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2011 Modularization of Korea's Development Experience:

Impact of Foreign Aid on Korea's Development

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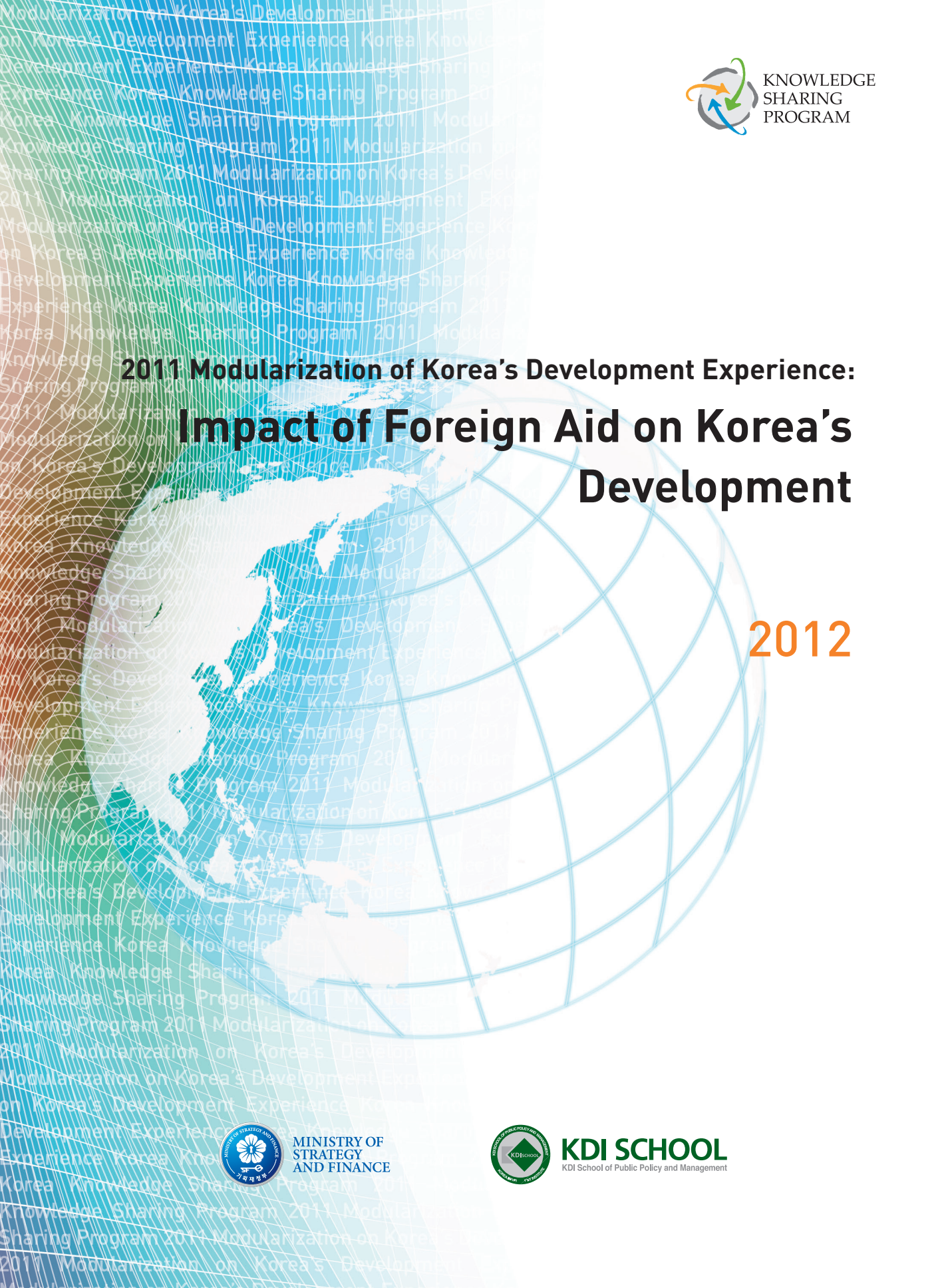

MINISTRY OF STRATEGY AND FINANCE

KDI SCHOOL
KDI School of Public Policy and Management

2011 Modularization of Korea's Development Experience:

Impact of Foreign Aid on Korea's Development

2011 Modularization of Korea's Development Experience

Impact of Foreign Aid on Korea's Development

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Preface

The study of Korea's economic and social transformation offers a unique opportunity to better understand the factors that drive development. Within one generation, Korea had transformed itself from a poor agrarian society to a modern industrial nation, a feat never seen before. What makes Korea's experience so unique is that its rapid economic development was relatively broad-based, meaning that the fruits of Korea's rapid growth were shared by many. The challenge of course is unlocking the secrets behind Korea's rapid and broad-based development, which can offer invaluable insights and lessons and knowledge that can be shared with the rest of the international community.

Recognizing this, the Korean Ministry of Strategy and Finance (MOSF) and the Korea Development Institute (KDI) launched the Knowledge Sharing Program (KSP) in 2004 to share Korea's development experience and to assist its developing country partners. The body of work presented in this volume is part of a greater initiative launched in 2007 to systemically research and document Korea's development experience and to deliver standardized content as case studies. The goal of this undertaking is to offer a deeper and wider understanding of Korea's development experience with the hope that Korea's past can offer lessons for developing countries in search of sustainable and broad-based development. This is a continuation of a multi-year undertaking to study and document Korea's development experience, and it builds on the 20 case studies completed in 2010. Here, we present 40 new studies that explore various development-oriented themes such as industrialization, energy, human capital development, government administration, Information and Communication Technology (ICT), agricultural development, land development and environment.

In presenting these new studies, I would like to take this opportunity to express my gratitude to all those involved in this great undertaking. It was through their hard work and commitment that made this possible. Foremost, I would like to thank the Ministry of Strategy and Finance for their encouragement and full support of this project. I especially would like to thank the KSP Executive Committee, composed of related ministries/departments, and the various Korean research institutes, for their involvement and the invaluable role they played in bringing this project together. I would also like to thank all the former public officials and senior practitioners for lending their time and keen insights and expertise in preparation of the case studies.

Indeed, the successful completion of the case studies was made possible by the dedication of the researchers from the public sector and academia involved in conducting the studies, which I believe will go a long way in advancing knowledge on not only Korea's own development but also development in general. Lastly, I would like to express my gratitude to Professor Joon-Kyung Kim for his stewardship of this enterprise, and to his team including Professor Jin Park at the KDI School of Public Policy and Management, for their hard work and dedication in successfully managing and completing this project.

As always, the views and opinions expressed by the authors in the body of work presented here do not necessary represent those of KDI School of Public Policy and Management.

May 2012

Oh-Seok Hyun

President

KDI School of Public Policy and Management

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Summary

This paper is an economic study of the impact of aid on Korea, and the critical role it played in laying the foundations for sustainable development. There is little doubt that foreign assistance was invaluable in aiding Korea's survival in the tumultuous years following its liberation in 1945 until the years immediately after the Korean War broke out in 1950. But assessing the longer term impact of aid on Korea's development presents a more complex challenge. At one point, aid had a depilating effect on the economy and the government. Corruption and rent-seeking behavior had taken hold of a government dependent on aid, itself becoming an obstacle to reform and progress.

The lasting effects of aid and development policies on Korea can only be truly understood after taking a broader view of the development process. In this regard, advances in modern economics and the lessons of past reform experiences allow us to better explain Korea's social and economic transformation. Despite the highly multi-faceted, complex, and contextual nature of development, policy lessons can be drawn from past experiences and Korea's experience can offer some useful insights on current issues.

2011 Modularization of Korea's Development Experience
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Chapter 1

Introduction

Introduction

When asking why different countries experience different growth patterns, the human consequences of which are simply unimaginable, Robert Lucas (1988) conceded: "Once one starts to think about them, it is hard to think about anything else." Indeed, it is hard to think about anything else but why Korea[1] has been able to achieve the kind of spectacular growth that has eluded so many other countries. Many have tried to explain Korea's economic development; but few have truly considered the direct and indirect implications of the massive amount of foreign aid on Korea's development. From 1945 to 1976, Korea was the recipient of nearly US$13 billion of economic and military assistance, nearly all of it in grants, allocated under the willful hand of the US. Korea also benefited from Japanese economic cooperation funds, or colonial reparations, after relations between the two countries were normalized.

After its liberation in 1945, following the World War II, Korea suffered an economic collapse and a civil war. Aid was critical in averting a humanitarian crisis in the wake of World War II and the Korean War in a poor country that had just been freed of its colonial rule. But foreign aid alone does not explain Korea's miraculous economic development. It is only part of the story. In fact, Korea became too dependent on aid and looked as if it would become a ward of the US early on in its development. Economic growth was largely aid-driven consumption. Moreover, the Korean government had become addicted to aid, overvaluing its currency to maximize aid receipts and printing money to meet budget needs. This made the economy susceptible to persistent high inflation and any attempt to keep macro stability difficult. Possibly more detrimental to the Korean economy, the over reliance on aid had given way to corruption and crony capitalism within government and business, itself becoming an obstacle to economic reform and progress. As the 1960s began,

1 In this paper, Korea generally refers to the Republic of Korea, which in Korean is officially referred to as Daehanminguk. South Korea may at times be used in place of Korea to avoid confusion in cases when discussing North Korea.

Korea's economy was by all intents and purposes dependent on aid while the failures of the Korean government gave merit to the label of a "basket case."

The turning point in Korea's development history came under Park Chung-Hee; the government took ownership of Korea's development process, addressing government failure and ceasing to be an obstacle to economic reform and progress. The government's efforts to root out corruption in government and carry out tax reform were perhaps the single most important government actions in Korea's development history.[2] Korea's capacity to secure tax revenue was crucial in providing sufficient fiscal resources-government savings-to maintain an economic environment conducive to growth, not to mention allow the government to take an active role in economic development. Fiscal soundness allowed Korea not only to manage inflation and induce foreign capital but also to make huge investments in education and infrastructure. It also allowed the government to provide subsidized credit and tax benefits for industrialization and to promote socio-economic policies such as construction of vital infrastructure and the Saemaul Movement for broad based development.

It is difficult to imagine that Korea could have developed so rapidly, or even achieved economic takeoff for that matter, had foreign aid not filled the financing (income) gap early on in its development. The humanitarian role of foreign aid was invaluable in ensuring the survival of Korea in the tumultuous years before and after the Korean War. But foreign aid was also critical in putting Korea on a path to sustainable growth. The massive investments financed by aid - the transfer of resources - raised the level of Korea's capital stock (including human capital and physical infrastructure), laying the basic foundations for economic growth. Perhaps the event that had the most profound and lasting impact on Korea's development prospects did not come in the form of aid but of policies and chance events. Land reform and the re-privatization of colonial properties under the heavy influence of the US and chance events, conspired to determine the initial conditions that would shape the evolution of Korea's economy. A dramatic turn of events on the peninsula resulted in a relatively flat distribution of income and wealth, effectively leveling the playing field and rearranging Korea's institutional setting.[3]

Any study of the impact of aid inevitably must be done in the context of development economics. Indeed, aid and development go hand-in-hand like two wheels of a cart. Much has been studied and said about Korea's rapid economic development centered on export-

2 Refer to "Tax Administration Reform in Korea and Its Implications" by Joon-Kyung Kim and K.S. Kim (2011a).

3 Dani Rodrik (1995) has argued before that the favorable initial conditions of relatively equal income and wealth distribution that prevailed in Korea and Taiwan set the stage for rapid economic development that followed. One implication being that the absence of "pressure groups" allowed government to coordinate better outcomes rather than to engage in rent-seeking behavior. Rodrik also cites Korea and Vietnam, two war-torn countries, as unique examples of countries that have been able to develop and experienced great changes to institutional arrangement.

based industrialization.[4] Yet, less is known about the nature of the economic policies in the early years of Korea's development, and impact of foreign aid, though the expansion of primary education has been well documented. To fill this knowledge gap, this paper takes a holistic approach, and does not rely on any single model of the development, in examining the impact of aid, and its implications on Korea's development, as a process of not only "capital accumulation" but also "organizational change."[5] Nearly, 60 years after it was first conceptualized, we posit that Rosentein-Rodan's idea of a "big push" or a broad based, centrally coordinated investment program provides a framework for explaining Korea's rapid, sustained and broad based development. A big push type of development program, coordinated by the government and aid filling the income gap, allowed Korea to make investments in human and physical capital. Beyond a big push type of investment program or the transfer of resources, understanding the importance of externalities (spillovers effects) and complementarities (forward and backward linkages) when markets may fail to produce efficient outcomes, or in modern economic terms, coordination failures, help to draw a richer picture of Korea's development and the impact of aid. This paper contend that the government played the role of mediating efficient outcomes by undertaking deep and wide complementary interventions simultaneously in multiple sectors and by changing the behavior of agents (social norms, belief systems)[6] and establishing institutions (social capital), that were conducive to growth and underpinned Korea's social and economic transformation.

The paper begins with a brief survey of the literature on the evolution of modern development theory and the leading issues that helped to shape it. In the next section, the paper assesses the role and impact of foreign assistance during the period of 1945 to 1976. It also discusses how the government took ownership of its development process once economic assistance began to fall significantly after the early 1960s, and the effects of the subsequent government policies of Park Chung-Hee such as rural development that led to Korea's broad-based development. In doing so, we take a close look at the political economy of aid from the perspective of Korea as a recipient country and of the US and Japan as donor countries. One of the key implications being that its effective use, and repayment of

4 The developmental state or state-led model has been used to explain Korea's economic development. The statist school, which may include Chalmers Johnson (1982), Alice Amsden (1989), Robert Wade (1990), Peter Evans (1995), Frederic Deyo (1987), Jung-Eun Woo (1991), and Eun Mee Kim (1997), has emphasized the role of the state in promoting economic development. In the state-led model, the state is commonly characterized as being independent, and having political power and control over the economy. However, this model, we argue, does not fully explain Korea's development experience when considering the positive and negative effects of Korea's colonial legacy and foreign assistance. For instance, it does not explain how Korea's government was able to institute administrative capacity in government, build up state capacity, in the first place, or how the government was able to reform itself and overcome the government failure.

5 Drawing on Darwin's perspective, Hoff and Stiglitz (2001) liken the economy to an ecosystem with multiple equilibriums, arguing that the environment of an economy, and in some cases chance events that determine initial conditions, play a large role in the evolution of the economic system by naturally selecting the equilibrium, more so than fundamentals like weather and geography.

6 Adsera and Ray (1998) show that there is a role for policy interventions in "forcing" a good equilibrium by changing the behavior of agents and breaking from initial conditions.

concessionary loans helped Korea not only induce foreign currency loans needed to make capital investments but also build its track record as a creditor for future foreign currency loans to undertake industrialization. The final section concludes and draws policy lessons based on Korea's aid and development experience.

This paper makes no pretense on generalizing the policy lessons drawn from the subtleties of Korea's experience. The impact of foreign aid in Korea is extremely context specific. Nonetheless, it is to be hoped that the paper provides some useful insights and lessons to contribute in shaping future research and development policies.

Time Line of Key Events

September 8, 1945	US Military arrives in Korea after liberation from Japan
December 6, 1945	US Military Government effectively takes control of all formerly owned Japanese property, or "vested properties," which were vested in the New Korea Company established by the US.
August 15, 1948	Founding of Republic of Korea Government
March 10, 1950	Farmland Reform Law (Law 108) promulgated and implemented.
June 25, 1950	Korean War (to July 1953)
February 1952	Vested lands and lands under Korean government's land reform program fully distributed. All land securities had been redeemed in December 1969.

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Chapter 2

Evolution of Economic Development Theory

Evolution of Economic Development Theory

The modern advances in economic theory and modeling have allowed us to better explain Korea's social and economic transformation; in fact, it is the very same ideas used to justify foreign aid to Korea and other countries since the 1950s that much of modern development economics rests on today. In many ways, development theory, as Stiglitz and Hoff (2001) write, has come full circle. So it is only fitting to briefly discuss how far development economics has come in the last half century.[7]

Rosenstein-Rodan (1943) first conceptualized the idea of a "big push" for economies stuck in a low-income equilibrium, or poverty trap. A simultaneous, massive, centralized investment program was needed to lift the economy out of the trap by raising the level of income, which would then enable the economy to takeoff into self-sustained growth. Increasing returns achieved in one sector can spillover to another only if the spillover effects of income associated with increasing returns are high enough; otherwise, the economy would be stuck in a poverty trap. In other words, development can breed development once a certain threshold was reached, resulting in a positive feedback loop that is self-reinforcing–"a virtuous circle." The major implications of the big push besides the call for a large investment push is that even market mechanisms could fail to coordinate activities to ensure development; therefore, there is a role for government and policy intervention in coordinating more efficient outcomes.

7 See Krugman (1993) and comments by Stiglitz (1993) in "Counter-Counterrevolution in Development" proceedings for a more detailed discussion on the intellectual history of development theory.

Nearly half a century later, Murphy, Shleifer, and Vishnay (1989) focus on a variety of spillover effects across multiple variables in the economy (aggregate demand, industrial demand for inputs, etc). They use the auto industry to illustrate their formalization of the big push, in that, cars would not be produced unless there were steel factories to provide steel, oil producers to produce gas, buyers to buy cars, roads to drive cars on, and so on.[8] Without coordination, the income effects of increasing returns in one industry could not spillover to another complementary industry due to various market failures, thus an economy could not grow and remain in a poverty trap.[9]

Theoretical work and empirical analysis on development have allowed us to formalize many of the assumptions that were first inferred from Rosenstein-Rodan's conceptualization of the big push. We now recognize that multiple equilibriums can exist, both good and bad, in various sectors of the economy, where market mechanisms fail to coordinate an efficient outcome. In modern economic terms, there could be coordination failure, where "individuals' inability to coordinate their choices leads to a state of affairs that is worse for everyone than some alternative state of affairs that is also an equilibrium (Hoff 2000)." More importantly, the formalization of Rosenstein-Rodan's intuitions has also shed more light on the importance of externalities (spillover effects), complementarities (forward and backward linkages) and increasing returns, while advances in modern economics have revealed critical insights on imperfect competition, imperfect information, endogenous variables (social and economic environment), and history (initial conditions), and their relationship to each other, in understanding market economies and development; that not all externalities may be internalized or mediated efficiently via non-market arrangements; that underdevelopment may go beyond what neoclassical models of growth prescribed as fundamental differences in technology, capital, or preferences, such as inefficient institutions and lack of technological progress. Externalities and market failures can lead to various coordination failures or traps including corruption trap, dualism, technology trap, etc. (Hoff 2000), which imply that obstacles to development may be a matter of coordination.

But the calls against government mediation are as loud as those for it. Krueger (1974) argues that government intervention can increase returns to political rent-seeking, possibly worsening the poverty trap; Easterly (2006) argues that big push plans may do more harm than good because it induces government failure and poor governance; while Hayek (1978) criticizes the idea of central planning because central planners lack sufficient information needed to coordinate a big push.

8 Tinbergen (1967) shows that an economy could address this coordination failure by opening itself up to international trade.

9 One key factor is that first movers risk "hold-up" problem. Since one firm's return depends on other firm's actions, a firm would only engage in an activity first if they knew it would be rewarding to do so. In theory, vertical integration would address hold-up problems.

In briefly reviewing the empirical work on growth, we focus on studies that examine the impact of aid on growth. It is a stylized fact that income growth is diverging "big time" between rich and poor countries in the long run (Pritchett 1997); subsequent cross-country empirical studies shows that growth has been quite uneven, characterized by fluctuations, unsustainable short bursts of growth and persistent periods of no growth over a long period (Easterly and Levine (2001), Hausmann, Pritchett and Rodrick (2005)). In trying to reconcile the very different growth patterns across countries, Easterly and Levine (2001) conclude that "something else" must be happening here besides capital accumulation in explaining differences in economic performance, noting that the data are more consistent with poverty trap and externality models than neoclassical growth models which fail to account for these anomalies. The authors also conclude that the divergence in income and concentration of economic activity suggest geography and technology spillovers could be factors for explaining the uneven growth.

Empirical evidence on the effectiveness of aid on growth is even less conclusive, showing indiscernible results at best.[10] In testing the big push theory, Easterly (2006) finds little evidence in support of the theory, finding no evidence of poverty traps, defined as zero or stagnant growth, for low income countries in most of the periods. The study also does not find much data in support of take offs as defined as sustained rapid growth following a period of no growth, except for Asian countries, let alone take offs induced with aid and investment. Interestingly, Korea's experience seems to prove the exception by exhibiting a pattern of rapid growth that is sustained, but this should not be taken as clear evidence in support of the big push theory nor of the poverty trap. Indeed, there is a need for more country-specific and rigorous empirical analysis on the development process, as much of the empirical literature on growth patterns is based on cross-country regressions.

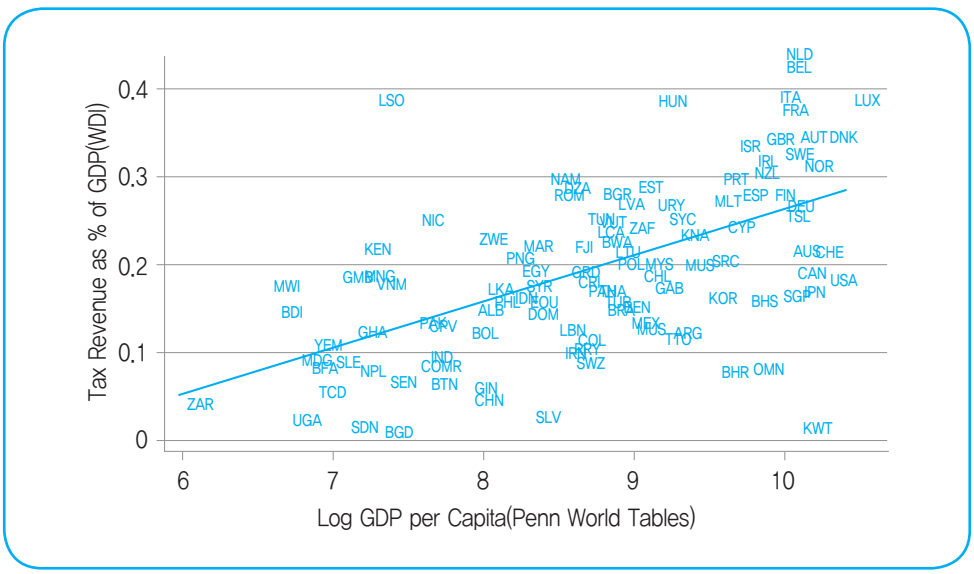
There has been a long line of literature studying the relationship between state capacity and economic growth. The capacity of the state, or lack thereof, has been used to explain differences in cross-country growth patterns; in that countries unable to achieve economic development suffer from corrupt and inefficient states. In an extension of the relationship between the state and development, many economists have gone further by advocating the important role a state can play in economic development. Within the large, growing body of literature that study market supporting institutions i.e. property rights and contract enforcement that are conducive to growth, there is growing recognition of the importance of fiscal institutions, the capacity both to collect tax revenues and to facilitate more efficient redistribution and allocation of resources (Acemoglu (2010), Besley and Persson (2010)).

10 See Rajan and Subramanian (2008) for survey of the empirical literature on aid effectiveness.

If the ability to tax (and to govern) is a measure of a state's capacity, then the capacity of a state can be defined as the "power to tax and regulate the economy and to withstand political and social challenges from non-state actors (Acemoglu 2005)." Those that lack the capacity are deemed to be "weak states," both economically and politically. Acemoglu (2005) shows that weak states tend to have lower tax revenue as a share of GDP and invest less in public goods. Besides investing little in public goods, it can be also argued that states with limited capacity also tend not to implement policies that redistribute resources to the poor, and that allocate resources inefficiently.

Recent empirical studies confirm what has always been plainly observed; that, advanced countries also seem to raise higher tax revenues. Indeed, studies have shown that higher GDP per income positively correlates with higher tax revenues as a share of GDP (The same correlations can be found between higher income/tax revenues and financial development.).[11]

Figure 2-1 | Tax Revenue and Income: 1990-2000



Note: Log GCP per capital is the average log GDP based on Penn World Tables, and tax revenue is the average as a share of GDP based on World Bank Data.

Source: Acemolgu (2005)

11 See Acemoglu (2005)

The model used in Acemoglu (2005) predicts that "both weak and strong states create distortions in the allocation of resources, and consequently, both excessively weak and excessively strong states are likely to act as impediments to economic development." As such, it is necessary to have a "balance structure of economic and political power" where the state is strong enough to raise sufficient taxes but not able to wield too much political power and go unchecked. The same balance has to be achieved in the level of taxes where taxes are high enough to create a surplus for the state to invest in public goods but not to stifle economic activity.

Acemoglu (2005) writes: "In South Korea, General Park ran a highly authoritarian regime, with few formal checks on state power, and used the resources of the state to help industrialization in alliance with the large Chaebols (as long as they did not pose a threat to his political power)." As excessively weak and strong states can impede growth and lead to misallocation of resources, Acemoglu (2010) cautions that the benefits of greater fiscal capacity cannot be realized unless an increase in a state's fiscal capacity is accompanied by "an increase in the political accountability of rulers and politicians." Otherwise, greater fiscal capacity may increase the benefits of controlling state power, resulting in a power grab and political instability.

In many poor developing countries, the state is not able to raise adequate tax revenues, let alone play a role in economic development. Aside tax policy considerations, the issues and challenges of tax administration in developing countries stem from several factors including narrow tax base, lack of tax administrative capacity, poor governance or corruption, and low taxpayer compliance. Indeed, tax revenue as a share of GDP is often found to be well below 15%, a key indicator for measuring the adequacy of tax revenues, in many poor developing countries.

Chapter 3

Aid and Development in Korea

1. Broad Overview of US Aid in Korea
2. Investments in Infrastructure
3. Investments in Education
4. Start of Educational Revolution
5. Capacity Building and Technical Assistance in Education
6. Capacity Building and Technical Assistance in Higher Education
7. National Medical Center under UNKRA
8. Capacity Building and Military Assistance

Aid and Development in Korea

1. Broad Overview of US Aid in Korea

Does aid have a positive impact on development? It is as much a moral question as it is an economic and political one. Any attempt to answer this question must be done in light of these three poles. Aid was critical in averting a humanitarian crisis in the wake of World War II and the Korean War in a poor country that had just been freed of its colonial rule. Foreign aid had a huge impact on Korea's reconstruction and development; it raised to a large extent Korea's capital stock primarily in human capital (education and health) and basic physical infrastructure (roads, railways, power, water, and sanitation); and it provided critical loans to finance industrialization.

But the great geopolitical uncertainty of the Korean Peninsula right after WWII, Korea's eventual physical partition, which culminated with a civil war, never allowed development to get traction in the early years of the republic. By the late 1950s, signs of Korea's economy increasingly becoming aid-dependent were emerging. A large part of foreign aid was comprised of commodities, which suppressed agriculture prices and distorted the incentives of farmers. Indeed, rice production decreased from 14.7 million Sok in 1949 to 12.8 million Sok in 1956, indicating 13.3% decrease (Lee, Dae-Keun, 2002). Besides the import of US grain flooding the Korean agricultural market, agricultural production decreased since around the time of land reform due to the small scale of farming land and weak agricultural institutions for credits and fertilizer. As a result, farmers' income, which had increased after the land reform in the late 1940s and early 1950s, fell back. Such reduction of income led to a rapid expansion of farmers' debt as they received loans from the informal credit markets.

Because the Korean economy was driven by investments and consumption of aid commodities, funded by aid resources, it can be argued that a drop in US aid could result in a drop in GDP growth. Lee (2002, p354) shows that Korean GDP began a decreasing trend from a peak of 8.7% in 1957, when the amount of the US aid also peaked, to 2.1% in 1960.[12] Moreover, the Korean government had become addicted to aid, overvaluing its currency to maximize aid receipts and printing money to meet budget needs. This made the economy susceptible to persistent high inflation and any attempt to keep macro stability difficult. Possibly more detrimental to the Korean economy, the over reliance on aid had given way to corruption and crony capitalism within government and business, itself becoming an obstacle to economic reform and progress.[13] As the 1960's began, Korea's economy was by all intents and purposes dependent on aid while the failures of the Korean government gave merit to the label of a "basket case."

In the 18 years after its liberation in 1945, following World War II, Korea suffered from a depressed economy, hyper-inflation, and a civil war, any one of which could impoverish a country. After the Japanese departed,[14] Korea's economy was left a shell of its former colonial self. Korea's trade with Japan accounted for over 80% of total trade while Japanese technical workers accounted for 82% of the total technical workers <Table 3-1>.[15] But Korea's colonial past also meant that the remnants of Japanese technology and knowledge as well as public institutions, left it the building blocks from which to build from. Besides instituting a statutory basis and a structure of government administration, the Japanese built a network of railways to transport goods and natural resources, and to connect Korea with other Japanese territories <Table 3-2>.[15] Railway network was fairly robust stretching a total of 6,362 km (South Korea: 2,642km, North Korea: 3,720km) as of 1945. The less impressive Japanese built a network of roads across the Korean Peninsula, which was better in the South. Streetcars which ran on electricity were built in Seoul, Busan and Pyungyang. There were also harbors in Busan, Inchon, Kunsan and Mokpo which were largely used to facilitate trade with Japan. Korea was also able to produce a total of 988,700 KW of electric power, in which 92% of the power produced was located in North Korea.

12 Mason et. al (1980, p204) also concluded that aid was critical to driving Korea's economic growth, citing the study by David Cole who estimated that aid contributed as much as 1.5% of GDP growth.

13 Much has been said about the exploits of President Syngman Rhee, who as an outsider was more interested in the politics than the economics of Korea, spending most of his energy and the country's resources soliciting political influence. The government under President Rhee was known to be inept and corrupt resulting in much rent seeking behavior.

14 During the Japanese colonization, a total of 700,000 Japanese immigrated to Korea.

15 According to economic historian Dae-Keun Lee (2002), Korea's manufacturing accounted for less than 5% of total production in early 1900s, but the share of production in manufacturing grew rapidly to over 40% by 1940 during Japanese colonization. By this time, Korea's manufacturing sector experienced a fairly rapid transition from light manufacturing to heavy and chemical industries, much of it in the North. During the period 1931-1940, the share of HCI manufacturing increased from 32% to 51% while light manufacturing fell from 68% to 49% of total manufacturing production.

Table 3-1 | The Share of Korean Technical Workers out of Total Technical Workers

	Total number of technical workers (A)	Korean technical Workers (B)	B/A (%)
Mining (As of 1941)			
Mining	5,247	1,542	29.4
Smelting	1,432	150	10.5
Sub total	6,679	1,692	25.3
Manufacturing (As of 1944)			
Metal	1,214	133	11.0
Chemical	2,004	222	11.1
Civil engineering and Construction	2,347	551	23.5
Miscellaneous	2,911	726	24.9
Sub total	8,476	1,632	19.3
Total	15,155	3,324	21.9

Source: Lee (2002, p493)

Table 3-2 | Korea's Natural Endowment and Economic Productive Capacity as of 1945

	Unit	Total	South Korea	North Korea
Area of land	Km	220,796	93,634	127,136
Population	Person	25,917,881	17,891,699	8,026,182
Rice output	1,000 Sok	19,374	13,718	5,656
Area of forest	Chongbo	16,277,854	6,856,433	9,421,421
Manufacturing production	1,000 won	1,495,169	705,326	789,843
Anthracite (coal) Production	%	100	2.3	97.7
Annual Power production	KW	988,700	79,500	909,200
Railroad network	Km	6,362	2,642	3,720
Road network	Km	25,550	16,241	9,309
Harbor Handling Capacity	1,000 ton	18,000	10,000	8,000

Source: Kim, Euiwon (1983), A Study of the History of Korea's Land, p741.

The introduction of a modern education system also occurred during Japanese colonization though it was very limited to males and primary education. Indeed, as seen in <Table 3-3>, Korea had very high illiteracy rate, which was 77.7% in 1930, where the illiteracy rate for women was 92.0% and 63.9% for men. <Table 3-4> decomposes the illiterate population by age groups. From the Table, it can be seen that high portion of the younger population was illiterate, which makes us conclude that access to primary education was very low. The illiteracy rate does not seem to have improved at all even at Korea's liberation from Japan, which remained high at 78% in 1945 for adults. As such, access to primary education presumably also did not improve. Formal education even at the primary level was not accessible by the general population. First, most Koreans, which were tenant farmers that made little income, were not able to afford education costs. Moreover, the Japanese colonial government suppressed any informal educational activities such as programs sponsored by newspapers and local communities beginning in the mid 1930s and only worsened as Japanese faced eventual defeat in WWII.

Table 3-3 | Korea's National Literacy Rate as of October 1, 1930

		Number of people	Percentage
Number of Literate people	Korean only	3,156,408	15.44
	Korean and Japanese	1,387,408	6.78
	Japanese only	6,297	0.03
	Total	4,549,981	22.35
Number of Illiterate people	Male	-	63.9
	Female	-	92.0
	Total	15,888,127	77.7
	Total population	20,438,108	100

Source: Chosun Daily Newspaper, Dec. 22, 1934. Yoon Bok Nam (1990), Korea University Ph.D. Dissertation on Social History of Korean Literacy

Table 3-4 | Korea's Literacy Rate by Age as of October 1, 1930

	Number of Illiterate people	Rate of Illiteracy (%)
5 years or younger	2,855,587	100.0
6-9 years	1,842,578	88.4
10-14 years	1,61277,492	72.6
15-19 years	1,360,890	66.2
20-24 years	1,110,884	64.9
25-39 years	2,674,441	67.7
40-54 years	2,416,122	73.4
60 years or older	1,015,121	79.8
Total	15,888,127	77.7

Source: Chosun Daily Newspaper, Dec. 22, 1934. Yoon Bok Nam (1990), Korea University Ph.D. Dissertation on Social History of Korean Literacy

Korea's industrial base was dominated by the Japanese, which supplied the capital, technology and managerial know-how while Koreans supplied the labor. After the Japanese departed, the economy once developed to exploit Korea and serve its imperial ruler was no longer viable. With a political and economic vacuum left in its wake, the newly liberated Korea soon descended into utter social chaos that soon precipitated a humanitarian crisis. Such was the context in which foreign aid first arrived in Korea.

In the wake of the World War II, Korea fell under the auspices of the US Army Military Government (USAMG) by virtue of having been a Japanese colony. Emergency humanitarian relief and assistance was deployed under the Government Appropriations for Reliefs in Occupied Areas (GARIOA),[16] which had three basic objectives: preventing widespread starvation and disease; boosting agricultural output; and overcoming a shortage in most types of commodities or consumer goods. The emergency assistance provided much needed humanitarian relief, staving off widespread starvation, disease, and social unrest through the provision of basic necessities, including food stuffs and agricultural supplies, which accounted for 35% and 24% of a total assistance, respectively, as seen below. Indeed, the provision of grain totaled 44% of the total grain supply in Korea by 1947, while the large amount of fertilizer imported to Korea led to the huge increases in agricultural production.

16 The GARIOA programs implemented in other occupied territories of the US were generally the same, since its main objective was humanitarian assistance.

Table 3-5 | Commodity Composition of GARIOA Imports: 1945-49

(Unit: US$1,000, %)

Commodities	1945	1946	1947	1948	1949[2]	Total	
Foodstuffs	3,604	21,551	77,754	67,698	4,887	175,494	(35%)
Agricultural supplies	-	6,983	31,394	38,609	43,481	120,467	(24%)
Unprocessed materials	-	113	3,809	8,093	11,844	23,859	(5%)
Petroleum & fuel	1,330	12,224	14,221	25,510	9,711	62,996	(12%)
Medical supplies	-	134	2.096	3,321	2,369	7,920	(2%)
Clothing & textiles	-	1,863	26,680	5,627	-	34,170	(7%)
Reconstruction	-	4,994	17,696	26,856	20,172	69,718	(14%)
Misc[1]	-	1,683	1,911	3,878	239	7,711	(2%)
Total	4,934	49,545	175,381	179,592	92,703	502,155	(100%)

Notes: 1) "Reconstruction" includes the following categories: automotive, building materials, chemicals, and dye stuffs, communications, educational support., fishing industry supplies, highway construction equipment, mining industry, office supplies, power and light, and railroad.

2) 1949 categories of aid goods, when differently classified, were allocated as follows: fertilizer is the only item in agricultural supplies; in "unprocessed materials" are raw cotton, spinning raw materials, crossties, bamboo, lumber and raw materials and semi-finished products; "reconstruction" includes chemicals, hides and skins, pulp and paper, cement; salt, iron and steel, machines and equipment, motor vehicle equipment, transport equipment, and rubber products.

Source: Mason et al. (1980. p170). Bank of Korea, Economic Review, 1955, p314 for 1945-1948; and Monthly Statistical Review, February 1952 for 1949. The categories listed for 1949 do not correspond precisely to those for 1948. Their allocation in the 1945-48 classification is indicated in Note 2).

US assistance was administered under the following objectives: establishing a free and independent Korea as pledged in the Cairo and Potsdam conferences, fostering a self-reliant country as a stabilizing force in Asia, and founding a new republic as an outpost of democracy (Mason et. al, 1980). But the objectives were shrouded in a cloud of great uncertainty, as Korea remained a physically divided country until late 1947. As such, longer-term reconstruction efforts were put off, which were assessed to be undesirable, too risky at the time, in light of the geopolitical uncertainty that arrested Korea. As Mason et al. (1980) write:

"…the US Congress was reluctant to provide funding; the Korean question was still being debated in the UN; and the belief was held by many Americans that, because Korea would eventually be reunited, America had no real stake in a costly and taxing program aimed at economic development of a South Korea that might shortly be reunited with its northern half."

As such, US assistance during 1945 to 1951 focused on short-term assistance to address immediate humanitarian relief by supplying basic commodities and supplies while only a small amount was used for reconstruction efforts. There were efforts in implementing a longer term and more sustainable economic development strategy under the Economic Cooperative Administration (ECA), but in reality, the ECA essentially operated like GARIOA, focusing on the import of commodities.

In 1948, the policy objectives of the US aid program were formalized under the ROK-US Agreement on Aid, shortly after the founding of the Republic of Korea (ROK) led by the new Syngman Rhee government. No sooner had Korea been cast free of Japan's colonial rule than did the US impose a strict set of provisions and controls to insure that the aid funds were allocated and used efficiently, and not misused or misappropriated. Outlined under 12 articles of the ROK-US Agreement on Aid, it provisioned that the Korean government agree to stabilize prices, to privatize the proprieties formerly owned by the Japanese, and to liberalize markets, i.e. fair foreign exchange rate. The last provision on exchange rates was a cause of "often acrimonious donor-recipient conflict over stabilization policy" that would test the limits of the donor-recipient relationship (Mason et al 1980). The Rhee government was intent on maximizing foreign aid receipts by keeping an overvalued currency against the dollar.

The agreement also stipulated that the two governments had to implement mutually agreed upon fiscal measures aimed at balancing the budget, reducing fiscal expenditures, and maintaining a conservative money and credit supply. A consensus had to be reached on any subsequent changes to fiscal, monetary, and balance of payment policies as well as on a national reconstruction plan. Under Article 5, a counterpart fund account had to be established at the central bank where the proceeds of US goods provisioned under the assistance program and sold in the market place were to be deposited. The allocation and uses of the counterpart funds had to be mutually agreed by both governments.

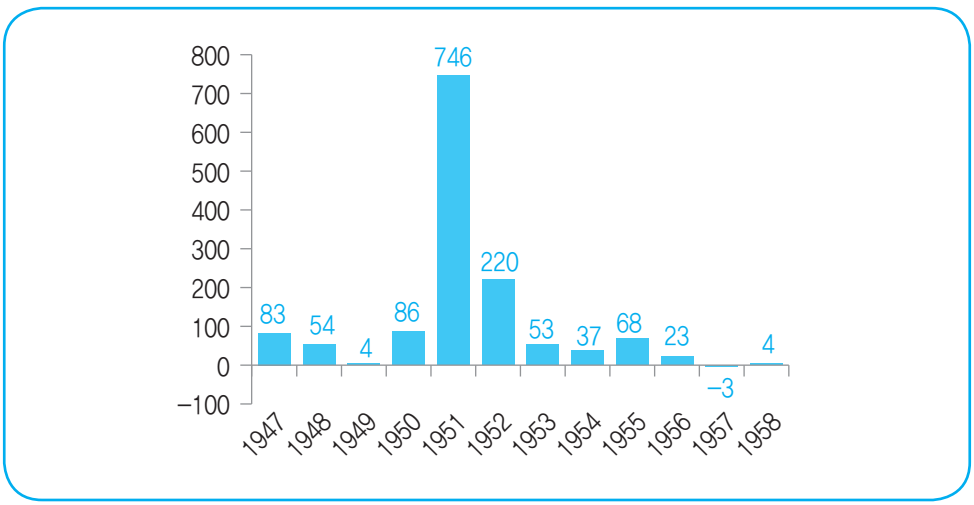
The conditional nature of the ROK-US Agreement on Aid was judged to be unfavorable and intrusive by the Korean government. In effect, it was a show of a lack of confidence on the part of the donor, which from the donor's standpoint seemed justified in light of the recipient country's failures in managing the economy and a poor governance track record. Mason et al. (1980) describes the Korea-US relationship:

"There were periods when Korean and American officials had similar and compatible views as to the objectives and appropriate forms of US assistance. There were other times when the disagreements were profound and often exposed to public view. Then, there were some critical turning points when a change in the substance, or form, or even the perception of the assistance precipitated a convergence or divergence of views and actions of the two governments which, in turn, had significant implications for Korean development and US-Korean relations."

As a result, the assistance program suffered from policy inconsistencies and lack of support from the Korean government at the outset while the US believed Korea was slow

to institute the stabilization policies and sought to maximize inflow of aid by maintaining an overvalued foreign exchange rate.[17] Ultimately, the US held all the levers of aid, and ended up getting policy cooperation from the Korean government. It should be noted that the macro stabilization and fiscal austerity measures had real positive effects in checking hyperinflation and shoring up Korea's fiscal budget, as well as laying the ground works for development. After liberation and the Korean War, the economy suffered hyperinflation caused by rapid expansion of the money supply as the government kept printing money to meet budgetary needs and finance the war.

Figure 3-1 | Consumer Price Inflation Rate



Source: Bank of Korea, Annual Report of Economic Statistics

By mid 1949, the Korean and US governments began preparations on economic reconstruction. The Korean government took the initiative by devising a five year reconstruction plan, centered on industrial development to promote the manufacturing sector. The Korean plan was considered to be too ambitious by the ECA; ultimately, unrealistic by the US Congress. In any case, the ECA reduced the size and scope of the original plan and submitted a three year reconstruction plan totaling US$350 million to the US Congress for approval. To make Korea a viable and self-sustainable country, the proposed plan as described by Mason et al. (1980) focused on three basic areas of capital investment: "development of coal, expansion of thermal power generating facilities, and

17 The issue of setting up a "reasonable" exchange rate became a highly controversial issue, which was begrudgingly resolved by a "series of unsatisfactory comprises." The US accused the Korean government of trying to maximize foreign exchange receipts by keeping an overvalued Won while the US government sought to minimize the allocation of dollars into the hands of Korean government officials.

construction of fertilizer plants, in that priority order."[18] The Korean recovery plan assumed that US assistance would end by 1953, and any balance-of-payment deficits would be met by private foreign investment and borrowings. However, the plan was strongly opposed by the US Congress and failed to be approved by one vote. The bill, HR 5330, was eventually revised and passed to a one year US$110 million development plan.[19] As a result, the ECA had to pare down the size of the aid program especially in capital investments and to shorten the program's duration.

These efforts would be for nothing, as war broke out on the Korean Peninsula with the invasion of North Korea on June 25, 1950, essentially grinding the aid and reconstruction efforts to an immediate halt, and reallocating resources for military and humanitarian assistance. Indeed, the order of priority had once again focused on humanitarian assistance first and development later. Under the UN flag, Korea received multi-lateral assistance of US$457 million, of which all but a fraction came from the US, as part of war time relief efforts. A military-administered relief and assistance program was organized under the UN and the civil relief program. Most notably, the Civil Relief in Korea (CRIK) was established. Much of the assistance was used for food stuffs, and textiles and clothing, representing 40% and 24% of total assistance, respectively. The UN relief efforts were crucial in preventing widespread starvation and disease.

Table 3-6 | UN Civil Relief Efforts

(Unit: US $million, %)

	1951	1952	1953	1954-56	Total	
Foodstuffs	34.7	45.8	74.0	29.7	184.2	(40%)
Textiles and clothing	25.4	47.0	33.3	5.7	111.4	(24%)
Medical	6.2	5.6	1.7	2.7	16.2	(4%)
Fuel	0.6	9.0	13.0	2.8	25.3	(6%)
Construction material	4.5	5.6	13.3	1.7	25.0	(6%)
Transportation equip	1.9	1.5	0.3	0.9	4.6	(1%)
Agricultural equip	-	23.5	19.9	13.9	57.3	(13%)
Rubber and Products	1.0	3.9	0.7	-	5.6	(1%)
Miscellaneous	-	13.8	2.6	1.9	18.3	(4%)
Total	74.4	155.5	158.8	59.2	457.4	(100%)

Source: Lee (2002), The Korean Economy in the Post-Liberation period and the 1950s

18 This plan was similar to a recovery plan implemented in Japan to increase production by investing in coal production used to increase power generation, which was used to produce fertilizer, and so on.

19 In the context of history, the opposition of the plan by the US Congress, as some have observed, may have had far reaching consequences beyond the plan's suitability; in that, the actions of the US Congress could have been construed as symbolic of wavering US support of South Korea, and thus, a precursor to the North Korean invasion, as opposed to the widely cited speech by Dean Acheson at the National Press Club a few days later.

Based on the premise that the Korean War would end fairly quickly and the Korean peninsula would once again be re-unified, the Korea Reconstruction Agency (UNKRA) was established in December 1950 to resume economic reconstruction efforts. In this sense, UNKRA's mission was different from CRIK; in that, its goal was to "lay the economic foundations for the political unification and independence of the country (Mason et. al 1980)." However, the war as it would turn out dragged on for far much longer than anyone anticipated. As a result, UNKRA's role in its first and second years of establishment was limited. It was not until after the Korean War had ended that UNKRA was able to provide significant amount of assistance and support in the reconstruction of Korea's economy: repairing devastated properties, providing rehabilitation supplies, transport, and services for Korean industry.

The funding source for UNKRA was largely provided by the US after efforts to mobilize a multi-national aid package based on voluntary subscriptions from 40 nations (35 UN member nations and 5 non-member nations) failed to materialize amid of great uncertainties surrounding the unification of Korea. Initially, the US had pledged to provide upto 66% of the total aid, however, the aid provided to Korea became bilateral between the US and Korea. About 40 countries pre-committed to provide a total of $208 million for funding UNKRA, however, only $122 million was mobilized and used for Korea's rehabilitation (See Table 3-7). One salient feature of UNKRA aid was that the composition of the aid went toward economic productive capacity at 70% while consumption was 30%. This ratio was different from the aid efforts under GARIOA and International Cooperation Administration (ICA). Since UNKRA aid sought to facilitate reconstruction, aid was used to import equipment and to construct new factories including Inchon Plate Glass Factory, Moon-Kyung Cement Factory, and Sam-Duck Paper. UNKRA aid was also used to rehabilitate damaged industries such as Janghang Smelting Factory, large-scale textile factories, and coal mine. Some of the UNKRA aid was used to fund policy loans to SMEs in manufacturing and mining industries through the BOK which made loans based on recommendations of Ministry of Commerce and Industry (Lee, 2002).

Table 3-7 | UNKRA Supplies Received by Commodities, 1951-59

(Unit: US$1,000)

	1951-52	1953	1954	1955	1956	1957	1958-59	Total
1) Agricultural, Fishery	559	2,199	2,423	2,096	451	352	30	8,110
Agricultural Research	215	283	126	31	17	29	-	701
Forestry Research	-	31	5	52	10	1	-	99
Irrigation	-	914	1,694	147	52	-	-	2,807
Livestock	-	216	-	-	-	-	-	216
Agr. Machines	-	363	118	64	-	1	-	546
Fishery-related	344	392	402	1,976	372	321	30	3,837
2) Mining	14	127	916	1,898	2,790	4,541	2,481	12,767
Mineral analysis	-	71	71	71	52	49	4	318
Devel. of Gold diggings	-	44	17	-	449	63	75	648
Development of Steel	-		261	282	378	222	16	1,159
Restoration of Janghang Refinery	-		-	53	85	440	828	1,406
Devel. of Coal Mines	-		464	1,415	1,699	3,458	1,357	8,393
Graphite deposit	-		103	77	127	309	243	859
3) Manufacturing	-	396	4,940	2,541	12,026	5,873	1,120	26,983
Plate glass factory	-	-	61	669	1,182	1,335	257	3,504
Paper-mill	-	118	139	324	3,541	301	123	1,356
Textile-mill	-	-	2,810	117	4,864	1,023	47	8,861
Cement-mill	-	39	199	614	4,649	2,982	640	9,323
Fertilizer-mill	-	-	82	40	-	-	-	122
Promotion of SMEs	-	-	1,220	113	768	84	121	2,306
Other mills	-	239	429	464	212	147	20	1,511
4) Trans., Comm., Elect.	-	2,198	3,971	2562	200	1	1	8,933
Harbor facilities	-	1,147	743	209	9	1	-	2,109
Railroad related	-	549	743	164	-	-	-	1,456
Trucks and other	-	456	1,535	-	-	-	-	1,991
Power trans/dist	-	-	849	1,773	128	-	-	2,750
Power gene at Jeju	-	24	31	415	55	-	1	526
Development of Elec.	-	22	70	1	8	-	-	101

	1951-52	1953	1954	1955	1956	1957	1958-59	Total
5) Education	490	2,495	3,601	1,674	935	348	48	9,591
Restoration of schools	-	1,438	2,684	964	221	15	-	5,322
Job training facilities	8	132	70	429	485	202	42	1,368
School research, library	-	318	66	34	12	-	-	430
Other facilities	482	607	781	247	217	131	6	2,471
6) Housing, health care	216	550	2,688	2,732	1,187	1,318	2,764	11,455
Housing	179	214	1,644	1,951	547	402	9	4,946
Taegu Med. School	-	219	665	23	77	11	21	1,316
National Medical Center	-	-	-	-	108	745	2,570	3,423
Rehabilitation Center for the deformed	-	16	48	214	154	79	107	618
Orphanage	37	101	331	244	301	81	57	1,152
7) Food and Raw Material	-	19,501	1,150	7,009	3,809	1,255	3,502	36,226
Grains	-	10,565	-	382	-	-	-	10,947
Fertilizer	-	8,936	-	410	-	-	-	9,346
Rubber, Tire	-	-	-	1,446	1,000	-	499	2,945
Paper & Printing facilities	-	-	750	449	849	172	839	3,059
Woolen & Rayon yarn	-	-	202	2,765	1,596	-	-	4,563
Building material	-	-	-	-	166	737	751	1,654
Steel material & others	-	-	198	1,557	198	346	1,413	3,712
8) Technical Assistance	812	2,114	1,608	1,669	972	416	224	7,815
Total	2,091	29,850	21,297	22,181	22,370	14,103	10,218	121,840

Source: Lee (2002, p323-324)

After the ceasefire in 1953, the Korean peninsula was left war-torn, divided and in utter destruction. South Korea suffered massive social and economic damage; civilian causalities totaled nearly 1.5 million while the destruction of properties were estimated to be about US$3.1 billion, leaving nearly 43% of residential homes and 42-43% of industrial facilities damaged compared to pre-war levels. To help with reconstruction efforts, Korea received massive amounts of US economic aid totaling about US$3 billion. Moreover, military assistance as a share of total US bilateral aid began to increase after the Korean War, when military assistance comprised more than half of total US aid to Korea in the 1960s as seen below.[20]

Table 3-8 | US Assistance to South Korea: 1946-76

(Unit: US $Million)

	1946-52	1953-61	1962-69	1970-76	Total
Economic Assistance	666.8 (98%)	2,579.2 (62%)	1,658.2 (40%)	963.6 (25%)	5,745.4 (46%)
Military Assistance	12.3 (2%)	1,560.7 (38%)	2,501.3 (60%)	2,797.4 (75%)	6,847.3 (54%)
Total	679.1 (100%)	4,139.9 (100%)	4,159.5 (100%)	3,761.0 (100%)	12,592.7 (100%)

Sources: Mason, Kim, Perkins, Kim and Cole (1989), p182

After the tragedies of the Korean War led to a false-start on Korea's economic recovery plans, preparation for a national reconstruction plan resumed once more. Just as before the war, the Korean and US government found themselves in disagreement over Korea's development strategy and the allocation and uses of aid resources. Again, economic historian Lee (2002) writes, the Korean government was intent on pursuing a development strategy oriented on capital investment to increase production. It, thus, proposed to allocate 70% of total aid to repair damaged industrial plants, leaving the rest to be used for consumer goods. The US aid administrators insisted on pursuing stabilization first, then development, placing priority on reining in hyperinflation caused by the expansion of debt to finance the war, and on securing a bare subsistence level of living. The imperative was securing macroeconomic stability and a self-sustainable path to development to reduce Korea's dependence on foreign aid. In principle, the Korean and US governments knew where they wanted to go; they just didn't agree on how to get there. It was clear to the US that the Korean government sought not only to secure as much aid as possible but also to allocate as much of the aid as possible to increase investment. In the end, the Korean government

20 After 1965, US aid was provided in the form of concessionary loans, and larger portion of US aid comprised of military assistance relative to economic assistance through the 1970s.

capitulated to US demands. Foreign aid was focused on increasing the supply of consumer goods and intermediate goods to curb inflation while providing basic essentials (Krueger, 1979).

Table 3-9 | Aids from US and UN by Types

(Unit: $Million, %)

	Facilities		Raw materials		Total	
	Amount	Share (%)	Amount	Share (%)	Amount	Share (%)
GARIOA	31	8	379	92	410	100
ECA/SEC	6	3	196	97	202	100
CRIK	-	-	457	100	457	100
UNKRA	86	70	36	30	122	100
FOA/ICA	485	28	1,260	72	1,745	100
PL480	-	-	203	100	203	100
Total	608	19	2,531	81	3,139	100

Source: Lee (2002).

After the Korean War, the Foreign Operation Administration (FOA) was created in August 1953 to administer US aid with the objective of economic rehabilitation and military assistance. Between August 1953 and June 1955, the US provided a total of US$ 206 million in assistance to Korea, where 34% of the assistance went to facility investments, and 66% to consumption goods and raw materials <Table 3-10>.[21] In June 1955, the FOA was renamed the International Cooperation Administration (ICA), while its main objectives remained unchanged. Under the ICA, a total of about US$ 1.3 billion of aid was disbursed, essentially the single largest aid program in Korea, peaking in 1957.

21 The planning and implementation of the reconstruction plan was conducted by the Combined Economic Board (CEB), a board comprised of representatives from the Korean and US government under the Agreement between the ROK and the Unified Command Concerning Economic Coordination signed in May 1952. The CEB convened on a regular basis to deliberate on important policy matters related to the allocation of aid funds and economic policy issues.

Table 3-10 | FOA Aid (August 1953-June 1955)

(Unit: $1,000)

	Planned amount (A)	Arrived amount (B)	B/A (%)
1) Equipment/Facilities (Project Assistance: PA)			
Agricultural, national resources	9,766	1,313	13.4
Mining and Manufacturing	60,034	873	1.5
Electricity, trans, communication	144,943	48,469	33.4
Health, education	6,104	1,965	32.2
Housing, social welfare	26,786	15,356	57.3
Others	4,097	1,212	29.6
Sub-total	251,730 (52%)	69,188 (34%)	27.5
2) Consump good, raw materials (Non-PA)			
Food	6,741	6,318	93.7
Energies	27,520	19,419	70.6
materials for agriculture	51,646	29,307	56.7
raw materials, semi-finished	111,150	72,283	65.0
Others	23,649	8,799	37.2
sub-total	220,706 (46%)	136,126 (66%)	61.7
3) Others	9,061 (2%)	740 (0.04%)	8.2
Total	481,497 (100%)	206,594 (100%)	42.8

Source: Lee (2002).

2. Investments in Infrastructure

Korea's major infrastructure (road networks, railroads and irrigation facilities) before 1950 was reasonably good considering all else. The railroad system connected the major cities. However, the road network was poor, even for a developing country and its roads in the rural sector were never developed well. But the Korean War destroyed some of the infrastructure.

US assistance under the ICA was comprised of two categories: project assistance for facilitating investment to increase production and non-project assistance for consumption goods and raw materials to provide relief and secure economic stabilization. During 1955-1959, non-project assistance comprises 70% of total aid, the largest component of being fertilizer (19% of total aid), followed by wheat (13% of total aid) and energies (9% of total aid). Project assistance accounted for 30% of total aid, of which nearly 37% of the aid was used to construct railways for YoungAm railway, Choongbuk railway, and Hahmbaik

railway. Some of the project assistance was used to investment in manufacturing including the construction of the Choongju Fertilizer Plant, Busan Arsenal, electric wire factory, pesticide factory, rubber recycle factory, tire factory, Busan Shipyard. In addition, the ICA project assistance use used to build 44 new small-sized plants for about 7.8 million US dollars including four starch factories, three flour mill, five pharmaceutical factories, three jelly factories, limestone factory, leather factory, plastic manufacturing factory, asbestos factory, paper mill, and printing factory (Lee, 2002, p330). Project assistance was also used to reconstruct the Hwachon hydro power plant which was damaged during the War as well as thermal power plants in Yongwol, Danginri, and Masan. Despite the low percentage of foreign assistance spent on facility investment relative to raw materials, the size of the total facility investment is still quite sizeable in absolute terms under the ICA.

By the end of 1950s, much of the infrastructure including railways, roads, and harbors that were damaged during the war was rehabilitated back to nearly pre-war level, thanks to the foreign aid. The reconstruction efforts faced a major challenge in supplying adequate electric power to meet the social and economic demand. Much of the electricity was supplied from power factories in the North before the partition of Korea. The Korean government established three-year electric power construction plan starting 1954 that was based on hydro electricity. However, the US opposed these plans in favor of focusing on thermal power electricity which argued that thermal power was more cost efficient based on electricity demand. So, only one hydroelectric plant was constructed at Koisan in the late 1950s while the planning for other hydro-electric plants began in 1961.[22]

Table 3-11 | Electric Power Output and Number of Power Plants

	Number of Plants		Electric Power Output (KW)
	Hydro-Plants	Steam-Plants	
1935	1	1	82,602
1940	2	3	51,364
1945	5	3	711,327
1950	5	3	420,651
1955	5	3	879,272
1960	6	6	1,699,443
1965	7	10	3,249,938
1969	8	17	7,699,968

Source: AD/DLEI, Power Branch, USAID/K from "Land Reform in South Korea" June 1970 by Morrow and Sherper (1970)

22 According to Lee (2002), the tied nature of US assistance favored the construction of thermal plants since the power generators and equipment could be supplied by US firm, which would also supply the oil need to run the generators.

3. Investments in Education

With considerable US financial and technical assistance, Korean education system underwent significant transformation in form and substance.[23] An estimated US $100 million alone went into education and training during post-Korean War reconstruction period. The foreign assistance in education was administered by the Armed Forces Aid to Korea (AFAK) and UNKRA during the early years of post-war reconstruction. It was then transferred to the ICA.[24] The goals of the assistance efforts in Korean education after 1953 centered on: classroom construction, secondary and vocational education, teacher training, and higher education. There was also a good deal of technical assistance carried in the military.

Table 3-12 | ICA Aid By Commodity: 1955-59

(Unit: US $1,000)

	1955	1956	1957	1958	1959	Total
1) Project Assistance						
Agriculture/fisheries, natural resources	3,404	1,784	5,947	4,549	6,876	22,560
Land, irrigation	2,239	859	3,124	3,035	3,361	12,618
Grains, livestock	1,151	686	2,165	374	838	5,214
Mining/manufacturing	6,663	9,872	19,181	16,691	7,144	59,551
Electricity	11,876	13,893	6,083	2,246	1,807	35,905
Transportation, Communication	64,532	4,292	45,729	22,525	13,138	190,216
Railroad	49,937	31,942	37,042	17,051	7,607	143,579
Road, Bridge	3,893	2,192	1,816	2,215	1,788	11,904
Harbor	8,089	7,530	1,832	705	326	18,482
Communication	2,508	2,195	3,600	2,296	2,988	13,587
Health Care	2,106	2,099	2,741	3,786	3,079	14,011
Education	33	982	3,491	3,172	3,692	11,370
Housing and Social welfare	7,330	9,003	6,266	4,927	2,492	30,018
Others	1,516	3,465	3,291	5,994	5,383	19,649
Sub-total	97,460 (47%)	85,390 (35%)	92,729 (29%)	63,890 (24%)	43,611 (21%)	383,080 (30%)

23 UNKRA also provided aid in education totaling nearly US$ 11 million, most of which was used to repair schools destroyed during the Korean War.

24 The Agency for International Development became the US aid administrator after the Foreign Assistance Act was passed in 1961.

	1955	1956	1957	1958	1959	Total
2) Non-project Assistance						
Agricultural products	28,443	37,740	73,758	41,736	32,426	214,110
Wheat (raw)	22,039	16,396	26,425	3,0815	23,369	119,044
Wheat flour	3,982	9,012	22,809	3,945	7,205	46,953
Energies	10,471	23,473	24,000	35,395	20,625	113,964
Petroleum, gasoline	7,215	20,162	20,357	24,667	19,379	91,780
Bituminous coal	3,211	3,025	2,900	10,569	1,070	20,775
Raw material/semi-finished	54,937	107,171	105,638	97,960	88,895	485,119
Fertilizer	40,792	55,686	56,556	47,652	45,617	246,303
Rubber	1,000	5,884	3,658	3,774	5,509	19,825
Rayon yarn	1,449	14,228	12,715	10,144	9,723	48,259
Medical supplies	1,185	4,019	4,541	3,761	3,503	17,009
Paper	329	6,836	5,012	7,096	1,553	20,826
Raw material for sales	14,504	17,208	27,142	26,648	22,740	108,302
Wood/timber	3,208	2,505	4,359	4,044	5,093	19,209
Cement	1,755	2,112	2,396	1,039	-	7,302
Sub-total	108,355 (53%)	185,659 (65%)	230,538 (71%)	201,739 (76%)	164,686 (79%)	890,977 (70%)
Total	205,815 (100%)	271,049 (100%)	323,267 (100%)	265,629 (100%)	208,297 (100%)	1,274,057 (100%)

Source: Lee (2002)

The physical presence of the US and its geopolitical motives in the region had a unique and profound impact on Korean education. As Mason et al. (1980) write: "Schools under the US Military Government (1945-48) also had clearly defined political and economic purposes: to convert Korean youth and adults to the American conception of democracy and to provide basic skill training." To spread American ideals and values, US assistance in cooperation and support of Korean educators sought to significantly increase access to education to all Koreans. Korea would eventually achieve universal primary education in late 1950s while making all primary schools coeducational. By 1948, 15 million textbooks were printed and distributed. The Korean language of Hangeul was formally reintroduced in the curriculum, and any elements of Japanese tradition in education were discarded. The Korean curriculum underwent significant change with the incorporation of scientific methods in education that put emphasis on "problem solving" and "learning-by-doing" (Mason et al. 1980, p344).

Table 3-13 | Number of Classrooms and School Age Population in 1950

Province	Classroom			Eligible Population		
	Primary	Secondary	Total	Primary	Secondary	Total
Seoul	1,911	1,515	3,426	95,030	88,164	183,194
Kyonggi	4,549	478	5,027	467,097	392,783	859,880
Chungchong Puk Do	2,322	433	2,755	188,577	161,561	350,138
Chungchong Nam Do	3,493	221	3,714	368,046	274,990	643,036
Cholla Puk Do	3,438	399	3,937	625,711	436,373	1,062,084
Cholla Nam Do	5,182	191	5,373	548,938	474,597	1,023,535
Kyongsang Puk Do	5,228	787	6,015	354,634	290,309	644,943
Kyong Sang Nam Do	5,477	807	63,384	488,959	358,098	847,057
Kangwon Do	2,249	371	2,520	156,505	122,530	279,035
Jeju Do	445	39	484	43,518	45,672	89,190
Universities & Colleges	NA	NA	2,943	NA	NA	24,921
Total	34,294	5,241	42,478	3,337,015	2,645,077	6,007,013

Source: UNESCO in Dodge (1971) "US Assistance to Korean Education, a History of a Decade of US Foreign Aid."

4. Start of Educational Revolution

Early in Korea's development, a considerable amount of US aid went into education; a great deal was invested to expand access to primary education by repairing and building education facilities and vocational schools, and by providing technical assistance for educating and training new teachers. US aid was also used in civic schools for older students that no longer qualified for compulsory education. Indeed, civic schools for adults that taught basic reading, writing and math, were critical in sharply reducing the illiteracy rate among adults within a very short amount of time. In 1945, an estimated 78% of Koreans were illiterate, meaning they could not read or write in Hanguel or in any other language. Before 1945, education at any level was limited to the very few ruling elite. Even during Japanese colonization, education was largely restricted to a few, and the few that did go to school, received a Japanese education.

By the 1960s, major progress had been made in providing access to primary and middle school education in Korea. Between 1952 to 1967, nearly 20,000 classrooms were built and 3,000 more repaired, material and technical assistance helped to improve vocational education, SNU Colleges of Agriculture, Engineering, and Medicine, were rebuilt and equipped, and assistance was provided to improve textbooks, science education, early childhood education, and the libraries. Indeed, the Ministry of Education claimed achieving a literacy rate of nearly 90% in 1968 for people over the age of 6 years.[25] Based on the rapid growth in the number of institutions, teachers and students, the results of the heavy investments in education supported by foreign aid were undeniable from 1945 to 1965, as seen below.

Table 3-14 | Expansion of Korean Education during 1945 to 1965

	Number of Institutions		Number of Teachers		Number of Students	
	1945	1965	1945	1965	1945	1965
Primary Level	2,834	5,265	19,729	79,613	1,366,024	4,955,104
Secondary Level	165	2,432	3,219	36,864	84,572	1,258,088
Higher Level	19	162	1,490	6,801	7,819	141,636

Source: US Department of State, "The Development of Education for the New Korea" in Dodge (1971) "US Assistance to Korean Education, a History of a Decade of US Foreign Aid."

Quite possibly more important, and controversial, than the quantitative expansion were the efforts to build an education system modeled on western-democratic ideals, values, and practices, much of it a reaction to the perceived threat of communism which had infiltrated the North. As McGinn et al. (1980, p86) write, the US was "determined to use education in Korea as a major vehicle for the democratization of society." Indeed, the US Military Government was active in promoting civic schools for literacy and basic education on values and beliefs of western democratic institutions, "the American Way of Life." As such, the civic schools were focused on the adult populations. By 1948, nearly 15,400 civic schools were established and more than 1 million adults were enrolled.

In step with the US policy initiative on civic schools, the Education Act was passed by the newly established Korean government in December 1949, which gave civic schools legal statutory basis and outlined the activities and objectives of the civic schools. Article 140 of the Education Act made civic schools compulsory for adults who were born after 1910 and had not attained the primary education. The Act also specified that students of civic schools were required to complete a minimum of 200 hours of classes over 70 days. These classes were held during the off-seasons so that farmers could attend. The curriculum

25 The standard of literacy was measured by the ability to identify and write the 24 letters of the Hangul alphabet.

for civic schools not only taught basic readings but also basic math, and science and social studies. Essentially, the Korean government implemented the same policy on adult education through the civic schools as US military government. In implementing the policy for adult education, the Ministry of Education put emphasis on promoting "education for Koreans by Koreans" by training Korean teachers to teach Korean adults.

From the summer of 1946, the government-led adult education started to extensively eradicate illiteracy as well as foster people to become the citizens of a democratic nation (Lee, Hee-Su, 1996). The Adult Education Bureau took charge of training leaders who would go to cities and countries to teach illiterate people and each leader had to go to different cities and countries and train local leaders who would teach in neighborhoods and villages.

Table 3-15 | Status of Local Instructors (1947)

Province	Instructors in Gu, Eup, Myun		Instructors in Ri, Dong		Total	
	No. of workshops	No. of participants	No. of workshops	No. of participants	No. of workshops	No. of participants
Kyunggi Do	95	2,568	147	5,307	242	7,875
Kangwon Do	35	887	132	2,927	167	3,814
Chungchong Buk Do	26	649	30	1,502	56	2,151
Chungchong Nam Do	50	254	418	5,318	468	5.572
Cholla Nam Do	25	430	230	6,616	255	7,046
Jeju do	-	-	20	423	20	423
Total	231	4,778	977	22,093	1,208	22,881

Source: Hee-Su Lee (1996)

Separately, Koreans that came down from the North after 1945 were educated to instill the Western values and principles. Furthermore, factory workers in the age of 13 to 16 also were educated in programs offered at the factories. The US also pushed the policy of decentralizing education and devolving power to the local level. But these were largely considered to have failed on the part of the US.

Since military service has been a requirement for all able bodied Korean males, the effects of military training and education played an important role in improving Korea's overall literacy rate. Korea had received significant amount of military assistance from the US to

ensure peace and security on the Korean peninsula and the Northeast Asia after Korean War. Military servicemen were required to be taught basic education in reading and writing as well as math during the basic military training. The military trainees were required to complete 44 hours of education per week for 6 weeks. This included 220 hours of reading and writing and 44 hours of math. A total of nearly 600 thousand servicemen received basic education since the establishment of Korean military in 1952 to 1970.[26] Under the program, student adults were required to take a total of 50 hours of classes including 30 hours in reading, 10 hours in math, and 10 hours in new government' national objective. Between 1961 and 1963, a total of 1 million adjusts completed the educational program.

Table 3-16 | Total Number of Military Servicemen Educated in Basic Reading and Writing

Year	Total Number	Year	Total Number
1952	148,553	1962	16,764
1953	208,023	1963	8,432
1954	76,012	1964	2,343
1955	34,976	1965	6,155
1956	23,511	1966	4,529
1957	15,477	1967	4,721
1958	10,444	1968	7,785
1959	6,447	1969	7,986
1960	14,224	1970	531
1961	12,677	Total	587,298

Source: Byun, Jong-Im (2011)

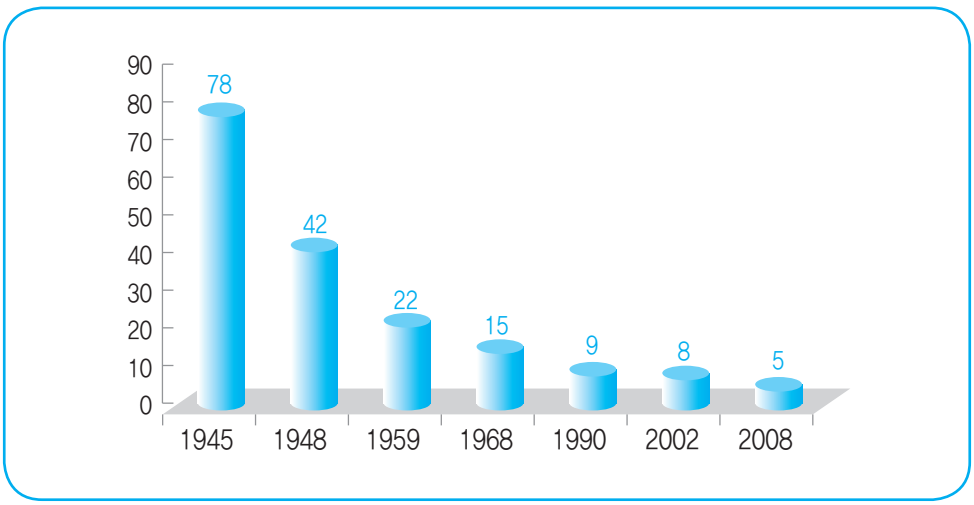
The quantitative impact of US assistance in education in Korea can be summed up as follows. Korea's illiteracy rate among the adult population fell sharply within the very short amount of time. From 1945 to 1948, the illiteracy rate fell from 78% to 42%, and fell sharply again from 1948 to 1959, before following below 10% in 1990s.[27]

By 1948, 2.3 million children were enrolled in elementary school, more than 100,000 in secondary schools, and almost 90,000 in technical/industrial schools (McGinn, Snodgrass, Kim, Kim, and Kim, 1980). The rapid improvement in the literacy rate and education outcomes can be attributed to assistance efforts both in formal and informal education.

26 After the Military Coup in 1961, the educational training for the adults in basic education continued under the National Reconstruction Movement

27 The Korean national illiteracy rate was 77.7% in 1930, where the illiteracy rate for women was 92.0% and 63.9% for men

Figure 3-2 | Illiteracy Rate of Korean Adults



Source: Yoon Bok Nam (1990)

5. Capacity Building and Technical Assistance in Education

But the outbreak of the Korean War disrupted the progress made on rebuilding Korea's education system. The tragedy of the war resulted in the destruction of schools and classrooms, and loss of life among many teachers who had either been killed or disappeared. After the Korean War, the education system was severely damaged, resulting in a classroom shortage. Dodge (1971) writes: "Of the 42,478 classrooms that existed before the Korean War, 10,018 were totally destroyed, 4,976 were half destroyed, and an additional 13,971 were damaged." In other words, the nation lost the use of 70% of its classrooms. Once reconstructions efforts were restarted, the assistance focused on providing material aid at the primary and secondary level, as well as increasing investments in higher education. In early 1952, the head representative of UNESCO recommended that financial assistance be used in education after making an assessment during a visit to Korea. As such, UNESCO and UNKRA developed a five-year program for the development of Korea's education system that provided nearly US$ 11 million dollars in education assistance under UNKRA, most of which was used to repair schools destroyed during the Korean War as seen below.

Table 3-17 | Aid to Education Sector by UNKRA: 1950-59

(Unit: $ Thousand)

	Facilities	Technical	Total
Building class rooms	5,407	-	5,407 (50%)
Secondary education	1,262	142	1,404 (13%)
Higher education	2,195	325	2,502 (23%)
Teacher training	100	279	379 (3%)
Social education (including adult education)	287	114	401 (4%)
Textbook printing factory	514	-	514 (5%)
Foreign language private institute	-	164	164 (2%)
Others	-	-	92 (1%)
Total	9,845	1,036	10,881 (100%)

Source: Lee, Wang-Joon (2006, p395), The Influence of Minnesota Project on the Korean Medical Education.

Under the ICA, a considerable amount of US assistance was invested in human capital development especially in higher education. A sizeable amount of US assistance went into "technical cooperation assistance activities" to build capacity in higher education but also technical and vocational training in general.[28] A total of US20 million dollars was invested to train new teachers and professors as seen in table below. Assistance was also provided for materials and equipments for secondary level education, most of which went to improving vocational education facilities. The assistance included organizations of two vocational teacher training departments at SNU, the training teachers outside of Korea, and development to high schools.

28 Refer to "Case Study of Technical Cooperation: Minnesota Project" by Joon-Kyung Kim and K.S Kim (2011b).

Table 3-18 | Assistance in Education Sector by FOA/ICA: 1954-61

(Unit: $ Thousand)

	Facilities	Technical	Total
Building class rooms	2,231	40	2,321 (1%)
Secondary education (vocational schools)	2,295 (2,189)	434 (434)	2,729 (13%)
Higher education (Seoul National University)	5.561 (5,471)	5,412 (3,981)	10,973 (54%) (9,452)
Teacher training	1,894	2,031	3,925 (19%)
Others	36	281	317 (2%)
Total	12,067	8,198	20,265 (100%)

Source: Lee (2006, p395), The Influence of Minnesota Project on the Korean Medical Education

To fill the primary schools left vacant by the repatriation of Japanese teachers which accounted for 40% of all teachers, eight new teacher schools were established with help of US aid by 1951 to train new primary school teachers. At the time, enrollment in primary schools nearly doubled from 1.4 million in 1945 to 2.5 million in 1947 as the demand for education increased since it was denied to most Koreans during Japanese colonization. The urgency to establish schools led to many untrained educators to operate the schools. As seen in Table 19, there were 17 normal schools with 387 teachers and 10,137 students enrolled in 1952. One aspect of normal school was that funding was based on combination of contribution from students' households and the government scholarship. The curriculum for normal schools was established by the Ministry of Education as shown below.

Table 3-19 | Comparison of Normal School Enrollments by Province in July 1952

	No of Normal Schools	Normal School Teachers	Normal School Enrollment		
			Male	Female	Total
Seoul Special City	1	23	216	189	405
Kyunggi Do	1	18	181	181	3652
Chungchong Puk Do	2	30	631	286	917
Chungchong Nam Do	2	39	1,029	273	1,302
Kyungsang Puk Do	2	42	1,283	313	1.596
Kyungsang Nam Do	2	39	809	342	1,151
Cholla Puk Do	2	38	1,033	394	1,427
Cholla Nam Do	3	93	1,530	250	1,780
Kangwon Do	2	65	851	346	1,197
Total	17	387	7,563	2,574	10,137

Source: Dodge (1971, p214)

Table 3-20 | Subject Requirements of Korean Normal Schools in 1952

	First year	Second Year	Third Year
Korean language	96	96	72
Social studies	96	96	72
Mathematics	96	96	72
Science	128	128	96
Physical education	96	96	72
Music	96	96	48
Art	128	128	72
Business	96	96	72
Foreign language	64-128	64-128	48-96
Education	128	128	168*
Total	1,024-1,088	1,024-1,088	792-840

Source: Dodge (1971, p217)

Note: * included 5 weeks student teaching

Beginning in 1952, the US provided technical assistance for teacher training by sending a team of 6 educators. These types of technical assistance continued until 1955 funded by UN and private donors such as American–Korean Foundation. It was around this time that then US began to consider the development of longer-term project for improving teacher's education.

A teacher education program was carried out in Korea in cooperation with the George Peabody College of Teachers, which provided technical assistance. This program benefited several universities including Seoul National University, Korean normal schools, junior colleges, and lower-level schooling programs. Under the Peabody Program, technical assistance was carried out between 1956 and 1962, where about 40 Peabody faculty members were sent to Korea to train and educate Korean educators in western-style education. The Korean educators were trained in educational theory, curriculum development and teaching practices through on-site technical assistance at various educational institutions in Korea. Also, nearly 80 Korean teachers participated in an exchange program and were sent to the US to receive training in higher education.[29]

29 Many of the Korean educators that participated in the exchange program ended up becoming prominent figures or leaders in Korean education, who are known as the "Peabody School."

6. Capacity Building and Technical Assistance in Higher Education

Before Korea's liberation, access to higher education remained largely limited. Imperial University, which would eventually be reorganized into SNU, was established by the Japanese. Enrollment at Imperial University during Japanese rule was very selective and limited to a small percentage of Koreans.[30] After Korea's liberation, a number of national and provincial universities and colleges were established. Most of the increase came from the rapid growth of private, degree-granting colleges. By 1952, the number of higher learning institutions totaled 42 and the number of student enrollment totaled 33,542 (3,958 women).[31] Despite the expansion of higher learning, Korea's university system was in need of urgent reform to improve the quality rather than quantity of education. Moreover, Korea suffered a huge deficit in the number of skilled workers and technicians after the departure of the Japanese which held most to the skilled jobs during their occupation. As such, top priority was put on upgrading Korean higher education and research, and secondary and vocational education to support Korea's economic development.

To build up Korea's technical capacity, considerable amount of financial and technical assistance went into upgrading Korean secondary and vocational education as well as in institutions of higher learning. A good deal of technical assistance was carried out through US technical cooperation programs under "university contracts" which enlisted the participation of US universities and technical institutions to facilitate the exchange of knowledge and skills. The basic objectives of the technical cooperation program were: expansion of education in fields of engineering, medicine, agriculture, and public or business administration; support of specific services or industries, expansion of research, and training of technical manpower. During 1955-59, a total of 1,421 Koreans studied in the US.

In Korea, the Minnesota Program provided technical and material assistance to SNU during 1954 to 1961, for the Colleges of Agriculture, Engineering, and Medicine of Seoul National University. Later on, technical cooperation was expanded to include the fields of nursing, veterinary, and public administration. Under the ICA-University of Minnesota (U of M), Korean instructors and administrators studied and observed at the U of M. A total of 226 SNU instructors (77 from the College of Medicine) studies in the US at U of M. Also, a total of 59 US experts and advisors (11 advisors for SNU College of Medicine) were dispatched to SNU to act as in-house consultants, to provide assistance the implementation of new systems and methods adopted by Koreans, under the banner of "assist and not displace." Material assistance was provided to rehabilitate and improve facilities and to provision new equipment.

30 Yonsei University, or formerly known as Chosen Christian University, is considered as the oldest established university in Korea. It was established by early missionaries.

31 A report on Korea's higher education prepared in 1959 estimated that Korea had about 56 colleges and universities of varying degree located across the country with 88,000 students.

One particular program under the Minnesota Program focused on the modernization of Korea's medical education system, a leftover of Japanese colonial rule, to improve the standards of medical training and healthcare. Under the program, war-damaged medical facilities were repaired; new facilities for training healthcare providers were built including nursing and public health schools; and modern medical equipment, systems and practices were introduced at SNU medical college. But more importantly, this program assisted in the training of professors at the SNU medical college.

In 1960, U of M was one of 53 US colleges that participated in the ICA program, which totaled nearly US$ 100 million, with 96 contracts covering 33 countries. To maximize the effectiveness of the program, countries and universities were matched based on various criteria that best suited their conditions. The University benefited from the program which increased the school (Chu, Keun-Won Chu, 80 years of Not Looking Back, 1998, 96p, Lee, Wang-Joon, 2006, p37, recited).

Table 3-21 | Technical Cooperation through US Universities

	US colleges that provided technical assistance
India	Columbia, Berea, Illinois, Kansas State, Missouri State, Tennessee, Wisconsin
Pakistan	Colorado, Indiana, Southern California, Texas A&M, Washington State
Korea	George Peabody, Minnesota, Washington State, Indiana, Syracuse, Oregon
Indonesia	California, Indiana, Kentucky
Japan	Massachusetts, Michigan State
Vietnam	Georgi, Wyoming
Afghanistan	Columbia, Wyoming
China	Michigan State, Purdue
Philippines	New York State
Srilanka	Texas A&M
Thailand	Colorado, Hawaii, Indiana
Cambodia	Georgi
Iran	Brigham Young, Southern California, New York State, Utah State
Turkey	Columbia, Georgetown, Nebraska, Spring Garden Institute
Morocco	Delado Trade-Tech Institute
Tunisia	Delado Trade-Tech Institute
Liberia	Cornell, Prairie View A&M
Nigeria	Indiana, Michigan State, Ohio, Western Michigan

	US colleges that provided technical assistance
Ethiopia	Oklahoma State
Kenya	Earham
Rodesia	Delado Trade-Tech Institute
Uganda	Delado Trade-Tech Institute
Guatemala	Kentucky
Costarika	Lousiana State
Columbia	Tulant
Panama	Tennessee
Ecuador	Mouston
Peru	North Carolina State
Chile	Chicago, Cornell, Pittsburgh, Lelond, Stanford
Paraguay	Bullalo, Montana Michigan State, Purdue, Southern California
Brazil	Johns Hopkins, Michigan, Michigan State, Purdue, Southern California
Austria	New York University

Source: ICA. ICA, Technical Cooperation through American Countries, ICA Office of Public Reports, Washington DC 1956. Recited from Lee (2006, p400)

By end of 1963, the technical assistance activities carried out under US university contracts amounted to more than US $158 with a total of 72 universities performing education and technical assistance under 129 contracts with ICA.[32] The number of universities involved and of foreign students enrolled in the programs increased every year since the start of the program. During 1962-1963, nearly 64,000 foreign students were enrolled at US institutions of higher learning. Among the foreign students, 4,619 foreign students were in fields related to medicine and public health. Nearly 40% of the students were self supported, while 24% were supported by US universities, 15% by private organizations, 10% by US aid and 6% by foreign governments. More than 1,000 foreign medical scholars or faculty studied in the US during 1962-1963, many funded by US aid. Based on percentages, 38% of all foreign medical graduates working in the US came from Asia and Far East.[33]

32 Pg 1 of AID and Universities: Report to the Administrator of US AID. By John W. Gardner

33 Pg 8 of US AID for International Development, The Universities and Medical Education in Developing Countries.

Table 3-22 | Summary of Technical Cooperation Programs under US University Contracts

	December 1961	March 1964
Number of US University Contracts	186	252
Number of US Universities involved	87	119
Number of Contracts involving overseas activity	101	131
Number of US Universities in overseas projects	58	71
Number of US Universities with training contracts	46	72
Funding of University Contracts (millions)	US $ 121	US $ 177

Source: Dodge (1971)

Table 3-23 | Korean Medical, Dental, and Pharmacy Colleges in 1952

	Location		Enrollment as of Oct. 1952	
	Permanent	Korean War	Male	Female
Seoul National University Medical College	Seoul	Busan	444	
Seoul National University Dental College	Seoul	Busan	280	
Seoul National University Pharmacy College	Seoul	Busan	294	
Chunnam University Medical College (ChollaNamdo)	Kwangju	Kwangju	530	
Kyungpuk University Medical College (Kyongsang)	Taegu	Taegu	397	
Ewha Women's University	Seoul	Busan		411
Severance Medical College (Later Yonsei University)	Seoul	Seoul	79	
Seoul Women's Medical College	Seoul	Busan Seoul Kwangju Severance		255

Source: Dodge (1971)

Korean medical education was mostly based on the "systems and practices used in Japan, as modified from those used in Germany."[34] During the Korean War, the college was forced to evacuate to Busan, scattering students and teaching staff all over the country. Only the medical school in Kwangju could operate during the war in its original location. The other colleges had to relocate to temporary accommodations. Many staff members volunteered for military service as medical officers. The school stopped operations for nearly one year and reopened in 1951. Some medical staff and students were abducted when North Korea retreated, some managed to come back but some went missing. During the war, the university's buildings were used by US Armed Forces from 1952 until 1954.

Timeline of SNU College of Medicine:

1899 Founded as Kwang Jae Won by government under King Kojong

1907 Reinstituted as Dai Han Hospital

1910 Renamed as Chosun Colonial Government Hospital by Japanese

1926 Keijo (Seoul) Imperial University, hospital became part of Imperial University. It was one of six universities in the entire Japanese imperial empire by 1945.

1927 "Seoul Junior Medical College" was reformed as four year school and linked to Keijo Imperial University College of Medicine.

1945 Seoul National University College of Medicine was organized under Act 102 of US Military Government. It formed one of 12 colleges of SNU.

After the Korean War, nearly 75% of the already small number of 99 hospitals were destroyed or damaged, and estimated 5 million Koreans were without modern healthcare.[35] The WHO/UNKRA Health Planning Mission assessed Korea's healthcare and concluded: "highest national priority should be given to the immediate and full restoration of educational activities." Moreover, medical doctors were in great demand by the military as Korea had to keep wartime readiness after the Korean War. Despite the signing of the armistice which effectively was a ceasefire, the years after the Korean War was a period of great uncertainty and instability. The fear of another war and the threat of communism were widespread. The SNU Medical School had a small clinical hospital and a staff that included 20 professors, many of whom were on leave serving in the military at the time. This put additional pressure on SNU Medical College to maintain a high enrollment rate.

34 From Final Report of Observations and Recommendations Concerning the College of Medicine SNU by James H. Matthews, M.D. Advisor in 1958.

35 From "Background of US Economic Aid to Korea"

The Korean War had left the institutions of Korean higher education war-shattered.[36] Many of the schools suffered massive damages to their facilities, a lack of trained and qualified instructors, and a shortage of books, labs, and supplies. To rebuild and upgrade Korea's higher education, the Korean government sought the assistance of the US in 1953. One of the first proposals was presented by Dr. L. George Paik, who was the former Minister of Education and eventual President of Yonsei University. The proposal intended to assist Korea's four major private universities including Ewha, Korea University, Severance Medical College, and Yonsei University, with US assistance being used to secure affiliations with US universities. But the proposal was significantly changed by the Korean government, which gave priority to SNU. It was hoped that SNU would develop into "a national center for high level leadership training for Korea" where the benefits accumulated by SNU would be passed on to other institutions. By then much of US assistance in higher education went into classroom construction. However, the US and Korea realized that it was necessary to rebuild and upgrade Korean medical education and medical sector to support rehabilitation and development. As such, the FOA secured one single master contract with the University of Minnesota to upgrade SNU in the fields of agriculture, engineering, and medicine.[37]

The technical cooperation program included three main activities: the education and training of Koreans in Minnesota, a counterpart program, and material assistance. So the objective of the program was to send Korean instructors to the US to receive training at U of M and then have US advisors sent to Korea to serve as "in house consultants" to assist in the institution of American based organization, teaching methods, and medical systems and practices. This was at the heart of the technical assistance cooperative project between SNU and U of M under the ICA.

To ensure administrative simplicity, a master contract was signed between U of M and ICA, which provided administrative and financial support. The contract included the scope of technical activities to be performed by U of M such as 1) design and implementation of the program was to be carried by U of M, 2) a course program for the deans of SNU was to be included, 3) the staff and consultants to work in Korea, 4) U of M assessed the buildings and equipments needs in Korea in consultation with SNU officials, 5) U of M prepared a report with detailed findings and recommendations on the rehabilitation of SNU for submission to ICA. The contract also specified that U of M would prepare and submit to FOA semi-annual progress report and final report after the completion of the activities.

36 After the end of World War II in 1945, many South Korean colleges came under the heavy influence of socialism. As a response, many of these small colleges in Seoul were consolidated by the US Military Government under the newly established Seoul National University in 1946. The president of the new school, Harry B. Ansted, a former US Navy captain, was appointed in August 1946 until October 1947. There were demonstrations by the students when consolidation plan was announced. It was thought that US influence on the intellectual elite would trickle down to other college and students.

37 The three fields limited the choice of US universities, which was narrowed down to Minnesota and Ohio State. Minnesota was believed to have been selected partly due to the relationship between Minnesota and Harold Stassen, the FOA head, who was formerly the Governor of Minnesota, and partly due to the fact that Minnesota's engineering school also offered marine engineering which Ohio State did not.

A key part of the cooperation was making sure that the leadership of the SNU were educated and trained, basically to raise awareness amongst deans, so that they would be in line and supportive of the long term goal of upgrading Korean medical education. This was to make sure that the senior management would become agents of change instead of obstacles to reform and progress. The first dean of the Medical College was sent to U of M to receive an intensive 6-month program to study and observe the medical curriculum and facilities, and to engage in discussions with U of M faculty (Lee, Wang-Joon, 2006, p39). This showed the commitment and focus put on changing the mindset of the top leadership at SNU. This contract effectively gave U of M "substantial portion" of the design and implementation of the technical assistance program on behalf of the US aid agency. Indeed, U of M secured the contract on the condition that the ICA and Korean government would not interfere at all on education related decisions, according to Lee Wang-Joon (2006, p40).

Nearly all or 80% of the SNU medical staff had been sent to the US for training in the US for a period of three months to four years so that they could return to Korea to upgrade the medical education system, based on American standards. Basically, two groups of Korean instructors and administrators were sent to US. <Table 3-7> shows the composition of SNU faculties that participated in either short-term consultation or long-term degree program. The first group (short-term consultation program) which largely consisted of senior faculty that held administrative positions at SNU was supposed to be for 6-12 months to study and observe US medical system and practices. The second group (long-term degree program) consisted younger faculty who were expected to continue teaching and take up leadership position in the future after returning from studying in the US. As such, the training period for younger faculty was much more intensive and longer between one and three years. However, many of the younger faculties ended up staying longer for up to four years as seen in <Table 3-8>. As noted before, a key provision in the scope of the technical activities was sending selected junior staffs or faculties at SNU to U of M for long-term degree program. As seen in <Table 3-9>, large number of junior faculties participated in long-term degree programs, many of whom were sent in 1955 and 1959. This is quite remarkable considering the patriarchical culture and seniority based culture in Korea where junior faculty was subordinate to senior faculty. Indeed, the technical program put focus on investing in junior faculty, the future of Korea's higher education.

Since the senior faculty was also trained to recognize the importance of instituting new methods and practices, they were supportive of the junior faculty and did not stand in the way of introducing new teaching methods. According to Lee Ho Wang (2005), who was one of first junior faculty to participate in the degree program, believed that the program was critical in facilitating the rapid adoption of new curriculum and teaching methods. Teaching materials were directly taken from U of M without translation. Almost all of the curriculum and examinations were based on U of M. Also, SNU faculty studying overseas were assured of their position after returning to Korea, and were obligated to return to their position at least for one year. The program was not limited to U of M; in fact some Koreans were able

to study in other institutions and countries, if appropriate to their studies.[38] The contract also specified that U of M would prepare and submit to FOA semi-annual progress report and final report after the completion of the activities.

Table 3-24 | Composition of Technical Cooperation Programs: 1955-1960

	1955	1956	1957	1958	1959	1960	Total
Short-term consultation	11	8	5	3	17	7	51 (66%)
Long-term degree program	12	-	-	1	13	-	26 (34%)
Total	23	8	5	4	30	7	77 (100%)

Source: Lee (2006)

Table 3-25 | Composition of Technical Cooperation Programs based on Duration: 1955-1960

	1955	1956	1957	1958	1959	1960	Total
3 months	-	-	-	-	2	-	2
6 months	6	3	2	-	6	-	17
1-2 years	4	3	2	3	10	7	29
Over 2 years	13	-	1	1	12	-	27
Total	23	8	5	4	30	7	77

Source: Lee (2006)

Table 3-26 | Composition of Technical Cooperation Programs based on Seniority: 1955-1960

	1955	1956	1957	1958	1959	1960	Total
Professor	7	3	1	2	4	-	19
Associate Professor	2	3	3	-	3	-	11
Assistant Professor	4	1	1	-	1	-	7
Lecturers/assistants	8	-	-	1	18	6	33
Others	-	1	-	1	4	1	7
Total	23	8	5	4	30	7	77

Source: Lee (2006)

38 One faculty of SNU Medical College spent time researching at the Pastoral Research Institute in France, while another faculty spent time in State University of New York studying medical law.

Under technical cooperation program, a team of faculty from U of M, and consultants were sent to Korea to assist SNU in improving administration, teaching and curriculum. The US advisors also assisted the SNU faculty and staffs in instituting new organizational and administrative methods, and medical systems and practices. The experts also advised SNU in the selection and uses of books, equipments and supplies in consultation with SNU. To coordinate the technical program, a chief advisor which represented the U of M, resided in Korea and was responsible for supervision of the performance of all activities. One of the duties of the chief adviser was to coordinate the procurement of equipment by working with each of the colleges in submitting formal requests that was prepared by the SNU faculty in consultation with overall advisors of each college. Then this proposal was sent to the review committee in U of M before being submitted for final approval by the ICA.

Moreover, an overall advisor was provided by U of M for each dean of the various schools including agriculture, engineering, nursing, and medical, if requested by the SNU. The overall advisor's duty was to help in facilitating the goals of the technical assistance program. The role of the advisors was to assist the SNU faculty in implementing new American style medical system and practices, but also to monitor the performance and progress. The chief advisor was also in charge of preparing and submitting a progress report to FOA every six month. In addition, a final report was submitted upon completion of the program by each of the advisors.

According to Gault, who was the overall advisor to the Medical School between August 1959 and August 1961, the role of the US advisors was more than providing advisory on teaching and curriculum but also included as a show of support in providing motivation and encouragement to the SNU faculty and the students (Lee, Wang-Joon, 2006, p101). The US advisors a took hands off approach in assisting SNU but they also participated in weekly meetings, delivered the lectures and advised on clinical practices, offered surgical demonstrations and provided individual consultations to SNU staffs. As such the role of advisor was to "assist and not displace" the SNU staffs. US approach of assisting SNU was different from the Scandinavian approach which built a hospital, and provided all the staffs and medical doctors to operate the hospital.

The impact of the technical assistance programs like the Minnesota Program on Korean education and development has been the subject of many studies. Mason et al. (1980) writes: "the most significant, and successful, involvement of American aid in education came with the strengthening of undergraduate faculties and the development of graduate level program in … agriculture, and medicine." In a comprehensive study of US assistance on Korean education, Dodge (1971) writes: "In higher education as a result of the US efforts, SNU's Colleges of Agriculture, Medicine, and Engineering were upgraded to the point where the programs there would compare favorably to those of high ranking universities anywhere in the world." Indeed, the US aid administrators were also in high praise of the programs which were assessed to have significantly supported Korea's development, judging them to be largely effective and beneficial. For example, nearly 50% of 676 Koreans out of a

total of 942 over four years that returned to Korea after receiving training were evaluated as having produced outstanding results while 35% were assessed to be moderate and 15% non-productive.

In a study of US assistance on Korean medical education, Wang-Joon Lee (2006) also concluded that the program's objectives were achieved successfully in upgrading Korean higher education and the field of medicine in general. The program was hugely successful in modernizing Korea's medical education system in the sense that newly trained professors helped to introduce modern methods and practices of medical education. Korea's medical education system underwent standardization based on American style system that replacing the Japanese style system. Korea's theoretical centered medical education was changed to a clinical and experiment-driven system. Indeed, many of graduates at SNU Medical College were able to pass the US Examination of Certification for Foreign Medical Graduates (ECFMG) during the 1960s. The traditional didactic based teaching methods were replaced by clinical, case-based education with more emphasis on practical training such as bed-side practices. New practices in medicine were reformed or established such as anesthesiology, radiology, pathology and so forth. In addition, an internship and resident training system was adopted and medical research capacity was upgraded. Furthermore, a nursing school and public health school were newly established. As the original planners of the program had hoped that SNU could be a beacon of higher learning, modern standards and practices and medical education spread very quickly once the newly trained SNU medical professors returned to Korea. Much of the newly acquired knowledge and methods were disseminated through academic associations, and lecture seminars. Indeed, many of the SNU medical professors went on to hold prominent positions at other medical schools, thus facilitated the spread of knowledge.

But the program, Lee (2006) argues, was in some ways a victim of its own success. The program did not have the desired outcomes in the short-term, as the underdeveloped healthcare system in Korea led to a mass overseas exodus of the newly trained medical graduate students from SNU. The Korean healthcare sector did experience a mass exodus of newly trained medical doctors, educated and qualified to international standards, left Korea to find work overseas, largely to the US. Starting from 1956, the share of SNU medical graduates immigrating to the US gradually increased before peaking in 1964, when nearly 60% of the graduating class taught at SNU immigrated to the US.

To the extent possible, several factors can be attributed to causing this "brain-drain" of Korean medical practitioners. First, most medical doctors sought to operate private practices and clinics. For instance, many doctors at SNU hospital were more interested in working outside of the hospital and were not full time medical staffs. Moreover, western medicine was still a relatively new method of treatment compared to traditional Asian medicine. As such, hospitals were feared by Koreans as "places to die." Moreover, Korea had not developed enough economically in that it was still relatively poor countries and thus people could not afford medical costs. Hospitals suffered from a low occupancy rate less than 50%

in 1960s. Also, Korea's social safety net was woefully underdeveloped; in that there were no medical insurance programs or measures to help pay for healthcare costs. Another factor that accelerated this mass immigration was a change in US immigration policy. During the late 1960s and early 1970s, the US implemented an immigration policy aimed at attracting newly trained physicians due to a shortage of qualified physicians caused by the expansion of Vietnam War. However, the US would reverse its immigration policy in the late 1970s, which slowed the outflow of physicians from Korea. Around this time, social protection systems were being introduced with the establishment of national health insurance system, scope and size of which grew over time.

The high rate of migration to the US continued through the early 1970s before falling sharply by the mid-1970s. Indeed, SNU Medical College was not the only institution that experienced high migration of graduating students overseas, as seen in the number of students that went to overseas as seen below.[39]

Table 3-27 | Demography of SNU Medical College Graduates during 1956-75

		Graduates Overseas		Graduates in Korea	Deceased	Other
		US (%)	Other			
1956	122	27 (22)	2	54	36	3
1957	150	30 (20)	2	85	27	6
1958	139	50 (40)	-	67	19	3
1959	149	54 (36)	2	68	23	2
1960	142	54 (38)	4	58	18	8
1961	135	57 (42)	1	58	15	4
1962	123	56 (45)	1	53	11	2
1963	131	74 (56)	-	44	11	2
1964	128	74 (58)	1	41	11	1
1965	113	58 (51)	-	48	7	-
1966	117	51 (51)	-	55	9	2
1967	124	60 (48)	-	52	10	2
1968	100	52 (52)	2	43	3	-
1969	103	47 (45)	-	50	6	-
1970	81	39 (48)	-	40	1	1
1971	107	51 (47)	-	53	1	2

39 This pattern of brain drain was also found in other field of study not associated with Minnesota Project, as many students that had gone to the US and received Ph.Ds did not return to Korea. Nearly 85-90% of Koreans who obtained Ph.D.s in science and engineering in the US did not return to Korea.

		Graduates Overseas		Graduates in Korea	Deceased	Other
		US (%)	Other			
1972	99	37 (37)	-	57	3	2
1973	97	21 (22)	-	71	3	2
1974	97	16 (16)	-	79	1	1
1975	109	15 (14)	-	89	4	1
Total	2,366	923 (Ave: 39)	15	1,166	219	44

Source: Lee (2006, p188)

Table 3-28 | Diaspora of Korean Medical Physicians (As of Nov. 15, 1974)

Country	Number	Medical School	Number
US	2,834	Seoul National University	786
Canada	72	Yonsei University	887
Japan	65	Catholic University	250
Malaysia	18	Korea University	481
West Germany	17	Ewha University	310
Jamaica	22	Chonnam University	195
Uganda	34	Kyungbuk University	382
Other	73	Pusan University	44
Total	3,135		3,135

Note: The data was prepared by Berglund based on the alumni information from medical schools.
Source: Lee (2006, p189)

Finally, a review of qualitative reports prepared by implementers and participants of the Minnesota Program also show that many assessed that the program generally had a positive impact on Korean higher education and medical sector. An American nurse that acted as an advisor to the nurses in the SNU College of Medicine and hospital observed that the attitude of doctors changed after studying in the US, the status of nurses was improving along with status of women, and doctors recognized that is was more efficient for nurses to manage the hospital wards.[40] Moreover, the opportunity for medical staff to study and observe nurses in the US had greater impact on changing the status of nurses as a profession, as nurses were considered low status and servants of doctors in Korea at the time.

40 A technical High School of Nursing was established at SNU in 1945. Then a college level nursing program was instituted at SNU College of Medicine in 1959. There were a total of 24 nursing schools, 9 in Seoul, three of which were college level, located at SNU, Ewha, and Yonsei.

The individual evaluations of the Korean professors who studied at U of M by the faculty of U of M who taught and acted as their academic advisors in most part concluded that the Korean students studying in the US would have benefited from being in class and learning by observing, though their participation was very limited. Overall, the faculty advised that most students indicated interest and some level of aptitude, or understanding of their subject and studies. Most students regularly attended classes and on-site industrial tours. However, the U of M faculty stressed that it would be impossible to make any objective or even formal evaluation of student performance, since only a handful actually took exams and wrote a thesis, thereby receiving full credit and a degree. The faculty members noted that most of the Korean students did not complete a thesis let alone a degree. In fact, many Koreans did not participate in class discussions nor take exams to qualify for grades instead choose to audit the classes, for which the advisors attributed to cultural and language differences. In particular, the evaluations cited the weak English proficiency of Korean students as a serious problem, resulting in a "language barrier." This made productive discussions with students difficult and providing any objective evaluation of how much students benefited impossible. Cultural differences between faculty and students were also often cited as possible barriers to learning.

7. National Medical Center under UNKRA

As another illustrative comparison, assistance to improve medical services and medical standards of Korea's public health and medical care system was carried out by UNKRA. Under UNKRA's program, a National Medical Center (NMC) was built through a collaborative work between the Korean Government and three Scandinavian countries, Norway, Sweden, and the Dutch. Besides the construction of a new medical facility, medical personnel necessary to staff and operate the medical center were dispatched by the donor countries. Initially, the Scandinavian countries had dispatched medical staff to Korea under the UN flag as part of war relief efforts during the Korean War to provide badly needed medical services and treatment to wounded soldiers and civilians. Soon after the War, the Korean government requested the UN to continue the program of providing medical treatment and training. Throughout the 1960s, the NMC grew to become one of Korea's top medical institutions. Unlike private hospitals, the NMC saw a large number of patients since it was a public health program and therefore allowed patients to seek medical care who otherwise could not have afforded to pay health costs.

However, the NMC continued to be largely staffed and operated by expats from the donor countries, totaling 367 foreigners (139 Norway, 134 Sweden, and 94 Denmark) for 10 years. Once their contract period ended and they returned home, the medical center experienced a gradual decline in the quality of care and facilities. Its slow demise led to the takeover of its management by the Korean government, which sought to reform it. However, the situation did not improve under the management of the government, as the NMC continued to experience deterioration in quality of care and facilities due to lack of

investments and reduced pay scale for physicians. The uncompetitive pay scale has led to a decline in morale among the physicians, many of whom have sought work elsewhere, and difficulties in retaining and recruiting well-qualified physicians.

8. Capacity Building and Military Assistance

Part of the military assistance was used for technical assistance in educating and training Korean military personnel. As seen in Table 8, the number of Korean military servicemen from all branches of the military that were sent to the US for education and training was considerable. The number of trainees began to increase during the Korean War and totaled nearly 11,607 by 1960. The military technical assistance programs contributed significantly to orienting Korean military personnel in modern warfare and technical skills. In the process, many were also exposed to new and modern ways of administration and management. It is reasonable to assume that the technical and managerial know-how gained by the military servicemen, many of whom went on to work in the public and private sector, had contributed to capacity building by upgrading the level of Korea's manpower in general.[41]

Table 3-29 | Technical Assistance for Korean Military Personnel

	Army	Navy	Air Force	Marine	Total
1949	12	-	-	-	12
1950	-	-	-	-	-
1951	317	-	-	-	317
1952	764	38	10	2	814
1953	924	85	13	16	1,038
1954	903	168	90	32	1,193
1955	1,150	229	352	20	1,751
1956	506	170	368	36	1,080
1957	653	102	621	26	1,402
1958	609	162	229	76	1,076
1959	504	132	525	196	1,357
1960	694	205	556	114	1,567
Total	7,036	1,291	2,764	518	11,607*

Note: * 86% were officers while 14% (1,592) were enlisted men

Source: Armed Forces and Nation Building, Military Defense Annual Statistics

41 Park Chung-Hee also received training in the US Military technical assistance programs, while several of his military officers whom he served with made important contributions in Korea's development both in the public and private sector.

2011 Modularization of Korea's Development Experience
Impact of Foreign Aid on Korea's Development

Chapter 4

Land Reform

1. A Clean Break from the Institutional Past
2. Korean Land Tenure System before Land Reform
3. Land Survey and Institution of Land Registration System
4. Land Reform under US Military Government
5. Land Reform under New Korean Government
6. Vested Properties, Land Reform Program, and War

Land Reform

1. A Clean Break from the Institutional Past

Notwithstanding the massive amounts of economic and military assistance, the single biggest policy accomplishment in the early years of Korea's development was as we argue land reform, the redistribution of land to the poor. Korea only 70 years ago was largely an agrarian society in which 75% of the population was in the agricultural sector; a fact largely forgotten because of Korea's rapid industrialization as seen below. Land reform together with the divestiture of "vested properties" (properties formerly owned by the Japanese vested in the US Military Government, acquired under the rules of war), reset Korea's institutional arrangement. In a short span of two years, Korea went from being largely a semi-feudalistic agrarian society, dominated by landlords, to a land tenure system made of equally free and landed farmers. Land reform, divestiture of vested properties, and destruction of war, conspired to level the playing field by flattening the income distribution curb, resulting in a relatively high degree of equality or "equal distribution of poverty" not seen in many countries.

Table 4-1 | Distribution of Population by Occupation

(Unit: 1,000)

	1939 (North & South Korea)*		1969 (South Korea)**	
Occupation	Total	%	Total	%
Agriculture & Forestry	16,531,000	73.9	4,660,000	47.4
Fisheries	347,000	1.5	138,000	1.4
Mining	347,000	1.5	113,000	1.2
Manufacturing	332,000	1.5	1,222,000	12.4
Commerce	1,665,000	7.5	1,194,000	12.2
Public Service	915,000	4.0	1,386,000	14.1
Transportation & Communication	266,000	1.2	273,000	2.8
Other Occupations	1,591,000	7.1	361,000	3.7
Unemployed	409,000	1.8	471,000	4.8

Note: *1939 figures included all population of all ages, active and non-active, in both South and North Korea.
**1969 figures show only active population employed by industry in South Korea.

Source: Morrow and Sherper (1970, p3)

The most immediate and prominent effect of land reform was reforming Korea's traditional and oppressive tenant farming system. According to Dwight Perkins (1969, p104), tenant farming system also lowered agricultural production in China. Tenant farming was legally abolished. The redistribution of income between tenant farmers and landlords helped to stabilize the income of farmers who had to pay over half of their production as rent. Besides achieving its major social, economic, and political objectives of reducing political and social unrest and improving the economic conditions of farmers, Pak (1966) concludes that "land reform contributed to establishing the foundation for political democracy and social modernization in Korean rural society."

2. Korean Land Tenure System before Land Reform

After its liberation in 1945, Korea's land ownership structure was dominated by landlords, in which according to Morrow&Sherper (1970) the top 4% owned or managed 50% of the arable land and most of the farming was done by hired labor or tenant farmers, who were mainly "share croppers living at subsistence levels." A significant amount of land was held by Korean landlords, but the best farming lands were owned by the Japanese land companies. The farming conditions are worsened by Korea's physical constraints; in that, only 20% or about 2 million hectares of total land were arable in 1949. At the time, Korea's farm population totaled 14.4 million or nearly 72% of the population. There were about

2.5 million farm households which resulted in an average of 0.8 hectare of farm land per household. The dearth of arable land led to double cropping.

Table 4-2 | Farm Households by Size of "Management Scale" Prior to Land Reform

1945			1947	
Size (Hectare)	% of Farm Households	% of Farm Land	Size (Hectare)	% of Farm Households
0.1 to 1.0	72	10	0.1 to 1.0	74
1.0 to 5.0	24	40	1.0 to 2.0	19
5.0 to 10.0	2.8	23	2.0 to 3.0	5
10 or Higher	1.2	27	3.0 or Higher	2
Total	2,065,000		2,172,000	

Source: Morrow & Sherper (1970)

The salient trends during Japanese colonial period (1919 to 1945) was that the number of tenant farmers sharply increased and the concentrated of land ownership increased. Most of the arable land was still in the hands of Korean landlords while Japanese owned about 13.4% of total arable land during its colonization according to historians. It was not until sometime after the Russo-Japanese War in 1904 that the Japanese landowners began to appear. Seeking to profit on the exporting of rice to Japan which was a highly lucrative enterprise at the time, many had initially acquired and cultivated large plots of land that were uninhabited and undeveloped. Under the tenant system, most of the land (over 80%) was still owned by Korean landlords, though Japanese landlords became increasingly more prominent as their numbers rose rapidly during Japanese colonization. The Japanese landlords still owned a smaller share of land relative to Koreans, but the share they did own was some of the most fertile regions such as Cholla Province where the introduction of modern irrigation systems and the consolidation of smaller plots of farmland raised agricultural productivity.

In contrary, Korea's manufacturing was dominated by the Japanese, which controlled 78% of all manufacturing and 87% of all mining businesses (Lee, 2002). More specifically, Japanese industrialists owned 68% of the 2,682 firms with capital estimated to be greater than 10 thousand Korean Won as of August 1940.

Table 4-3 | Trend of Tenant Farmers during 1913 to 1938

	Owners		Part-Owners		Tenants	
Period	Households	%	Households	%	Households	%
1913-17	555,000	21.8	991,000	38.8	1,008,000	39.4
1918-22	529,000	20.4	1,015,000	39.0	1,098,000	40.6
1923-27	529,000	20.2	920,000	35.1	1,172,000	44.7
1928-32	497,000	18.4	853,000	31.4	1,360,000	50.2
1933-37	547,000	19.2	732,000	25.6	1,577,000	55.2
1938	539,000	19.0	719,000	25.3	1,583,000	55.7

Source: Pak, Ki Hyuk (1966) from "Land Reform in South Korea" by Morrow and Sherper (1970).

By 1945, it is estimated that nearly 50% to 75% of the farm land was operated by tenants. From 1900 to the time of Korea's liberation, the number of landlords that owned large plots of land had steadily increased. By some estimates, the number of landlords who owned more than 50 Chongbos (1 Chongbo = 9,917m^2) of land increased from 1,899 in early 1910s to 3,048 in 1942, as seen in Table 33. As more of Korea's land came under the system of landlords during the colonial period, farmers were increasingly subjugated to the tenant-farming system. By the late 1930s, 55.7% of all arable land was controlled by landlords while the rest was owned by small farming households as seen below. Tenant farmers had to pay rent that was generally between 50% and 90% of their output, or about 40 to 70% rent net of inputs and maintenance costs, which were supplied by the landlords. According to Pak (1966), tenure terms were often only for one year in some parts of Korea, in some cases even less, while landlords extracted additional rents and unfairly exploited farmers. During WWII, Korean farmers had to pay a greater share of production for taxes while their living standards continued to decrease. According to Morrow & Sherper (1970), the unequal distribution of land, the dire economic situation of farmers, and growing population pressure worsened by the lack of arable land, led to widespread poverty and social instability, making Korea ripe for land reform.

Table 4-4 | Number of Landlords who Owned More than 50 Chongbos of Land

		1910-13	1925-27	1930	1942
50-100 Chongbos	Korean	1,471	1,483	1,438	1,351
	Japan	35	129	251	642
	Sub total	1,506	1,612	1,689	1,993
More than 100 Chongbos	Korean	314	968	800	488
	Japan	79	201	301	567
	Sub total	393	1,169	1,101	1,055
Total	Korean	1,785	2,451	2,238	1,839
	Japan	114	330	552	1.209
	Sub total	1,899	2,781	2,790	3,048

Source: Morrow & Sherper (1970)

Table 4-5 | Owner-Tenant Distribution of Land Before 1945

	1913-17	1918-22	1923-27	1928-32	1933-37	1938
Owners	21.8	20.4	20.2	18.4	19.2	19.0
Part-owners	38.8	39.0	35.1	31.4	25.6	25.3
Tenants	39.4	40.6	44.7	50.2	55.2	55.7
Total	100	100	100	100	100	100

Source: Ban, Moon and Perkins (1980), Rural Development p284

3. Land Survey and Institution of Land Registration System

Before a system of property rights was instituted, some historians assert that most of the land would likely have been owned by a few Korean landlords who did not keep official titles of ownership during the Yi Dynasty before Korea was formally colonized by Japan. Ownership rights were on historical basis prior to Japan's colonization. The land survey conducted by the Japanese colonial government during 1910 – 1918 essentially formalized the land tenure structure in Korea. The land survey served as the basis for establishing a system of land registration. Besides establishing property locations and rights of land ownership, the land survey also used to appraise land values for tax purposes and map topographic and terrain features. The land was registered and ownership rights were recorded based on a "reporting system." As Pak (1966) writes: "Under the reporting system, the nominal person who reports himself as the owner of land was acknowledged as the owner of the land."

Under the reporting system, the owners of land were registered and official records or titles issued that included various information including size, type, and location of land, the owner's name, and land value. Though a topic of much debate, it is believed that the Japanese colonial government not only registered the land but also acknowledged the ownership rights of most Korean landowners.[42] The land survey was presumably thorough considering that it was reportedly carried over eight years and covered a total of 4.8 million hectares of land and employed some 3,400 men.

After the land survey, fairly accurate and reliable cadastral mapping had been completed and ownership maps were available at the national level. The rights of property owners were legally formulized in 1912 when the Civil Law was enacted. The land registry system instituted by the Japanese established a legal basis for ownership, effectively abolishing the historical basis for property claims. It also instituted mechanisms for transfers of title as new deeds could be drawn and recorded in the land register.

4. Land Reform under US Military Government

From the day the US Forces landed in Korean on September 8, 1945, the US intention was to achieve social and economic stability in a country that was in chaos and economic production and flow of trade was seriously disrupted. As discussed above, Korea's land tenure structure was characterized by high tenancy and large number of landlords. As Morrow and Sherper (1971) write: "The farmers paid high rents, largely to absentee landlords who made up a small but wealthy aristocracy. They suffered severely from the creation of many small operating units under Japanese rule, forced delivery of agricultural products and mobilization of labor during World War II." In October 1945, the US declared its intention to implement land reform and to remake Korea's traditional land-tenant system Ordinance No. 9. Indeed, the US had also undertaken land reforms in Japan in 1946, which it wanted also carry out in Korea. (Lee, 2002, p77-78).

To provide immediate relief to the dire economic situation of farmers, the US Military Government immediately pledged that the land lost under the Japanese would be returned to the tenant farmers. As it would take some time to implement a land reform program, the US Military Government issued "Act. No. 9" as a transitional measure. Morrow and Sherper (1970) summarize the contents of Act. No. 9: "tenant farm-rent should be paid in kind, but could be paid in cash; the amount of rent payment on tenant farmland could not exceed

42 Korean scholars argued that the land survey and the reporting system used to establish land ownership was rigged to favor the Japanese. This resulted in a good deal of land being taken by the Japanese colonial government by exploiting land owners who were unaware or ignorant of their rights to report their land ownerships. This claim has been refuted by documented evidence showing that over 99% of the land reported by Korean landowners was formalized under the reporting system. In fact, evidence suggests that the total amount of arable land reported and registered actually surpassed the total amount of land estimated under the Yi dynasty. This led the Japanese government to re-appraise the land value and lower the planned tax rate of 3% to 1.5% since more land was reported than expected initially. (Textbook Forum, 2008)

one-third of the production; unilateral cancellation of the tenant contract could not be done; and new contracts for tenant farm rent exceeding one-third of production could not be concluded."[43] This act put a limit on tenant rents and improved the tenure terms of farmers. Dispute having some effect on improving the economic lot of farmers, it was apparent a more "comprehensive and profound reform was required."

After Korea's liberation from Japan, the US quickly redistributed the land formerly owned by the Japanese, which as it turned out was politically and economically far easier thing to do. Under the rules of war, the US acquired about 280,000 hectares of land formerly owned by the Japanese, which was legally vested in US government. The US Military Government became the owner of all former Japanese property by owning the New Korea Company valued at 100 million Won. The New Korea Company owned 280,394 hectares of land, about 13.5% of the total arable land, on which 587,974 tenant farmers operated on, effectively making it Korea's largest land owner.

In 1946, Arthur C. Bunce of Iowa State College led a group of economists to Korea to assist in drafting a land reform program.[44] Under the US Military Government, a land reform program was drafted by "Land Reform Law Drafting Committee" for divesting former Japanese property. In 1947, Korea-US Joint Sub-committee was established to evaluate the land reform program drafted by the committee. In parallel, an alternative draft of the law was prepared by the Industry and Labor Committee of the National Assembly, Korea's legislative body. The proposals for land reform from both committees were used to draft the Land Reform Law in 1947, which failed to pass the assembly after several revisions. By early 1948, the Land Reform Law was due to strong opposition from "certain power groups." Many of the members of the assembly argued that: "a measure as significant as land reform should be handled by the New Constitutional Government…and not the liberation Military Government."

The land reform program faced great opposition from the landed elite who were politically influential and well represented in the National Assembly. Indeed, some members of the Legislative Committee of the Interim South Korean government refused to even deliberate the land reform bill in the national assembly.[45] But the US was also apprehensive, having a mixed and unclear view of land reform, despite having done so in Japan as part of post-WWII reconstruction efforts. The idea of land reform was seen as near sacrilege, going

43 In September 1962, Article 113 abolished tenant farming in Korea stating that: "agricultural tenancy shall be prohibited in accordance with provisions of the law."

44 Dr. Arthur C. Bunce was also the architect of Japan's land reform and later became the head of the ECA in Korea.

45 Land reform in Korea shows the highly political nature of carrying out land reforms let alone having meaningful results. Land reform was carried out in Japan and Taiwan which were essentially occupied countries following WWII. However, there are many cases in which land reform was not carried out or did not produce meaningful outcomes such as Philippines due to politics. Despite also being a US territory, land reform was not carried out in Philippines which shows that the same policy may not have the same effect or may not even be implemented in a different country or political environment. It just so happened that land reform was carried out in Korea, Japan and Taiwan due to external geopolitical pressure following the end of the WWII.

against the cardinal institution of private property rights. To some Americans, it even "smacked of communism." But the potential costs from the social economic fallout and the threat of communism spreading particularly in rural areas, outweighed the benefits of keeping to ideology. North Korea had already implemented land reform.[46] Communist propaganda was spreading among farmers in South Korea, who heard that farmers in the north were "given" land.[47] Realizing the political difficulty of enacting land reform, the US government pushed to distribute the land formerly owned by the Japanese.

On March 1948, the US Military Government dissolved the New Korea Company and established the National Land Administration under ordinance No. 173 issued by the Korea Interim Legislative Assembly to control over disposal of ex-Japanese holdings and regulation of procedures regarding such sales of land. It set a limit of two hectares for the land distributed. The actual amount of land redistributed was about 245,554 hectares, or 91.4% of the land available for distribution. The land was distributed based on the following: "1) farmers already cultivating the farmland, 2) farmers, agricultural laborers and refugees from North Korea or abroad and 3) experienced farmers living near the farmland." Most of the land was allocated to farmers already farming on the land, which was planned on the part of the US to prevent misallocation of land or rent seeking. As Morrow and Sherper (1970) write: "Every precaution was taken to ensure that farmers knew he did not have to pay a bribe to any person to get the land he had been farming." Payment for the purchase of formerly Japanese owned land was to be made in kind and the price of the land was set at three times "standard production." The farmers had to make principal payments for 15 years with no interest cost. Over the 15 year period, installment payment "was only 20% of the long-time average annual yield for the farm."[48] Title of the land was transferred to the farmer and the deed was registered in the land registry. Moreover, the conditions of the sales also included provisions which restricted farmers from selling, leasing, or mortgaging their land until full payment was made or before 10 years from date of purchase.

5. Land Reform under New Korean Government

After the Republic of Korea was established on August 15, 1948, the Ministry of Agriculture and Forestry drafted a land reform law which was approved by the cabinet on February 2, 1949, and sent to the National Assembly. In parallel, another bill was drafted by the Industry and Labor Committee, which was also submitted to the Assembly. After

46 During 1946-57, North Korea carried out land reforms in two steps. In the first on March 3, 1946, landlords were stripped of their land by the government without compensation, and this land was then distributed free among the rural poor (a total of 682,000 tenants), but with 25% of tax on the crop output. North Korea, then, took the next step in 1957 to completely abolish the private ownership of land.

47 Morrow and Sherper (1971) write: "By 1948 after hearing the stories of millions of refugees, the South Korean farmers apparently understood what kind of a "gift" it had been.

48 The payment schedule was accelerated from 15 years to 5 years in 1951 per Presidential Decree No. 185.

significant revisions, the Farmland Reform Bill was passed by the assembly on April 29, 1949, and it was promulgated on June 21, 1949. The Ministry declared that land reform would be implemented within a year.[49] The Revised Farmland Reform Law (Law No. 108) was promulgated and implemented on March 10, 1950, which set limit of three hectares and set the price and compensation of distributed land at 150% of production and the issuance of securities to sellers.

The principal agency in charge of implementing the land reform program was the Bureau of Farmland Administration under the MAF. Korea's central bank was authorized by the Korean government to issue land securities or bonds, while industrial and agricultural banks acted as agencies for placing and servicing the land bonds. The objectives of the Land Reform Law were clear: "…on the basis of the Constitution of the Republic of Korea pertaining to farm lands: to improve the living conditions of farmers, to keep the balance of, and to develop the national economy by increasing agricultural productivity."

The land subject to government purchase for redistribution included: "1) farmland owned by individuals other than farmers, 2) farmland not owner-cultivated, 3) farmland exceeding the upper ceiling of three hectares, and 4) land not cultivated for perennial plants beyond three hectares." Priority was given to the following: "1) farm households currently cultivating farmland subject to distribution, 2) farm households cultivating extremely small areas in comparison to cultivating capacity, 3) bereaved families of martyrs, 4) agricultural laborers having a capability to farm and 5) famers returned from abroad. The key terms and conditions of the purchase and sales distributed under land reform include: 1) land for distribution was valued based on the government purchase price of 150% of the "standard production" 2) land owners were compensated with government issued securities with a government guarantee, that the securities could be invested in industrial stocks or redeemed in cash. 3) Repayment by farmers to the government was 150% of "standard production" made by yearly installments spread over five years or payment in advance of the whole or part of the purchase price.

The land reform program sought to achieve multiple objectives in redistributing the land, essentially based on the land-to-tiller's (耕者有田) principle. The economic objectives of land reform were to improve agricultural productivity and income of famers by dismantling the oppressive tenant farming system, to encourage reinvestment, and to provide incentives through ownership of land and production. A major political objective of the land reform was "to lay a foundation for democratic rural society." The oppressive terms of the tenant farming and widespread poverty in rural areas was fueling communism which reached a fever pitch soon after Korea's liberation. Though the presence of the US Military Government helped to establish some semblance of political order and to dissipate growing overtones of communism, much of it went underground. Socially, land reform sought to secure social stability by abolishing tenant farming and mitigating class conflict between tenants and landlords.

49 Meanwhile the Industry and Labor Committee tried unsuccessfully to raise the amount of compensation and repayment to 240% from the 150% of annual production.

The net effects from both the distribution of land formerly owned by the Japanese under the US and Land Reform program under the Korean government were significant and far-reaching. A total of 245,554 ha of arable land formerly owned by Japanese was redistributed which was 13.4% of all arable land as seen below. The distribution of Japanese land benefited an estimated 727,632 households which received an average of 0.337 ha of land as seen below. The land tenure structure was significantly changed resulting in: "1) share increase in full-owner operators 2) a reduction in part owner operators 3) a consequent reduction in full tenancy and 4) an indirect effect of accelerating the trend to smaller farms and a subsequent consolidation of very small farmers into medium sized farms."

Table 4-6 | Farm Household and Land Distributed by Land Reform

(Unit: Ha.)

	Amount of land	Number of households	Average land per household
Distribution of Vested Land formerly owned by Japanese	245,554	727,632	0.337
Distribution of Land by South Korean Government	331,766	918,548	0.361
Total	577,320	1,646,180	0.35

Source: Pak, Ki Hyuk (1966) from "Land Reform in South Korea" by Morrow and Sherper (1970).

Table 4-7 | Distribution of Land rented by Tenants

(Unit: Chongbo)

1	Vested farmlands sold by the US Military Government	245,554
2	Farmlands distributed in accordance with 1950 Reform Act	331,766
3	Land privately sold (1945-51)	573,000
4	Land not yet distributed as of 1952	320,000
5	Total land to be reformed as of 1945 (=1+2+3+4)	1,470,000

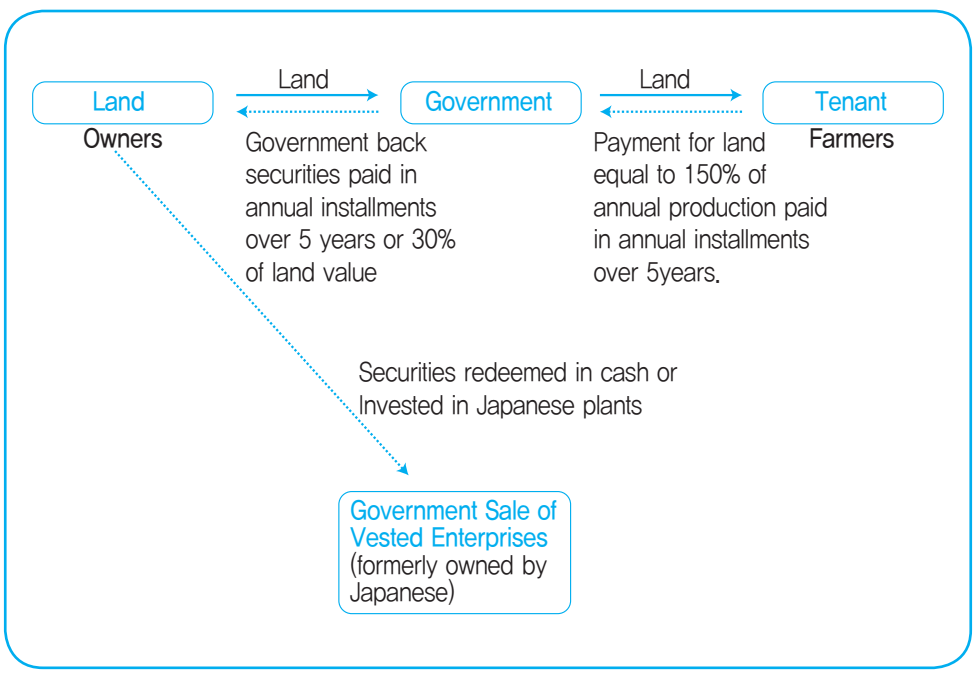
Source: Ban, Moon and Perkins (1980), Rural Development, p286

6. Vested Properties, Land Reform Program, and War

Besides land formerly owned by the Japanese, the US Military Government also took custody of physical property that belonged to the Japanese including businesses, factories, buildings, equipment, inventory, homes, and other physical properties, which made up Korea's industrial base. The US took possession of 166,301 properties including 3,555 businesses, 70% of which were in manufacturing such as machinery, chemical, and light manufacturing. The properties were subsequently turned over to the American Office of the Property Custodian (AOPC).

Since most of the capital or wealth in Korea was in the land and in the manufacturing businesses while the labor was in the rural agricultural sector, it was hoped that land reform would create industrial capital by compensating landlords who had become wealthy exploiting tenant farmers and by freeing up labor in rural areas for urban industrial sectors. The government compensated land owners by issuing government backed securities that could be invested in business enterprises by the land sellers or redeemable in cash. The securities invested in businesses was intended to channel capital from sale of land into industrialization by giving land sellers priority in the public sale of formers Japanese owned plants. The figure below charts the transaction.

Figure 4-1 | Formation of Industrial Capital via Land Reform



The US plan was to divest the Japanese properties; however, it faced many difficulties, even more than when it redistributed the Japanese owned land. Though it did manage to divest some of the properties such as homes and small businesses fairly quickly, the US essentially failed to make any meaningful progress. The whole process turned into a messy affair. After the Japanese departed, the factories and businesses sat idle with no managers and technicians to operate the factories, and no raw materials to produce goods. Even though managers were brought in to operate the businesses, many of the businesses were looted, their equipment and materials sold for cash. It got to a point where people were saying that "the factories are empty but the bellies of managers are full" (Lee, 2002, p101). Frustrated and unable to make progress, the US turned over the properties to the newly established Korean government led by President Rhee in August 1948.

Table 4-8 | Number of Vested Firms Formerly Owned by Japanese

	Central	Seoul	Kyung gi	Chung nam	Chung buk	Chon nam	Chon buk	Kyung nam	Kyung buk	Kang won	Jeju	Total
Manufac.	255	589	207	162	48	151	162	549	274	61	11	2,469 (70%)
Metal	10	13	10	3	1	1	1	32	3	2	-	76
Machine	12	121	30	20	3	22	21	99	40	3	-	371
Chemical	24	147	46	12	7	22	12	74	23	3	7	377
Electricity	13	22	2	3	-	1	-	4	6	-	-	51
Ceramics	3	10	17	11	8	9	8	33	9	-	-	103
Textile	75	60	23	12	20	11	3	68	36	11	-	307
Food	8	67	45	77	2	72	94	177	132	22	4	718
Wood	102	23	8	7	3	6	5	20	9	15	-	197
Printing	-	37	4	5	1	10	18	15	15	1	-	97
Mining	31	30	18	5	-	2	10	16	20	178	-	316 (9%)
Agri/fish	69	17	1	3	-	5	9	57	7	11	3	182 (5%)
Finance	-	11	-	6	-	-	-	-	6	-	-	23 (1%)
Others	56	349	56	42	70	46	47	88	28	15	4	801 (23%)
Total	403 (11%)	907 (26%)	260 (7%)	206 (6%)	59 (2%)	201 (6%)	220 (6%)	686 (19%)	334 (7%)	261 (7%)	18 (1)	3,555 (100%)

Source: Lee (2002, p97)

The vested properties, in effect, were nationalized by being turned over to the Korean government. Given that the properties were in the hands of the government, it was seen as a huge potential financial windfall for the government's coffer but also a lightning rod for anti-communist critics. So the Rhee government wanted to re-privatize the properties with no delay (Lee, 2002). In December 1949, the Law of Divestiture of Vested Properties was enacted, which served as the legal basis for the divestiture or re-privatization program. Meanwhile, the US continued to press the Rhee government to finish the job in redistributing the rest of the land, which faced great opposition from the landed elite and politicians. To induce landowners to sell their land for redistribution, the Rhee government tried to persuade the landowners to sell their land to the government, and then, use the proceeds of selling their land to buy the vested properties the government owned. Basically, the government was trying to sell the idea of becoming industrial capitalists to the landowners.

To swap the land for properties, the government issued securities or bonds to the land owners. The face value of securities was expressed in terms of agricultural products produced from the land and converted at the current government purchase price and compensation with securities was made by yearly installments spread over five years with the government paying one fifth the face value each year in cash. The seller could redeem 30% of the established value every year. To speed up the re-privatization process, the Rhee government revised the Law by adding additional provisions to induce as many landlords to sell their land as possible. First, the rights to the properties or businesses had to be held by multiple owner-managers instead of one single owner-manager. Second, half of the rights of the businesses had to be held by former landlords based on the recommendation of the Minister of Agriculture. Third, new managers given rights to the business, had to a landlord when an existing owner-manager left a business. In effect, the government was trying to induce multiple landowners to sell the rights to their land for the right s to own-manage one of the businesses. However, the government's plan faced many difficulties, and ultimately failed to meet its objectives. In trying to convince the landlords, the government realized they were not ready or willing to let go of their land in exchange for a chance to become an industrial capitalist. Indeed, the businessmen traditionally occupied the lower rung of Korea's social ladder whereas the landowners sat on the top rung. Moreover, the government wanted to buy the land cheap relative to the price it was selling the businesses to maximize revenues from the sales of properties and to minimize the cost of redistributing the land. At the time, the average purchase price of a land was 10 thousand won, while the average sale price of a property was 1 million won. Regardless of the wide price difference, the government believed that many landowners would form a group to pool their money to buy a property, similar to issuing equity shares of a company to multiple investors (Lee, 2002).

The government did achieve its goal of buying land at a relatively cheap price; however, it still faced the problem of having to sell the properties to the private sector which was not going well. This forced the government to lower the sale price of the businesses at a steep discount to their market prices. In the end, most of the properties were estimated to have been sold at pre-1945 book values to former managers or employees, in the process

failing to convince the wealthy land owners to sell their land and take a shot at being industrial capitalists initially planned. As many of the buyers had little capital, most of the acquisitions were financed using loans with a small down payment of 10 percent of the sale price. The rest was to be paid in installments over fifteen years. But the real financial burden of paying for the properties was never high due to persistent high inflation, and in many cases, loan repayments were not even enforced. In 1958, after the properties were sold, 37.7% of the outstanding loans had not even been repaid (Kang, 1996). It is not difficult to imagine that corruption and rent seeking behavior under the Rhee government had resulted in the business being given away basically for free as was the case in the privatization of banks. Indeed, the process of privatizing the banks[50] shows the difficult nature of the efforts to divest the properties and the rampant corruption in the process. In fact, the conditions of sales were relatively stricter compared to the sale of manufacturing properties due to the specialized nature of the banking industry. A cap was placed to limit the ownership share of banks per individual investor. Also, investors were required to make one lump-sum payment on the shares. The government also set a floor on the price of bank shares based on its own evaluation of assets. Once the ownership of shares was transferred, investors were prohibited from selling the shares for two years. (Samsung Office of the President, 1988, p142). After the procedures and conditions of sales of bank shares were established, a series of auctions were held, totaling 6 rounds between November 1954 to early 1956. The auctions attracted the bidders in the first and second round, however no sales were transacted as bidders did not find the prices attractive. The remaining rounds did not attract any bidders. Due to the poor result, the Monetary Board at Bank of Korea recommended that the conditional sales be loosened by easing the restrictions on the share of ownership and allowing payment of shares in installment. As a result, the shares of banks were sold to private investors thereby ending the privatization.[51] Besides the more relaxed conditions of sales of bank shares, the fact that investors could finance their investment through bank loans may have caused the concentration of banks shares in the hands of a few investors. Through the privatization, many banks ended up being acquired by a few large industrialists, who subsequently used those banks predominantly to fund their own operations. According to Ahn (1993, p272), nearly over 50% of banks' total loans were lent to the companies owned by the major shareholders of the banks. This led many government officials to view the privatization a failure in the sense the public assets were given away to enrich a few. In

50 In 1950, Arthur Bloomfield, an economist at the Federal Reserve Bank of New York, called for "getting most of the banks as rapidly as possible out of the government hands into the hands of private owners." The privatization of banks, however, was not implemented quickly. It was not until 1957 that Korea took the first step toward privatization after continuing pressure from the U.S. on proceeding with privatization of commercial banks began in July 1949 when the Law of Divestiture of Vested Properties was established. After enactment of General Banking Act in August 1954, a committee, comprised of representatives from the Ministry of Finance, Bank of Korea, and Property Trustee, was established to facilitate the transfer of ownership of banks. It announced the procedures under which the banks would be sold

51 Lee Byung-Chul in Samsung Group, Chung Jae-Ho in Samho Group and Lee Han-Won in Daehan Jeboon were able to control over 83% of total shares of Heungop Bank (former Hanil Bank), 51% of Savings Bank (former Korea First Bank), and 29% of Korea Commercial Bank, respectively.

the next few decades, the government often used this experience as a rationale to slow down the privatization and tighten control over the privatized banks. As seen in both cases, the government was forced to loosen the conditions and procedures to facilitate the divestiture of properties and privatization of banks. In the process, significant windfalls were realized as acquirers were able to purchase the properties at deep discounts. The process also became mired in corruption due to the linkage between the government and business. Indeed, the process had created political capitalists instead of industrial capitalists.

But all was not lost. The government did succeed in convincing land owners to sell their land, which was subsequently redistributed. By 1952, the government purchased and distributed nearly 331,766 hectares of land as seen below, nearly 70-80% of land that was planned for redistribution, to farmers. Aside redistributing much of land formerly owned by landlords to farmers, the government's efforts aimed at securing a financial windfall for its coffers and a more fair distribution of income and wealth had been all but a failure. The landlords were paid for their land with government backed securities while a class of enterprising businessmen had acquired businesses and banks practically for free. But the even hand of history would deal Korea a more just outcome.

Just before land reform was initiated in 1950, civil war broke out on the Korean peninsula with invasion of North Korea. Despite the war, the Korean government proceeded with reform after Seoul was taken back in September 1950, as it wanted to raise war funds through sale of vested enterprises, to prevent a peasant revolt, and to use the rice collected as payment as war provisions. By 1951, the government had issued securities to 48,264 land owners. Land reform impacted considerable amount of land in Korea and farm households. A total of 577,320 or about 1/3 of all arable land were redistributed which affected about 1,646,180, about 2/3 of all farm households. The average amount of land redistributed to each household averaged 0.35 ha, as seen below. Many landlords with small holdings went bankrupt after the land reform as 84% were receiving payments in rice spread over 5 years. Since the amount received were so small, little industrial capital could be formed from the income of landlords. The hyperinflation, effectively, making all debt worthless including the notes held by the former land owners.

The war had left in its wake total economic and human destruction. Little had survived the brutality of the war. A countless number of people were killed or went missing, and most physical structures and properties were damaged or destroyed. The Korean War had flattened the distribution of Korea's income and wealth, wiping out much of the capital, ill gotten or not, that was accumulated in the preceding years, leaving behind a relatively "equal distribution of poverty." Everyone was poor and the playing field was leveled, the immediate and lasting economic consequences of which have yet to be fully appreciated.

The effects in the rural sector were immediate; tenant farming had been all but abolished, significantly raising the income of farmers. The reduction of landlords result in a relatively high degree of equality was achieved in the rural sector, which was not seen in many countries. This led to social and economic. Before land reform, nearly half of the farmers'

annual production was used for rents while every family member had to supply their labors to work on the farms. As such farm households could not afford the money or time to send their children to schools. By 1947, the share of population 15 years and older with middle and high school education was only for 4.4% and those with college education was only 0.6%. The benefits of land reforms to farm households can be seen below, which examines household expenditure before and after the land reform. As of 1965, household expenditure in education doubled from 4.5% to 10.9% of total household expenditure, implying that farmers' income was enough to send their children to schools.[52] The huge economic payoffs of an educated and healthy population, the bedrock of Korea's industrialization, cannot be over emphasized.

Table 4-9 | Comparison of Household Expenditures Before Land Reform and 1965

Item	Food	Clothes	Ceremonies	Education	Medical	Transport	Other	Total
Share Before Land Reform	58.9	11.4	7.2	4.5	2.1	0.8	15.1	100%
As of 1965	46.9	13.7	7.4	10.9	2.5	1.5	17.1	100%

Source: Pak, Ki Hyuk (1966) from "Land Reform in South Korea" by Morrow and Sherper (1970).

Because the farmland units were generally small to begin with and land reform had basically divided larger units of land into smaller units, the results of the reform on agricultural productivity likely had a negative effect in the long run. Though landed farmers could accrue the fruits of their labor to themselves, the small scale of farming units and lack of infrastructure and supporting institutions (farmer associations for mobilizing credit and supplies) in the agricultural sector resulted in lower productivity.[53] Indeed, the share of farmers owned less than 1 ha of land increased from 74.5% in 1947 to 79.1% in 1953. Farming became much more labor-intensive due to the small-size of farm lands.

52 Countries that undertook land reforms (South Korea, Japan, Taiwan) with the land-to-the-tiller principle tended to have well-educated rural people, because many tenants did not have to pay their rentals to landlords. Countries that undertook land reforms tended to achieve the development having well-educated labor force, thereby reducing poverty effectively. In India, Prime Minister Nehru attempted land reform but failed in 1947 due to political opposition from the landlords. Indeed, India suffers from high illiteracy rate of 30-40%. This is the same case for Indonesia.

53 Since the farmers were only able to buy small plots of lands it resulted in a highly fragmented agriculture sector that was inefficient. This was later reformed under the Park Chung-Hee government by land consolidation, to introduce large scale enterprise farming.

Table 4-10 | Number of Farms by Size Before and After Land Reform

Size of Farms in Ha	1947		1953		1968	
	Number of farms (1,000)	%	Number of farms 1,000)	%	Number of farms (1,000)	%
Less than 0.5	895	41.2	1,011	44.9	915	35.5
0.5-1	724	33.3	769	34.2	820	31.8
1-2	409	18.8	371	16.5	669	25.9
2-3	113	5.3	96	4.3	133	5.2
Greater than 3	31	1.4	3	0.1	40	1.6
Total farms	2,172	100	2,249	100	100	100

Source: Pak, Ki Hyuk (1966) from "Land Reform in South Korea" by Morrow and Sherper (1970)

The lasting effects of land reform on Korea's development prospects are as profound as hard to elucidate. A relatively equal distribution of income and wealth meant that economic and political power was not concentrated. Had power rested within a few hands, it is hard to imagine if the subsequent development policies of Park Chung-Hee such as clean government, tax reform, and rural development, which set the stage for Korea's broad-based rapid development, could have been possible had the state or other self-interested group been an obstacle to development.

Astute political scientists have gone further to argue that the equity among farmers allowed them to form unity and cooperation that would not be possible with high inequality and class conflict. This sense of solidarity among the rural sector, scholars argue, would serve as the basis for rural community development programs implemented in Korea during the 1970s.

2011 Modularization of Korea's Development Experience
Impact of Foreign Aid on Korea's Development

Chapter 5

Taking Ownership

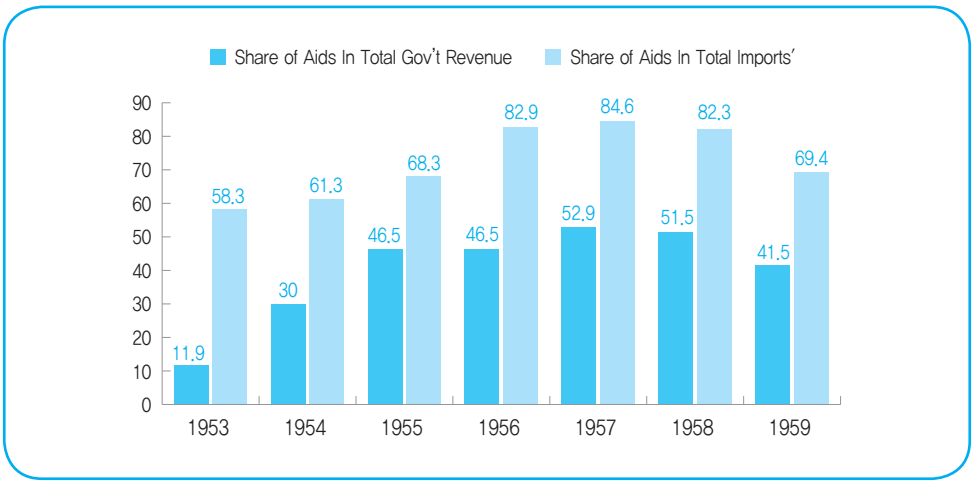
1. Addressing Government Failure
2. Securing Foreign Loans
3. Allocation of Japanese Reparations Funds: POSCO
4. Japanese Development Assistance
5. Coordinating Better Outcomes
6. Saemaul Movement and Public Works Projects: Examples of Taking Ownership
7. Reforestation

Taking Ownership

1. Addressing Government Failure

Under the dire circumstances, getting development going in Korea was never going to be easy, but the failures of the Syngman Rhee government that led to rent-seeking behavior and distortions had become an obstacle to economic reform and progress. Corruption in government was rampant; bureaucrats fell under the influence of politicians and businessmen. The privatization of vested properties that the US military government had taken procession of from Japan was badly handled. The properties which included manufacturing plants were auctioned off unfairly to industrialists at deep discounts. By the late 1950s, the signs of Korea becoming too aid-dependent were emerging. The large amounts of aid, which were largely commodities, suppressed agriculture prices and distorted the incentives of farmers. Since Korea's growth early on was fueled by aid-induced consumption, a drop in US aid correlated with a fall in Korea's GDP growth. Korea's consumption-driven growth and artificially overvalued currency made the economy susceptible to high inflation and any attempt to keep macro stability difficult.

Figure 5-1 | Influence of Foreign Aids in 1950s: Share of Foreign Aids in Total Imports and Total Government Revenue



Source: Lee (2002).

Against this background, it surprised no one when social unrest and public outcries led to the removal of the Syngman Rhee government, and the subsequent muted US response to the taking of power by a military general.[54] Korea came under the authoritarian leadership of Park Chung-Hee who had taken power through a bloodless coup after Rhee Syungman was forced out of power. Under the strong leadership of Park Chung-Hee, corruption in government was cleaned up and Korea had taken ownership of its development process. The government was no longer an obstacle but a central figure in implementing reforms and economic policies. Soon after Park Chung-Hee took power, the government systematically implemented tax reform and took apart the government-business apparatus of crony capitalism. After the tax reforms in 1966, tax revenues grew rapidly, doubling to average about 17% as a share of GNP in 1975, after fluctuating at about 8% and experiencing a declining trend in the early 1960s. This led to a sound fiscal base that allowed Korea to maintain macroeconomic stability; to secure foreign borrowings to finance industrialization; and to implement social and economic policies for broad social benefits like the Saemaul Movement. It shows how Korea took ownership of its development and addressed widespread government failure (corruption) by changing behavior within government. Moreover, President Park placed Korea's industrialists under state arrest on charges of corruption and bribery in their acquisition of vested properties and dismissed top government officials or

54 As farmers faced financial difficulties, they became heavily indebted. The worsening situation of farmers became a political issue later on especially during the presidential election in 1963. During the Presidential election in 1963, Park Chung-Hee who had narrowly won the election from Yoon Bo-Sun had used this issue in his Presidential Campaign, criticizing the negative effect of Korea becoming too aid-dependent. Having been a son of farmer and implemented a debt relief program for farmers in 1961, President Park's position on aid helped him gain the support of the farmers.

sent them on two-week training courses.[55] According to Hoff (2000), "he then personally monitored the performance of the economic bureaucrats and shifted them from one bureau to another quickly, so that they could not develop corruption networks." The implications of the anti-corruption campaign under President Park go beyond just a cleaner government; it meant that the government, once an obstacle to reform, could now play a central role in coordinating more efficient outcomes and addressing market failures.

2. Securing Foreign Loans

It is a well known fact that Korea's rapid development was financed largely by foreign savings but the exact nature of how Korea, aid-dependent country could secure foreign borrowings in the first place to finance its industrialization is less known.[56] The table below shows Korea's high dependence on foreign savings to finance its development. This is much higher compared to Taiwan which was able to mobilize the domestic capital brought over by Chinese nationals.

Table 5-1 | Korean Investment and Savings

	1953-59	1962-66	1967-71	1972-76	1977-81	1982-84	1985-91
Investment/GNP	13.1	16.3	25.4	29.0	31.0	28.2	32.7
Domestic saving/ GNP	3.7	8.0	15.1	20.4	25.5	24.8	34.8
Foreign saving/ GNP	9.4	8.3	10.3	8.6	5.5	3.4	-2.1
Foreign saving/ investment	71.7	50.9	40.6	29.7	18.1	12.1	-6.4

Source: Cho and Kim (1997), Lee (2002)

To industrialize, Korea had to make capital investments; it had to import equipment, which required foreign currency. Needless to say, domestic savings was low in the early stages of development and domestic capital markets were non-existent. Moreover, Korea had little foreign currency receipts as its export base remained small and it lacked a foreign currency reserve.

55 See Tirole (1996) for formal treatment of anti-corruption program being able to switch an economy into an equilibrium with low corruption.

56 Foreign direct investment in Korea was not significant, due to its dearth of natural resources that could attract foreign direct investments such as in the case of some countries in Latin America and Southeast Asia. Moreover, Korean government was not open to foreign investments at that time.

Wanting to pursue industrialization but lacking foreign currency, President Park freed the industrialists that were arrested for corruption on the condition that they go out and secure foreign loans to finance capital investments. Subsequently, a delegate of top businessmen went on an international road-show to drum-up foreign investors; one group led by Pyung Chul Yi (Founder of Samsung) went to the US while the other group led by Chung Rym Lee (Founder of Korea Petrochemical Industry) went to Europe. But their efforts proved futile, being able to only secure a small amount of foreign loans. Not even the government's legislation of the Foreign Loan Repayment Guarantee Act in 1962 did much to induce foreign borrowings.[57] By this time, total US assistance began to decline and more of the aid was comprised of concessionary loans, much of which had to be used toward military assistance.[58]

The normalization of relations with Japan is one of the most underappreciated accomplishments of President Park. Korea would get access to foreign capital but also trade and technology. The US also pushed for normal ties between the countries as a way to wean Korea off of aid and foster development. Against fierce, often violent, public objections at home, President Park made the decision to normalize relations with Japan in 1965; subsequently, Japan committed to US$ 800 million of economic cooperation funds, or reparations in the eyes of Koreans, in the form of grants (US$ 300 million), and concessionary (US$ 200 million) and commercial loans (US$ 300 million), most of which was to be allocated to the agricultural sectors. Instead, a good deal of the funds was used to finance Korea's industrialization. To prevent the misappropriation of funds for political purposes, a legal statue was enacted into law - the "Law of Operation and Management of Japanese Reparations," the most serious offense being punishable by death. After all, Japanese economic assistance was considered by Koreans as blood money, reparations for 36 years of colonial rule. The law proved effective in deterring corruption and misuse of the funds.

3. Allocation of Japanese Reparations Funds: POSCO

By now, Korea had implemented its first Five-Year Economic Development Plan (1962-66), and plans were drawn up to construct the first integrated steel mill, the centerpiece of Korea's heavy and chemical industrialization strategy. To secure the funding to finance the large capital investment, the Korea International Steel Association (KISA), an international consortium was formed in 1967, consisting of the U.S, U.K, Germany, Italy, and France, which was supposed to raise foreign capital and facilitate technical assistance. The consortium actively sought to obtain foreign loans but to no avail. Negotiations with foreign creditors such as the US EXIM Bank stalled as international support for the construction of steel factories had waned at the time. By then, many other developing countries had failed

57 In fact, the group of businessmen was only able to secure 3.8 million German Mark of loans at very high interest rates.

58 The decline in US assistance was largely due to political and economic factors in the US.

to construct a viable steel industry due to lack of economies of scale, poor technologies, and insufficient demand for steel. The World Bank was also highly skeptical of the Korean government's plans, recommending that it focus on the labor-intensive machinery industry. Indeed, the lack of infrastructure and small domestic market for steel raised questions of feasibility and scale; could Korea build a steel mill with sufficient economies of scale to produce quality steel at internationally competitive prices? When a Korean delegate sounded the idea of constructing a steel mill, the same question was posited by a top Japanese government official, who suggested that Korea just buy steel from Japan.

President Park didn't want to just buy steel, he wanted to make it. Unable to secure foreign capital, the Korean government sought to use some of the Japanese economic cooperation funds to finance the construction of a steel mill. But it was always going to be easier convincing the Japanese than Koreans of using a portion of the funds for industrialization. In fact, a total of US$500 million (US$300 million with no interest and US$200 million with interest of 3.5 percent) of the funds was earmarked for the agricultural and fishery sectors. Japanese businesses showed strong interest from the time the Korean government first approached them for financial and technical assistance in building a steel mill. The procurement of contracts related to the construction of a steel mill and development of the Korean market were seen as an economic boon for exporting steel products and industrial plants. The involvement of the largest Japanese steel companies, which held strong influence in government and political circles, was critical in allowing some of the Japanese economic assistance to be used in the construction of a steel mill. Regardless, the shared history and geographic proximity of Korea and Japan meant that security interests would loom just as large as economic interests in driving Japan's Official Development Assistance (ODA) policy to Korea. As such, the formulation and decision making of Japan's ODA policy to Korea transcended the usual government bureaucratic processes.

Once Japan came on board, President Park made the decision to use part of the Japanese economic cooperation funds to construct Korea's first integrated steel mill in 1969, which would eventually become Pohang Iron and Steel Company (POSCO), despite the fierce social and political backlash. In total, US$77.2 million (US$30.8 million with no interest and US$46.4 million with interest of 3.5 percent over 20 years with a grace period of seven years) was used to finance POSCO. The table below shows other areas where Japanese development assistance was used. A key implication being that the repayment of the concessionary and low interest commercial loans from Japan allowed Korea to build a track record as a creditor, which allowed it to induce future foreign loans that were critical in financing its export-led industrialization.

Table 5-2 | Uses of Japanese Reparations Funds

(Unit: US$ Million, %)

Project	Amount	%
Agriculture	39	7.8
Fishery	27	5.4
Manufacturing	278	55.6
Construction of POSCO	119	23.9
Purchase of raw materials	133	26.5
Promotion of SMEs	22	4.5
Science and Technology	20	4.0
Equipments for practical training for the schools	6	1.2
Equipments/facilities at KIST	3	0.6
Social Infrastructure	90	18.0
Construction of Soyang-river dam	22	4.4
Gyeongbu (Seoul-Busan) Expressway	7	1.4
Improvement of Railway system	20	4.2
Construction of Yongdong Thermal Powerhouse	2	0.4
Expansion of Waterworks	4	0.8
Construction of Namhae Bridge	2	0.4
Rehabilitation of Han-river Bridge	1	0.2
Power Distribution facilities	4	0.7
Expansion of out-of-town Telephone lines	4	0.8
Total (Reparation funds for free and public loans)	500	100.0

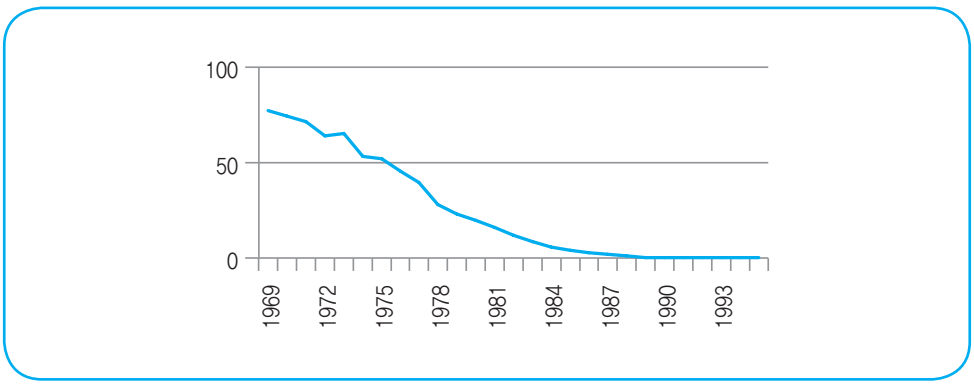
Source: EPB (1976), White Book on Reparations pp. 378-381

4. Japanese Development Assistance

Japanese assistance in health and education contributed to improving public health and education in Korea. Like many poor developing countries, Korea suffered from a high rate of parasite infection including ascaris and trichuris due to poor sanitation and inadequate public health. In the 1950s, the parasite infection rate was estimated to be nearly 80%. Efforts to address the high infection rate first began in 1948 when the US military government conducted public examinations for infections. In 1964, the Korean Association of Parasite Eradication (KAPE) was established by the government. However, it lacked the necessary human resources and technical knowledge and equipment to undertake medical examinations and tests for parasites. From 1968 to 1974, Japanese development assistance contributed to eradicating the high incidence of parasite infections under the Overseas

Technical Cooperation Agency (OTCA). Under this program, a total of US$ 57,750 of assistance was provided in the first year, US$ 55,450 in the second year, and US$ 11,800 in the third year, to purchase microscopes, mobile clinics, testing equipment, and medicine. Examination facilities were established across the country. In 1969, students across the nation in elementary, middle and high school, began to be tested for parasites, when the infection rate for ascaris was estimated to be 77%. By the mid 1980s, it had fallen to less than 5% as seen below.

Figure 5-2 | Parasite Infection Rate in Korea



Amazingly, Korea had drastically reduced the infection rate within a very short time, successfully reducing the rate in less than half the time Japan did. One of the factors that contributed to the rapid decrease was the efforts to improve public health by building sanitation facilities through the Saemaul Movement during the 1970s.[59]

Japanese assistance also contributed in improving Korea's system of technical and vocational schools, which helped meet the high demand for engineers and skilled workers as industrialization accelerated. Korea allocated part of Japanese assistance to purchase modern training equipment for its schools. A total of 1.2 billion yen was used to fund the purchase of equipment from Japan. In 1972, the Kum-Oh National Technical High School was established, as a model for technical schools. After initial attempts to train instructors by sending Koreans to Japan proved too inefficient, the government directly hired eight highly trained Japanese instructors for a period of three years until the first graduating class. The Japanese instructors were given a fairly lucrative compensation package that also included housing benefits to recruit them.

59 Please refer to Development of ODA model on Parasite Management Based on Korean Experience by the Korea Association of Health Promotion (KAHP) and Korea Foundation for International Healthcare (KOFIH) in 2011.

In terms of admissions to Kum-oh, standards were kept high and the admissions process was very selective based on a combination of academic performance, recommendations from middle school principals, and an interview as well as a series of aptitude and physical tests. The school sought to promote balanced education and build a work ethic based on integrity, precision, and earnestness. The students were also given full scholarships and other benefits like books and housing. By 1976, among 400 newly admitted students, more than half were the top 5% of their graduating class from middle schools all over Korea including 126 valedictorians. Indeed, Korea excelled in international vocational training competitions (Vocational Olympics), winning nine times in a row during 1977-1991.

5. Coordinating Better Outcomes

As Korea's industrialization and rural development progressed, the coordination role of the government became increasingly larger and more complex. Here, we discuss some of the key features of Korea's government that were important in coordinating good outcomes from a functional perspective. First, the series of Five-Year Economic Development Plans provided basic guiding principles or a national development strategy. As important, the implementation of the five year plans took a non-linear approach; in that mid-term and long-term goals were set i.e. export targets but as much flexibility as possible was maintained in the implementation of the plans. Many policies and institutional reforms were pursued by trial and error, and experimentation, resulting in policy innovations, as policymakers quickly responded to changing policy environment. To better implement the plans, one of the major organizational changes within government was the creation of the Economic Planning Board, which effectively combined the functions of budgeting and economic planning under one "super ministry." The Deputy Prime Minister was put in charge of the EPB. It also had the important function of approving loan guarantees in line with Korea's industrial policies. The guarantee was approved by the Economic Planning Board (EPB), which determined the total amount of loans in accordance with investment priorities specified in its five-year economic development plans. The Ministry of Finance then monitored all the approved foreign borrowings and their repayment.[60]

At the same time, the monthly meetings acted as a system of monitoring and evaluation, and information sharing, of industrial policies in the export and manufacturing sectors. The meetings were chaired by President Park and attended by top government officials and businesses, all of whom discussed and deliberated on economic trends and issues. At the project implementation level, government policies and interventions were often implemented at the grass-roots, local level ad cut across multiple ministries and agencies at the central and local level as well as 0various sectors, such as the Saemaul movement.

60 In 1966, the government revised the Foreign Capital Inducement Act to allow the banks to provide guarantees without approval from the National Assembly. But, given that the government was the majority holder of shares in all the banks that guaranteed the foreign loans, it was the government that in effect guaranteed the repayment.

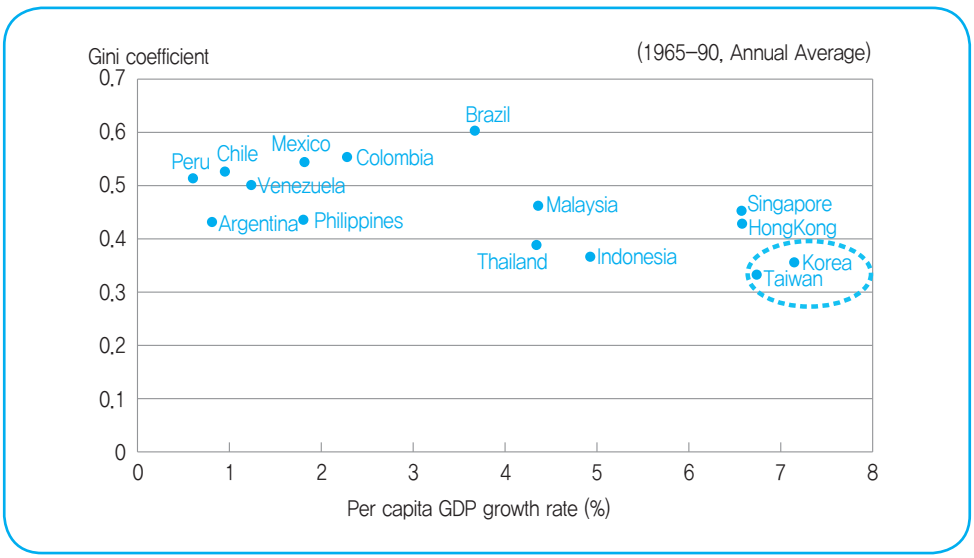
Government initiatives like the Saemaul movement were successfully largely due to effective policy coordination amongst multiple organizations, which shared knowledge and information. For example, the experiences and success stories of Saemaul movement were recognized and shared in the monthly meetings chaired by Park Chung-Hee and attended by top government officials. At the same time, there was a system for monitoring and evaluating projects within the Office of the President's Secretary which received constant feedback from officials at the project implementation level. In fact, President Park was given periodic updates by the secretariat in charge of the Movement.

6. Saemaul Movement and Public Works Projects: Examples of Taking Ownership

As discussed earlier, greater tax revenues as a result of the efforts tax reform and anti-corruption campaign in government in the 1960s was central to Korea's economic development, as Korea had become dependent on foreign aid, which not only accounted for nearly 53% of total government revenue but also began to decrease by the end of the 1950s. Moreover, government bureaucracy suffered from corruption and inefficiencies, which became an obstacle to economic reform and progress. After the tax reforms in1966, tax revenues grew, marking a critical turning point in Korea's development; Korea went from being aid dependent to taking ownership of its development process, which as defined under the DAC principles means "Developing countries set their own development strategies, improve their institutions and tackle corruption."

By securing the fiscal resources through tax reform, the Korean government was able to make investments in public goods necessary for economic development including the construction of expressways, infrastructure to support industrialization, and rural development. Indeed, much was done in the way of government policies that led to poverty reduction, social equity, and environmental quality, factors that made a more open and democratic society sustainable in the long-run. These broad based social benefits were possible because Korea was able to achieve growth with relatively low income inequality, demonstrated by a low Gini coefficient as seen in the figure below. Indeed, Korea's pattern of shared growth would not have been predicted by Kuznets' hypothesis, which observed that the distribution of income tends to worsen in the early stages of development.

Figure 5-3 | Gini Coefficient and Real Per Capita Income Growth



Source: East Asian Miracle (World Bank, 1993)

Korea's broad based social and economic transformation was in large part due to the government's continued policy focus on rural development, which is often neglected in development policies. As Korea's rapid industrialization focused on export growth and the HCI, the income gap between rural and urban areas began to widen. In 1963, per capita household income in rural and urban households was roughly equal. By 1970, urban income was 60% higher than rural income, though there was a real increase in rural income of 15-20% during this period. This was a major policy concern since 50% of the population still lived in rural areas. As such, the government implemented measures at raising the income and living standards of rural areas. In the beginning of the 1970s, the Saemaul (New Village) Movement was initiated,[61] which was a series of social and economic programs to develop rural regions based on the basic principles of cooperation, self-help and self-reliance. President Park sought to promote social justice through the Saemaul Movement, a merit-based approach of rewarding performance. For example, a total of 34,656 villages were given about 300 bags of cement free of charge each to be used for the good of the community and for improving living conditions such as building of roads, bridge, wells, sanitation facilities, etc. Each village was evaluated and rewarded according to their performance. In 1971, only 16,600 villages were evaluated to have had positive outcomes, and were subsequently, grouped as "self-help" villages and given an additional 500 bags of cement and one ton of steel rod at their disposal. The performance-based approach served as the model for other rural development programs including the supply of electricity, where

61 Survey result by a daily newspaper in 2008, asking Korean people, what was the most important national event in Korea for the past 60 years.

villages that showed positive outcomes were supplied electricity first. In less than 10 years, 97% of the villages had secured access to electricity, which was only 20% of the villages in 1971, an unprecedented achievement at the time. The movement also led to the installment of new roofs, telephone lines, and methane tank and water systems.

The Saemaul Movement was important in instituting new belief systems and building social capital, being the propagator of a more just and open society. The movement was community-based and promoted cooperation among villagers and other villages. To build access roads to villages, land-owners had to be convinced of voluntarily donating some of their lands for the public good. This process was often long and difficult as owners were reluctant to donate land. But once the first land owner was persuaded to donate land, it led to other land donors to do the same. Eventually, enough land was secured to build the roads, which was constructed voluntarily by the villagers themselves. The construction of the village access roads led to an improvement in living conditions, the environment and reduction in transportation costs. For example, villagers had to manually carry coal to their homes before the roads were widened. After the roads were widened, coal could be transported by trucks, promoting the widespread use of coal as an alternative to wood for fuel. This, in turn, slowed deforestation. Under the Saemaul movement, village members gathered to discuss and deliberate on community-related issues. Even gender equality was promoted by the Saemaul Movement as women took more proactive roles and villages began to have both a male and female leader who was chosen by vote.

7. Reforestation

After generations of over forestation and years of war, Korea was left a barren waste land, bare of practically any trees. By the end of the 1950s, Korea's deforestation was at its worst when about 50% of the mountains were treeless. The environmental impact was significant, contributing to flash floods, pollution, and lower quality of life. After failed attempts by previous governments to address the environmental problem of deforestation, the new government under Park Chung-Hee enacted a law for the protection and conservation of forests.[62] This helped to slow down deforestation caused by illegal lumbering. However, the law was largely ineffective because wood was still the main source of energy in many rural areas. As such, the government strengthened the statutory basis enacting the Forest Law, where one of its main objectives was to develop the use of coal as an alternative source of energy.

62 Under this law, several measures were enforced which included regulating entry into the forests, permits to cut trees, quota system to cap the volume of trees cut, and regulations on sealing and transporting trees, etc.

As part of the reforestation effort, the Korean government implemented soil reclamation projects to ready the land for tree planting via Public Works Projects (PWP)[63] during the 1960s and 1970s. Because the government did not have the fiscal resources to pay workers, it allotted 1.6 kg of wheat flour that was provided under US aid[64] to workers that participated in the various PWP. However, the program was at first unsuccessful in attracting workers, as many people figured why work for something that they could eventually get for free anyway.[65] To induce participation, the Park government enacted the "Temporary Law to Promote Reforestation" in February 1963, which made labor mandatory for two years between 1963 and 1964 for males 29-33 years old who did not fulfill their military service requirements. The program was implemented nationwide, and by the end of 1964, 81% out of total of 370,000 ha of the land that was planned for reclamation was completed.

63 For a review of global experience of public works programs, see del Ninno, Subbarao and Milazzo (2009) "How to Make Public Works Work: A Review of the Experiences", World Bank, Social Protection Discussion Paper No. 905.

64 Korea received massive amounts of aid in the form of wheat flour under Title I of Public Law 480, also known as the "food for peace program." PL 480 was signed into law on July 10, 1954 by US President, Dwight Eisenhower. Comprised of four titles, the program's objective was to supply US agricultural goods to poor countries that were of strategic interest to US. Under Title I, countries were able to sell the supplies of agricultural goods received from US in their own local markets and to use the proceeds which were in local currency for covering US-related expenditures and for procuring US military weapons. For Korea, the title I accounted for a considerable portion of all the goods received under PL 480. During July 1953- December 1974, assistance received under PL 480 totaled US 1.6 billion dollars, or 37% of total US economic assistance (US 4.4 billion dollars) to Korea, most of which were under Title I (US 1.2 billion dollars).

65 Indeed, the Prime Minister Huh Chung of the Democratic Party which took power soon after the demise of Syngman Rhee government in 1960 announced the plan to use wheat flour in implementing soil reclamation projects staring in January 1961

2011 Modularization of Korea's Development Experience
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Chapter 6

Conclusion

Conclusion

In the context of Korea's development, and perhaps in general, few would argue against the importance of aid, and the critical role it can play in assisting developing countries. There is little doubt that foreign assistance was invaluable in aiding Korea's survival in the tumultuous years following its liberation in 1945 until the years immediately after the Korean War broke out in 1950. But assessing the longer term impact of aid on Korea's development presents a more complex challenge. At one point, aid had a depileating effect on the economy and the government. Corruption and rent-seeking behavior had taken hold of a government dependent on aid, itself becoming an obstacle to reform and progress. The lasting effects of aid and development policies on Korea can only be truly understood after taking a broader view of the development process. In this regard, advances in modern economics and the lessons of past reform experiences allow us to better explain Korea's social and economic transformation. Despite the highly multi-faceted, complex, and contextual nature of development, policy lessons can be drawn from past experiences and Korea's experience can offer some useful insights on current issues.

Few economists would disagree that Korea's human capital was fundamental to its rapid export-led development not only in the labor-intensive but also in the heavy and chemical phases of industrialization. Endowed with a rich stock of human capital relative to physical capital, income, and technology, Korea was able to exploit its comparative advantage of having an educated and low cost labor force by producing export goods that were competitive in the international market. Aid was critical in the development of Korea's human capital; massive investments were made in public education, particularly in the expansion of primary education. Beside repairing damaged schools and building new ones, a considerable amount of technical assistance went into improving the quality of education in primary and higher education. But investments in education do not explain everything as the benefits of improved public health also contributed to both an educated and healthy

labor force. The high rate of education and health attainments can be seen in the sharp drop in the illiteracy rate and incidences of parasite infection early in Korea's development.

Korea's equitable distribution of income and wealth has arguably had a profound impact on Korea's development prospects. It created favorable preconditions that set the stage for economic take off and sustained development. Land reform, the redistribution of land to the rural poor, promoted equity and efficiency in the rural sector, and improved the incentives of farmers. Most of all, a relative equal distribution of income and wealth in Korea meant that economic and political power was not concentrated in the hands of a few. The implication being that once government failure was corrected, government could take ownership of the development process and actively play a role in coordinating better comes. Had the state or other self-interested group been an obstacle to development as it once was in Korea, the subsequent government actions under Park Chung-Hee, such as tax reform and rural development, could not have been possible.

The turning point in Korea's development came when the government took ownership of its development process, representative of this is the tax reform and anti-corruption campaign, where were perhaps the single most important government action in Korea's early development. The implications of successfully implementing tax reform on Korea's development cannot be over emphasized. It led to a sound fiscal base that allowed Korea to maintain macroeconomic stability; to secure foreign borrowings to finance industrialization; and to implement social and economic policies for broad social benefits like the Saemaul Movement. It shows how Korea took ownership of its development and addressed widespread government failure (corruption) by changing behavior within government. The community and merit-based programs of the Saemaul Movement, under the Park government illustrates the potential role in policy interventions as a way to change the behavior of individuals or beliefs by instituting new belief systems (gender equality) and building social capital (trust, leadership, etc.), being the propagator of a more just and open society. The Saemaul Movement was a series of social and economic programs to develop rural regions based on the basic principles of cooperation, self-help and self-reliance. It was a merit-based approach of rewarding performance to promote social justice. Indeed, transformational change is "not only about the level of activities (more or less investment) but also about the kinds of behaviors (beliefs) and institutions that individuals adopt (Hoff, 2000)."

In many developing countries, improving education and health outcomes remain a priority, especially in the rural sector, where much of the people and poverty are found. Aid can and should play a role in improving access to education but also the quality of education. If there is one policy take away from Korea's experience, it is that it illustrates the interconnectedness and multi-layered nature of development, which may require a set of complementary interventions across multi-sectors to achieve better outcomes. In many poor countries as was the case in Korea, a diagnostic analysis of economic conditions will likely reveal that several binding constraints may exist at the same time in multiple sectors, which

may need to be addressed simultaneously to ensure more desirable development outcomes. In Korea, equity and higher income in the rural sector may have had strong spillover effects on investment in health and education. Despite the argument and prospects for promoting equity and efficiency in the rural sector, land reform as a practical policy instrument for achieving a more equitable distribution still raises more questions than answers. Moreover, the benefits of equity and higher income, and how it affects the benefits of improved education and health need to be examined further.

In the context of aid and development, the study of Korea's development experience presents a dilemma, since it often always proves to be the exception in any topic of discussion. Korea's experience shows how a mix of foreign aid and economic development polices can lead to exceptional outcomes. However, Korea is one of a very few aid recipient countries that has achieved economic takeoff and self sustained growth. When we speak of going beyond aid, we really mean going beyond growth, ensuring that growth in a market economy is accompanied with broad social benefits. Indeed, growth is important but not the only thing; policies aimed at growth also need to ensure poverty reduction, social equity, environmental quality, factors that make a more open and tolerable society more sustainable.

In concluding, modern economics has broadened our understanding of development; paradoxically, it has become much more challenging to identify policies and institutions most conducive to growth. If anything past reform experiences have taught us that we cannot take a narrow view of the development process; instead a broader vision of economic development is needed.

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