discourse and practice of agrarian development to further its authoritarian control. Thus, while growth and productivity were the short-term goals of SAATCC, the ultimate aims of the development project for Taiwan was to sell an image of itself at the global scientific and economic vanguard in order to justify its authoritarian grip.

Shen’s presentation in front of his African peers was typical of the wider zeitgeist, in which development was understood to be of greater and greater importance. This book tracks the history of how development emerged as a project undertaken

1875

Figure 1

TREND OF POPULATION & AGRICULTURAL PRODUCTION IN TAIWAN

(1950-52 = 100)

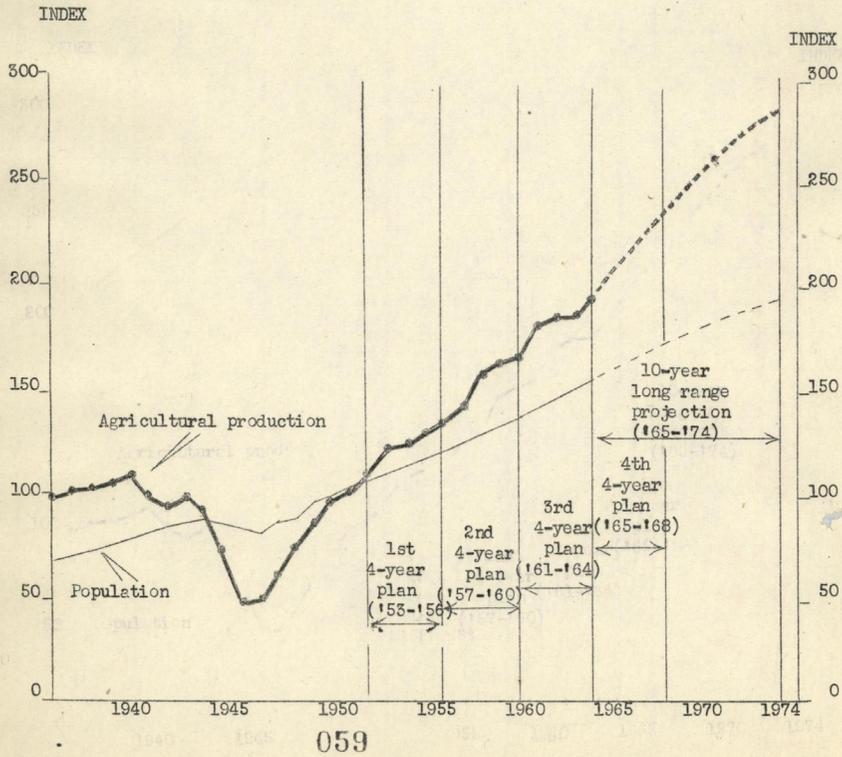


FIGURE 1. This Taiwanese growth curve represents Taiwanese agricultural production from prewar (under Japanese colonialism) to postwar (under the Guomindang) and production figures projected into the future. Given to audience members to accompany Shen Zonghan's speech to the Sino-African Agricultural Technical Cooperation Conference held in Ivory Coast, July 26-30, 1965, it was typical of graphs representing Taiwan's agricultural miracle to audiences throughout the world. 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.

and co-opted by states seeking to build power in the vacuum left by global decolonization. I focus on Taiwan, a small state that faced a growing existential crisis, in part sparked by decolonization. But the turn to development was seen in nearly all states in the twentieth century. Leaders around in the world, especially those in postcolonial, rural, and poor states, wielded discourses of modernity and science for social and political control. The ROC was merely one of the first to achieve significant success with development, and it utilized that success to its own gain by positioning itself as leading a global vanguard.

Scholars have previously sought to understand and explain how to replicate Taiwan's success from the perspective of institutions, policies, or materiality.⁶ However, I am ultimately interested in the consequences of development for society. Development began as a state project to modernize rural communities and achieve higher production yields while also inculcating state power into societal structures. In Taiwan, development also rendered a new social imaginary based on technical and scientific modernity, capitalism with elements of social welfare, and the gravity of economic growth. To illustrate with one powerful visual image, by the 1970s, the growth curve became a recurring motif of the Taiwan miracle (see figure 1). Deployed in conferences like SAATCC and in front of scientists from Africa, Asia, and the Americas, growth, in the developing world, became equated with Taiwan. From there, the GMD regime invoked the growth curve, along with images of the luscious, green Taiwanese vegetables transplanted to the fields of Vietnam and the Taiwanese technicians planting rice side by side with African villagers for Taiwanese in the metropole. Through the farmers' associations that helped make the Taiwan model an attraction for Third World bureaucrats, the Guomindang translated a new visual and documentary narrative of their success abroad. Through state-disseminated propaganda, pro-government media, and color films, Taiwanese farmers in the countryside and urban city dwellers in Taipei understood that Taiwanese rice and technicians were benefitting peoples at all corners of the world, a reflection of the modernity, perseverance, and expertise of their nation as a whole. Agrarian development became an instrument of state power and a hegemonic discourse that state leaders and ROC elites on Taiwan utilized to shape societal behavior and further their own political ends.⁷ Anthropologist Arturo Escobar calls development a type of "colonization of reality" where "certain representations become dominant and shape indelibly the ways in which reality is imagined and acted upon."⁸ Throughout the decades, the content of development changed, from famine prevention to land reform to vegetable breeding. What remained constant was the deployment of development, for state-building, diplomacy, or to sustain an authoritarian martial law regime.

ROC leaders emphasized Taiwan was actively pioneering development not just for its own society, but also for the benefit of others. Taiwan, they implied, was leading the vanguard. In government circles of the ROC Ministry of Foreign

Affairs and the United States, this was explicit; beginning in the early 1960s, Taiwanese agricultural development missions were collectively referred to as Operation Vanguard (先鋒案, Xianfeng An). It was a clever moniker for a diplomatic initiative, but it also reflects the ROC's broader effort to position itself as a global leader in development. The role of the state in creating a social imaginary for political purposes is a theme common to studies of Taiwan society, in part because the GMD government's authoritarian leverage over politics and education that granted hegemony over discourse.⁹ As science, technology, and society (STS) scholars like Sheila Jasanoff, Sang-hyun Kim, and Aaron Moore have argued, technological systems can powerfully shape society and social identities.¹⁰ The socio-technical imaginary and meaning of agrarian development as leading the world proved powerful for the ROC national project.

Taiwan's imagination of the vanguard cannot be understood without a global frame. From 1959 onward, Taiwan sent agrarian development missions to nearly all corners of the developing world: South and Southeast Asia, the Middle East, Africa, and Latin America. This turn to the global followed the emergence of postcolonial politics, wherein states of the developing world attempted to locate alternatives to Western-dominated discourses of knowledge.¹¹ Taiwanese state planners, scientists, and social scientists seized an opening in this global moment by assembling aspects of Taiwan's recent agricultural, rural, and economic success into what they suggested was an exportable model. Evoking principles of low capital costs, scientific modernism, and an ethos of perseverance and non-Western solidarity, the Taiwanese model, its practitioners argued, was more applicable to developing states than capitalist (American) or communist models. Newspapers, speeches, and media in the ROC valorized Taiwanese development experts abroad. And the sustained demand for Taiwanese methods and experts helped the ROC claim that it was in a global vanguard of development modernity. "The global" became an expansive metaphor for the imagination of Taiwan in the vanguard. It was precisely because the world implied grand scales of leadership that Taiwan's position in a global vanguard was so compelling as an imaginary.

While understanding the construction of the development project and discourse is important, this book is not just a discursive or intellectual history—it also delves deeply into how development was actually carried out on the ground. The sociotechnical imaginary of agrarian development arose from a history of efforts at improving agricultural sciences and rural livelihoods. So in addition to examining presentations at academic conferences like the SAATCC, I also follow development practitioners in Taiwan and across Southeast Asia, Africa, and Latin America to show how the Taiwan model was translated on the ground in the rest of the world. As is typical of "modernization comes to town" narratives, Taiwanese teams rarely actually realized long-term, structural improvements in livelihoods or economic gains.¹² However, Taiwanese development abroad did eventually

transform what it meant to be Taiwanese at home: as imagined pioneers of rural modernity.

MAKING A MIRACLE

Taiwan is an island in the maritime crossroads between Southeast and East Asia and home to Taiwanese Indigenous peoples for millennia. Chinese migrants began to settle the island in small numbers during the Ming Dynasty (1368–1644). The arrival of Dutch colonial rule on Taiwan (1624–62) encouraged larger scale migration from the mainland for what historian Tonio Andrade has called “co-colonization,” referring to the colonial rule of the Dutch East India Company and the settlement of Taiwan by migrant Chinese laborers.¹³ The ROC was founded in 1912 following the overthrow of the Qing Empire (1636–1911). At the time, Taiwan was not a part of ROC territory, since the Qing court was forced to cede the island to Japan following its defeat in the First Sino-Japanese War (1894–95). For a half century from 1895 to 1945, Japan ruled Taiwan as a prized agricultural export colony producing predominantly rice and sugar. In 1934, Taiwan was the third largest producer of sugar in the world after India and Cuba.¹⁴ The ROC took possession of Taiwan at the end of the Second Sino-Japanese War (1937–45) as part of the peace agreement brokered by the Allied powers. At the time, a protracted, on-and-off civil war was still taking place on the mainland. When the ROC was defeated by the Chinese Communists in 1949, the ROC government fled to the island of Taiwan. So did a million soldiers, government officials, and other refugees.

ROC leader and dictator Chiang Kai-shek (蔣介石, Jiang Jieshi) made Taiwan the ROC’s “temporary” home until its military could retake mainland China from the Communists. Under Chiang, the Guomindang (國民黨, Nationalist Party, GMD for short, also spelled Kuomintang) ruled Taiwan as a settler colonial regime, imposing brutal martial law and authoritarian rule. The then one-year-old JCRR moved as well. In the mainland, the JCRR was a novel government bureaucracy, established with US aid and with two US experts appointed to its leadership, a five-person commission. All five of its commissioners represented important intellectual lineages in agrarian reform, from community development and rural education to modernist agricultural science that presaged the Green Revolution. But its work was cut short by civil war, and it was granted a new opportunity when it moved to Taiwan in 1949 with the rest of the ROC government. Given the far smaller area of land it was responsible for on the island of Taiwan, the US\$1.5 billion that Taiwan received in economic aid from the US (from 1951–65), and the physical and social infrastructure critical to agricultural productivity left by the Japanese colonial government, the JCRR oversaw significant growth in the agricultural sector.¹⁵

By the 1960s, the JCRR was well known both in Taiwan and across the rest of the world for its agricultural advances. *Time* magazine reported in 1962 of “Formosa: A Success Story.”¹⁶ This eventually snowballed over the following two

decades into the narrative of the “Taiwan miracle.” Taiwan’s emergence from a small island colony to global export power in a span of a quarter-century captured the attention of news media, academics, and government policymakers. Today, Taiwan’s gross domestic product (GDP) ranks twenty-second highest in the world, unemployment rate is under 4 percent, and 0 percent of its population lives under the World Bank’s global poverty line.¹⁷ Few other states saw the economic markers of success as Taiwan did, from GDP growth to unemployment to daily caloric intake. Even fewer began as Taiwan did at the end of World War II, as an agrarian colony whose main purpose in the Japanese empire was exporting rice and sugar. Agricultural commodities constituted 80 percent of its exports just before the end of World War II. As of 2022, that number is 0.76 percent.¹⁸ Whereas the 1962 *Time* article praised Taiwan for its success in exporting mushrooms (worth \$10 million USD per annum in 1962) and canned pineapples (\$12 million USD per annum in 1962), today Taiwan is known for manufacturing Apple iPhones and advanced semiconductors.

The development project emerged at a critical juncture in Taiwanese and global history. The end of Japanese imperial rule and the ROC takeover of Taiwan from Japan in 1945 was initially met with enthusiasm by Taiwanese society, but just two years later, in 1947, it turned bloody and violent. Early GMD rule was characterized by poor public administration and ham-fisted economic policies, exacerbated by soaring postwar inflation that drew widespread ire from the Taiwanese, who had been used to better economic conditions under Japanese rule. After a woman selling black market cigarettes was pistol whipped by government authorities in charge of maintaining a state monopoly on tobacco, protesters sprang up island-wide against GMD rule. GMD authorities responded by deploying soldiers from mainland China, killing an estimated thousands to tens of thousands of civilians during the aftermath of the February 28, 1947 Incident.¹⁹ The GMD government declared martial law for several months afterward. Martial law returned again in 1949 when the GMD moved its government to Taiwan, lasting until 1987. During those four decades, in what became known as the White Terror, the state not only curtailed civil liberties but also secretly imprisoned and routinely executed perceived enemies of the state. The reign of terror silenced the masses and disciplined the population into accepting and supporting the new government.

Following the retreat to Taiwan, the GMD government continued to maintain that it was the sole legitimate government for all of China and would imminently seize back its lost territories. Chiang Kai-shek in particular devoted substantial public rhetoric to retaking the mainland from the Communist “bandits,” and the ROC incited the Taiwanese people in schools and in public spaces through slogans such as “recover the mainland” (光復大陸, *guangfu dalu*) and “counterattack the mainland” (反攻大陸, *fanganong dalu*). GMD propaganda targeted both the *waishengren* (外省人), the “mainland” Chinese who fled to Taiwan mostly during 1948–49 and formed much of the GMD ruling elite, and the *benshengren* (本省人), the

Taiwanese present on the island prior to GMD takeover, mostly consisting of those who migrated to Taiwan during the Qing dynasty from southeastern China. Yet by the 1960s, cracks began to appear. GMD elites recognized that military reconquest of the mainland would be increasingly difficult, especially given the population and manpower discrepancy between the People's Republic of China (PRC) and the much smaller Taiwan. Furthermore, in Taiwan, ethnic tensions between *benshengren* and *waishengren* required strict disciplining and attention from the state. Problems on the island seemed more pressing, and turning to development seemed a way to move past the military stalemate and internal divisions in the ROC.

Moreover, international Cold War politics were posing an existential threat to the ROC. Almost immediately after the Communist victory, the newly established PRC asserted that it, not the defeated and ousted ROC regime, was the rightful representative of China. Although the United States and many Western powers did not recognize the PRC at first, by the late 1960s, pressure from the international community was mounting to correct the PRC's exclusion, especially in the United Nations, where the ROC held a valuable permanent seat on the UN Security Council. When the PRC's communist ally, Albania, introduced measures to replace the ROC with the PRC in the United Nations, the ROC risked losing an important platform of legitimacy and to sustain its long term goal of defeating the Communists.²⁰

At this juncture, newly decolonized and independent nation-states, predominantly in Africa, provided the ROC with an opportunity to gain crucial allies and votes in the UN. These nation-states were working to cast off the legacies of colonialism and to consolidate power behind new leaders, many of whom were, like the GMD, essentially elites supported by military rule. GMD leaders saw an opportunity to horse-trade—the ROC sending agricultural experts and development projects in exchange for a vote in the UN. The GMD deployed both its technocratic elite and its rural technicians to state capitals, academic conference rooms, and fields across Africa, Latin America, and Asia. ROC leaders implied that over time, postcolonial countries could gain sufficient economic independence from agriculture to transition into even more profitable industrial growth. This economic independence was the path to a future free from the historical shackles of colonialism and the West. But the GMD's development diplomacy was cut short when the ROC lost its UN seat in 1971 due to UN General Assembly Resolution 2758, eliminating the main driver for Taiwanese development in Africa.

In the language of development, modern agricultural science and technology were a source of strength and power. Development offered a basis for postcolonial nation-building that political leaders in the Global South coveted. However, Taiwan's rhetoric of postcolonial solidarity was at odds with the reality that the Guomindang regime was itself a settler colonial power. So too was the ROC's framing of development as carried out in the name of anti-Communism and "freedom." For while it was true that Taiwan was decolonized from Japanese rule after 1945,

the GMD's swift introduction of martial law made for an era, as historian Masuda Hajimu writes, of "decolonization as recolonization."²¹ From the lived experience of most Taiwanese, the GMD government's policy of Sinicization and regime of terror constituted a new colonial rule. Nonetheless, the GMD relied on the facade of postcolonialism, including its language of having a strong nation-state that was "free" and represented the will of the Chinese people, to give credence to the ROC's colonial rule at home.²² It also helped the ROC develop an imperial imaginary abroad, in its relations with Southeast Asia and the rest of the Global South.

Scholars like Chen Kuan-hsing and others have framed Taiwan as a "subempire," a "lower-level empire that is dependent upon" US empire, or as a Cold War client state of the United States.²³ While the ROC indeed benefitted from the United States, including by the infusion of American capital and technical knowledge to Taiwan, US diplomatic pressure on other countries to support the ROC in the United Nations, and clandestine funding of Taiwan's Operation Vanguard missions, it is also important to recognize that US hegemony, capital, and power alone were not the primary agents behind the ROC's own settler colonialism of Taiwan and its constructed imaginary as a global power. The ROC portrayed Taiwan in the global vanguard and for the benefit of ROC authoritarian rule at home on its own accord. Though US capital enabled a greater reach of these missions, ROC planners were unhindered in designing and leading these missions. Taiwanese technicians performed the critical knowledge transfers on the ground. The asymmetry of power relations between the ROC development experts and local recipients in the Global South was a result of the ROC-Global South relationship. Most importantly, GMD elites saw the Republic of China as a great state and felt that this imposed on its people a responsibility to share the technology and knowledge it pioneered. In this regard, the ROC was not merely a subempire or a client state but a settler colonial power at home in Taiwan with aspirations for global power. The GMD utilized the world stage, both through development missions dispatched to corners of the Global South and as imagined through the media representations of Taiwanese development abroad and at home, to bolster its colonial control over Taiwan. It is thus crucial to understand Taiwan both in the project of settler colonialism in the metropole and as the global project of imagined power in the world, in short, as an imperial imaginary.

Even though development was led by the state and its chosen technocrats, the GMD sought to vernacularize the project to garner support from Taiwanese subjects, a keystone of which was state efforts to unite the native Taiwanese *benshengren* and the newly arrived *waishengren*, Chinese mainlanders who by the 1960s were beginning to lose faith in the Guomintang's primary goal of retaking the mainland from the Communists.²⁴ This rendered a new Taiwan-specific and GMD-dominated vision, disseminated in the developing world abroad, and then re-represented at home as evidence of success and superiority.

The makeup of overseas development missions tended to conform to a colonial hierarchy on the island itself, with "mainlander" *waishengren* in positions of power

and “Taiwanese” *benshengren* comprising most of the junior technicians. When I interviewed these former junior technicians, many told me that they saw their mission in technical terms, to assist the less privileged elsewhere in the world. They also saw opportunities for personal financial gain, since these positions paid well. In essence, the colonizing ruling class had co-opted the colonized to serve the ROC’s political will.

But the presence of both *benshengren*, who represented local agricultural knowledge from the island, and *waishengren*, also meant that the “Republic of China” in this instance was already “Taiwanized” since the agricultural knowledge they were transmitting was rooted in the ecology, society, and history of Taiwan, not China. Some techniques presented to the Global South by Taiwanese experts had their roots in Japanese colonial policies, such as Taiwan’s farmers’ associations that the Japanese colonial administration had used in part to control rural Taiwanese. This was glossed over by ROC development scientists in their presentations to African counterparts in Cote d’Ivoire and elsewhere, an act of historical silencing that went hand in hand with the ROC colonial policies of Sinicization and de-Japanification. Despite this, the countless charts, maps, and graphs showcased by Taiwanese scientists in agricultural and economics conferences in front of their developing world peers in the 1960s and 70s in effect undermined the political logic of the “Republic of China” that was even then an ideological imaginary. It was not “China” that had achieved miraculous agricultural productivity. Rather, it was the economic, social, and ecological unit of Taiwan, conjuring a new geobody in these contexts as a development alternative for the Third World.²⁵ Rural Taiwanese farmers, urban Taiwanese middle class, and Guomindang elites became aware through state publications and pro-government media of how Taiwanese knowledge and methods were being deployed throughout the world, in turn defining their understanding of what it meant to be Taiwanese.

These interactions reshaped consciousness of Taiwan in the twentieth century so that it was seen not just as an ecological and economic model but eventually as a modern, wealthy society. This reflective identity was a consequence of a twentieth-century state project of development carried out amid the rising allure of economic growth as a means to power. Under the Guomindang regime, development embodied one of the highest state priorities, both to legitimize its repressive, authoritarian rule and also in furthering its assumed identity as a modern, vanguard state. Despite its limited successes in translating a Taiwan model for the rest of the world, the development project was nonetheless a powerful one in transforming Taiwan itself.

WHAT IS DEVELOPMENT?

The concept of development, so central to this study, can seem so capacious and contested as to be amorphous. Literature scholar Andrew Jones sees development as falling into two camps. One is the supposedly “inevitable historical unfolding”

in which humankind moves, teleologically, toward progress. (This idea has been popular from Greco-Roman philosophical traditions on up to the Enlightenment and continues to show up in philosophical traditions of G. W. F. Hegel and evolutionary theorists like Jean-Baptiste Lamarck, Charles Darwin, and Herbert Spencer.)²⁶ Brought to the modern era, this centuries-long development crescendos in what geographer Gillian Hart terms “‘big D’ Development” to describe what she sees as a singular, global, post-1945 project emerging internationally, characterized largely by intervention of the Global North into the Third World.²⁷ The second camp involves, as Jones writes, the “transitive and purposeful activity of active historical agents,” in which states and individuals actively sought to improve their societies and nations.²⁸ Many historians of development take this more generic definition of development as their standard frame of reference. For example, historian David Engerman defines development as “state-centered efforts to effect linked social and economic transformation.”²⁹ Daniel Immerwahr sees development as “increasing social capacity,” a broader categorization that encompasses community development he studies.³⁰

In this book, I am concerned with both forms of development. While most development histories focus on the Global North, I center the Taiwanese and ROC perspectives. For most of the era the book chronicles, Taiwan was a small state and positioned itself more with the Global South than the Global North. Its imminent expulsion from the United Nations limited its reach and influence and moreover triggered an existential crisis among its society. Yet it wielded its scientific and technical prowess from a position of power relative to recipient nations, resulting in an asymmetry similar to that seen in Global North/Global South development histories. In some cases, being seen as a poor rural country benefitted Taiwan, especially in its mission to the Republic of Vietnam, where Vietnamese officials valued Taiwan’s similar socioeconomic status. In other cases, being excluded from the UN hamstrung Taiwan’s efforts, such as in the case of the Asian Vegetable Research and Development Center where Taiwanese planners’ vision to lead in the Green Revolution was thwarted by its status as a non-nation. Depending on the relationship, Taiwan could be both powerful and powerless, a reality that complicates standard understandings of development proceeding from bifurcated North/South models.

I am also interested in deliberate and concerted efforts to improve livelihoods, usually through accelerating economic growth or raising standards of living. This is a “big tent” definition that I have arrived at empirically, based on close reading of tens of thousands of primary documents by policymakers, philanthropists, scientists, technocrats, intellectuals, and others who made it part of their professional and personal goals to improve the well-being of their own societies and their fellow humans. It serves to include the types of development that occurred historically both in Taiwan and by Taiwanese actors abroad after 1949, from agricultural science to rural reform to economic changes to massive infrastructure engineering. It also brings into focus the common principles that eventually characterized Taiwanese

development: scientific and technological modernity, capitalism with socialist characteristics, and rural social organizations. These principles, in turn, tell us how the Taiwanese thought of themselves when they represented their experiences to the developing world and how those representations—narrated as evidence of Taiwanese mastery—helped to sprout a newly growing Taiwanese consciousness.

Development practitioners utilized development to instantiate visions of modernity.³¹ For example, in Cote d'Ivoire, Shen Zhonghan argued for an agrarian modernity wherein high agricultural productivity would lead to higher incomes and increased rural standards of living. In Taiwan, GMD planners envisioned land reform as providing the financial instruments and legal institutions turning landlords and tenant farmers into modern capitalists, accumulating wealth. Scholars like James Scott have argued that development is a muscle-bound, top-down effort at modernization.³² But as shown by scholars like Daniel Immerwahr, communitarian development did not reflect Scott's version of "high modernism" and instead was anti-modernist in its rejection of modernizing principles of centralization and standardization.³³ 4-H organizations in Taiwan in the 1950s, for example, pushed central policies on hygiene for public health and Taylorist quantification of production. But at the same time, 4-H in Taiwan emphasized community development of democracy at the grassroots village level as the primary political driver of social change. 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.

Taiwanese actors packaged their development ideas into what I sometimes refer to as a "Taiwan model." Historical Taiwanese actors used the word *model* on occasion, and more modest vocabulary such as *experience* (經驗, *jingyan*) was far more common. Nonetheless, I choose to emphasize *model* because Taiwanese science, technology, and knowledge were presented as a paradigm to developing world audiences, and one worth emulating. Taiwanese scientists and bureaucrats genuinely intended for African, Asian, and Latin American scientists and leaders to follow in the path of Taiwan and earnestly believed in both their universal (outside of Taiwan) and particular (tailored for local and even community contexts) applicability.

The particulars of Taiwanese development efforts varied widely, depending on time, geography, context, and recipient. Abroad, Taiwanese often promoted land reform for states with loose control over rural societies; the aim was to consolidate state capacity and increase central revenues by gaining greater legibility and turning rural peasants and landlords into capitalists. Yet these efforts failed to result in any meaningful structural change, because so many states were beholden to the landowning classes that land reform targeted. In other contexts, precisely because of the volatility of land reform, Taiwanese development experts offered a more technical and apolitical package of science and technology. These were likelier to

appeal to authoritarian regimes that desired transferrable knowledge and capital without the difficult structural reforms that could have challenged their power. In her interviews of Taiwanese officials in Central America, for example, anthropologist Monica DeHart has argued that “rather than exporting a certain model of economic development, [the Taiwanese] worked with the Central American states to elicit ideas about local needs and to fund projects that reflected those priorities.”³⁴ These reflected Central American interests in the success and experience of Taiwan stemming from its own economic miracle. As historian Simon Toner has shown, Global South interest in Taiwan’s economy as a model of development date back to the 1970s.³⁵ Interestingly, this approach of local collaboration mirrors rhetoric deployed by the People’s Republic of China in its missions abroad as well, even into the present.³⁶ Regardless of the specifics, the Taiwanese portrayed their ideas for development as unique, effective, and tailored for the needs of similar societies across the Global South.

The South-to-South aspect of this history is also consequential for understanding development. Decentering development from the West, as David Engerman and Corinna Unger have argued, allows us to see not just how development affected the lives of those on the ground but also how power brokers within the Global South sought to utilize development for their own purposes.³⁷ The core chapters of this book thus focus at length on South-to-South development, namely Taiwanese development missions to Africa and Asia. In some cases, this attention on South-to-South development reinforces what critical development anthropologists like James Ferguson have shown, namely that development often claims to be a technical panacea that can transcend politics but almost always fails, because development does not address the complex social, culture, and political structures that underlie human societies.³⁸ In other cases, examining development through a South-to-South lens reveals new dimensions that may not have been obvious from the predominant examples of North-to-South development in 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 involved blue-collar technicians working the fields side by side with farmers, 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—that is, extending technologies from center to periphery—were the result of Taiwan’s long-standing 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 relationship. This accords with other historical instances of South-to-South development, such as Israel’s MASHAV or South Korea’s KOICA.³⁹

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 global postcolonial context. Initially driven by Cold War geopolitics to trade development for diplomatic favors, Taiwan's Global South missions grew, in content and in representation, to be something more. International development became a powerful mirror that allowed Taiwan to reflect upon its own process of decolonization and nation-building. In representing itself as having excelled at development, which had become the object of desire for nearly all of the Global South, Taiwan sought to find a new, global identity. And in being able to teach other nations how to achieve the same success, it positioned itself among the vanguard nations of the world. This reimagining of Taiwan's contemporary history as one of miraculous colony-to-vanguard transformation became a powerful governing logic and vision of modernity that was wielded internationally and at home.

Within development, I especially focus on the agricultural sciences, a domain where science, technology, environment, state, and society shaped one another.⁴⁰ Scholars of science and environment have explored the social and political construction of science and technology and interactions between human and non-human actors, especially in the "Green Revolution" narrative about the emergence of high-yield crop cultivars that rapidly increased food production across the world in the twentieth century.⁴¹ But most histories of the Green Revolution have overlooked Taiwan and its interactions with the world. Scientific practices of the Green Revolution and development more broadly were contextualized and contested by indigenous local farmers, globally deployed Taiwanese technicians, Cold War geopolitics, and ecological actors such as local/foreign seeds, chemicals, soils, and climate. For example, I interviewed one retired Taiwanese technician deployed to over a half-dozen African nations who described how extreme daytime temperature fluctuations in Chad affected soil moisture that then necessitated the Taiwanese adopting different climatological considerations in Africa. In another instance, transplantation of Asian rice varieties such as IR-8 resulted in higher productivity than indigenous west African rice but sold less well in local markets due to local taste preferences. This led Taiwanese scientists to create three Taiwanese-operated crop experimentation stations in west Africa to select both local and foreign varieties. In Vietnam, success of Taiwanese transplanting American varieties of watermelon was co-opted as visual propaganda, juxtaposing a massive variety that arrived in Vietnam via Cold War geopolitically induced scientific networks and once again deployed in popular magazines for a lay audience in Taiwan and globally. Agriculture was central to the economy and identities of countless Global South nations and offers a critical lens to see how development unfolds across state, society, economy, science, and environment.

Development is essential for understanding both the historical Republic of China regime and modern Taiwan. Dating back to the late Qing and early Republican era, the modern Chinese state proclaimed that producing economic wealth and distributing that wealth to the citizenry was a core goal.⁴² During the ROC

period on Taiwan, the state ultimately fulfilled that economic promise, a reality that shaped Taiwanese identity itself. Scholars of Taiwanese identity have explored the origins of a separate Taiwanese consciousness as a reaction to Japanese and early Guomindang colonial rule, but the economic livelihood enabled by a global sociotechnical modernity also played an important role.⁴³ As Taiwanese scientists and bureaucrats successfully promoted their visions of modernity to other parts of the Global South, the GMD pointed not just to local success but to international respect to bind its home audience together.⁴⁴ It evoked a more powerful political logic for *waishengren*, who were beginning to question regime legitimacy centered on Chinese nationalism given the increasing unlikelihood of returning to China by the 1960s, and *benshengren*, to whom the GMD were, in effect, foreign colonizers and who saw little benefit under its repressive authoritarianism. Even after martial law ended and democratization advanced in the 1980s and 90s, development persisted as a predominant subject of Taiwanese party politics and legitimacy.

CHAPTER OUTLINE

Many of the dominant developmental ideas during the post-1949 period on Taiwan can be traced back to the scientific and intellectual centers of both the Japanese colonial era and this Republican period in China. Chapter 1 explores those origins, with a focus on how missionaries, scientists, engineers, and foreign experts engaged in famine relief efforts in Republican-era China (1912–49). What began as reactive relief changed over time into famine prevention. Practices such as hydraulic engineering, high-yield crops, and rural reform, designed to bolster the well-being and security of both rural villages and the country as a whole, became precursors to a developmentalist approach to national rural development.

After a traumatic defeat by Communists, GMD planners on Taiwan politicized a capitalist land reform and redistribution, explored in chapter 2. Specifically, land reform in Taiwan became represented as a social revolution accomplished not through executing landlords, as was the case in Communist China, but through modern legal and financial instruments. Forced sales of land recompensed through the financialization of land bonds provided the capital transfers that funded urbanization and industrialization.

In Taiwan during the 1950s, 60s, and 70s, as chapter 3 recounts, JCRR planners focused on rural society and agricultural science. The JCRR created new or co-opted existing social organizations in Taiwan to instill capitalist modes of production through credit and marketing cooperatives and discipline society through public health and youth 4-H campaigns. Simultaneously, the JCRR used science and technology—namely rice breeding, seed multiplication, chemical fertilizers, and agricultural extension—and focused on the translation of scientific knowledge to the countryside.

Beginning in 1959, the ROC sent agricultural development missions to Vietnam, marking the turn of Taiwanese development to a global audience. Chapter 4 shows that within these missions, Taiwanese experts first began to realize the potential value of a Taiwanese approach to development that emphasized modern science and Taiwan's successful farmers' associations. Farmers' associations not only generated economic self-sufficiency for farmers but also theoretically extended state authoritarianism into the countryside. This, Taiwanese technocrats suggested, could help counter the Communist insurgency that beset the Republic of Vietnam.

The success of the Vietnam missions encouraged the GMD to send agricultural development missions to Africa as well. Chapter 5 explores the apogee of Taiwanese development in Operation Vanguard, conducted by the Ministry of Foreign Affairs across two dozen African nations. Entrenched in a global Cold War, Taiwanese technicians demonstrated superior Taiwanese high-yielding crop varieties and handmade farm implements, while Taiwanese scientists extolled the values of modern agricultural science for strength and self-sufficiency. At home, these demonstrations were marshaled as evidence of the Guomintang regime's modernity and largesse in the Global South. And in the context of the global Cold War, they helped the ROC build diplomatic support for their threatened existence as a nation.

Along with agricultural development, GMD technocrats also taught land reform to representatives from the Global South. Chapter 6 explores the Land Reform Training Institute, established to train bureaucrats from over three dozen Third World nations, primarily from the South Pacific Rim and Latin America, in Taiwanese land reform. The institute showcased a technocratic vision of how policy and capitalism could engender the social equality envisioned by ROC founding father Sun Yat-sen. Yet Taiwanese-style land reform did not take hold abroad. This failure reveals a Janus-faced reality of land reform: land reform as carried out on Taiwan was a form of state consolidation by the GMD regime, while land reform pedagogy was performative, carried out for the purpose of the GMD's development diplomacy efforts.

With the rise of the Green Revolution globally, Taiwan sought to utilize agricultural science to bolster its own international position. Taiwanese rice had contributed the *sd1* allele responsible for the semi-dwarfing characteristic that made IR-8, the "miracle rice" of the Green Revolution, highly productive. The Asian Vegetable Research and Development Center (AVRDC) was designed to be Taiwan's entry into the global Green Revolution, and Taiwanese scientists bet that vegetables and the nutritional value of minerals and vitamins would be the next Green Revolution wave to follow caloric intake and cereal grains. As chapter 7 discusses, the AVRDC was intended to bring Taiwan's agricultural science expertise into the vanguard of global agricultural science. However, the AVRDC languished, signaling the late 1970s decline of state-led development, which gradually became surpassed

by private corporations and neoliberalization, and Taiwan's increasing post-UN isolation on the global stage. The AVRDC punctuated a rise and fall narrative of development for Taiwan. Yet even though the AVRDC represented a demoralizing setback for agricultural development, the development project had already transformed what it meant to be Taiwanese at home.