

FARMLAND DEREGULATION AND THIRD-STAGE LAND REFORM IN TAIWAN

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After decades in which agricultural land could only be owned by farmers, Taiwan's 2000 amendments to the Agricultural Development Act opened up the farmland market to non-farmers. This decision, along with Taiwan's accession to the World Trade Organization and the increasing globalization of trade, has had effects on an agricultural landscape that has traditionally consisted largely of smallholder farmers. This Note explores the 2000 amendments within both the historical context of first- and second-stage land reform in Taiwan and the current context of third-stage land reform and trade liberalization. The effects are far-reaching—the most expensive farmland in the world, escalating non-agricultural use, fields left idle. This Note raises questions about the role of agriculture in developed societies and discusses the nuanced nature of farmland market deregulation.

INTRODUCTION	358
I. HISTORY OF LAND REFORM IN TAIWAN	363
A. <i>First- and Second-Stage Land Reform in Taiwan</i>	364
B. <i>Third-Stage Land Reform in Taiwan: The Beginnings</i>	368
1. <i>The 2000 Amendments to the Agricultural Development Act</i>	369
2. <i>The 2002 Accession to the World Trade Organization</i>	373
C. <i>South Korea, Japan, Taiwan, and Tenant Victory</i> ...	375
II. EFFECTS OF TAIWAN'S THIRD-STAGE LAND REFORM...	378
A. <i>Speculation of Agricultural Land Prices</i>	378
B. <i>Land Use and Food Security</i>	380
C. <i>Environmental Impacts</i>	391
III. LIMITING MECHANISMS	397
CONCLUSION	400

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INTRODUCTION

There is an old Chinese saying embedded deeply in the traditional values of Taiwan¹: “有土斯有財.” Translated to English, the phrase means, “Where there is land, there is wealth.”² The idea of land as wealth has been interwoven in the threads of Taiwanese culture, for better or for worse. The fundamental importance of landownership is reflected in the Taiwanese tradition for newly married couples to buy a house.³ It is reflected in Taiwan’s eighty-five percent home ownership rate.⁴ And it is reflected in the law, policy, and public debate around Taiwan’s land reform and agricultural policies since the late 1940s, through the 2000 amendments to Taiwan’s Agricultural Development Act (ADA) (農業發展條例) and accession to the World Trade Organization (WTO),⁵ and up until today. This Note will focus on the 2000 amendments to the ADA and the wider effects of third-stage land reform on food security, environmental issues, and farmers’ livelihoods.

For the purposes of this Note, I define Taiwan’s third-stage land reform as the period from the 1990s to the present, including the 1990s period of WTO negotiations, 2000 ADA amendments, 2002 WTO accession, and subsequent agricultural legislation enacted in the 2000s and 2010s. While scholars vary in their categorization of Taiwan’s land reforms, there is a general consensus that first-stage land reform was implemented in the late 1940s to early 1950s and that second-stage land reform was implemented in the 1970s and 1980s.⁶ Where third-

¹ Taiwan is explored in this Note separate from the People’s Republic of China (the “PRC”) both because of the functional reality of Taiwan as “an independent political and economic entity since 1949” and because Taiwan’s developmental story, which is deeply intertwined with its agricultural story, is distinct from that of the PRC. JOE STUDWELL, *HOW ASIA WORKS: SUCCESS AND FAILURE IN THE WORLD’S MOST DYNAMIC REGION* xx–xxi (2013). This Note uses the conventional Taiwanese, Chinese, Japanese, and Korean naming convention for individuals referenced in the body text, which consists of surnames before given names. Authors of sources are referred to by the name under which they were published.

² *Ruifang Land Office*, NEW TAIPEI CITY GOV’T: LAND ADMIN. DEP’T, <https://eng.land.ntpc.gov.tw/cp.aspx?n=652> [<https://perma.cc/GQ4R-Q29U>].

³ Sophia Yang, *Taiwan Experts Advise Not to Buy a House, but Rent It*, TAIWAN NEWS (Oct. 31, 2017), <https://www.taiwannews.com.tw/en/news/3286791> [<https://perma.cc/D23K-Z6WZ>].

⁴ Chin-Oh Chang & Shu-Mei Chen, *Dilemma of Housing Demand in Taiwan*, 21 INT’L REAL EST. REV. 397, 398 (2018) (discussing the “irony” of Taiwan’s high home ownership rate despite its wildly “unaffordable” housing prices).

⁵ The ADA is the legislation that largely governs Taiwan’s agricultural sector. The 2000 amendments to the ADA and accession to the WTO will be discussed further *infra* Section I.B.

⁶ See Joseph Bosco, *Book Review of Agricultural Reform in Taiwan: From Here to Modernity?* by Irene Bain, 35 CHINA J. 204, 204 (1996) (noting that Taiwan’s agricultural reforms of the 1970s and 80s are often referred to as the second-stage land reform); JIUN-

stage land reform has been recognized, sources differ on timing.⁷ I find a conception of third-stage land reform from the 1990s to the present the most coherent because Taiwan's increasing focus on trade and market liberalization are integrally tied to, for example, the 2009 Small Landlords, Big Tenant Farmers program and other post-WTO accession policies.⁸

On a basic level, it is easy to see why land—and in particular, arable land—is so important to Taiwan. Taiwan is a small island group in the western Pacific Ocean about a hundred miles off the south-east coast of mainland China, comprising roughly 36,000 square kilometers,⁹ only about ten percent larger in area than the state of Maryland.¹⁰ Two-thirds of the landmass is covered in mountains and steep hills,¹¹ and its location in the Northwestern Pacific Basin makes it vulnerable to earthquakes and typhoons that, in turn, cause landslides.¹² Due to the geographic and topographic character of the island, only about twenty-five percent of its land is arable,¹³ giving Taiwan one of the highest ratios of population density to arable land in the world.¹⁴

This limited amount of arable land has extreme significance for Taiwan's food security. With a food self-sufficiency percentage that has hovered in the mid-thirties for the past few decades, Taiwan is heavily reliant on imports of food to feed its population.¹⁵ For

HAO WANG, PO-KUAN LEE & HSIU-HAN CHANG, *LAND POLICY DEVELOPMENT AND AGRICULTURAL TRANSITION* 11 (2018) (describing Taiwan's first-stage land reform policy as occurring during the late 1940s and early 1950s).

⁷ Compare WANG ET AL., *supra* note 6, at 5 (defining third-stage land reform as starting in 2009 to the present), with Hong-Chin Tsai, *Agricultural Globalization and Rural Tourism Development in Taiwan*, 2 *ASIAN J. MGMT. & HUM. SCIS.* 1, 4 (2007) [hereinafter Tsai, *Agricultural Globalization*] (referring to "stages of agricultural globalization" with the third and fourth covering the 1990s to the present).

⁸ See *infra* notes 239–68 and accompanying text.

⁹ *Maps of Taiwan*, *WORLDATLAS*, <https://www.worldatlas.com/maps/taiwan> [<https://perma.cc/ZWT7-SZX9>].

¹⁰ *Maryland at a Glance*, *MD. MANUAL ON-LINE* (Oct. 30, 2020), <https://msa.maryland.gov/msa/mdmanual/01glance/html/area.html> [<https://perma.cc/4NR2-MZ38>].

¹¹ Timothy Ferry, *Mismanagement Lies at Roots of Taiwan's Land Shortage*, *NEWS LENS* (Apr. 27, 2018), <https://international.thenewslens.com/article/94416> [<https://perma.cc/K3QQ-K493>].

¹² See Jui-Hsiung Chuang, Jiun-Hao Wang & Yu-Chang Liou, *Farmers' Knowledge, Attitude, and Adoption of Smart Agriculture Technology in Taiwan*, 17 *INT'L J. ENV'T RSCH. & PUB. HEALTH*, Oct. 3, 2020, at 1, 2; Ferry, *supra* note 11.

¹³ Jessica C. Stabile, *Clashes Between Economics and Environments: Consumerism Versus Conservation in Taiwan and Hong Kong*, 7 *ASIAN-PACIFIC L. & POL'Y J.* 125, 131 (2006).

¹⁴ Samuel P.S. Ho, *Economics, Economic Bureaucracy, and Taiwan's Economic Development*, 60 *PAC. AFFS.* 226, 232 (1987).

¹⁵ See *infra* notes 173–81 and accompanying text. Taiwan's food self-sufficiency rate lags behind even that of South Korea and Japan, countries which are themselves

example, Taiwan imports almost a hundred percent of its wheat and soybeans, both staple foods in the country.¹⁶ The impacts of COVID-19 in 2020 on the global food supply¹⁷ paint a stark picture of Taiwan's vulnerability to supply fluctuations of food imports and, along with the threat to Taiwan of political instability and the globally disruptive effects of climate change on food security, illustrate why domestic production of agriculture is now more important than ever.¹⁸

Agricultural landownership played an especially integral role in Taiwan's development in the mid-twentieth century. Taiwan's comprehensive first-stage land reform in the early 1950s operationalized the concept of *Nongdi Nongyou* (農地農有)¹⁹—that farmland should be owned by farmers—by putting land under the ownership of previous tenant farmers.²⁰ In the 1950s and 1960s, Taiwan's agricultural production, backed by *Nongdi Nongyou*, almost singlehandedly financed Taiwan's explosive transformation from an agrarian society into a relative industrial powerhouse.²¹ This level of economic and developmental growth is virtually unmatched elsewhere in the world, earning it the nickname of the “Taiwan miracle.”²²

In 2000, amendments to the ADA and Land Law (土地法) opened up ownership of legally designated agricultural land to non-farmers, removing *Nongdi Nongyou*.²³ Then, in 2002, Taiwan acceded

recognized as having low food self-sufficiency rates. In comparison, countries such as the United States and Argentina have food self-sufficiency rates above 100%. See FOOD AND AGRIC. ORG. OF THE UNITED NATIONS, THE STATE OF AGRICULTURAL COMMODITY MARKETS IN DEPTH 4 tbl. 1 (2015–16), <https://www.fao.org/3/i5222e/i5222e.pdf> [<https://perma.cc/GCL7-3JM9>].

¹⁶ FOREIGN AGRIC. SERV., U.S. DEP'T OF AGRIC., TAIWAN: GRAIN AND FEED ANNUAL 4 (2021); FOREIGN AGRIC. SERV., U.S. DEP'T OF AGRIC., TAIWAN: OILSEEDS AND PRODS. ANNUAL 4 (2021).

¹⁷ See, e.g., Karine Szegedi, *COVID-19 Has Broken the Global Food Supply Chain. So Now What?*, DELOITTE, <https://www2.deloitte.com/ch/en/pages/consumer-business/articles/covid19-has-broken-the-global-food-supply-chain.html> [<https://perma.cc/5RTL-YYB7>] (describing some of the effects of “missing links” in the global food supply chain, including unharvested crops, issues around the international transport of food, and loss of usual markets for food producers).

¹⁸ See *infra* notes 171–91 and accompanying text.

¹⁹ *Nongdi Nongyou* literally means “farmland to be owned by farmers.”

²⁰ See YU ZONGXIAN & WANG JINLI (于宗先, 王金利), *YI ZHI KAN DE JIAN DE SHOU—ZHENGFU ZAI JINGJI FAZHAN GUOCHENG ZHONG DE JUESE* (一隻看得見的手—政府在經濟發展過程中的角色) [ONE VISIBLE HAND—THE ROLE OF THE GOVERNMENT IN THE PROCESS OF ECONOMIC DEVELOPMENT] 126 (2003).

²¹ See *infra* Section I.A.

²² See generally THOMAS B. GOLD, *STATE AND SOCIETY IN THE TAIWAN MIRACLE* (1986). Gold describes the statistics underlying “Taiwan’s [m]iracle” as “a remarkable record by any absolute or relative standard.” *Id.* at 4–5.

²³ *Adjusting the Rules for Applications to Build Farmhouses on Agricultural Land*, COUNCIL OF AGRIC.: COA ANN. REP. 2015, <https://eng.coa.gov.tw/ws.php?id=2505354> [<https://perma.cc/T5BC-CSS3>] [hereinafter *Adjusting Farmhouse Application Rules*].

to the WTO, liberalizing regulations around the trade of agricultural products.²⁴ Third-stage land reform, initiated by these developments, has brought changes to the agricultural landscape and to rural society.

One of the most visibly obvious changes is an increase in the number of rural buildings masquerading as “farmhouses” on agricultural land.²⁵ While the 2000 ADA amendments removed *Nongdi Nongyou*, they kept intact the concept of *Nongdi Nongyong* (農地農用)—that farmland should be used exclusively for agricultural activities.²⁶ However, these “rural buildings” are not the farmhouses (農舍) anticipated by the language of the ADA—that is, buildings whose purpose would be to facilitate the agricultural production process and contribute to *Nongdi Nongyong*. Instead, they are used as second homes, hotels, restaurants, factories, and various other facilities. Controversially, non-farmer developers often make informal agreements with farmers to build rural building “farmhouses” and then quickly have ownership transferred.²⁷ Some of the violations are especially brazen: Luxurious buildings in the shape of cruise ships and airplanes have sprung up on Taiwan’s agricultural landscape in recent years.²⁸ These rural buildings are the result of a mismatch between legal categories of land and its actual use.

The importance of agricultural land to Taiwan’s developmental history might be why, when scandals related to agricultural land use arise, the backlash is so swift and so strong. Two recent political cam-

²⁴ See *infra* Section I.B.2.

²⁵ E.g., Chen Yung-song, *Illegal Farmhouses Destroying Ilan*, TAIPEI TIMES (June 28, 2006), <http://www.taipeitimes.com/News/editorials/archives/2006/06/28/2003316143> [<https://perma.cc/7KEY-SEXZ>]; see Shuchen Chang, *Losing Farmland, Taiwan Seeks to Limit Development*, ENV’T NEWS SERV. (June 7, 2015), <https://ens-newswire.com/losing-farmland-taiwan-seeks-to-limit-development> [<https://perma.cc/W4QK-87QL>] (noting the majority of farmhouse owners are not farmers). In this Note, I use the term “rural building” to refer to “farmhouses” constructed on land designated as agricultural land. Though the existing literature largely refers to these buildings as “farmhouses” or “illegal farmhouses,” I will refer to them as rural buildings to more clearly differentiate them from actual farmhouses (農舍).

²⁶ See *Adjusting Farmhouse Application Rules*, *supra* note 23 (“[T]he Agricultural Development Act . . . clearly stipulate[s] that . . . farmhouses should only be built because they are needed by persons who actually work the land, and not just by anyone who happens to own farmland.”).

²⁷ E.g., Sheree Chuang, *Taiwan’s Fractured Farmlands*, COMMONWEALTH MAG. (June 19, 2008), <https://english.cw.com.tw/article/article.action?id=1338> [<https://perma.cc/C36L-L2BW>]. Throughout the process of these real estate transactions, all parties involved are presumably aware that such rural buildings will be used for non-agricultural purposes.

²⁸ George Liao, *Illegal Farmhouses Taking Shape of Cruise and Airplane in Yilan in NE Taiwan Face Demolition*, TAIWAN NEWS (July 23, 2018), <https://www.taiwannews.com.tw/en/news/3489091> [<https://perma.cc/R8CT-SWSH>]. While the use of rural buildings for residential purposes is most pronounced in Yilan county and other eastern Taiwan counties, rural buildings are an island-wide trend.

paigns were marred by accusations of illegal farmhouse ownership. Han Kuo-yu's rising star trajectory was abruptly halted in 2019,²⁹ and Su Jia-chyuan's vice presidential campaign was dragged down in 2011³⁰ by such accusations. Both ended up losing their campaigns in 2020 and 2012, respectively.³¹

In this Note, I survey Taiwan's third-stage land reform through the context of Taiwan's agricultural history, focusing specifically on farmland market and economic deregulation and the lifting of the *Nongdi Nongyou* requirement. In Part I, I lay out the history of Taiwan's agricultural land policy, giving an overview of first-stage, second-stage, and catalysts to third-stage land reforms and emphasizing the importance of land-to-the-tiller. In Part II, I explore the changes in Taiwan's agricultural landscape and agricultural policy since the 2000 ADA amendments, including elevated land prices, alternative land use, and eco-friendly farming. In Part III, I discuss the

²⁹ In 2018, Han's unexpected win as mayor of Kaohsiung—the second most populous city in Taiwan—shoved him immediately into the political limelight, culminating in an announcement of his presidential candidacy in June of 2019. Matthew Strong, *Taiwan Elections: KMT Candidate Han Kuo-yu Wins Kaohsiung*, TAIWAN NEWS (Nov. 24, 2018), <https://www.taiwannews.com.tw/en/news/3582596> [https://perma.cc/XXA8-ZY2X]; Dominique Reichenbach, *The Rise and Rapid Fall of Han Kuo-yu*, DIPLOMAT (Mar. 18, 2020), <https://thediplomat.com/2020/03/the-rise-and-rapid-fall-of-han-kuo-yu> [https://perma.cc/MCU7-HHWY]. However, Han's early lead of almost thirty points over the incumbent deteriorated drastically over half a year, partially due to the accusation that his wife, Lee Chia-fen, owned a luxurious mansion on agricultural land that was not used for agricultural purposes. *Presidential Polls on the Eve of the Polling Blackout*, FROZEN GARLIC (Dec. 31, 2019), <https://frozensgarlic.wordpress.com/2019/12/31/presidential-polls-on-the-eve-of-the-polling-blackout> [https://perma.cc/36MP-UUDK]; Keoni Everington, *Han's Wife in Hot Water for Illegal 'Luxury Farmhouse' in W. Taiwan*, TAIWAN NEWS (July 12, 2019), <https://www.taiwannews.com.tw/en/news/3743621> [https://perma.cc/G89J-8VSL].

³⁰ Shih Hsiu-chuan, *Chiu Yi Launches Series of Attacks on Su Jia-chyuan*, TAIPEI TIMES (Sept. 17, 2011), <https://www.taipetimes.com/News/taiwan/archives/2011/09/17/2003513487> [https://perma.cc/S4ZY-K25S] (describing the opposing party attacks on Su for owning an illegal luxury farmhouse in Pingtung County). Su argued that his farmhouse was not technically illegal due to loopholes in the law. This was later confirmed by the Pingtung County government. Chris Wang, *Su Farmhouse Issue Should Be Settled Through Law: Tsai*, TAIPEI TIMES (Oct. 12, 2011), <https://www.taipetimes.com/News/taiwan/archives/2011/10/12/2003515542> [https://perma.cc/2SD5-SNLM]. However, the scandal still soured a portion of the public on Su, who was formerly a magistrate (administrative head of the county government) of Pingtung County, a Minister of the Interior, and the Chairman of the Council of Agriculture. Stacy Hsu & Chris Wang, *Control Yuan Votes 6-4 to Impeach Su Jia-chyuan*, TAIPEI TIMES (Sept. 4, 2012), <https://www.taipetimes.com/News/front/archives/2012/09/04/2003541914> [https://perma.cc/Y56D-RK8Y]. These positions presumably granted him inside knowledge on the purposes behind the laws, making his neglect of them particularly reprehensible.

³¹ While the farmhouse accusations were not the *only* factor that led to these candidates' demise, they were highly influential in affecting public opinion on their candidacies.

nuanced nature of farmland market deregulation and suggest some safeguards to prevent abuses of the system.

Exploring Taiwan's experience grappling with farmland market deregulation and trade liberalization may be informative, as Taiwan has traditionally been seen as an "example" of successful economic development.³² This Note aims to lay out the history of Taiwan's agricultural land reforms and raise questions about what the role of agriculture could or should be in a developed society like Taiwan, or in societies that have taken similar developmental journeys such as Japan and South Korea.

I

HISTORY OF LAND REFORM IN TAIWAN

Agricultural policy in Taiwan today is largely governed by the ADA, which was initially promulgated in 1973 to address increasing mechanization and fragmented farmland, kicking off Taiwan's second-stage land reform.³³ The ADA has been subsequently amended ten times between 1980 and 2016.³⁴ The most significant and far-reaching of these amendments occurred in 2000, at which time changes were made to all articles of the ADA, and agricultural land use amendments were even tacked onto other related legislation. These amendments ultimately deregulated farmhouse construction and farmland ownership, which has in turn indirectly affected the subsequent uses of the land.³⁵

To understand the modern-day trajectory of Taiwan's agricultural sector, it is important to recognize the context in which the ADA was amended in 2000. In this Part, I will review the first- and second-stage land reforms in Taiwan and analyze the 2000 ADA amendments and Taiwan's accession to the WTO. I will conclude this Part by comparing Taiwan's agricultural history with that of South Korea and Japan and will use the comparisons to explain why the concept of land-to-the-tiller is so culturally ingrained in the nation (and why questions about the role of agriculture extend beyond just Taiwan).

³² *Agricultural Growing Pains*, TAIWAN TODAY (Feb. 1, 1968), <https://taiwantoday.tw/news.php?post=13662&unit=8,8,29,32,32,45> [<https://perma.cc/Y9N7-CJAT>].

³³ TSO-KWEI PENG, PRICES, INCOME AND FARM POLICY IN TAIWAN 8 (1989). See generally Nongye Fazhan Tiaoli (農業發展條例) [Agricultural Development Act], FAWUBU FAGUI ZILIAOKU, art. 18 (amended Nov. 30, 2016) (Taiwan) (describing how the ADA applies to landowners after the original enactment), <https://law.moj.gov.tw/LawClass/LawAll.aspx?pcode=M0020001> [<https://perma.cc/FFZ7-Q8JH>] [hereinafter ADA].

³⁴ ADA, *supra* note 33.

³⁵ See *infra* Section II.B.

A. First- and Second-Stage Land Reform in Taiwan

From 1895 to 1945, the island of Taiwan was under Japanese colonial occupation.³⁶ Since Japan viewed the colony as a source of agricultural goods, it introduced changes to Taiwan's rural infrastructure and land policy designed to make Taiwan more agriculturally productive.³⁷ Improvements included increased access to water resources and irrigation,³⁸ as well as small-scale land reform under which top-level absentee landlords' landholdings were eliminated.³⁹ Productivity grew, and the standard of living in the rural sector increased.⁴⁰

However, the land reform did not abolish the tenancy system, and ten percent of landowners still owned sixty percent of cultivated land.⁴¹ Conditions of tenancy continually worsened,⁴² with extremely high rents that often required advance payments and failed to take into account the size of the tenant's crop for the year.⁴³ By the 1910s and 1920s, there was growing rural conflict in both the sugar cane and rice sectors, Taiwan's two major exports to Japan.⁴⁴ These disputes were first targeted at Japanese-owned sugar mills but later grew to include landlords.⁴⁵ By the beginning of World War II, the influence of Taiwanese landlords had already been significantly weakened,⁴⁶ paving the way for large-scale land reform in the post-war decades.

After the end of Japanese colonial occupation in 1945, Chiang Kai-shek's Kuomintang (KMT)⁴⁷ government ushered in the first-stage land reform. This reform, which was aimed at appeasing the rural population and building a political base, focused on three goals:

³⁶ Anthony Y. C. Koo, *Economic Consequences of Land Reform in Taiwan*, 6 *ASIAN SURV.* 150, 150 (1966).

³⁷ Richard Grabowski, *East Asia, Land Reform and Economic Development*, 23 *CAN. J. DEV. STUD.* 105, 121 (2002); see also Edgar Wickberg, *Japanese Land Policies in Taiwan, 1895-1945*, 45 *AGRIC. HIST.* 369, 369 (1969).

³⁸ *STUDWELL*, *supra* note 1, at 30; Koo, *supra* note 36, at 150.

³⁹ Grabowski, *supra* note 37, at 121.

⁴⁰ *Id.* at 123.

⁴¹ *Id.* at 121.

⁴² Tenancy rates themselves arguably did not increase during the Japanese occupation. See Wickberg, *supra* note 37, at 376 (noting stable overall rates of tenancy). However, rental rates on agricultural land increased significantly and, combined with the issue of short rental term tenures, proved to be heavily oppressive to Taiwanese farmers. *Id.* at 376.

⁴³ *STUDWELL*, *supra* note 1, at 30.

⁴⁴ Grabowski, *supra* note 37, at 123.

⁴⁵ *Id.*

⁴⁶ *Id.* at 124.

⁴⁷ The KMT is known today as the main opposition party in Taiwan. Amy Chang Chien & Amy Qin, *With Pig Parades, Once-Feared Opposition Party in Taiwan Tries a Revamp*, *N.Y. TIMES* (Feb. 24, 2021), <https://www.nytimes.com/2021/02/12/world/asia/taiwan-kuomintang-china.html> [<https://perma.cc/S8XR-KSNE>]. While its power has been waning recently, it used to be a "widely feared political force" in Taiwan, where it fled after a civil war with Mao's Communists. *Id.*

reforming the tenancy system, supporting owner-cultivators, and promoting agricultural production.⁴⁸ In 1949, the government set a maximum rent on agricultural land, and, in 1951, the government began a sell-off of public land to tenants.⁴⁹ In 1953, the government enacted the Land-to-the-Tiller Act (耕者有其田), comprehensive land reform legislation that limited each individual landlord's landholdings.⁵⁰ This program directed expropriation of land from landlords who held more than three hectares,⁵¹ resulting in tenant purchase and ownership of the land after ten years.⁵² The compensation tenants paid landlords for this eventual ownership was set at a rate lower than on the open market and was comparable to tenants' previous rental payments to their landlords.⁵³ Economically, the limitation on rent and land price both drove down the market value of agricultural land and increased tenants' incomes.⁵⁴

The overall effect of these policies was to redistribute property rights and shape a national landscape of smallholder, owner-cultivator farming.⁵⁵ The shift from a tenancy-based farming system to owner-

⁴⁸ XU KUIJIA (徐魁甲), NONGDI GUANZHI DE QIYUAN DAO SHUAITU: TAIWAN ZHAN HOU NONGDI SHICHU ZHENGCE DE LISHI ZHIDU LUN FENXI 1948-2007 (農地管制的起源到衰頹：台灣戰後農地釋出政策的歷史制度論分析) [THE RISE AND FALL OF FARMLAND RESTRAINT: TAIWAN'S POST-WAR FARMLAND RELEASE POLICY IN HISTORICAL INSTITUTIONALISM PERSPECTIVE 1948-2007] 21–22 (2012) (Taiwan).

⁴⁹ WANG ET AL., *supra* note 6; STUDWELL, *supra* note 1, at 30 (describing that the introduced legislation would “limit rents to 37.5 per cent of crops”). The sell-off of public land effected in 1951 involved such public lands that were confiscated from former Japanese owners under the 1953 legislation. STUDWELL, *supra* note 1, at 30–31.

⁵⁰ See Shishi Gengzhe You Qitian Tiaoli (實施耕者有其田條例) [Implementation of the Land to the Tiller Act], Fawubu Fagui Ziliaoku (法務部全國法規資料庫) (promulgated Jan. 26, 1953, repealed July 30, 1993), <https://glrs.moi.gov.tw/LawContent.aspx?id=FL003066> [<https://perma.cc/P5HL-RHWJ>]; Raymond Apthorpe, *The Burden of Land Reform in Taiwan: An Asian Model Land Reform Re-analysed*, 7 *WORLD DEV.* 519, 521–22 (1979).

⁵¹ A hectare is a unit commonly used in the measurement of farmland and is equivalent to 10,000 square meters, or about 2.47 acres. *Hectare*, BRITANNICA, <https://www.britannica.com/science/hectare> [<https://perma.cc/4YDR-A93V>].

⁵² STUDWELL, *supra* note 1, at 31 (noting that the compensation for such landlords was limited to 2.5 years' average crop, as opposed to between three and eight years' average crop on the open market).

⁵³ Apthorpe, *supra* note 50, at 519–20.

⁵⁴ Ho, *supra* note 14, at 234.

⁵⁵ WANG ET AL., *supra* note 6. The reality of land transfer through first-stage land reform was complicated. For example, the Land-to-the-Tiller program pulled in small landowners and “middle” landlords whose farmland was subsequently expropriated. Apthorpe, *supra* note 50, at 523; see also Shih-Jung Hsu & Li-Min Liao, *Revisit of Taiwan Land Reform Experiences*, in *PROCEEDINGS OF INT'L CONF. ON ECON. 2017*, at 501, 502 (2017) (explaining how the program expanded the definition of landlord because there were not many in Taiwan after WWII). Land-to-the-Tiller also targeted collectively-owned land, which was expropriated “in its entirety . . . to help meet the land reform targets.” Yen-Ling Tsai, *Farming Odd Kin in Patchy Anthropocenes*, 60 *CURRENT ANTHROPOLOGY* (SUPP. 20) 342, 344 (2019) [hereinafter Tsai, *Farming Odd Kin*]. Also, the landlord-tenant

cultivator farming is at the heart of *Nongdi Nongyou*—farmland to farmers. The shift also fueled a strong sense of identity with the land, demonstrated through increased dedication to intensive farming.⁵⁶

The results were significant. In 1945, a little over 30% of agricultural land was owned by farmers; by 1960, this percentage had grown to 64%,⁵⁷ and by 1970 it was 78%.⁵⁸ This growth was accompanied by an equalizing effect on household incomes in Taiwan and an increase in agricultural production.⁵⁹ Taiwan's early investment in agriculture paid huge rewards economically. From the 1950s through the early 1960s, agricultural products dominated Taiwan's exports, funding in large part Taiwan's industrial development.⁶⁰ For example, the Taiwanese government's fertilizer-for-grain (肥料換穀) system resulted in the transfer of about NT\$18.7 billion (US\$664 million) in agricultural resources to the industrial sector.⁶¹ Taiwan was one of the leaders in per capita gross domestic product (GDP) growth from 1951 to 1984 at an average of 6.39% per year, a level of growth that is nearly unmatched elsewhere in the world.⁶² The effects of *Nongdi*

relationships that were destroyed may have been more complicated, extended, and community-focused than the drastic reform suggested. *Id.*

⁵⁶ XU, *supra* note 48, at 25.

⁵⁷ STUDWELL, *supra* note 1, at 31 (“By one estimate, the transfer of wealth involved in the land reform was equivalent to 13 per cent [sic] of Taiwan's GDP passing from one group of people to another.”).

⁵⁸ Jack F. Williams, *The Problems of Land Consolidation: A Case Study of Taiwan*, 75 J. GEOGRAPHY 419, 419 (1976).

⁵⁹ See STUDWELL, *supra* note 1, at 32–33 (noting that the measure of income equality in Taiwan rose to a level “that was unprecedented for a developing country” and that “[y]ields of traditional crops . . . went up by half, and those of specialist fruit and vegetables doubled”); Koo, *supra* note 36, at 150. Improved farming technology such as pesticides also contributed to more intensive, productive agriculture. See XU, *supra* note 48, at 34.

⁶⁰ STUDWELL, *supra* note 1, at 32–33.

⁶¹ XU, *supra* note 48, at 38–39 (describing the program through which the government required farmers to exchange rice at twenty percent below the market price in exchange for government-produced fertilizers).

⁶² See Robert C. Feenstra, Robert Inklaar & Marcel P. Timmer, *The Next Generation of the Penn World Table*, 105(10) AM. ECON. REV. 3150 (2015) [hereinafter Feenstra, Inklaar & Timmer, *Next Generation*], <https://www.rug.nl/ggdc/productivity/pwt/?lang=en> [https://perma.cc/3G29-JQC2]; Robert C. Feenstra, Robert Inklaar & Marcel P. Timmer, *PWT 10.0: Penn World Table Version 10.0*, UNIV. GRONINGEN: GRONINGEN GROWTH & DEV. CTR. (Nov. 30, 2021, 2:22 PM) [hereinafter Feenstra, Inklaar & Timmer, *Penn World Table*], <https://www.rug.nl/ggdc/productivity/pwt/?lang=en> [https://perma.cc/H3P5-HZ7N] (downloading data from this webpage and personally calculating real GDP growth over time). South Korea and Japan, other fast-growing economies, experienced average annual per capita GDP growths of 6.39% and 6.00% respectively in the same time period. Feenstra, Inklaar & Timmer, *Penn World Table*, *supra*. The average annual GDP growth of the PRC between 1991 and 2014 was 6.78%. Feenstra, Inklaar & Timmer, *Next Generation*, *supra*. For comparison, the United States and the Netherlands experienced average annual per capita GDP growths of 2.35% and 3.08%, respectively. *Id.*

Nongyou have been long-lasting: The legacy of smallholder farming still permeates Taiwan's agricultural sphere.⁶³

However, by the late 1960s and early 1970s, cracks began to show. During this time, global technological advancements in agriculture led to mechanical innovations. In Taiwan, the pattern of smallholder farming cemented through first-stage land reform was incompatible with implementing these innovations because of the high associated production costs.⁶⁴ The prominence of the small-scale farming structure was also exacerbated by traditions of inheritance, which further divided farmland generation by generation.⁶⁵

As some exports lost global competitiveness, the income gap between those in agricultural versus non-agricultural sectors increased.⁶⁶ Rural individuals migrated to cities to work in industry, causing farm labor shortages.⁶⁷ Average wages of farm workers increased, adding to total farm costs that grew increasingly disproportionate to profits from farm products.⁶⁸ While agricultural production comprised 28.5% of Taiwan's total GDP in 1960, it comprised 15.5% in 1970, 12.7% in 1975, and only 7.7% in 1980.⁶⁹ By 1980, Taiwanese farming families were receiving 70.4% of their income from non-farm activities.⁷⁰

The government promulgated the ADA in 1973, initiating the second-stage land reform.⁷¹ The government encouraged mechanization of agriculture through machines such as transplanters and rice combines by offering tax exemptions for farm fuels and long-term low

⁶³ WANG ET AL., *supra* note 6, at 4 (stating that the average farm size in Taiwan as of 2015 was 1.03 hectares, compared to an average of 0.98 hectares in 1970). The reforms of the late 1940s and early 1950s had the overarching goal of placing land directly into farmers' ownership. Despite decades of attempted consolidation, Taiwan's agriculture still consists largely of small average landholdings.

⁶⁴ PENG, *supra* note 33, at 23–24, 29. An initial land consolidation program in the 1960s was ultimately unsuccessful due to problems of cost, corruption, and skepticism on the part of farmers. See generally Williams, *supra* note 58.

⁶⁵ Hsi-huang Chen, *Small Farm Problems and Group Farming in Taiwan*, 29 JAPANESE J. FARM MGMT. 33, 34 (1991) (explaining that farmers divided farmland equally among their sons according to Chinese custom).

⁶⁶ PENG, *supra* note 33, at 7 (noting that a favorable balance of export trade for manufactured products led to cheap imported food and depressed farm prices).

⁶⁷ Tillman Durdin, *Problems Plague Taiwan Farmers*, N.Y. TIMES (May 3, 1970), <https://www.nytimes.com/1970/05/03/archives/problems-plague-taiwan-farmers-migration-to-cities-leaves-labor-in.html> [<https://perma.cc/6HQF-HW2K>].

⁶⁸ *Id.*

⁶⁹ Tsai, *Agricultural Globalization*, *supra* note 7, at 3. Agriculture comprised 1.8% of Taiwan's 2017 GDP. *The World Factbook: Taiwan*, CENT. INTEL. AGENCY (Nov. 8, 2021), <https://www.cia.gov/the-world-factbook/countries/taiwan> [<https://perma.cc/R6N9-8VUG>].

⁷⁰ PENG, *supra* note 33, at 25.

⁷¹ *Id.* at 8.

interest loans for land acquisition and capital expenditures.⁷² Funds were also spent on subsidies and training.⁷³ However, to fully optimize mechanization, Taiwan needed to achieve economies of scale and remove disadvantages of small-scale farming. The government pushed cooperative farming and consolidation of agricultural land.⁷⁴

Alongside the land reform, the government enacted price support and stabilization schemes for major crops, hoping to stimulate the agricultural sector.⁷⁵ Guaranteed purchase prices of rice by the government caused a surplus of production that drove down rice prices and heavily burdened the government.⁷⁶ In response to overproduction, the government instituted fallow land subsidies in 1984, which incentivize farmers to let land rest and maintain it in good condition. Decreased agricultural production in the context of overproduction of rice in the 1980s made sense, but despite the change in context, these subsidies are mostly still intact today.⁷⁷

The results of second-stage land reform were modest: The average farm size increased from 0.86 hectares to just over one hectare, and almost all farms engaged in some sort of mechanization.⁷⁸ However, agricultural production fell from 28.5% of Taiwan's total GDP in 1960 to 4.2% in 1990 and 2.1% in 2000,⁷⁹ and farming families still received the bulk of their income from non-farm activities.⁸⁰

B. *Third-Stage Land Reform in Taiwan: The Beginnings*

At the end of the 1980s, many of the same problems of scale persisted. By the 1990s, the average farm size was 1.1 hectares, and Taiwanese farmers were unable to compete against imports.⁸¹ As youth from rural areas increasingly left the countryside for employment opportunities in the cities to send money back home, the average age of the farming population surged to over fifty.⁸² Agricultural production became less and less profitable, causing aging farmers to opt for fallow land subsidies instead of working their

⁷² Fu-Ming Lu, *The Role of Agricultural Mechanization in the Modernization of Asian Agriculture: Taiwan's Experience*, 2 *ENG'G AGRIC., ENV'T & FOOD* 124, 125 (2009).

⁷³ *Id.*

⁷⁴ WANG ET AL., *supra* note 6, at 7.

⁷⁵ PENG, *supra* note 33, at 5.

⁷⁶ *See id.* at 9; XU, *supra* note 48, at 42–43.

⁷⁷ *See infra* notes 188–92.

⁷⁸ WANG ET AL., *supra* note 6, at 7.

⁷⁹ Tsai, *Agricultural Globalization*, *supra* note 7, at 3.

⁸⁰ PENG, *supra* note 33, at 25.

⁸¹ Beatrice Knerl, *Food Security Versus WTO Membership in Taiwan, Presented at the Third Annual Conference of the European Association of Taiwan Studies* 6 (2006) (on file with the *New York University Law Review*).

⁸² *Id.* at 7.

farms.⁸³ Taiwan's agricultural exports dropped from US\$4.1 million in 1991 to US\$3.3 million in 2000.⁸⁴ Thus, even before third-stage land reform, Taiwan's agricultural sector was struggling and highly dependent on government subsidies, tariffs, and protected markets for crops such as rice.⁸⁵

Besides, Taiwan's fundamental agricultural goals were changing. During the 1990s, Taiwanese leadership had its sights set on accession to the WTO.⁸⁶ The WTO is a global international organization through which members negotiate far-reaching trade agreements.⁸⁷ Its principal goal is to catalyze economic growth by removing barriers to international trade, which often includes lifting domestic market-protecting measures.⁸⁸ Importantly, the reach of WTO members is extremely broad—at 132 in 1998, and currently at 164⁸⁹—making it crucial for Taiwan to join in order to participate effectively in international trade.⁹⁰

In the 1990s, to signal its intent to join the WTO, Taiwan agreed to trade deals with numerous WTO members—for example, the United States in 1998—to lower tariffs and eliminate bans on the import of certain goods such as pork.⁹¹ At the same time, Taiwan's agricultural goals were shaped to address the new global reality.

1. *The 2000 Amendments to the Agricultural Development Act*

In 1999, Taiwan's Council of Agriculture (COA) embarked on drafting amendments to the ADA. Taiwan's COA is a board under the Executive Yuan Council that enforces executive functions of the gov-

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *See id.* at 6.

⁸⁶ *See* Chia-Sui Hsu, Rural Gentrification in *Desakota*: Farmland Politics, Alternative Food Networks, and the Emergence of New Farmers in Taiwan 34 (Apr. 8, 2019) (Ph.D. dissertation, Lund University) (on file with Lund University Research Portal).

⁸⁷ *What Is the WTO?: Overview*, WORLD TRADE ORG., https://www.wto.org/english/thewto_e/whatis_e/wto_dg_stat_e.htm [<https://perma.cc/3JM9-9PN9>].

⁸⁸ *Id.*

⁸⁹ *Members and Observers*, WORLD TRADE ORG., https://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm [<https://perma.cc/7NHB-H6HH>].

⁹⁰ Steve Charnovitz, *Taiwan's WTO Membership and Its International Implications*, 1 ASIAN J. WTO & INT'L HEALTH L. & POL'Y 401, 402 (2006). The benefits of joining the WTO include "Most Favored Nation" treatment, which prohibits preferential treatment between members. Kimberly Amadeo, *The WTO: Members, Categories, and Benefits*, BALANCE (Oct. 29, 2020), <https://www.thebalance.com/wto-membership-benefits-and-importance-3306364> [<https://perma.cc/Q5E9-QMZJ>]. Participation is especially significant for Taiwan, which, due to its lack of status as a "state," cannot participate in most other major international organizations. Charnovitz, *supra*, at 402.

⁹¹ *See* Eduardo Lachica, *Taiwan Opens Markets to U.S. in Effort Toward Joining WTO*, WALL ST. J. (Feb. 23, 1998), <https://www.wsj.com/articles/SB888018884565990000> [<https://perma.cc/HEJ3-BTFJ>].

ernment with respect to agriculture, forestry, fishery, and other related spheres.⁹² Then-COA Chairman Peng Tso-kwei, with eventual WTO accession in mind, backed a revised version of the ADA that deregulated the agricultural land market.⁹³ Peng's central goals in revising the ADA were liberalizing agricultural trading and modernizing agricultural production.⁹⁴ The logic behind allowing non-farmers to purchase farmland, after decades of *Nongdi Nongyou*, was that liberalization would help inject capital into the agricultural sector and catalyze mechanical innovation.⁹⁵

However, in the wake of party pressure due to the then-upcoming 2000 presidential election, the incumbent KMT legislative caucus created their own set of revisions, relaxing regulations on Taiwan's land-use policy more than the original COA revisions.⁹⁶ In addition to opening up the purchase of farmland to non-farmers, the KMT revision would allow construction of individual residences on farmland.⁹⁷ In contrast, the original revision only allowed the construction of "community-style subdivision housing."⁹⁸

Peng, who is nonpartisan, strongly disagreed with the KMT's new proposed revisions, citing the dangers of land speculation, overdevelopment, and environmental damage.⁹⁹ He was also afraid that the KMT's revision, working in conjunction with the ownership liberalization and tract subdivision provisions,¹⁰⁰ would endanger the process of agricultural production modernization by fueling the luxury rural building trend concentrated in eastern Taiwan.¹⁰¹ Such construction fragments farmland tracts, hindering the capability to use large-scale farming techniques. Peng was so strongly opposed to the new pro-

⁹² *Overview*, COUNCIL OF AGRIC., <https://eng.coa.gov.tw/ws.php?id=9501> [<https://perma.cc/R8AK-UVMN>].

⁹³ See Lauren Chen, *Peng and KMT Spar over New Farmland Bill*, *TAIPEI TIMES* (Dec. 7, 1999), <https://www.taipeitimes.com/News/local/archives/1999/12/07/0000013921> [<https://perma.cc/VRR6-SL8Z>] (discussing the legislative history of ADA amendments).

⁹⁴ See Ko Shu-ling, *COA Chairman Peng Tso-kwei Falls at Political Hurdle*, *TAIPEI TIMES* (Dec. 2, 1999), <https://www.taipeitimes.com/News/local/archives/1999/12/02/0000013278> [<https://perma.cc/CGD8-ZEAM>] (outlining Peng's policy goals while COA Chairman).

⁹⁵ See Chen, *supra* note 93.

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ *Id.*

¹⁰⁰ The tract subdivision provision would decrease limitations on subdividing small plots of agricultural land less than about five hectares (放寬分割限制). Chen, *supra* note 93. This measure was largely aimed at reducing inheritance disputes and is not a focus of this Note. *Id.*

¹⁰¹ *Id.*

posed revisions that he resigned from his position as Chairman of the COA.¹⁰²

Opinions from farmers themselves and other members of the public diverged widely, with the former feeling that liberalizing ownership was the only way they could make a profit and the latter believing that liberalization would destroy the agricultural nature of the land.¹⁰³ The back and forth resulted in amendments to the ADA and Land Law that implemented the KMT's proposed revisions. The January 26, 2000 amendments to the ADA and Land Law are usually together referred to by scholars as the 2000 ADA amendments. These amendments reflected the view of agricultural authorities that alternative uses of agricultural land could both economically benefit Taiwan and "improve farmers' living standards."¹⁰⁴ The two major amendments with regards to agricultural land use are the sale amendment (農地自由買賣) and the farmhouse amendment (農業用地興建農舍).

The sale amendment widened the qualifications of who could own agricultural land. Before 2000, farmland use in Taiwan was managed by the concepts of *Nongdi Nongyou* and *Nongdi Nongyong*—that farmland should be owned by those who farm it, and that farmland should be used only for farming.¹⁰⁵ *Nongdi Nongyou* was written into the Land Law in Articles 30 and 30-1: Article 30 restricted transfer to non-farmers, and Article 30-1 provided for inheritance, requiring non-farmer heirs to transfer inherited farmland to farmers within a year after obtaining ownership.¹⁰⁶ The Land Law was amended in conjunction with the ADA in 2000, and Articles 30 and 30-1 were deleted.¹⁰⁷ The deletion of these articles allowed non-

¹⁰² *Id.*; Ko, *supra* note 94 (reporting Peng's resignation in response to KMT political maneuvering).

¹⁰³ Many farmers supported the KMT revisions because of the growing issue that "farming doesn't pay." Chen, *supra* note 93. Economically, many farmers at the time would rather sell than work their farmland because of the difficulty involved in earning a living from the land. Accordingly, farmers argued that, if the construction of farmhouses were prohibited on newly-sold agricultural land, nobody would buy their land. *Id.* Other mostly non-farmers argued back that liberalizing ownership would turn the land into "a gambling chip used by giant corporate conglomerates." *Id.* The economics of farming versus selling off land are beyond the scope of this Note, but some information about the debate is included to provide context as to the state of public opinion at the time the revision was being discussed.

¹⁰⁴ Hsu, *supra* note 86, at 34.

¹⁰⁵ *Adjusting Farmhouse Application Rules*, *supra* note 23; Taichih Chen & Tsulung Chou, *Spatial Form of Urbanization, Sustainability and Fragmented Landownership: The Example of Ilan in Taiwan's Urbanization*, 83 *GEOJOURNAL* 489, 492–93 (2018).

¹⁰⁶ XU, *supra* note 48, at 61 nn.25 & 26.

¹⁰⁷ Tudi Fa (土地法) [Land Law], FAWUBU FAGUI ZILIAOKU, arts. 30, 30-1 (promulgated June 30, 1930, amended June 15, 2011) (Taiwan), <https://law.moj.gov.tw/LawClass/LawAll.aspx?pcode=D0060001> [<https://perma.cc/282T-A3FL>].

farmer individuals to purchase agricultural land and non-farmer heirs to keep their inheritances. The simultaneous addition of Articles 33 and 34 to the ADA also opened the door for certain legal entities to acquire farmland, so long as the land was then used for an agricultural-based business operation.¹⁰⁸

The sale amendment did not disturb the fundamental concept of *Nongdi Nongyong*, demonstrated by the requirement that those looking to convert high-grade farmland to non-agricultural use, by law, get permission from the government and pay a “giveback fund” fee to be invested in agricultural development.¹⁰⁹ However, owners of agricultural land may not want to formally convert their land use since agricultural land is subject to benefits such as an exemption from the Land Value Incremental Tax and the Land Value Tax.¹¹⁰

The farmhouse amendment of the 2000 ADA amendments allowed for the construction of individual farmhouses on farmland.¹¹¹ Several limitations were implemented to cabin abuse of the system. For example, according to ADA Article 18, farmhouses built on self-owned agricultural land can usually only be transferred once five years have passed since the construction.¹¹² After five years, such farmhouses may be freely bought and sold.¹¹³ The ADA also specified that regulations regarding qualifications to construct farmhouses were to be produced by the Ministry of Interior.¹¹⁴

¹⁰⁸ See ADA, *supra* note 33, arts. 33, 34 (describing the process by which agriculture-related legal entities can apply to acquire farmland).

¹⁰⁹ See JOHN W. BRUCE, RENÉE GIOVARELLI, LEONARD ROLFES, JR., DAVID BLEDSOE & ROBERT MITCHELL, *LAND LAW REFORM: ACHIEVING DEVELOPMENT POLICY OBJECTIVES* 204 (2006) (referencing the permission requirement in the ADA); ADA, *supra* note 33, art. 12 (explaining that such a fee will be reinvested into agricultural development).

¹¹⁰ ADA, *supra* note 33, art. 37 (describing the process by which landowners can apply to get an exemption from the Land Value Added Tax). Land Value Taxes and Agricultural Land Taxes are levied on a local, not national, basis, and many jurisdictions do not levy a property tax for agricultural land. See, e.g., *Land Value Tax*, LOCAL TAX BUREAU, HSINCHU CITY, [https://www.hcct.gov.tw/en/home.jsp?id=3&parentpath=0& \[https://perma.cc/WK3U-2VTD\]](https://www.hcct.gov.tw/en/home.jsp?id=3&parentpath=0&[https://perma.cc/WK3U-2VTD]) (stating that the municipality excludes farmland from land value tax); *Agricultural Land Tax*, LOCAL TAX BUREAU, HSINCHU CITY, [https://www.hcct.gov.tw/en/home.jsp?id=29&parentpath=0,3& \[https://perma.cc/CE3G-ZB2S\]](https://www.hcct.gov.tw/en/home.jsp?id=29&parentpath=0,3&[https://perma.cc/CE3G-ZB2S]) (explaining the municipality’s rationale behind suspending the levying of agricultural land tax); *General Description*, FIN. & TAX’N BUREAU, YILAN CNTY., [https://www.iltb.gov.tw/en/main/menuContent.aspx?menuid=ECbOdSuDcp0!2x \[https://perma.cc/GW7F-S3JR\]](https://www.iltb.gov.tw/en/main/menuContent.aspx?menuid=ECbOdSuDcp0!2x [https://perma.cc/GW7F-S3JR]) (explaining a county’s governmental structure for collecting local taxes).

¹¹¹ ADA, *supra* note 33, art. 18; see also Wei Shih-chang, Letter to the Editor, *Agricultural Lands*, *TAIPEI TIMES*, Apr. 7, 2019, at 6, [https://www.taipetimes.com/News/editorials/archives/2019/04/07/2003712932 \[https://perma.cc/LHJ5-7AJU\]](https://www.taipetimes.com/News/editorials/archives/2019/04/07/2003712932 [https://perma.cc/LHJ5-7AJU]) (commenting on effects of the ADA amendments).

¹¹² ADA, *supra* note 33, art. 18 ¶ 2; Hsu, *supra* note 86, at 69–70.

¹¹³ ADA, *supra* note 33, art. 18 ¶ 2.

¹¹⁴ *Id.* art. 18 ¶ 5.

Accordingly, the initial Regulations for Constructing Farmhouses on Agricultural Land (Farmhouse Regulations) (農業用地興建農舍辦法) were promulgated in 2001.¹¹⁵ The 2001 Farmhouse Regulations instituted further limitations on the permit process for farmhouse construction applicants. The regulations stipulated that applicants must be farmers,¹¹⁶ must not already have a farmhouse for their use,¹¹⁷ and must own land that is truly for agricultural use.¹¹⁸ The regulations also stipulated that farmhouses could not fragment the productive agricultural land, constitute more than ten percent of the total area of the tract, or be built on tracts smaller than 0.25 hectares.¹¹⁹

However, these limitations did little to hinder the influx of farmhouses.¹²⁰ Tax benefits exacerbated the situation: Farmhouses constructed according to ADA Article 18 are tax-free, providing a perverse incentive for farmers to build and sell farmhouses for elevated prices, or for non-farmers to acquire farmhouses. Although the amendments did not legally affect the *Nongdi Nongyong* concept, the intersection of the sale amendment, the farmhouse amendment, and economic and social pressures of increased globalization have led to a not unexpected de facto deviation.

2. *The 2002 Accession to the World Trade Organization*

Taiwan's 2002 accession to the WTO put further pressure on the agricultural industry. Accession led to a sudden shift in agricultural focus from traditional farming to the production of high-value commodities.¹²¹ This development, in conjunction with the sale amend-

¹¹⁵ Nongye Yongdi Xingjian Nongshe Banfa (農業用地興建農舍辦法) [Regulations for Constructing Farmhouses on Agricultural Land] (promulgated Apr. 26, 2001, amended Sept. 4, 2015) (Taiwan), <https://law.moj.gov.tw/LawClass/LawHistory.aspx?pcode=M0110013> [<https://perma.cc/8KP4-Q3LJ>] [hereinafter Farmhouse Regulations 2015].

¹¹⁶ Nongye Yongdi Xingjian Nongshe Banfa (農業用地興建農舍辦法) [Regulations for Constructing Farmhouses on Agricultural Land], FAWUBU FAGUI ZILIAOKU, arts. 2, 3 (enacted Apr. 26, 2001) (Taiwan), <https://law.moj.gov.tw/LawClass/LawOldVer.aspx?pcode=M0110013&lnndate=20010426&lser=001> [<https://perma.cc/K28S-TYGJ>] [hereinafter Farmhouse Regulations 2001].

¹¹⁷ Farmhouse Regulations 2001, *supra* note 116, art. 3 ¶ 1(4). In 2013, Articles 2 and 3 were swapped, and this clause was amended to include already having obtained a farmhouse construction license under the definition of already having a farmhouse for one's use. Nongye Yongdi Xingjian Nongshe Banfa (農業用地興建農舍辦法) [Regulations for Constructing Farmhouses on Agricultural Land], art. 2 ¶ 4 (amended July 1, 2013) (Taiwan) [hereinafter Farmhouse Regulations 2013], <https://law.moj.gov.tw/LawClass/LawOldVer.aspx?pcode=M0110013&lnndate=20130701&lser=001> [<https://perma.cc/UZ4V-H8TU>].

¹¹⁸ Farmhouse Regulations 2001, *supra* note 116, art. 3 ¶ 1(5).

¹¹⁹ *Id.* at arts. 3 ¶ 1(3), 6 ¶ 1(3).

¹²⁰ See *infra* notes 198–220 and accompanying text.

¹²¹ YUKI HUEN, RSCH. OFF. OF THE LEGIS. COUNCIL SECRETARIAT, INFORMATION NOTE: TAIWAN'S AGRICULTURAL POLICY 1 (2014).

ment, underscores Taiwan's new agricultural focus, aimed around adapting to trade liberalization.

While Taiwan's entry into the WTO had a positive impact on the volume and value of industrial exports,¹²² it caused difficulties for traditional rice farming households.¹²³ As part of its terms of accession to the WTO, Taiwan agreed to significant tariff reductions on agricultural goods and products and immediate liberalization of previously closed agricultural markets, including the rice market.¹²⁴ The tariff reduction on agricultural goods mandated by Taiwan's accession agreement required Taiwan to lower such tariffs from the pre-WTO level of 20% to 12.9%—to 14% in 2002, and then to 12.9% in 2007—compared to the 6% to 4.15% decrease mandated for industrial goods.¹²⁵ After accession, the value of agricultural imports drastically exceeded that of agricultural exports.¹²⁶ In 2002, the first year of Taiwan's accession, the country's domestic agriculture suffered losses of NT\$6.5 billion (US\$1.56 billion).¹²⁷

Traditional farmers suffered tremendously. In 2004, Yang Ju-men, an embittered farmer who became known as the "rice bomber," planted seventeen explosive devices in Taipei to bring awareness to the effects of Taiwan's WTO accession on farmers.¹²⁸ To drive home his message, he included rice in the bombs and attached notes lambasting the government for their treatment of farmers.¹²⁹ The gesture was largely symbolic: Only two of the bombs went off,

¹²² See Ji Chou, Shiu-Tung Wang, Kun-Ming Chen & Nai Fong-Kuo, *Taiwan's Accession into the WTO and Trade in Services: A Computable General Equilibrium Analysis*, 11 NAT'L BUREAU OF ECON. RSCH. 99, 119 (2003) (reporting on a series of economic models analyzing Taiwan's ascension to the WTO that each showed an increased volume of Taiwanese exports).

¹²³ You-Lin Tsai, *Not a Peasant Movement: The Livelihood Struggles of the Taiwanese Labouring Population Under the Broken Promise of High-Tech Development*, 243 CHINA Q. 801, 807 n.35 (2020). Those in charge were aware of the danger: Then-COA Chairman Chen Hsi-huang admitted that joining the WTO would destroy agricultural competitiveness and force many farmers to change jobs. XU, *supra* note 48, at 52–53.

¹²⁴ WAYNE M. MORRISON, TAIWAN'S ACCESSION TO THE WTO AND ITS ECONOMIC RELATIONS WITH THE UNITED STATES AND CHINA 2–3 (2005).

¹²⁵ *Id.*; Charnovitz, *supra* note 90, at 408.

¹²⁶ MORRISON, *supra* note 124, at 4–5.

¹²⁷ Jacky Hsu, *Police Nab 'Rice Bomber', Hero to Struggling Farmers*, S. CHINA MORNING POST (Dec. 6, 2004, 12:00 AM), <https://www.scmp.com/article/480976/police-nab-rice-bomber-hero-struggling-farmers> [<https://perma.cc/E5MR-7SFF>].

¹²⁸ *Id.*

¹²⁹ *Id.*; Ko Shu-ling, *Pardoned 'Rice Bomber' Walks Free*, TAIPEI TIMES, June 22, 2007, <https://www.taipeitimes.com/News/taiwan/archives/2007/06/22/2003366287> [<https://perma.cc/L3N9-VU6V>].

and no individuals were injured or killed.¹³⁰ Yang's initial sentence of seven and a half years was reduced to five years and ten months by a higher court that believed Yang did not have pernicious motives in placing the bombs.¹³¹ Yang also had the public on his side: He was seen as a hero by Taiwanese farmers who felt that the government was ignoring their struggles. Farmers and villagers petitioned for his release, and several lawyers volunteered their services.¹³² Yang was pardoned in 2007 after President Chen Shui-bian publicly agreed that "Yang's situation deserved compassion."¹³³

Since 2002, agriculture's share of Taiwan's total GDP decreased to 1.7% in 2004 and 1.64% in 2010.¹³⁴ Taiwan has also seen decreased production in most traditional crops, including rice, corn, sorghum, and sugar cane, with decrease rates above 70% for most varieties.¹³⁵ While much of Taiwan's original "miracle" was premised on *Nongdi Nongyou* and the ideal of the smallholder farmer, adaptation to trade liberalization made this ideal basically obsolete.

C. South Korea, Japan, Taiwan, and Tenant Victory

South Korea's and Japan's developmental stories largely parallel that of Taiwan. Geographically, all three countries are located in the Pacific Ocean off the coast of the main Asian continent. While South Korea and Japan are more temperate in climate than Taiwan, all three are mountainous countries in which farmland makes up less than a quarter of the landmass.¹³⁶

Historically, both South Korea and Japan underwent major land reforms that drastically cut down the landlord class. South Korea, like Taiwan, was a Japanese colony from 1910 to 1945 that served as a

¹³⁰ Taiwan 'Rice Bomber' Pins Hopes on Organic Farming, INDEPENDENT (Oct. 3, 2009), <https://www.independent.co.uk/life-style/health-and-families/taiwan-rice-bomber-pins-hopes-on-organic-farming-5504161.html> [<https://perma.cc/B3Q2-73H6>].

¹³¹ Ko, *supra* note 129.

¹³² Hsu, *supra* note 127.

¹³³ Ko, *supra* note 129. A movie has even been made based on the rice bomber's story. See BAIMI ZHADAN KE (白米炸彈客) [THE RICE BOMBER] (Ocean Deep Films 2014).

¹³⁴ Tsai, *Agricultural Globalization*, *supra* note 7, at 4; Hwang-Jaw Lee, *Agriculture Land Policies of Taiwan*, FFTC AGRIC. POL'Y PLATFORM (Sept. 26, 2013), <https://ap.fttc.org.tw/article/519> [<https://perma.cc/JT7V-TUUG>].

¹³⁵ Tsai, *Agricultural Globalization*, *supra* note 7, at 6 tbl.2 (showing significant decreases in production volume for corn, sorghum, bean, tobacco, and sugar cane, but more modest decreases for rice, sweet potato, and peanut).

¹³⁶ Bae-ho Hahn, Young Ick Lew, Hyug-Baeg Im, Chan Lee & Woo-ik Yu, *South Korea*, ENCYC. BRITANNICA, <https://www.britannica.com/place/South-Korea> [<https://perma.cc/SP85-U5FH>]; Jeong-bin Im, *Farmland Policies of Korea*, FFTC AGRIC. POL'Y PLATFORM (Aug. 6, 2013), <https://ap.fttc.org.tw/article/511> [<https://perma.cc/FE9R-NXA2>]; Marius B. Jansen et al., *Japan*, ENCYC. BRITANNICA, <https://www.britannica.com/place/Japan> [<https://perma.cc/2QSP-BRHH>] (Nov. 25, 2021).

source of agricultural goods, especially rice.¹³⁷ In the pre-war period, around 77% of farmers were full- or part-tenant farmers.¹³⁸ As landlords benefitted from Japanese colonialism, tenants grew more and more dissatisfied. Tenancy disputes dramatically accelerated through the 1930s and were overwhelmingly resolved in favor of tenants.¹³⁹ From the 1910s through the 1940s in Japan, too, tenancy disputes rose around rent reductions and regulation of tenancy conditions and, as in South Korea, were resolved largely in favor of tenants.¹⁴⁰

In the post-war period, both South Korea and Japan underwent land-to-the-tiller land reform that, as in Taiwan, focused on an ideal of owner-cultivator farms. Almost 600,000 hectares of tenanted lands in South Korea were transferred, affecting 50% of farming households.¹⁴¹ In Japan, owner-cultivators grew from only about 30% of the agricultural sphere to over 62%.¹⁴² Both countries also experienced rapid economic growth in the decades following land reform.

Tenants won in Japan, South Korea, and also in Taiwan. There were political factors that affected tenants' victories: Japan wanted to veer away from nationalism and militarism, and Taiwan's ruling class wanted to curry favor with rural residents.¹⁴³ But land reform in all three was also largely predicated on participatory rights from the

¹³⁷ Grabowski, *supra* note 37, at 118 ("The growing demand by the Japanese homeland for Korean rice resulted in rising agricultural prices, rapid growth in exports and significant increases in the degree of commercialization, especially in the southern provinces of the Korean peninsula."). Because of Japan's policies, Korean farmers themselves had less and less rice to consume, resulting in "starvation exports." *Id.* at 119. South Korea's experience with Japanese colonialism also greatly impacted other areas of life, but this discussion is beyond the scope of this Note.

¹³⁸ Yong-Ha Shin, *Land Reform in Korea, 1950*, 5 BULL. POPULATION & DEV. STUD. CTR. 14, 14, 16 (1976).

¹³⁹ Grabowski, *supra* note 37, at 119–20 ("The result was that more than 80% of tenancy disputes led to partial or complete tenant victory."). These victories led to rent reductions and landlords' gradual diversion of capital into non-agricultural areas. *Id.*

¹⁴⁰ *Id.* at 117.

¹⁴¹ Shin, *supra* note 138, at 23; Ki Hyuk Pak, *Outcome of Land Reform in the Republic of Korea*, 38 J. FARM ECON. 1015, 1016 (1956). A *chungbo* is a Korean measurement for land that is roughly equivalent to a hectare. The South Korean land-to-the-tiller movement has been seen as economically weak for smallholder farmers, but autonomously strong. See *id.* at 1017–21 (finding that although land reform in Korea has lacked economic success for smaller farmers in particular, it has allowed farmers to enjoy the freedom of democracy and rights of ownership in rural areas).

¹⁴² Tsutomu Ouchi, *The Japanese Land Reform: Its Efficacy and Limitations*, 4 DEVELOPING ECON. 129, 129–30 (1966).

¹⁴³ See R. P. Dore, *The Japanese Land Reform in Retrospect*, 27 FAR EASTERN SURVEY 183, 188 (concluding that Japanese land reform did a great deal to discourage ultra-nationalists that would sacrifice agriculture for rearmament); *supra* note 48 and accompanying text (suggesting Taiwanese land reform was designed to appease rural constituents).

tenant beneficiaries through rural organizations.¹⁴⁴ Furthermore, the focus on tenant beneficiaries in these states fell in line with a shared culture that favored small family farms to begin with.¹⁴⁵ What this meant, then, is that land-to-the-tiller had the effect of shifting ownership to legally recognize already existing cultural values. The subsequent economic growth further ingrained the concept of smallholder owner-cultivators in their respective cultures.

In the past few decades, South Korea has relaxed its regulations on agricultural land such that, although the law does not explicitly allow it, non-farmers can own limited amounts of farmland.¹⁴⁶ Japan opened up farmland to “those who cultivate the land efficiently” through amendment of the Agricultural Land Act in 2009, anticipating farmers who borrow land as well as farmers who own land.¹⁴⁷ The current agricultural landscapes of Taiwan, South Korea, and Japan are still fairly similar, with farms of small average size run by owner-cultivators. All three also struggle with low food self-sufficiency and high amounts of idle land.

TABLE 1. AGRICULTURAL CHARACTERISTICS OF TAIWAN, SOUTH KOREA, AND JAPAN¹⁴⁸

Country	Total Land	Historical Agricultural Land	Recent Agricultural Land	Average Farm Size
Taiwan	36,193 km ²	902,617 hectares (1971)	790,197 hectares (2019)	1.1 hectares
South Korea	100,210 km ²	2.3 million hectares (1970)	1.7 million hectares (2011)	1.46 hectares (increased from 0.93 hectares in 1970) ¹⁴⁹
Japan	377,975 km ²	6.09 million hectares (1961)	4.40 million hectares (2019)	1.2 hectares

¹⁴⁴ Antonio J. Ledesma, *Land Reform in East and Southeast Asia: A Comparative Approach*, 28 PHIL. STUD. 451, 456–58 (1980).

¹⁴⁵ See *id.* at 466–67.

¹⁴⁶ See Im, *supra* note 136 (“[I]t became possible for non-farmers to own a limited amount of farmland if they lease it to the farmland bank on a long-term basis.”).

¹⁴⁷ CHIZU HORI, MIZUHO RSCH. INST., FARM LAND POLICY AND AGRICULTURE RECOVERY AFTER THE GREAT EAST JAPAN EARTHQUAKE 4–5 (2012).

¹⁴⁸ EXEC. YUAN, REPUBLIC OF CHINA, STATISTICAL YEARBOOK OF THE REPUBLIC OF CHINA 2019, at 2, 103 (2020) [hereinafter EXEC. YUAN, YEARBOOK 2019]; STAT. JAPAN, STATISTICAL HANDBOOK OF JAPAN 2020, at 2, 4, 57 (2020).

¹⁴⁹ Im, *supra* note 136.

II

EFFECTS OF TAIWAN'S THIRD-STAGE LAND REFORM

The 2000 ADA amendments—the sale amendment and the farm-house amendment—have significantly affected Taiwan's rural landscape. The effects fall broadly into three categories: speculation in land; land use and food security; and environmental concerns. This Part will survey these categories and how they are linked, present comparable effects in South Korea and Japan, and explore some responses of the Taiwanese government.

A. *Speculation of Agricultural Land Prices*

Prices for agricultural land in Taiwan are at an all-time high. In 2018, Taiwan's agricultural land averaged NT\$48 million (US\$1.6 million) per hectare, already an increase of 220% above the average of NT\$15 million (US\$0.5 million) per hectare recorded in 2010.¹⁵⁰ In 2019, Taiwan's COA Chairman, Chen Chi-chung, admitted that Taiwan's agricultural land prices are indisputably the most expensive in the world.¹⁵¹ In comparison, the agricultural land price in Australia averaged US\$2,117 per hectare in 2016,¹⁵² and the agricultural land price in the Netherlands—by far the most expensive in Europe—averaged US\$84,000 per hectare in 2019.¹⁵³

These increases bring the prices of land legally categorized as agricultural up to the elevated levels of land legally zoned for construction.¹⁵⁴ This near parity reflects why the prices have become elevated—that is, prices are based on development opportunities rather than on expected agricultural production value. In fact, land prices are

¹⁵⁰ Qiu Yixuan (全球最貴! 台灣農地8年狂飆3.2倍 這縣市漲最兇), *Quanqiu Zui Gui! Taiwan Nongdi 8 Nian Kuangbiao 3.2 Bei Zhe Xian Shi Zhang Zui Xiong* (中時新聞網) [*Most Expensive in the World! Taiwan's Farmland Has Surged by 3.2 Times in 8 Years*], ZHONGSHI XINWEN WANG [CHINA TIMES] (Mar. 12, 2019, 4:31 PM) (Taiwan), <https://www.chinatimes.com/realtimenews/20190312001968-260410?chdtv> [<https://perma.cc/LC23-UUS6>].

¹⁵¹ *Taizhong Nongdi Biao Zhang Qi Cheng Bei Hong Chen Chi-chung Tancheng: Taiwan Nongdi Quianqiu Zui Gui* (台中農地飆漲七成被轰 陈吉仲坦承: 台湾农地全球最贵) [*Taichung's Agricultural Land Surged by Seventy Percent, and Chen Chi-chung Admits: Taiwan's Agricultural Land Is the Most Expensive in the World*], ZHONGGUO TAIWAN WANG (中国台湾网) [TAIWAN.CN] (Mar. 11, 2019), http://www.taiwan.cn/taiwan/jsxw/201903/t20190311_12146777.htm [<https://perma.cc/MF89-VDW5>].

¹⁵² SAVILLS WORLD RSCH., *GLOBAL FARMLAND INDEX 3* (2018), <https://pdf.euro.savills.co.uk/uk/rural---other/global-farmland-index-2018.pdf> [<https://perma.cc/SSM2-397D>].

¹⁵³ *Agricultural Land Prices by Region*, EUROSTAT (Sept. 11, 2021), https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=Apri_lprc&lang=EN [<https://perma.cc/2QSP-BRHH>].

¹⁵⁴ Wei, *supra* note 111.

often tied strongly to factors separate from agricultural production value such as accessibility from large cities or proximity to major roads.¹⁵⁵

Even before the 2000 ADA amendments, there was a trend toward speculation in farmland and conversion of use. In the 1970s and 1980s, land prices, primarily in the cities, began to increase due to a growth of interest in investment and speculation into land markets.¹⁵⁶ Bootstrapping onto this trend, agricultural landowners used “illegal and informal conversions of land use” as opportunities to grow their wealth.¹⁵⁷

Current farmland prices, as opposed to the value of farmland before the 2000 ADA amendments, are more driven by the potential for construction—the “option values”—than farmland production value.¹⁵⁸ Option values include hobby farming, second-home building, agritourism, and factory operation, essentially exploiting agricultural policies to make money through non-agricultural uses.¹⁵⁹ Especially prevalent are farmhouses used as luxury residences or second homes. Higher value usages of farmland have led to a price-value distortion in which the price of much farmland far outpaces its actual agricultural production value.¹⁶⁰ This distortion is happening all throughout Taiwan and occurs especially in parts of eastern Taiwan that are readily accessible from Taipei through the Hsuehshan Tunnel and National Freeway No. 5 that were both constructed in 2006.¹⁶¹ Studies have found that, when analyzing agricultural land prices along specified factors, residential compatibility factors affect land prices as much as, if not more than, agricultural factors.¹⁶²

High land prices incentivize farmers to make a larger profit by forgoing agricultural production to instead sell their land for non-agricultural use. Many of those investing in farmland do not intend to

¹⁵⁵ See *infra* notes 158–63 and accompanying text.

¹⁵⁶ Alven H.S. Lam & Steve Wei-cho Tsui, *Policies and Mechanisms on Land Value Capture: Taiwan Case Study 2* (Lincoln Inst. of Land Pol’y, Working Paper No. WP98AL1, 1998).

¹⁵⁷ *Id.* at 6.

¹⁵⁸ See generally Yu-Hui Chen, Chun-Lin Lee, Guan-Rui Chen, Chiung-Hsin Wang & Ya-Hui Chen, *Factors Causing Farmland Price-Value Distortion and Their Implications for Peri-Urban Growth Management*, 10 SUSTAINABILITY 2701, 2702–04 (2018), <https://www.mdpi.com/2071-1050/10/8/2701/pdf> [<https://perma.cc/VG6X-MHN2>]. These option values are subsequently “capitalized into present farmland values.” *Id.* at 2702.

¹⁵⁹ See *infra* Section II.B for more about the appeal of these option values.

¹⁶⁰ See *infra* Section II.B.

¹⁶¹ Chen et al., *supra* note 158, at 2703.

¹⁶² See, e.g., *id.* at 6, 11–12 (“Few of Taiwan’s urban plans have been designed from the perspective of agricultural development or the multi-functionality of agriculture. These plans often imply that farmlands located in urban areas will eventually be developed for non-agricultural use.”).

adopt a farming life, and their ownership removes the land from production.¹⁶³ At the same time, these non-farmers may, due to lax enforcement, benefit from favorable taxation schemes and subsidies originally designed to support struggling farmers and agricultural production.¹⁶⁴

Furthermore, exorbitant prices preclude young people who are actually interested in farming and aspiring eco-friendly farmers from buying or renting land.¹⁶⁵ Economically, landowners would rather sell to developers, who can afford elevated farmland prices, than to young farmers who are returning to their hometowns, who do not have the same economic means. This process ensures that more and more land gets taken out of agricultural production.

South Korea's and Japan's agricultural land prices, like those of Taiwan, also experience a price-value distortion in which the market price is inconsistent with agricultural production value.¹⁶⁶ In South Korea, especially, the agricultural land price tracks spatial characteristics of the land at least as much as it does agricultural production value.¹⁶⁷ A South Korean study found that a larger area of cultivated rice actually negatively affected land prices.¹⁶⁸ Compared to Taiwan, the price distortion is less,¹⁶⁹ but all three owner-cultivator cultures are currently struggling with how to balance increased agricultural land prices with agricultural land use.

B. Land Use and Food Security

Land use, in turn, has implications for food security, which is broadly defined as the ability of a nation to feed its population. Food security can be defined along multiple spectra, including, for example, sufficient domestic production for consumption, sufficient foreign exchange, or adequate reserves "to feed the population for a prefixed

¹⁶³ Hsu, *supra* note 86, at 134.

¹⁶⁴ Chuang, *supra* note 27.

¹⁶⁵ See *infra* notes 247–60; Wei, *supra* note 111. It is unclear how high the demand is in terms of young people interested in farming, but the COA is increasingly organizing programs to draw young people to farming and train them in the discipline.

¹⁶⁶ See, e.g., Dong-Woo Kang, Mi-Young Kim, Deok-Ho Cho & Seong-Woo Lee, *The Effects of Urban Development Pressure on Agricultural Land Price: Application of a Mixed GWR Model*, 33 J. RURAL DEV. 63 (2010); OECD, EVALUATION OF AGRICULTURAL POLICY REFORMS IN JAPAN 81 (2009); Shingo Yoshida, *Effects of Urbanization on Farmland Size and Diversified Farm Activities in Japan: An Analysis Based on the Land Parcel Database*, 9 LAND 315 (2020).

¹⁶⁷ Kang et al., *supra* note 166, at 63.

¹⁶⁸ *Id.* at 80.

¹⁶⁹ See Wei, *supra* note 111 (noting that agricultural land in Taiwan is the most expensive in the world, with the average price per hectare of agricultural land totaling fourteen times the price of land in Japan).

period.”¹⁷⁰ However, the most salient forms of food security for a particular nation depend on context. For example, overwhelmingly relying on foreign exchange may be dangerous in the context of blockades or fluctuating global market prices. This possibility was underscored by the emergence of COVID-19. In the first half of 2020, many countries implemented lockdowns and temporary border closures, disrupting global supply chains.¹⁷¹ Future global crises similar to the COVID-19 pandemic could have an even more deleterious effect on countries who depend on food imports to feed their populations.¹⁷²

The potential for a food crisis is a pressing concern to Taiwan. As an island nation, Taiwan’s food supply is highly dependent on international trade, reaching levels of almost a hundred percent dependency for staple foods such as wheat and soybeans.¹⁷³ Taiwan has one of the lowest levels of food self-sufficiency among developed nations, even as compared to South Korea and Japan, who also struggle with food self-sufficiency. Taiwan’s food self-sufficiency ratio dropped from 56% in 1984 to 33% in 2014.¹⁷⁴ While Taiwan’s food self-sufficiency ratio increased to 35% in 2018, this falls short of the government’s 40% goal for 2020.¹⁷⁵

¹⁷⁰ Knerr, *supra* note 81, at 3–4.

¹⁷¹ Effendi Andoko, Wan-Yu Liu, Hua-Jing Zeng & Agnes Sjöblom, *Review of Taiwan’s Food Security Strategy*, FFTC AGRIC. POL’Y PLATFORM (Sept. 10, 2020), <https://ap.fttc.org.tw/article/2570> [<https://perma.cc/N4F5-2K8T>]; HLPE, IMPACTS OF COVID-19 ON FOOD SECURITY AND NUTRITION: DEVELOPING EFFECTIVE POLICY RESPONSES TO ADDRESS THE HUNGER AND MALNUTRITION PANDEMIC 2 (2020), <https://www.fao.org/3/cb1000en/cb1000en.pdf> [<https://perma.cc/9VD9-H8KV>].

¹⁷² See Bob Holmes, *How Has the Pandemic Strengthened the Global Food Supply Chain?*, THE COUNTER (Mar. 25, 2021, 2:10 PM), <https://thecounter.org/pandemic-global-food-supply-chain-covid-19> [<https://perma.cc/R7LG-KBEJ>] (describing how COVID-19 has put into stark relief the need for “truly resilient system[s]” of food production because “[t]he next crisis could well be worse”). The more general global supply chain continues to be affected by COVID-19, and it is unclear when such shortages will end. Peter S. Goodman, *How the Supply Chain Broke, and Why It Won’t Be Fixed Anytime Soon*, N.Y. TIMES (Oct. 31, 2021), <https://www.nytimes.com/2021/10/22/business/shortages-supply-chain.html> [<https://perma.cc/2C3N-JPTJ>].

¹⁷³ Audrey Wang, *The Road to Food Security*, TAIWAN TODAY (July 1, 2011), <https://taiwantoday.tw/news.php?post=14023&unit=8> [<https://perma.cc/ZPM2-B2MW>]; Ferry, *supra* note 11 (noting that Taiwan currently imports seventy percent of its food).

¹⁷⁴ Cindy Sui, *Taiwan Transition: From City Life to the Countryside*, BBC NEWS (Nov. 26, 2014), <https://www.bbc.com/news/business-30204720> [<https://perma.cc/K5P2-S3MS>]. Even forty percent is a low self-sufficiency ratio compared to other countries. *Working Towards Sustainability in Taiwan*, OPEN ACCESS GOV’T (Jan. 5, 2021), <https://www.openaccessgovernment.org/working-towards-sustainability-in-taiwan/100858> [<https://perma.cc/P8R3-MLU8>].

¹⁷⁵ Andoko et al., *supra* note 171.

TABLE 2. FOOD SELF-SUFFICIENCY RATES FOR TAIWAN, SOUTH KOREA, AND JAPAN¹⁷⁶

	1984	1995	2000	2005	2010	2011	2012	2014	2016	2018
Taiwan	56	38	36	30	32	34	33	33	31	35
South Korea		51	51	45	54	45	46	50	51	47
Japan		43	40	40	39	39	39	39	38	37

Self-sufficiency is especially important because Taiwan may be vulnerable to political threats. It only has formal diplomatic recognition from a few countries in the world, and it is highly dependent on the PRC for much of its trade. The precarious nature of this relationship was highlighted in 2021 when the PRC banned the import of pineapples from Taiwan due to claims of biosecurity.¹⁷⁷ Dollar by dollar, pineapples are Taiwan's largest agricultural export, and, historically, ninety percent of Taiwan's pineapple exports are sent to Mainland China.¹⁷⁸ However, to all those watching the Freedom

¹⁷⁶ Shuji Hisano, *Food Security Politics and Alternative Agri-food Initiatives in Japan*, at 10 tbl.1 (Graduate Sch. of Econ., Kyoto Univ., Working Paper No. 131, 2015); *Japan's Food Self-Sufficiency Rate Hits Lowest Level in 25 Years Due to Drop in Wheat Production*, JAPAN TIMES (Aug. 6, 2019), <https://www.japantimes.co.jp/news/2019/08/06/national/japans-food-self-sufficiency-rate-hits-lowest-level-25-years-due-drop-wheat-production> [https://perma.cc/6JBB-422B]; *Japan's Food Self-Sufficiency Rate Hits Year Low in FY 2016* (Aug. 10, 2017), <https://www.nippon.com/en/behind/110428> [https://perma.cc/TQL8-3N97]; *Japan's Food Self-Sufficiency Rate Fails to Meet Lowered 45% Target*, JAPAN TIMES (Aug. 7, 2015), <https://www.japantimes.co.jp/news/2015/08/07/national/japans-food-self-sufficiency-rate-fails-meet-lowered-45-target> [https://perma.cc/R9RC-QM6J]; Andoko et al., *supra* note 171; Wan-Yu Liu, *An Overview of New Agricultural Policies for Taiwan in 2018*, FFTC AGRIC. POL'Y PLATFORM (May 30, 2018), <https://ap.fttc.org.tw/article/1286> [https://perma.cc/WHM6-3LU8]; Sui, *supra* note 174; Ko Eun Ji (고은지), *Singnyangjageumnyul 10nyeonsae 10%pointue Neonge Harak . . . Jeolban Mot Michyeo (식량자급률 10년새 10%포인트 넘게 하락 . . . 절반 못 미쳐)* [Food Self-Sufficiency Rate Has Fallen by More than 10% in 10 Years . . . Less than Half], YEONHAP NYUSEU (연합 뉴스) [YONHAP NEWS AGENCY] (Oct. 4, 2020), <https://yna.co.kr/view/AKR20201003053900530?section=industry/agriculture> [https://perma.cc/L4JL-65PH].

¹⁷⁷ Tim McDonald, *China and Taiwan Face Off in Pineapple War*, BBC NEWS (Mar. 19, 2021), <https://www.bbc.com/news/business-56353963> [https://perma.cc/HLN6-QPHE] (“‘Taiwanese pineapples are stronger than fighter jets. Geopolitical pressures cannot squeeze their deliciousness,’ declared Taiwan’s Vice President Lai Ching-te, in a tweet.”). The claims of biosecurity have not been backed by evidence, as “99.97% of imported pineapple batches passed inspection.” *Id.* Subsequently, China has also banned the import of sugar apples and wax apples from Taiwan. Emma Farge, *Taiwan Raises WTO Complaint Against China in Fruit Dispute*, REUTERS (Nov. 4, 2021, 12:03 PM), <https://www.reuters.com/business/taiwan-raises-wto-complaint-against-china-apple-imports-sources-2021-11-04> [https://perma.cc/KDA8-BXWC].

¹⁷⁸ Julia Bergström, *Taiwan’s “Pineapple War”: Opportunity Amid an Industry Crisis*, TAIWAN BUS. TOPICS (May 25, 2021), <https://topics.amcham.com.tw/2021/05/taiwan-pineapple-war-opportunity-amid-an-industry-crisis> [https://perma.cc/AB54-4CF4].

Pineapple movement unfold,¹⁷⁹ it was clear that the PRC's actions were "not just about fruit."¹⁸⁰ Instead, the pineapple crisis of 2021 underscores the precarious relations Taiwan has with its biggest trade partner and the PRC's willingness to use international trade as a political tool.

Climate change is also a critical problem for global food security, as the COA has acknowledged.¹⁸¹ The danger arises from the effect on temperature, rainfall, and crop disease, which have historically caused most of the world's food shortages.¹⁸² Erratic changes spell trouble for crop production, as well as for the availability of water necessary to maintain the system.¹⁸³ Furthermore, the decline in agricultural production leads to a loss of agricultural land that is often a one-way street.¹⁸⁴

Since the 2000 ADA amendments, Taiwan's agricultural land has become more developed, leading to loss of farmland. But it is important to keep in mind that, while the amendments may have served to exacerbate the pace of this land loss, the loss of agricultural land occurred even before the amendments were implemented. From 1952 to 2017, agricultural land decreased by 82,097 hectares.¹⁸⁵ As of 2017, a total of 11.8% of agricultural land was being used for non-agricultural purposes.¹⁸⁶

At its core, Taiwan's food self-sufficiency is dependent on the use of agricultural land for agricultural production. The agricultural landscape has been trending away from such use since the 1970s, arguably in an accelerated fashion since the 2000s. Some of the major uses are (1) non-use, that is, fallow land; (2) farmhouse construction; (3) agritourism participation; and (4) factory operation. These uses, in

¹⁷⁹ The "Freedom Pineapple" campaign was launched to encourage domestic as well as international buyers to support Taiwan's pineapple production by consuming more Taiwanese pineapple. McDonald, *supra* note 177.

¹⁸⁰ Bergström, *supra* note 178.

¹⁸¹ *Moving Towards Agricultural 4.0 in Taiwan with Smart Technology*, COUNCIL OF AGRIC. (July 20, 2016), <https://eng.coa.gov.tw/ws.php?id=2505331> [<https://perma.cc/3TS6-RVRU>]; Nongye Shiyansuo (農業試驗所) [Agric. Lab'y] *Yi Zhihui Keji Mai Xiang Taiwan Nongye 4.0 Shidai* (以智慧科技邁向臺灣農業4.0時代) [*Toward the Era of Taiwan's Agriculture 4.0 with Smart Technology*], NONGYE WEIYUANHUI (農業委員會) [COUNCIL OF AGRIC.] (July 2016), <https://www.coa.gov.tw/ws.php?id=2505139> [<https://perma.cc/V7G6-ZYH4>] [hereinafter *Agriculture 4.0*].

¹⁸² Wang, *supra* note 173.

¹⁸³ See Cheikh Mbow et al., *Food Security, in CLIMATE CHANGE AND LAND* 437, 450–64 (Shukla et al. eds., 2019). To learn more about the effects on agricultural production that have already been observed, see generally *id.*

¹⁸⁴ See Chang, *supra* note 25.

¹⁸⁵ HSIAO-LAN LIU, *AGRICULTURAL LAND CONVERSION* 8 (2018), http://www.iclpst.gov.tw/download_file.php?id=63 [<https://perma.cc/Y8YJ-LZ7L>].

¹⁸⁶ *Id.* at 1.

combination, serve to contribute to fragmented ownership of agricultural land.

First, the proportion of fallow land has been growing. More than 200,000 hectares of agricultural land in Taiwan now lie fallow—at least 50,000 hectares for more than two planting seasons.¹⁸⁷ Fallow land is ideally land meant to be rested in between agricultural production cycles and maintained in good condition for future use. Due to overproduction of rice in the 1970s, Taiwan instituted fallow subsidies in 1984 whereby farmers would receive money for leaving their land fallow.¹⁸⁸

However, reasons for leaving land fallow increasingly diverge from the initial purpose of the subsidy. One reason owners leave land fallow is that the fallow subsidy offered by the government is often preferable to the high production costs of cultivation.¹⁸⁹ The average age of farmers has risen to sixty-two,¹⁹⁰ and the old farmers who are unwilling to part with their land increasingly rely on elderly farmer benefits and fallow subsidies. Another is that, by keeping farmland fallow, the landowner can collect fallow subsidies while anticipating up-zoning of their land from agricultural land to construction land. For example, in Yilan county in 2004, about 74,000 hectares of rice paddy land lay fallow because owners expected urban conversion.¹⁹¹

The increasing area of fallow land was especially damaging for the government due to the 1984 fallow subsidies. By the 2010s, the government needed to pay out more than the equivalent of US\$300 million annually under the subsidies.¹⁹² In 2013, the government instituted the Adjust the Cultivation System, Revitalize the Use of Farmland (ACSRUF) program, an initiative designed to cut fallow land subsidies.¹⁹³ Instead of providing farmers NT\$90,000 in two installments per year, the ACSRUF cut the subsidy to a maximum of

¹⁸⁷ Lee I-chia, *Farmers Protest Fallow Farmland Subsidy Cut*, TAIPEI TIMES (Nov. 17, 2012), <https://www.taipeitimes.com/News/taiwan/archives/2012/11/17/2003547916> [<https://perma.cc/ME92-W7KF>].

¹⁸⁸ Wang, *supra* note 173.

¹⁸⁹ Oscar Chung, *Rejuvenating the Land*, TAIWAN TODAY (July 1, 2008), <https://taiwantoday.tw/news.php?unit=8,29,32,45&post=12836> [<https://perma.cc/4TFG-MHQ7>].

¹⁹⁰ Hwang-Jaw Lee, “*Small Landlords and Large Tenants*” Program, FFTC AGRIC. POL’Y PLATFORM (Dec. 31, 2013), <https://ap.fttc.org.tw/article/607> [<https://perma.cc/PN5K-SVM6>].

¹⁹¹ Chen & Chou, *supra* note 105, at 505.

¹⁹² Du Yu, *Developing Agriculture in Taiwan*, TAIPEI TIMES (June 4, 2015), <https://www.taipeitimes.com/News/editorials/archives/2015/06/04/2003619861> [<https://perma.cc/R3GV-GQY2>].

¹⁹³ *Adjusting the Cultivation System, Revitalizing Fallow Land*, COUNCIL OF AGRIC.: COA ANN. REP. 2013, <https://eng.coa.gov.tw/ws.php?id=2503674> [<https://perma.cc/L9UU-TQF7>].

NT\$45,000 per year, with additional incentives intended to encourage the return of fallow land back into agricultural production.¹⁹⁴ Since 2013, the statistics for overall fallow land do not show much difference.¹⁹⁵ However, some land has been revitalized for farming: Compared to 2011, there was a drop of 88,000 hectares in land left fallow for both growing seasons, and land used to cultivate certain target crops increased by 53,000 hectares.¹⁹⁶

Second, the farmhouse boom has taken land out of agricultural production. While there were numerous limitations in both the ADA and the original 2001 Farmhouse Regulations that restricted who could build farmhouses, when they could build them, and when they could transfer them, many of these restrictions were not strictly enforced. Before 2015, verifying an applicant's identity as a "working farmer" was a "mere formality."¹⁹⁷ While the annual figures for farmhouse construction permits remained steady before 2006 at about 1500, the number "increased rapidly from 1632 in 2009 to 4532 in 2011."¹⁹⁸

In fact, as of 2015, 61.2% of farmhouse owners were not themselves farmers; instead, the farmhouses they owned were used as vacation homes, bed-and-breakfasts, restaurants, and illegal factories.¹⁹⁹ Housing, factory, and commercial use are a significant departure from the intended purpose of farmhouses, which is to facilitate agricultural activities.²⁰⁰ Instead, much of this construction constitutes "urban use in the name of farmhouse construction."²⁰¹

The impetus for the farmhouse trend has two prongs. One is that, more and more, urbanites are looking to retreat to the countryside. The second is that the prices for which a farmer can sell his farmland,

¹⁹⁴ Lee, *supra* note 187. Older farmers who could no longer tend their farmlands protested this program, while others in the community pushed the government for more supportive measures toward elderly farmers who would be losing their subsidies. *Id.*

¹⁹⁵ EXEC. YUAN, YEARBOOK 2019, *supra* note 148, at 2; EXEC. YUAN, REPUBLIC OF CHINA, STATISTICAL YEARBOOK OF THE REPUBLIC OF CHINA 2020, at 2, https://eng.stat.gov.tw/public/data/dgbas03/bs2/yearbook_eng/y001.pdf [<https://perma.cc/T3SN-3CWA>].

¹⁹⁶ *Adjusting the Cultivation System, Revitalizing Fallow Land*, *supra* note 193.

¹⁹⁷ *Adjusting Farmhouse Application Rules*, *supra* note 23.

¹⁹⁸ Hsu, *supra* note 86, at 37.

¹⁹⁹ Chang, *supra* note 25.

²⁰⁰ Takeyama Emi (武山絵美), Wang Chung-Jung (王忠融), Kuki Yasuaki (九鬼康彰) & Nakajima Masahiro (中島正裕), *Taiwan ni Okeru Nōsha Kensetsu ni Yoru Nōchi Tenyō no Seido Teki Haikei to Genjō* (台湾における農舎建設による農地転用の制度的背景と現状) [*Backgrounds and Present Situation of Agricultural Land Sprawl by Construction of Farmhouse in Taiwan*], 87 NŌGYŌ NŌSON KŌGAKUKAI RONBUN-SHŪ (農業農村工学会論文集) [IDRE J.] 47, 48 (2019).

²⁰¹ Chen & Chou, *supra* note 105, at 495.

as noted in Section II.A, often massively outweigh the value the farmer could receive from crop cultivation.

Tired of big city living and bolstered by the success of industry, urbanites are willing to pay huge sums to build “second homes” in the rural countryside, often used as retirement homes.²⁰² Other reasons non-farmers acquire farmland and farmhouses are the tax treatment and agricultural subsidies. Farmland and farmhouses enjoy the lowest tax treatment, incentivizing urbanites to either buy agricultural land and build farmhouses or to convince farmers to build farmhouses and then buy the agricultural land with the farmhouse for an elevated sum.²⁰³ These newcomers are also registered as “farmers” and are thus eligible for agricultural subsidies despite the fact that they do not engage in agricultural production.²⁰⁴

Due to declining income from agricultural production, many farmers are more than willing to pocket the bundle of cash from boosted land prices as compensation.²⁰⁵ In order to maximize their gain, farmers will subdivide their plots into tracts that meet the minimum 0.25 hectare requirement, further fragmenting the land.²⁰⁶

In 2015, the government amended the Farmhouse Regulations to strengthen the documentation requirement for farmhouse construction applicants. Even before the 2015 Farmhouse Regulations amendment, the 2013 Farmhouse Regulations amendment tried to strengthen regulations around farmhouse construction. The 2013 amendment, as compared to the 2004 amendment, added a requirement of both a statement of purpose and an agricultural land allocation plan in the application.²⁰⁷ The 2013 Farmhouse Regulations also added an explicit statement in Article 15 that the agricultural land must be maintained for agricultural use after construction of the farmhouse.²⁰⁸

On September 3, 2015, the COA amended the Farmhouse Regulations further to address the continuing problem. Most impor-

²⁰² Matthew Hinson, *Farmland Is Critical to Island's Future*, TAIWAN TODAY (Aug. 7, 2008), <https://taiwantoday.tw/news.php?unit=2&post=217> [<https://perma.cc/D7JC-CMXQ>]; Hsu, *supra* note 86, at 137.

²⁰³ Chen & Chou, *supra* note 105, at 496.

²⁰⁴ Hsu, *supra* note 86, at 137.

²⁰⁵ Hinson, *supra* note 202; Chen & Chou, *supra* note 105, at 496.

²⁰⁶ Chen & Chou, *supra* note 105, at 503.

²⁰⁷ Compare Nongye Yongdi Xingjian Nongshe Banfa (農業用地興建農舍辦法) [Regulations for Constructing Farmhouses on Agricultural Land], FAWUBU FAGUI ZILIAOKU, art. 6 ¶ 1(1) (amended June 16, 2004) (Taiwan) (showing how the law does not require turning in an official plan or any such documentation), <https://law.moj.gov.tw/LawClass/LawOldVer.aspx?pcode=M0110013&lnndate=20040616&lser=001> [<https://perma.cc/M48N-SKP3>], with Farmhouse Regulations 2013, *supra* note 117, art. 8 ¶¶ 1, 7.

²⁰⁸ Farmhouse Regulations 2013, *supra* note 117, art. 15.

tantly, the 2015 Farmhouse Regulations added Article 3-1, which requires documentation certifying that the applicant is a farmer.²⁰⁹ Those applying to build farmhouses must show that they have Farmers Health Insurance or National Health Insurance under Category 3, which is designated for farmers, fishermen, and irrigation associations.²¹⁰ Alternatively, individuals must demonstrate that they are actively engaging in agricultural activities.²¹¹

The 2015 amendment to the Farmhouse Regulations made farmer qualification stricter and aimed to rectify the “mere formality” of the previous qualification process. Those with farmer-specific health insurance do not need to attach additional documentation since qualification for such insurance requires confirmation of actual agricultural production.²¹² But those without such insurance must now attach documentation that proves actual agricultural production for two years prior, as well as an operational plan for how the farmhouse, once constructed, will be used in agricultural operations.²¹³ The only individuals not subject to these new restrictions are those who inherit agricultural land.²¹⁴

The 2015 amendment added an additional documentation requirement directed at confirming that the construction of the farmhouse shall not affect agricultural production or rural development.²¹⁵ According to Article 2 of the 2015 amendment, this must be confirmed through a business plan stating the current status of the agricultural operations.²¹⁶

Construction of farmhouses peaked in 2011 and has been decreasing since then, but, in highly affected areas, the number of farmhouses constructed still has not reached pre-2000 figures.²¹⁷ As can be seen through the recent political scandals and outrageously-shaped mansions,²¹⁸ illegal farmhouse construction continues to be a

²⁰⁹ See Farmhouse Regulations 2015, *supra* note 115, art. 3-1.

²¹⁰ *Id.*; see also Chang, *supra* note 25; Quanmin Jiankang Baoxianfa (全民健康保險法) [Universal Health Insurance Act], FAWUBU FAGUI ZILIAOKU, art. 10(3) (amended Jan. 20, 2021) (Taiwan), <https://law.moj.gov.tw/LawClass/LawAll.aspx?pcode=L0060001> [<https://perma.cc/FW3H-ZFAD>]; National Health Insurance Act, <https://law.moj.gov.tw/Eng/LawClass/LawAll.aspx?PCode=L0060001> [<https://perma.cc/E7C2-M388>].

²¹¹ Farmhouse Regulations 2015, *supra* note 115, art. 3-1; see also Chang, *supra* note 25.

²¹² *Adjusting Farmhouse Application Rules*, *supra* note 23.

²¹³ *Id.*

²¹⁴ Chang, *supra* note 25.

²¹⁵ Farmhouse Regulations 2015, *supra* note 115, art. 2 ¶ 1(5).

²¹⁶ *Id.* art. 2 ¶ 2.

²¹⁷ *Yearbook*, CONSTR. & PLAN. AGENCY MINISTRY OF THE INTERIOR (July 18, 2019), <https://www.cpami.gov.tw/public-information/statistics/10761-yearbook.html> [<https://perma.cc/ZBW3-LWV4>].

²¹⁸ See *supra* notes 29–31.

problem. There are multiple reasons that farmhouses fall between the cracks despite a fairly solid set of regulations. The regulatory system of cracking down on illegal farmhouses is simply not properly operated.²¹⁹ Furthermore, the fines imposed for this illegal behavior are extremely low compared to the economic benefits of violation.²²⁰

Third, the rise of agritourism has also coopted agricultural land. Agritourism ties into the farmhouse boom: Some illegal farmhouses are fashioned into “rest areas or luxurious restaurants” to attract tourists and further the industry.²²¹ However, agritourism as an industry is distinct from residential farmhouse construction. Agritourism combines leisure agriculture with rural tourism, providing tourists, who are usually Taiwanese urbanites, with the opportunity of experiencing farm work, enjoying the natural and cultural landscape, and participating in folk festivals and celebrations.²²² In recent years, the COA has encouraged the growth of the agritourism industry.²²³

On the one hand, the growth of agritourism is causing “[o]ld rural communities [to] gradually los[e] their traditional features, vitality and attractiveness” due to unrestricted development.²²⁴ The practice of agritourism can be seen as a commodification of the land, much like the practice of selling farmland and farmhouses for elevated prices, that provides new income streams for rural individuals.²²⁵ On the other hand, the agritourism industry incentivizes the preservation of agriculture practices and local culture for the purpose of continuing to provide value to urbanites.

Furthermore, agritourism is a logical result of a changing global economy and a way in which farmers have been able to adapt to agricultural transformation. Taiwan’s extreme growth in industrial exports promotes industrial and urban development, at the expense of the agricultural sector. However, the agricultural sector can reap the profits of overall economic growth by commercializing the subsequent push for urban individuals to visit leisure farms and rural areas.²²⁶

²¹⁹ Takeyama et al., *supra* note 200, at 55.

²²⁰ *Id.*

²²¹ Chen, *supra* note 25.

²²² Chien-Zer Liu, *Rural Development and Rural Tourism in Taiwan*, 1 *ASIAN J. ARTS & SCI.* 211, 215–16 (2010).

²²³ For example, in 2001, the COA initiated a one-township-one-tourism-area project aimed at developing rural areas as tourist attractions. Tsai, *Agricultural Globalization*, *supra* note 7, at 8.

²²⁴ Liu, *supra* note 222, at 220.

²²⁵ *Id.* at 211.

²²⁶ Tsai, *Agricultural Globalization*, *supra* note 7, at 4–6.

Fourth, illegal factory use is a problem, not just in decreasing agricultural production but also in negative environmental effects.²²⁷ According to a 2017 survey, 134,574 illegal factories take up 13,859 hectares of supposed farmland.²²⁸

Because these factories are illegal, they are unable to register with the local government and are thus not obligated to conform to government-mandated environmental standards. Accordingly, the factories are not fully equipped to deal with environmental hazards, threatening food safety through their high pollution potential.²²⁹ And although these factories are “illegal,” many of them are actually huge players in the industrial world: One cluster of illegal factories in Taichung produces more than NT\$100 billion worth of goods on an annual basis.²³⁰

Through the National Spatial Planning Act of 2016 (國土計畫法), the Taiwanese government initiated a program that involved demolishing illegal factories and requiring owners to pay for land restoration.²³¹ At the same time, the Taiwanese government is instituting a path for illegal factories, so long as they qualify as low pollution, to become “special” factories through submission of a proposal to reduce pollution and strengthen safety.²³² The National Spatial Planning Act draws a reasonable line between restoration of farmland and efficient use of the land and, if properly enforced, could constitute a positive step toward governmental land management.

While farmhouse construction affects mostly the eastern half of Taiwan, illegal factories more strongly affect the western half of Taiwan, especially the central counties of Taichung and Changhua, demonstrating that, while the effects of agricultural policy are not uniform throughout the island, the effect of non-agricultural usage is widespread.²³³ Altogether, the development spurred by the rise in non-agricultural usage contributes to landscape transformation that is

²²⁷ See *infra* Section II.C.

²²⁸ See *infra* Section II.C.

²²⁹ See *infra* Section II.C; see also Kwangyin Liu, Kuo-chen Lu & Kai-yuan Teng, *Taiwan's Industrial Land Crisis*, COMMONWEALTH MAG. (Dec. 9, 2016), <https://english.cw.com.tw/article/article.action?id=18> [<https://perma.cc/45JD-9EYV>].

²³⁰ Liu et al., *supra* note 229.

²³¹ Lin Chia-nan, *More than 52,000 Illegal Factories on Nation's Farmland*, TAIPEI TIMES (Jul. 25, 2017), <https://www.taipeitimes.com/News/taiwan/archives/2017/07/25/2003675264> [<https://perma.cc/NH7M-B43N>].

²³² Central News Agency, *Amended Factory Law in Taiwan Expected to Boost Investment by up to NT\$2 Trillion*, TAIWAN NEWS (Sept. 17, 2019, 9:49 AM), <https://www.taiwannews.com.tw/en/news/3746098> [<https://perma.cc/H8GH-KTT2>].

²³³ Shuchen Chang, *Taiwan's Illegal Factories Threaten Food Safety*, ENV'T NEWS SERV. (Jan. 9, 2017), <https://e-info.org.tw/node/202364> [<https://perma.cc/CKL5-THTB>].

spatially fractured.²³⁴ Sprawl in Taiwan is exacerbated by the rural building construction trend, whereby residential land is randomly scattered throughout a village rather than consolidated into a central village housing complex as Peng's original ADA amendments intended.²³⁵

Due to fractured farmland, the issues of *Nongdi Nongyong* and smallholder farming—already embedded deep in cultural values—are amplified. Taiwan's average farm size is 1.1 hectares, in line with South Korea's and Japan's average farm sizes of 1.46 hectares and 1.2 hectares, respectively.²³⁶ In comparison, the average farm size for farmers in the United States is almost 200 hectares, and in Belgium, Austria, and Germany, it varies from twenty to forty hectares.²³⁷ These large farm sizes contribute to an economy of scale and allow farmers to leverage technological advances in agriculture to maximize profits. In comparison, the scales of production of farming households in Taiwan are too small to lower production costs or earn meaningful profit, and consolidation of non-contiguous tracts of land is energy-intensive.²³⁸

To address some of the issues mentioned above, including those of scale and the unwillingness of old farmers to part with their land, Taiwan put into effect the Small Landlords, Big Tenant Farmers (SLBT) program (小地主大佃農) around 2009.²³⁹ The SLBT incentivizes non-active farmers to lease out their land and incentivizes tenant farmers to rent the land to increase their farming scale. Through the program, landlords receive a rental payment of NT\$100,000 per hectare,²⁴⁰ while tenants need only pay one tenth of

²³⁴ Wen-Pin Lin & Shu-Chun Huang, *The Impact of Tourism Development on the Structure of Agricultural Landscape of the Dongshan River Basin, Taiwan*, 1 IAFOR J. SUSTAINABILITY, ENERGY & ENV'T 23, 30 (2014).

²³⁵ Takeyama et al., *supra* note 200, at 50, 54.

²³⁶ See *supra* tbl.1.

²³⁷ Sarah K. Lowder, Jakob Skoet & Terri Raney, *The Number, Size, and Distribution of Farms, Smallholder Farms, and Family Farms Worldwide*, 87 WORLD DEV. 16 app. A (2016).

²³⁸ Chuang, *supra* note 27.

²³⁹ Xiao Dizhu Da Diannong Zhengce Zhixing Chengguo ji Zhanwang (小地主大佃農政策執行成果及展望) [*Small Landlords, Big Tenants Implementation Results and Prospects*], NONGYE WEIYUANHUI (農業委員會) [COUNCIL OF AGRIC.] (Aug. 1999) (Taiwan) [hereinafter *SLBT*], <https://www.coa.gov.tw/ws.php?id=21968> [<https://perma.cc/G2AB-TJD3>]; Nian Nongye Tongji Nianbao (年農業統計年報) [*Agriculture Statistics Yearbook*], NONGYE WEIYUANHUI (農業委員會) [COUNCIL OF AGRIC.], at 18 (2012) (Taiwan) [hereinafter *Agric. Stat. Yearbook*], https://eng.coa.gov.tw/upload/files/eng_web_structure/2501690/2501690.pdf [<https://perma.cc/2FP4-8SF7>].

²⁴⁰ This amount exceeds the annual fallow subsidy, making the SLBT program economically favorable for landowners.

the rental price, as the government subsidizes the rest.²⁴¹ Landlords and tenants receive additional benefits through the program as well.²⁴²

As of 2010,²⁴³ the program had put 3,561 hectares of land into production.²⁴⁴ By 2013, this amount grew to 11,015 hectares, and by 2015, 12,961 hectares.²⁴⁵ The tenants involved in the program also farm more land than the average farm (7.8 hectares in 2013 and 8.4 hectares in 2015) and skew younger than the overall average for farmers (forty-four compared to sixty-two).²⁴⁶

While the results are positive so far, the total amount of leased land accounts for less than ten percent of Taiwan's fallow land.²⁴⁷ This might arise from obstacles for potential landlords and tenants in accessing the program. On the part of landlords, the mindset of "where there is soil, there is wealth" deters some from leasing out their land. Some farmers consider their farmland—which makes up most of a farming family's assets²⁴⁸—a "heritage" left to them by their ancestors.²⁴⁹ This mindset, combined with the *Nongdi Nongyou* Land-to-the-Tiller reforms, may cause reluctance from farmers who fear a reoccurrence of the land expropriation from landlords seen in the post-war period. On the part of tenants, the smallholder nature of Taiwan's farms means that SLBT leases are scattered and of small scale, resulting in management and operational issues.

C. Environmental Impacts

Through agricultural trade liberalization and farmland market deregulation, the economic aspects of agriculture have been pushed to the forefront. The focus is on land value on the open market, or on the export potential and cost of agricultural goods. However, agriculture has important multifunctional characteristics separate from economic factors.

Multifunctionality of agriculture is defined as the value adds of agriculture other than food production or export value. These include

²⁴¹ Wang, *supra* note 173.

²⁴² SLBT, *supra* note 239 (listing such benefits as a retirement mechanism for old farmers, preferential loans for tenants, and additional subsidies for tenants to grow particular crops or maintain the land in a particular way, among others).

²⁴³ See *id.*; Agric. Stat. Yearbook, *supra* note 239, at 18 (stating the program had produced 3,540 hectares of fallow land as of 2010).

²⁴⁴ SLBT, *supra* note 239.

²⁴⁵ Lee, *supra* note 190; I Han & Min-Hsien Yang, *Policy Analysis of Implementation on "Small Landlord Big Tenant" in Taiwan*, FFTC AGRIC. POL'Y PLATFORM (May 4, 2015), <https://ap.fttc.org.tw/article/854> [<https://perma.cc/2VK4-ZFMB>].

²⁴⁶ Lee, *supra* note 190; Han & Yang, *supra* note 245.

²⁴⁷ Han & Yang, *supra* note 245.

²⁴⁸ Kang et al., *supra* note 166.

²⁴⁹ Han & Yang, *supra* note 245.

water retention and biodiversity that go toward environmental protection and land conservation.²⁵⁰ Rice paddy land, for example, helps cool summer temperatures, fix carbon dioxide gas,²⁵¹ purify water quality, and reduce land subsidence.²⁵² These non-market values are not captured through GDP, and agriculture's low percentage of total GDP does not adequately represent its importance, especially given the increasing relevance of climate change.

These non-market values must be considered in analyzing agriculture's role in societies like Taiwan. This Section will explore how "friendly" farmers, programs by the Taiwanese government, and Taiwan's administrative courts are beginning to take into account multifunctionality even in the context of farmland market deregulation.

The land use trends described in Section II.B fail to support agriculture's multifunctional value because they divert land away from agriculture. The development anticipated in these land uses can actively result in harm to the land through, for example, land degradation and flooding. Construction in close proximity to agricultural production land—common in the case of rural buildings—can also negatively impact crops through pollutants in waste water.²⁵³ However, in parallel with the development-focused land use trends are growing movements—the back-to-the-land re-peasantization movement and the government-backed green farming movement—that are bridging the connection between multifunctionality and economic value.²⁵⁴ These movements capture the non-market value adds of agriculture by marketizing multifunctionality itself into high-value agricultural production consistent with liberalized ownership of farmland.

Rural areas of Taiwan are experiencing "renewal" in the form of new farmers who acquire or lease agricultural land and engage in alternative food production ideals.²⁵⁵ These new farmers generally enter the scene without any prior farming experience and adopt a

²⁵⁰ Katrina Rønningen, *Food Security and the Multifunctionality of Agriculture: Paradoxes in European Land Questions*, in FINANCE OR FOOD?: THE ROLE OF CULTURES, VALUES, AND ETHICS IN LAND USE NEGOTIATIONS 59, 62 (Hilde Bjørkhaug, Philip McMichael & Bruce Muirhead eds., 2020).

²⁵¹ Carbon fixation is the process by which plants convert inorganic carbon dioxide to organic compounds, removing carbon dioxide from the air. *Carbon Fixation*, DICTIONARY.COM, <https://www.dictionary.com/browse/carbon-fixation> [<https://perma.cc/6HGM-3TGB>].

²⁵² Chen-Wuing Liu, Shih-Wei Zhang, Kuo-Hua Lin & Wei-Taw Lin, *Comparative Analysis of Temporal Changes of Multifunctionality Benefit of Two Major Rice Paddy Plains in Taiwan*, 8 PADDY WATER ENV'T 199, 200–02 (2010).

²⁵³ Chang, *supra* note 25.

²⁵⁴ See *infra* notes 255–71 and accompanying text.

²⁵⁵ Hsu, *supra* note 86, at 88–89, 183.

“friendly farming” approach.²⁵⁶ “Friendly” means eco-friendly, and this eco-friendliness extends to the creatures that make rice paddies their home. Conventional and organic farmers alike use pesticides²⁵⁷ to remove Taiwanese rice’s major agricultural pest, the golden apple snail. Friendly farmers, on the other hand, engage in highly labor-intensive hand removal to “minimize the damage of golden apple snails while keeping the rest of the paddy animals alive.”²⁵⁸ The focus on cultivating biodiversity parallels the European re-peasantization movement’s eye toward revitalization.²⁵⁹ Friendly farming in Taiwan can be seen as re-peasantization through which young urban individuals return to largely unused, possibly ecologically unhealthy land and form a “new rurality.”²⁶⁰

Friendly farmers turn a profit by “leveraging . . . cultural and social capital” to obtain elevated prices for their agricultural produce.²⁶¹ However, the principles and farming techniques of these farmers—organic, manual, spiritual—are entirely inconsistent with the practice of Taiwanese conventional farmers, who instead rely on chemical pesticides and agricultural machinery. Unless conventional farmers are willing to overcome a steep learning curve, unlearn decades of farming experience, and work even harder for potentially fewer crops, they are shut out of obtaining these favorable prices.

Higher-value friendly farming also plays a role in elevated farmland prices, likening it to a form of commodification of the land, much like the farmhouse trend.²⁶² However, this commodification, unlike the farmhouse trend, marketizes agricultural multifunctionality, harnessing higher profits while at the same time maintaining a more biodiverse ecosystem than either purely residential land or conventional agriculture. And while it may be difficult for traditional farmers to break into a completely new system, friendly farming, like agritourism, creates new income streams for farmers unwilling to leave their land. In recent years, these farming communities have

²⁵⁶ *Id.* at 189–90. See generally Tsai, *Farming Odd Kin*, *supra* note 55.

²⁵⁷ Organic farmers are encouraged to use natural camellia seeds to tackle the golden apple snail problem. Tsai, *Farming Odd Kin*, *supra* note 55, at 347.

²⁵⁸ *Id.*

²⁵⁹ See generally Rønningen, *supra* note 250 (describing the re-peasantization movement in Europe through which largely young urban participants have an eye toward revitalizing and restoring the land).

²⁶⁰ *Id.* at 67; Tsai, *Farming Odd Kin*, *supra* note 55, at 348.

²⁶¹ Hsu, *supra* note 86, at 199.

²⁶² *Id.* at 190, 199 (describing friendly farmers’ use of urban volunteer interest in agritourism to further commodify the land and “cultural capital”); *supra* Section II.A; Tsai, *Farming Odd Kin*, *supra* note 55, at 343.

grown, and older farmers have begun to join in to share their expertise and collaborate.²⁶³

Meanwhile, the Taiwanese government has initiated a movement toward environmentally-friendly farming tied closely with high-value export potential. In the late 2000s, the Taiwanese government established a robust system of organic certification and launched a promotional campaign for organic agriculture. The Agricultural Production and Certification Act provides that agricultural products that undergo a certification process under an accredited certification party can bear a seal of certification.²⁶⁴ Attendant regulations (“Organic Regulations”) lay out the scope of accredited bodies and the reach of the “organic” certification.²⁶⁵ Products that obtain organic certification through this process get to enjoy premium sale prices. However, a requirement for certification under Taiwan’s formalized organic certification system is a long-term lease on agricultural land, and friendly farming does not fit into this scheme, despite its ecologically-friendly characteristics.²⁶⁶

In May of 2018, however, the COA enacted the Organic Agriculture Promotion Act, which expressly recognizes the existence of “eco-friendly farming” despite the lack of official certification.²⁶⁷ In January of 2021, the COA abolished the Organic Regulations, drafting a set of regulations in its place with the hope of shifting to third-party accreditation bodies.²⁶⁸ These developments can possibly open the

²⁶³ One example is the “Two Hundred Hectares” project (兩佰甲), which provides access to land to tenants who agree to comply with friendly farming ideals and take care of the paddy creatures. Tsai, *Farming Odd Kin*, *supra* note 55, at 348–49.

²⁶⁴ Nongchanpin Shengchan ji Yanzheng Guanli Fa (農產品生產及驗證管理法) [Agricultural Production and Certification Act] arts. 7, 10 (enacted Jan. 29, 2007, amended Dec. 25, 2019) (Taiwan), <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=M0060072> [<https://perma.cc/AF3Q-GNGR>].

²⁶⁵ Youji Nongchanpin ji Youji Nong Chan Jiagong Pin Yanzheng Guanli Banfa (有機農產品及有機農產加工品驗證管理辦法) [Organic Agricultural Product and Organic Agricultural Processed Product Certification Management Regulations] art. 3 (enacted July 6, 2007, last amended June 21, 2018, abolished Jan. 11, 2021) (Taiwan), <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=M0030082> [<https://perma.cc/T2CY-2Z85>].

²⁶⁶ *Id.* art. 5; Tsai, *Farming Odd Kin*, *supra* note 55, at 347–48 (explaining that these types of long-term leases between non-families have become basically impossible in Taiwan, ironically because the memory of first-stage land reform makes farmer landowners hesitant to enter official lease agreements).

²⁶⁷ Youji Nongye Cujin Fa (有機農業促進法) [Organic Agriculture Promotion Act] (promulgated May 30, 2018), art. 4 ¶¶ 1, 2 (Taiwan), <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=M0030093> [<https://perma.cc/B9V4-CYX9>].

²⁶⁸ *Agricultural Production and Certification Act Is Amended to Promote Product Traceability and Refine Certification Management of Agricultural Products*, COUNCIL OF AGRIC. (Jan. 19, 2021), <https://eng.coa.gov.tw/ws.php?id=2505642> [<https://perma.cc/H9YT-RZKQ>].

door to more inclusive conceptions of “organic” or additional disparate certifications, but their results have yet to be seen.

Alongside high-value agriculture certification systems, the COA has been promoting “smart agriculture” updates to conventional agriculture through the Agriculture 4.0 program, launched in 2017.²⁶⁹ The main foci are production techniques such as agri-biotechnology, quality agriculture, and precision agriculture.²⁷⁰ These smart agriculture technologies can assist conventional farmers unwilling or unable to make the switch to environmentally-friendly agriculture.²⁷¹ Despite the lessened multifunctional role of agriculture in these enterprises as compared to organic or friendly farming, applying technology to conventional production still works toward addressing food security issues and climate change adaptation and mitigation.

In the past decade, multifunctional arguments in the context of climate change have also begun passing through Taiwan’s administrative court system in cases tied to agricultural land use. There are two lines of cases in particular, one revolving around farmhouse construction and the other land appropriation.²⁷²

The line of farmhouse construction cases demonstrates how the COA maintains fairly broad jurisdiction to issue orders interpreting its own legislation. The three cases proceed upon similar fact patterns before the Taipei High Administrative Court. In one case, the COA issued an order disallowing concentrated farmhouses in specific agricultural zones. Plaintiff farmers applied to the Hsinchu County Government to construct concentrated townhouses but were rejected, as their anticipated construction site was in a specific agricultural zone denominated by the COA through the order. Plaintiffs argued that the COA order disallowing construction in the specific zones violated their rights and that the COA did not have the legal authority to issue

²⁶⁹ Chuang et al., *supra* note 12, at 2.

²⁷⁰ *Agriculture 4.0*, *supra* note 181.

²⁷¹ Esther Tseng, *Smart Agriculture: Farming Goes High Tech*, TAIWAN PANORAMA (Aug. 2018), <https://www.taiwan-panorama.com/en/Articles/Details?Guid=dbb98e4b-28ed-446b-81ad-f92dec838af3> [<https://perma.cc/47HR-6B5S>].

²⁷² Chun-Yuan Lin, *Climate Change Adaptation Through Administrative Litigation? The Experience of Taiwan*, in CLIMATE CHANGE LIABILITY AND BEYOND 175, 178 (Jiunn-rong Yeh ed., 2017). Taiwan has a civil law dual court system in which the Administrative Court, separate from the ordinary judicial system, focuses on disputes between the government and citizens. *Id.* at 177. While the novelty of climate change issues cannot be “predicted” by the Administrative Court, climate change has appeared in arguments on the part of both plaintiffs and the government. The specific workings of the Administrative Court are beyond the scope of this Note. Broadly, administrative litigation in Taiwan differs from common law courts in that cases can only be brought when all requirements prescribed by the law are fulfilled.

the order.²⁷³ The court sided with the COA, agreeing that the order was an interpretation of the ADA's Article 18 such that it did not require specific authorization.²⁷⁴ While the ADA's Article 18, which governs farmhouse construction, provides for regulations around farmhouse-specific details²⁷⁵ and provides that applications are subject to the approval of relevant authorities,²⁷⁶ Article 18 does not expressly provide for orders such as the one issued by the COA that would categorically disallow construction in specific zones. Despite the lack of express authorization, the court presumably found the order to be close enough to the subject matter of the ADA's Article 18 to constitute an interpretation.

The line of land appropriation cases revolved around the construction of Taichung Science Park. Plaintiffs argued on behalf of farm protection, especially with regard to how the construction of the complex would affect land subsidence and the food and water supply.²⁷⁷ The court ruled for the plaintiffs, deeming the original construction authorization "an improper and unreasonable use of the lands, causing serious damage to public interest."²⁷⁸

Though the set of cases invoking agricultural multifunctionality is small, two main points emerge: First, the COA can probably issue orders interpreting its own legislation that will then be enforceable in administrative court, as the farmhouse construction cases demonstrate. The extent to which the COA can interpret its own legislation is unclear. Second, the administrative court is open at some level to adapting legislation through interpretation to address climate change, as demonstrated by the Taichung Science Park cases. The sample size—ten cases in total²⁷⁹—might be too small to make definitive claims. However, the development of this line of litigation argumentation will be interesting insofar as it will determine whether administrative courts are a viable vehicle for enforcing land use regulation and environmental protection. In the meantime, since cases can be brought before the administrative court by non-governmental organizations, farmers, or the agency itself, all of these players could consider multifunctionality, improper use of lands, and effect on the public interest in their arguments.

²⁷³ *Id.* at 182–83.

²⁷⁴ *Id.*

²⁷⁵ ADA, *supra* note 33, art. 18 ¶ 5 (describing the Ministry of Interior's authorization to formulate regulations around farmer eligibility, construction methods, maximum floor area, and other farmhouse details).

²⁷⁶ *Id.* art. 18 ¶ 1.

²⁷⁷ Lin, *supra* note 272, at 184–85.

²⁷⁸ *Id.* at 185.

²⁷⁹ *Id.* at 178.

Through these measures—eco-friendly farming, smart agriculture adoption, and nascent climate change litigation—Taiwan addresses farmland concerns within the context of liberalized landownership and trade liberalization. The next Part will discuss arguments for and against farmland market deregulation and suggest possible safeguards to temper abuses of farmland market deregulation.

III LIMITING MECHANISMS

Much of the discourse around third-stage land reform—including the 2000 ADA amendments and 2002 WTO accession—has viewed farmland ownership liberalization as either wholly “bad” or wholly “good” for farmers: Either farmers are losing their livelihoods due to the greed of the industrial sector, or farmers are obtaining an otherwise unavailable lucrative option to exit their unprofitable landholdings for an outrageous sum. There are merits to both points of view, but, in my opinion, the answer lies somewhere between these two extremes. Ultimately, while ownership liberalization of agricultural land is not per se bad, there must be measures in place to serve as checks on unconstrained development. Further, the design of these measures should in turn acknowledge farmers’ own perspectives with regard to their land.

Farmland has been decreasing in Taiwan since 1967,²⁸⁰ so it is disingenuous to claim that allowing non-farmers to own farmland is what alone sounded the death knell to Taiwan’s agricultural industry. Japan and South Korea opened up their farmland markets to potential non-farmer owners later than Taiwan did, yet their farmland had also been decreasing beforehand. Agriculture itself has been declining as a percentage of Taiwan’s total GDP since the late 1960s, long before the epidemic of farmhouses in the 2000s and 2010s. Farmland market liberalization could instead be seen as a natural result of decreasing farmland, not the cause, and furthermore as a necessity to progress in global trade. Accession to the WTO was a net positive for Taiwan, which gained strengthened industrial exports—albeit at the expense of domestic agriculture—and renewed economic growth, along with international recognition.²⁸¹

On the other hand, through the context of “where there is soil, there is wealth” and decades of *Nongdi Nongyou*—the cultural signifi-

²⁸⁰ Chen, *supra* note 65, at 34.

²⁸¹ See Charnovitz, *supra* note 90, at 420–23 (discussing ramifications of Taiwan’s WTO accession on both its sovereignty and its eligibility for other major international organizations).

cance of which is shared with Japan and South Korea—the inherent importance of land to many farm families in Taiwan becomes clear. Much like the non-market value add of agriculture in terms of environmental effect, other factors—culture, personal relationships, heritage—add subjective value to the land that is not captured by the price a farmer can receive. The farmer who is unwilling to part with their land gains nothing from the “most expensive” agricultural land prices in the world if agricultural production value does not match the growth.

In effect, there are two main constituencies to take into account: (1) the farmer population and (2) the general population. The farmer population can further be broken down into (a) farmers who are unwilling to sell their land (for cultural or other reasons) and (b) farmers who are willing to sell their land (for economic reasons). Farmers’ interest revolves around their livelihood, while the general population’s interest is in (hopefully) the multifunctionality of agriculture.²⁸² Farmland deregulation with no substantive limitations—besides lack of goodwill in the public’s eyes—only satisfies the interests of farmers who are willing to sell their land, without responding to other stakeholders’ interests. This can be seen in the line drawn between farmers willing to exploit the loopholes of the ADA amendments versus the farmers petitioning the Taiwanese government for the rice bomber’s release.

Three main categories of mechanisms, if implemented alongside farmland deregulation, could better address the interests of all constituencies: (1) robust enforcement; (2) transition facilitation; and (3) monitoring and management. The varying successes and missteps of Taiwan’s reactive measures speak to these proposed mechanisms.

Robust enforcement mechanisms could better preserve agricultural land and ensure *Nongdi Nongyong* even under liberalized farmland ownership. For example, the 2015 Farmhouse Regulations drastically cut down on rural building construction by tightening the enforcement of “farmer” identity.²⁸³ A similar program simultaneous with the 2000 ADA amendments might have been able to curb the abuses before they accelerated. Importantly, a similar program with respect to enforcing *Nongdi Nongyong* more generally, and not just in connection with rural buildings, might affect elevated farmland prices. In addition, if closely related to existing language, the COA could

²⁸² I remain “hopeful” here insofar as, ideally, the general population of the planet maintains an interest in the planet’s continued survival. Though the general public also benefits from trends such as rural buildings and agritourism, I consider these to be only incidental benefits.

²⁸³ See *supra* notes 209–16.

issue orders interpreting the ADA or related legislation to bypass the amendment process. If challenged in the administrative court, the COA could cite multifunctionality of agriculture as an argument.

Transition facilitation mechanisms would provide assistance to existing farmers to transition to higher-value or higher-production agriculture, offering additional sources of revenue. Adoption of new technologies is linked strongly to existing knowledge and perceived importance,²⁸⁴ so the transition facilitation mechanism should especially focus on education and widespread awareness. This broad scope could include assistance with organic certification, addressing the steep learning curve of friendly farming, or introduction of smart agriculture technology to streamline conventional farming methods.

Monitoring and management mechanisms would help allocate farmland optimally. For example, the SLBT program incentivizes food production while also facilitating the retirement of aging farmers, whose average age is now sixty-two.²⁸⁵ This mechanism is analogous to cooperative farming and consolidation of agricultural land without disturbing the culturally-significant ownership of farmland itself. The program allocates resources such that both landlords and tenants benefit—landlords by receiving money, and tenants by expanding their scales of operation. To further bolster this type of farmland allocation, the COA has also instituted training programs for young farmers.

Other management mechanisms, such as a comprehensive land use plan (similar to the National Spatial Planning Act), could allow for the conversion of a minimal amount of less favorable agricultural land to other uses. Because Taiwan's agricultural sector is currently struggling with a shortage of labor (due to an aging workforce and low incomes) and water allocation issues, it might be unnecessary, and in fact impossible, to use all agricultural land for an agricultural purpose. Focusing the most sustainable, efficient agricultural production on the best agricultural land while opening up less favorable land to other uses could benefit Taiwan, especially because alternative uses of land may put less pressure on Taiwan's limited water supply.²⁸⁶ Taiwan experienced its worst drought in over half a century in early 2021, and

²⁸⁴ Chuang et al., *supra* note 12, at 7.

²⁸⁵ See *supra* notes 236–46; *Overview, supra* note 92.

²⁸⁶ Water supply is itself tied to food security. Peter McCornick & Aaron Salzberg, *Agriculture's Achilles' Heel: Water Insecurity Is the Greatest Threat to Sustaining Global Food Production*, NEW SEC. BEAT (Oct. 5, 2020), <https://www.newsecuritybeat.org/2020/10/agricultures-achilles-heel-water-insecurity-greatest-threat-sustaining-global-food-production> [<https://perma.cc/MQ8F-KEDR>]; Mark Rosegrant, *Food Security Depends on Water Security – and We Need to Act Now*, INT'L FOOD POL'Y RSCH. INST. (June 12, 2019), <https://www.ifpri.org/blog/food-security-depends-water-security-%E2%80%93-and-we-need-act-now> [<https://perma.cc/K4NK-DV95>].

farmers got the short end of the stick, as much of Taiwan's available water was funneled to Taiwan's economically vital semiconductor industry.²⁸⁷ More importantly, the drought—and subsequent extreme rains²⁸⁸—paints a dim picture of the unpredictability we can expect from further climate change: extreme weather that includes both drought and torrential downpour on an island whose average temperature has risen at twice the global rate over the last hundred years.²⁸⁹

The mechanisms described above take into account the points of view of both sets of stakeholders: farmers and the general population. Enforcement mechanisms take into account the general population by encouraging agricultural production's multifunctionality. Transition mechanisms and management mechanisms like the SLBT provide farmers who are unwilling to sell their land with alternate forms of higher value income, while comprehensive land use plans benefit farmers who are willing to sell their land. Future results of the continued SLBT program and growth of organic and eco-friendly farming remain to be seen, but the current results suggest that there is a place for agriculture in a deregulated farmland market, though it might require cooperation between constituencies to get there.

CONCLUSION

Taiwan's agricultural sector was founded on the concept of *Nongdi Nongyou*—farmland to be owned by farmers—which continues to influence Taiwan's pattern of smallholder farming. First-stage land reform in Taiwan cut down the landowner class and put land into the hands of farmers. The subsequent agricultural boom powered Taiwan's economic miracle in the post-war decades. In 2000, an amendment to the ADA removed as a matter of law the *Nongdi Nongyou* requirement for agricultural land, opening up ownership of agricultural land to non-farmers. Since then, the price of agricultural land has skyrocketed, landholdings have become increasingly fragmented, and rural land has been consistently siphoned away from agricultural uses. At the same time, however, liberalizing the farmland market and agricultural trade has opened up alternative income

²⁸⁷ See Cindy Sui, *Why the World Should Pay Attention to Taiwan's Drought*, BBC NEWS (Apr. 20, 2021), <https://www.bbc.com/news/world-asia-56798308> [<https://perma.cc/7KK6-E2UU>]; Raymond Zhong & Amy Chang Chien, *Drought in Taiwan Pits Chip Makers Against Farmers*, N.Y. TIMES (Apr. 13, 2021), <https://www.nytimes.com/2021/04/08/technology/taiwan-drought-tsmc-semiconductors.html> [<https://perma.cc/M6RM-XNFY>].

²⁸⁸ Raymond Wu & Cindy Wang, *Flood Risk Replaces Drought as Rains Fill Taiwan Reservoirs*, BLOOMBERG GREEN (June 22, 2021), <https://www.bloomberg.com/news/articles/2021-06-22/flood-risk-replaces-drought-as-rains-fill-taiwan-reservoirs> [<https://perma.cc/VF94-TT9S>] (describing the risk of flood that followed Taiwan's drought).

²⁸⁹ *Id.*

streams for traditional farmers, such as high-value agricultural production, agritourism, and land sales.

Farmland market deregulation on its own is not an inherently negative process, especially when increasing globalization warrants it and when it is managed carefully so that the pace of change does not lead to high levels of speculation and loss of agricultural productivity. The key, however, is finding that middle ground. Therefore, comprehensive enforcement, transition, and management mechanisms instituted alongside market deregulation may be helpful in safeguarding against the negative effects of land speculation, idle land, and alternative uses.