

Building Forward Better: Co-Creating Practical Knowledge for Development in the Post-COVID-19 World

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Abstract

The COVID-19 pandemic has had tremendous effects not only on health but also on the economy and society as a whole. The pandemic has created an unprecedented situation in which the world is simultaneously experiencing a crisis and sharing policy experiments. This pandemic is a strong reminder of the importance of international cooperation, and raises several critical issues related to the conventional approach to international development cooperation. First, there is no “one-size-fits-all” solution, and each country, society, and region must explore the optimal solution through trial and error. Second, a model based on the experiences of developed countries is not always superior. There is no need to assume that knowledge and technology should flow “from the North to the South.” Rather, it is important for diverse partners to “co-create” and learn from each other. Third, as we advance these efforts, it is necessary to maximize the benefits of digitalization while giving due consideration to our pledge to “Leave No One Behind.” This keynote speech aims to (i) review recent global development trends; (ii) reflect on what COVID-19 means for international development cooperation, particularly from a knowledge-centered development perspective; and (iii) draw implications for our approaches to development cooperation to “build forward better” in a post-COVID-19 world.

Keywords: Localized solution, Knowledge co-creation, Translative adaptation, COVID-19, International development

1. Introduction

It is my great honor and pleasure to speak at the Asian Pacific Conference 2021, which has a 19 years of history promoting intellectual exchange among researchers and students. I sincerely appreciate the kindness and efforts of the organizer, Ritsumeikan Asia Pacific University (APU), for inviting me to Beppu City, Oita Prefecture, for such an important conference that has been held in a hybrid format.

The purpose of my speech today is to reflect on what COVID-19 means for the

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future of international development cooperation and how we can “build forward better” in post-pandemic recovery. As this is a broad topic, I would like to focus on how we can co-create practical knowledge for sustainable, inclusive, and resilient development that the world aspires to achieve in the post-pandemic era. This topic has occupied my mind in recent years, and my thoughts continue to evolve. Therefore, I am grateful for your constructive comments and suggestions.

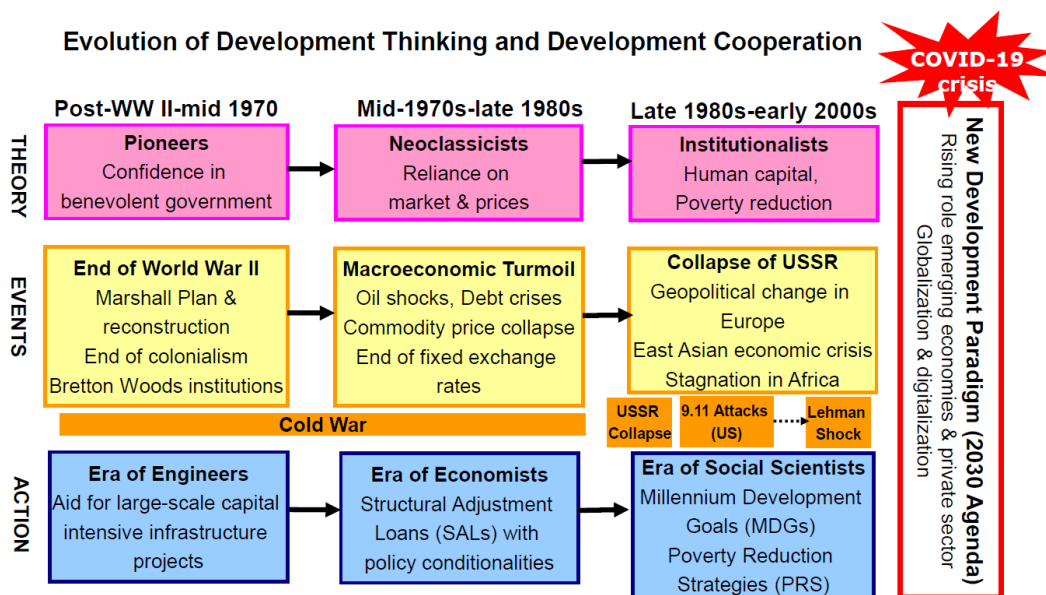


Figure 1. Evolution of Development Thinking and Development Cooperation

Source: Elaborated by the author, based on Akiyama (2003), Figure 2, p. 21.

Development thinking and the practices of development aid (interchangeably, development cooperation) have evolved over the past 75 years. As Figure 1 shows, development studies and the concept and systems for development aid were established after World War II (WW2) to replace the pre-existing system based on colonial administration. During 1944-45, a new international architecture based on the United Nations (UN) and the Bretton Woods Institutions (such as the International Monetary Fund (IMF) and the World Bank) was built to restore world peace and reconstruct war-damaged countries in Europe and Japan, and subsequently to support the nation building of newly independent countries in Asia and Africa (so called “developing countries”).

The mainstream agenda on international development has shifted over the past 75 years, partly influenced by development theories and various events and shocks the world has faced. Initially, economic development was given top priority through large-scale capital investments and infrastructure development, assuming that the fruits of

development would trickle down and reduce poverty. There was confidence in the government's role as a key actor in the economic development. Faced with macroeconomic turmoil brought about by oil shocks and other crises, neoclassical economics, which emphasizes the efficient functioning of market mechanisms, rose to prominence in the mid-1970s and the late 1980s, and the World Bank and IMF actively implemented structural adjustment programs in many developing countries. By the end of the Cold War, the 1990s had become the age of global integration, including the transition of former socialist economies to market-oriented economies. Establishing institutions that support the market economy and good governance has become a high-priority agenda. Furthermore, as globalization progresses, the global call for poverty reduction has increased in response to widening inequalities within and between countries. The Millennium Development Goals (MDGs), which were adopted by heads of state at the UN in 2000, became a key milestone. Currently, we are in a new phase of international development. As we live in an age of globalization and digitalization, development challenges are becoming even more diverse and complex, as exemplified by infectious diseases, migration, and climate change, while nation building at the national level remains a fundamental task. It is also important to consider how to take advantage of the opportunities provided by the digital revolution and technological innovation, while addressing the problem of the digital divide within and between countries.

Having said that, I would like to note that, most of the time, regardless of such evolution of development thinking, the North (advanced countries) largely provided development aid to the South (developing countries) in the form of official development assistance (ODA). It was understood that knowledge and technology were transferred mainly from advanced to developing countries. Such conventional approaches are currently being challenged, because actors in international development have become diverse in two ways. First, globalization has expanded the role of the private sector in development².

The private sector is expected to make significant contributions to job and income generation, financial resource mobilization, and the development of innovative technologies. Corporate behavior also affects the sustainability, inclusiveness, and resilience of global and local economies through value chains. Second, some latecomer countries, especially in Asia, have made progress in their development efforts and become emerging donors. They are in a position to share their respective development experiences

² In 2017, private finance accounted for roughly 60% of the total financial flows to developing countries from the Organisation for Economic Co-operation and Development (OECD)-Development Assistance (DAC) countries, while ODA constituted only one third (Ohno and Uesu, 2022).

with other low-income countries. This is why the Sustainable Development Goals (SDGs), adopted by heads of state at the UN in 2015, embrace a broader set of universal goals than the MDGs, and aim to engage a wide range of stakeholders, including both developed and developing countries, as well as the private sector, by sharing a “One World” vision and committing to “Leaving No One Behind.” Going beyond North-South relations based on ODA is a big departure from MDGs and preceding periods.

The COVID-19 outbreak occurred at a critical point in international development. With this in mind, I would first like to discuss the impact of COVID-19 on the SDGs and country-specific responses, and highlight the importance of knowledge and localized solutions in coping with the COVID-19 crisis. Then, I will share my perspectives on the challenges and directions that need to be taken to “build forward better” post-pandemic recovery and conclude. In doing so, I elaborate on why local learning and co-creating practical knowledge for development are important.

2. COVID-19 Impacts and the SDGs

COVID-19 has had a far-reaching impact on society. This is not just a health crisis but also one of the deepest economic crises since the Great Depression of the 1930s. The global poverty rate steadily declined until 2019 (as we recall, goal 1 of the MDGs—halving poverty—was achieved globally). We expected that such a trend would continue more inclusively. However, as the World Bank (2020) shows, COVID-19 pushed an additional 100 million people into extreme poverty in 2020, reversing this global poverty reduction trend for the first time over the past 20 years. The International Labour Organization (ILO) estimated that 8.8% of global working hours were lost in 2020 (compared to the fourth quarter of 2019), which is equivalent to 255 million full-time jobs (ILO, 2021). The IMF (2020) estimated that the Gini index for emerging markets and developing economies would increase by 2.6 percentage points to 42.7, which is comparable to the 2008 level, warning of worsening inequality. Various indicators show that the COVID-19 crisis has severely affected low-income, developing countries. Furthermore, recovery prospects are uneven between and within countries, depending on the coverage and speed of vaccination (UN DESA 2021).

All of this suggest that enormous challenges lie ahead in achieving the SDGs. However, this does not mean that we should abandon progress toward SDG implementation. The SDGs should serve as our compass for “building forward better.” I would like to become more optimistic and proactive with my approach. In this regard, the role of the private sector is vital. The private sector is the engine of growth, driving industries and the economy. Moreover, the behavior of the private sector critically affects

the speed and scope of SDG achievement. As corporate activities span various countries and industries in today's globalized and interconnected world, it is vital for businesses to be mindful of building inclusive, sustainable, and resilient supply chains. The private sector is also a driving force of technological innovation, and it is better positioned to implement and disseminate innovations that address societal needs.

One interesting observation relates to CO₂ emissions. As a result of the contraction of economic activities and restrictions on human movement, there was a significant decrease in global CO₂ emissions during the pandemic compared to the pre-COVID situation, which had experienced its worst point (UNIDO, 2021). However, with economic recovery, the level of CO₂ emissions began to rise. Electricity generation, transport services, and industries are major sources of CO₂ emissions. This poses the important question of what kind of recovery we would like to realize and how we should "build forward better."

3. Localized Solutions: The Importance of Knowledge, Technology, and Industrial Capability

Consider what the COVID crisis means for international development. Although there are numerous lessons we can learn, I would like to point out the importance of localized solutions as the most critical one. The pandemic has spread instantly and everybody in the world has experienced this shock simultaneously, regardless of where they live. I was impressed by the considerable differences in national responses, especially during the first stage of the COVID crisis (pre-vaccination stage). Because there are no standardized protocols available to cope with such a magnitude of global health shock, each country devised its own localized solution through trial and error. Even low-income countries with limited technological and financial resources managed the situation quite successfully in the initial stages before the vaccination roll-out.

According to the analysis by Crosby S. et al. (2020) and the subsequent report published by an Independent Panel for Pandemic Preparedness and Response (2021) co-chaired by Helen Clark, former Prime Minister of New Zealand and Ellen Johnson Sirleaf, former President of Liberia, a country's higher capacity to cope with a health crisis did not necessarily equate to lower death rates.

Figure 2 plots the relationship between the death rate (Y axis) and the country's capacity to cope with a health crisis (X axis) as indicated by the Joint External Evaluation

Score (JEE)³ created by the World Health Organization (WHO). Contrary to expectations, a number of advanced countries, such as the United States (US), Belgium, Canada, and Finland, had high death rates in the initial phase of the COVID-19 crisis compared to developing countries in Asia and Africa. Developing countries that generally have limited resources and capacity to cope with health crises have managed to avoid the worst situation in the initial phase.

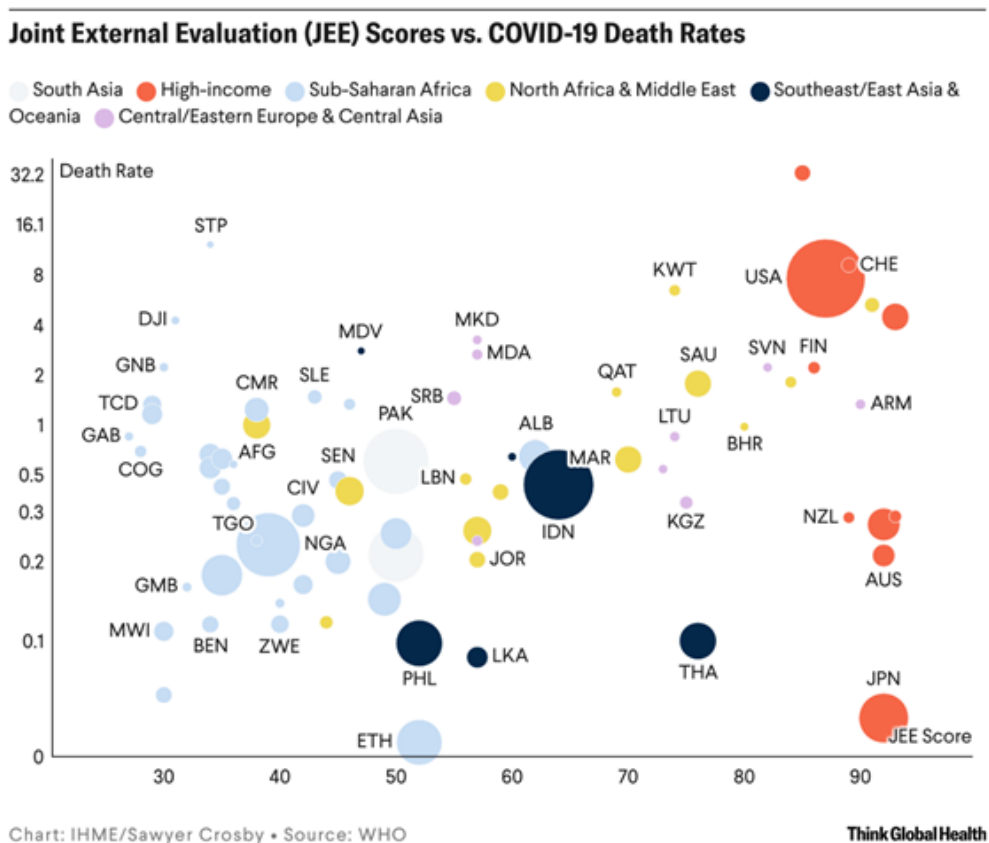


Figure 2: Country Capacity for Health Crisis Response vs. COVID-19 Death Rates

Source: Think Global Health. Original data come from WHO.

Several implications can be drawn from this result, particularly from the international development perspective. Notably, a model based on the experience of developed countries is not always superior. There is no need to assume that knowledge

³ JEE is a voluntary, externally validated, collaborative assessment of 19 technical areas required to validate a country’s capacities to prevent, detect, and rapidly respond to public health crises. JEE is a formal component of the WHO International Health Regulations (IHR) Monitoring and Evaluation Framework, which all UN member states are committed to implementing.

and technology should flow “from the North to the South.” Rather, it is important for diverse partners to learn from each other and “co-create.” This implies that we must go beyond the traditional approach of development cooperation and respect locally-initiated responses tailored to country-and society-specific situations. As explained below, there is no ready-made solution available. Each country, society, and region must discover localized optimal solutions through trial and error.

Importance of localized knowledge

I would like to provide three examples of countries’ responses to the COVID crisis. The first comes from Vietnam. A Vietnamese student at the National Graduate Institute for Policy Studies (GRIPS) shared with my class how the Vietnamese government and society coped with the initial stages of the pandemic. She explained that the government mobilized various resources, including armed forces, police, and musicians, and actively organized public campaigns to control COVID. For example, a group of young, popular singers promotes handwashing songs. The Vietnamese government and people have a certain level of awareness of the importance of a quick response to the pandemic, having learned from the previous experience of the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003, such that “we’ve got to work together to tackle this with communities.” They have fostered localized knowledge and learning from past experiences.

The second example is Bhutan. The country is known for its peaceful society and respect for the king. Bhutan has been successful in the rapid roll-out of vaccination (Tsheten et. al, 2022)⁴. By the end of July 2021, the country had fully vaccinated 90% of its adult population (the second dose). The prime minister is a medical doctor, and the health minister acted quickly. The prime minister set up many vaccination centers and transported vaccines to mountainous areas via helicopters. The king said, “I will be the last person to receive vaccination. I want to protect our people first.”⁵ Then, many Bhutanese people went to the vaccination centers, saying “let’s get vaccinated to protect the king.” This shows the existence of a trusting relationship among the king, the government, and citizens, which has greatly contributed to the societal response to the pandemic crisis. This could be viewed as a social contract. This is a good example of a homegrown response to the COVID crisis.

⁴ See also an article of Washington Post (July 28, 2021).

<https://www.washingtonpost.com/world/2021/07/28/bhutan-covid-vaccination/>

⁵ See Nikkei News Paper (April 30, 2021).

<https://www.nikkei.com/article/DGXZQOGM3098F0Q1A430C2000000/>

The third example is from Africa. This is based on “knowledge co-creation” through development cooperation. The Japan International Cooperation Agency (JICA) has been working in various African countries for many years, and Ghana has been one of its long-standing partners. JICA supported the establishment of the Noguchi Memorial Institute for Medical Research (NMIMR) in 1979 as a core research institute for controlling infectious diseases. NMIMR carries the name Noguchi Hideyo (1876-1928), a famous Japanese bacteriologist who dedicated his life to medical research on yellow fever. Noguchi Hideyo died in Accra, Ghana, and had been infected with yellow fever. Over the past few decades, JICA has provided support to NMIMR through a series of grants and technical cooperation projects. These include physical upgrading and equipment supply, training doctors and other medical experts, and joint research cooperation programs. Currently, they function not only as Ghana’s core medical research institute but also as a training base to counter infectious diseases in Sub-Saharan Africa. The NMIMR has played a critical role in coping with the COVID crisis, conducting 80% of PCR tests (at its peak), and promoting public education campaigns for preventive measures⁶. It has also provided guidance on infectious disease testing in 11 West African countries. Such achievements are the result of long-standing development partnerships that have enabled the country to acquire and co-create knowledge with Japanese experts.

Importance of knowledge, technology, and industrial capability

The fight against COVID shifted to a new stage from 2021, focusing on vaccine roll-out. Hereafter, hygiene practices as well as knowledge, technology, and industrial capacity have become critically important, as vaccine production, availability, and access have a significant impact on the effectiveness of controlling the pandemic. Differences in crisis-response capacities have become evident between advanced and developing countries. For example, African countries have limited access to vaccination compared to advanced and oil-rich countries, with only 7% of the population being fully vaccinated (two doses) as of early December 2021.

The development of messenger RNA (mRNA) vaccines is a technological breakthrough that has proven the value of scientific research and innovation. It also shows the importance of industrial capabilities to produce and distribute vaccines and essential goods, such as drugs and medical supplies, within countries so that they can be widely shared with various segments of the population in need. Despite the fact that vaccines, drugs, and medical devices present different levels of technological complexity and

⁶ Based on JICA website.
https://www.jica.go.jp/english/our_work/thematic_issues/health/initiative/example_01.html

involve a wide range of scientific fields, industries, and technologies (UNIDO, 2021), step-by-step upgrading of capabilities in the pharmaceutical and medical supply industries is crucial for dealing with the effects of future health crises.

Related to industrial capabilities, UNIDO's recent survey also shows that the level of digitalization of firms, particularly the adoption of advanced digital production technologies, is an important element in reinforcing resilience in coping with the COVID-19 crisis (UNIDO, 2021). This suggests that in the post-pandemic era, fostering digitalization as a means of enhancing industrial capability should be a top priority.

4. Toward Building Forward Better: Tackling Old and New Problems

Let us think more concretely about how we can “build forward better.” Here, I emphasize the need to distinguish between two types of challenges—COVID-19 induced (new) and structural (old) problems. We are currently struggling to cope with the COVID-19 crisis and its socioeconomic consequences, with a strong determination to realize sustainable, inclusive, and resilient recovery. This is a pressing issue. However, tackling the current challenges is insufficient. Furthermore, there is a need to address the structural problems that existed prior to the COVID outbreak. These include inequalities that have been exacerbated due to the pandemic, as well as challenges of economic transformation, such as middle-income traps and premature deindustrialization. Overcoming the COVID-19 crisis does not guarantee a sustained economic recovery if other problems are serious and unattended. In many countries, COVID-19 acts as an accelerator of inequalities (UN DESA, 2021). Our efforts to build forward better should also consider the pre-COVID situation.

Regarding pre-COVID problems, I would like to note that the nature of the development challenges has not fundamentally changed. As Figure 3 shows, our analysis of the World Bank's income classification data for 193 countries (UN member states) during the period 1987-2019 where historical data are available,⁷ found that many countries have moved up the World Bank's income ladder over the past three decades. The number of “low-income countries” decreased, and now more countries belong to the

⁷ For operational lending purposes, the World Bank classifies economies into four income groups: low, lower middle, upper middle, and high income countries. Income is measured using gross national income (GNI) per capita, in US\$, based on the Atlas methodology. These graphs show historical data available from the World Bank from 1987 to 2019 (see <https://datahelpdesk.worldbank.org/knowledgebase/articles/378834-how-does-the-world-bank-classify-countries>). For example, thresholds for 2019 are as follows: (i) US\$1,035 and less for low-income countries; (ii) US\$1,036 to 4,045 for lower-middle income countries; (iii) US\$4,046 to 12,535 for upper-middle income countries; and (iv) US\$12, 535 and above for high-income countries.

“lower middle-income,” “upper middle-income,” and even “high-income” categories. However, a more careful analysis revealed the following three issues⁸.

First, Africa continues to face the challenges of low-income traps. The number of low-income countries has declined from 49 to 29 over the past 32 years (after the peak in 2001), of which 23 are in sub-Saharan Africa. Thus, African development has remained a long-standing challenge. Second, the number of countries in the middle-income category, particularly the upper-middle income category, has increased from 24 to 54 over the past 32 years. China and Indonesia are notable countries that jump from the low to upper-middle income categories. At the same time, there are quite a few countries that move up and down between income categories (Figures 3-1, 3-2). For example, Russia and Argentina fluctuated between the lower-and upper-middle-income categories. The oil-rich countries of Angola and Venezuela moved between low-and upper-middle-income categories.

Third, the number of countries in the high-income category doubled from 30 to 61 during 1987-2019. However, more than half of these were Central and Eastern European countries that experienced a transition to the market economy in the 1990s. These countries benefited from new opportunities for economic integration into the euro area after the fall of the Berlin Wall in 1989. They became the major destination of foreign direct investment (FDI) in Western Europe, including Germany, and received technology transfers. The other countries belonging to this income category are either traditional advanced countries that joined the Organisation for Economic Co-operation and Development (OECD) before 1987 or oil-rich countries (e.g., Kuwait, Qatar, and the United Arab Emirates), except for a small number of countries (i.e., Singapore, South Korea, and Israel).

Certainly, the rise of Central and Eastern European countries is encouraging. However, if we use the very high-income threshold of USD 25,000 (twice as high as the World Bank’s high-income threshold)⁹, only Singapore, South Korea, and Israel have caught up with traditional advanced countries during the past three decades. This implies that only a handful of countries have rapidly become leading countries despite an increase in the number of high-income countries. Technological upgrades and value creation remain important challenges in emerging economies.

⁸ For more details, see Ohno et al. (2022).

⁹ Since the World Bank’s high-income category is broad and includes countries with per capita GNI of 12,500-85,000 US\$ or more, the author has hypothetically created the 25,000 US\$ threshold for the very high-income category.

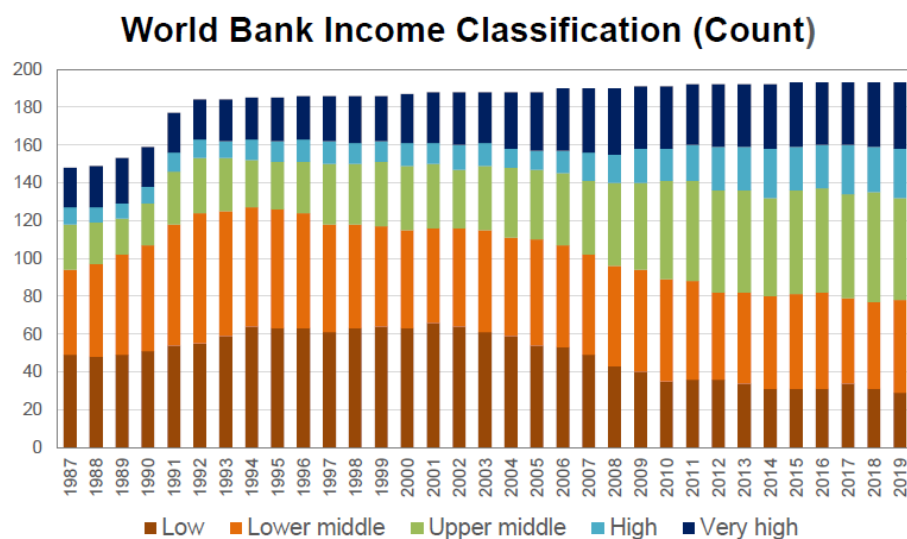


Figure 3-1: Analysis of World Bank Income Classification Data

Source: Calculated by the author based on World Bank income classification data.

Note: UN member states only.

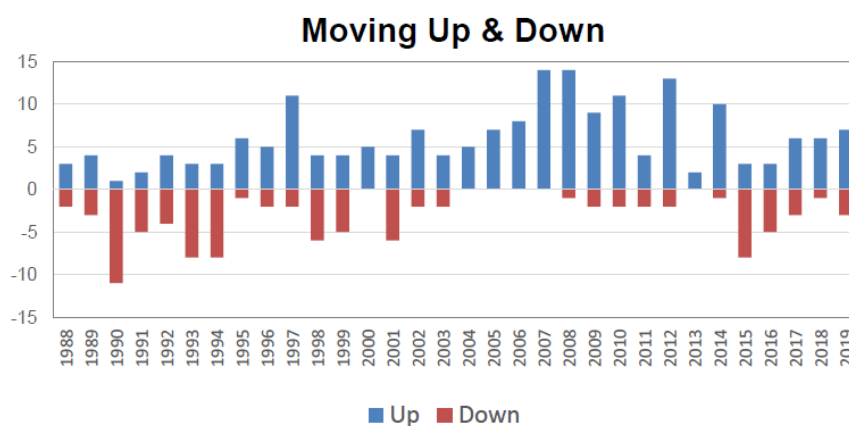


Figure 3-2: Analysis of World Bank Income Classification Data

Source: Calculated by the author based on World Bank income classification data.

Note: UN member states only.

5. Importance of Local Learning and Co-creating Practical Knowledge for Development¹⁰

I return to the discussion on localized knowledge and knowledge co-creation. There are two lines of thought that I consider essential in light of how to enhance societal

¹⁰ This section incorporates insights gained from Ohno et al. (2022).

capacity to acquire, adopt, adapt, and disseminate knowledge for development. The first is knowledge-centered development thinking—“creating a learning society”—as articulated by Joseph Stiglitz and Bruce Greenwald, who emphasize the significance of local learning and the role of industrial policy in development (see Stiglitz and Greenwald, 2014). The second is the theory of translative adaptation proposed by Keiji Maegawa, a Japanese economic anthropologist who attaches high importance to indigenous perspectives and local learning (see Maegawa 1998, 2000).

Stiglitz highlights the importance of knowledge in development. When he served as the chief economist of the World Bank, he led the publication of *The World Development Report (WDR) 1998/99: Knowledge for Development* by putting knowledge at the core of our development efforts (World Bank, 1998). Later, Stiglitz and Greenwald published a book *Creating a Learning Society: A New Approach to Growth, Development, and Social Progress*, which contained the following key messages (Stiglitz and Greenwald, 2014):

“A central focus of development policy should be closing that gap [a gap in knowledge]—and that means enhancing learning. This is, for instance, one of the central objectives of modern industrial policies and particular technologies with greater learning capabilities and greater spillovers to other sectors.” (p. 22)

“A critical aspect of “learning” is that it takes place locally and must adapt to local differences in culture and economic practice.” (p.375)

WDR (1998/99) highlighted that a combination of three factors greatly contributes to economic growth: (i) openness to trade, which provides opportunities to learn foreign knowledge; (ii) education, which enhances people's capacity to use acquired knowledge; and (iii) availability of information communication infrastructure, which supports people's ability to access useful information when needed (World Bank, 1998). The government assumes a critical role in securing these factors, and industrial policies are a key building block to enhancing societal capability because they “create economic policies and structures that enhance both learning and learning spillovers” (Stiglitz and Greenwald, 2014, p. 15).

The second is the concept of translative adaptation as presented by Maegawa. Translative adaptation refers to the process of systemic mergers and the resultant dynamic

interaction between a dominant foreign system and the local society. This concerns the adaptive acceptance of advanced systems and new cultures by latecomer countries—often introduced from abroad through foreign aid and globalization—in the process of modernization. In this process, dynamic interactions occur between foreign and local systems, where foreign elements are reinterpreted and adjusted to the existing value structure and local institutions (Maegawa 1998, 2000).

In the context of development, translative adaptation can be understood as the process of global integration by a latecomer country while maintaining a strong country ownership of policy content, institutions, technology choices, social systems, and values. It is also the process of industrial catch-up: acquiring foreign knowledge and technology, adapting to country-specific circumstances, scaling up, and eventually institutionalizing them (Ohno, 2022). Because each country has “indigenous” elements, such as values and social institutions unique to that country, it is important to selectively learn foreign knowledge and systems and adapt them to the actual situation in the country. In this case, government plays a key role.

In particular, in the early stages of development, government assumes dual roles in establishing the systemic aspect of learning—as a learner (policy learning) and a facilitator of learning by the private sector (promoting technology transfer) and the whole society—with a thorough understanding of each country’s situation and the surrounding external environment. First, the governments of latecomer countries must learn how to establish the overall industrial vision and strategic direction of their industrialization, and design policy instruments accordingly. This involves collecting external knowledge, selectively adopting and adapting to country-specific situations, and scaling up for institutionalization. Second, the government is responsible for creating policies and institutions for effective local learning, so that translative adaptation can take place within society. In this process, the government must learn from various actors—industry, firms, people, and educational/research institutes—to properly understand their needs, the current situation of the industry, and the knowledge level of society. Such a mutual learning process is important for promoting structural transformation towards an industrial economy. In summary, translative adaptation, local learning, and industrial policymaking interact in two ways:

Figure 4 synthesizes Stiglitz’s knowledge-centered development thinking towards an industrialized economy and Maegawa’s theory of translative adaptation.

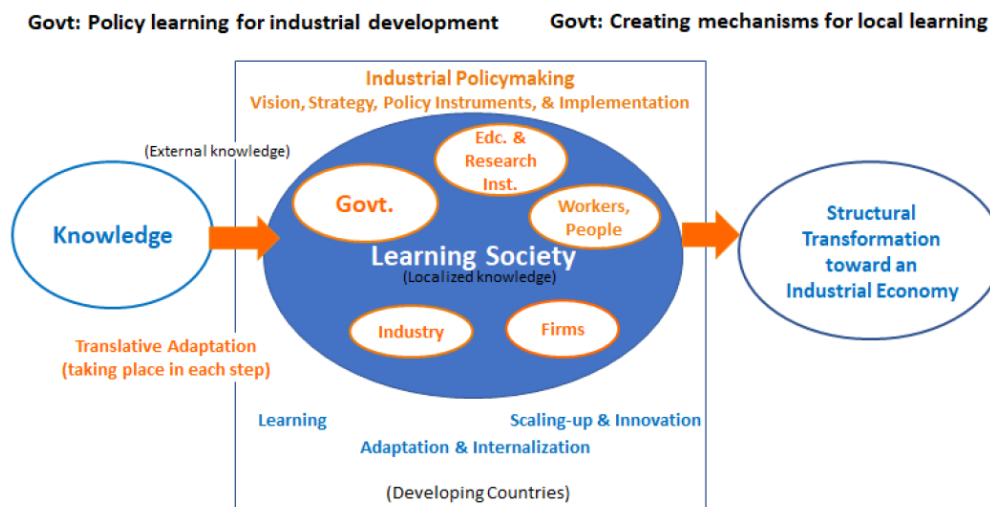


Figure 4: Role of Industrial Policy through a Lens of Translative Adaptation

Source: Adapted by the author based on Ohno et al. (2022).

6. East Asian Experiences: A Chain of Local Learning and Translative Adaptation

In East Asia, a chain of local learning and translative adaptation took place—in both the public and private sectors—for industrial catch-up. Japan’s catch-up experiences since the Meiji modernization and during its post-war economic development were characterized by the learning and internalization of Western technologies and knowledge, which entailed efforts to adapt them to Japan’s own culture and system (Ohno, 2022). Such historical experiences in Japan stimulated and generated a chain of learning in the neighboring countries of East Asia and Southeast Asia, including China, Taiwan, South Korea, Singapore, and Malaysia.

For example, Malaysian Prime Minister Mahathir launched the “Look East” policy in 1981 to improve Malaysia’s human resource development by learning not only academic and technical know-how but also the labor ethics and discipline of the Japanese people. Since 1982, a series of large-scale programs has been implemented to send Malaysian students and trainees to Japanese universities, industries, and training institutes through various funding schemes. This initiative continues today under the framework of Look East Policy 2.0.¹¹ The Singaporean Prime Minister Lee Kuan Yew initiated the nationwide productivity movement in 1981 to overcome the mindset problem and poor ethics of Singaporean workers and requested the Japanese government to transfer its know-how in quality and productivity improvement. JICA ran its first comprehensive

¹¹ See the website of “The Malaysian Look East Policy” created by the Embassy of Japan in Malaysia. <https://www.my.emb-japan.go.jp/English/JIS/education/LEP.htm>

technical cooperation project in Singapore, between 1983 and 1990. The East Asian region has witnessed the spread of local and translative adaptation. This is an important mechanism for homegrown development and industrial catch-up. To succeed, strong willingness and enthusiasm for learning must exist on the recipient side, including both the public and private sectors. Regarding the role of development cooperation, donors should respect the uniqueness of each country and society, ownership, and the features of the process orientation of the learning process in light of how to facilitate translative adaptation and effective learning in partner countries (Ohno, 2022).

Japanese experiences of translative adaptation

I would like to give two concrete examples of how learning and translative adaptation took place in Japan during the periods of Meiji modernization and post-WW2 economic reconstruction. Regarding the Meiji experience, the Tomioka Silk Mill (located in Gunma prefecture) was the first modern “model” silk factory, established by the Meiji government in 1872, acquiring the advanced method and technology for processing silkworm cocoons into high-quality raw silk textiles in order to compete in the US and European markets. The Meiji government, which faced a shortage of foreign exchange, prioritized export promotion as a major agenda. The invitation of French experts led by Paul Bruner was part of a major national effort to learn about modern machine silk reeling. Local technologies and materials were used to construct buildings and factories. For example, Japanese tile artisans make bricks under the guidance of French technicians. Initially, there were approximately 400 female factory workers in Tomioka Silk Mill. Later, some highly skilled workers were dispatched to other parts of Japan to transfer their silk milling skills to other factories. In this way, knowledge was disseminated and learning took place on a larger scale. After foreign experts were left at the end of 1875, the mill was managed only by the Japanese (it was headed by Junchu Odaka as the first factory manager). In 1893, Tomioka Silk Mill was privately sold. By the early twentieth century, Japan had become the world’s leading exporter of raw silk threads. This is a good example of how learning and translative adaptation occurred in Meiji Japan.

Another notable example is the history of the diffusion of quality and productivity improvements in the post-WW2 period. Japan imported productivity movements and quality control (QC) methods from the US and Europe after WW2. This has been quickly assimilated and adopted by Japan as a management method. Compared with the original US model, which was based on a statistical approach, the adapted method emphasized process orientation, worker participation, and hands-on pragmatism. This method, known as *Kaizen*, spread rapidly among both large and small Japanese

companies to form the core of the Japanese *monozukuri* (making things) spirit (Ohno and Mekonnen, 2022). *Kaizen* is a Japanese management approach for continuous improvement to achieve enhanced quality and productivity. It is a participatory approach involving the entire workforce, from the top management to middle managers and workers (Ohno et al., 2009). In this way, the Japanese made a “translative adaptation” of this original US model into a more participatory method. This adapted method, *Kaizen*, has spread among Japanese companies, including small-and medium-enterprises (SMEs). The two oil crises of the 1970s drove Japanese companies to integrate energy savings into their efforts to improve quality and productivity. Japanese private sector organizations such as the Union of Japanese Scientists and Engineers (JUSE), Japan Productivity Center (JPC), and Japan Management Association (JMA) played a key role in promoting *Kaizen* methods through training and education, consultancy, dissemination, and award systems.

Regional diffusion

Regarding *Kaizen*, it is important to note that a chain of learning and translative adaptation has taken place beyond Japan, spreading to Asia and other regions. The regional spread of *Kaizen* began in the mid-1980s, coinciding with the globalization of Japanese business activities. The sharp appreciation of the Japanese yen after the 1985 Plaza Agreement prompted Japanese manufacturing companies to shift their production bases to East Asia, where the production costs were lower. Japanese firms have attempted to duplicate their quality management systems in their factories abroad. Moreover, as they endeavored to increase local procurement of intermediate inputs, local suppliers were requested to conform to Japan’s quality standards. Japanese companies often assist their local partners in learning *Kaizen*’s philosophy and practice. In addition, various public organizations, such as the Association for Overseas Technical Scholarship (AOTS), the Asian Productivity Organization (APO), and regional intergovernmental organizations (JICA, JUSE, and JPC) have begun their active engagement in *Kaizen* assistance in developing countries. This was when JICA started its first productivity management project in Singapore in 1983, as explained above.

Singapore learned from the Japanese model and established its own institutional mechanism for the productivity movement. Unlike the Japanese approach, which was led by the private sector, the Singaporean productivity movement was led by the government, and campaigns were promoted not only in the business sector but also in the public sector, linked with a civil service reform program. Based on this experience, Singapore offered technical cooperation for productivity improvement in developing countries, including the neighboring Association of Southeast Asian Nations (ASEAN) countries and some

African countries (Ohno and Mekonnen, 2022).

Currently, Japan is promoting *Kaizen* in regions other than East Asia, including African countries. JICA began providing *Kaizen* assistance in 2006 and implemented *Kaizen* projects in nine African countries. Tunisia and Ethiopia were early adopters, and developed their own institutional arrangements to promote quality and productivity improvement. More recently, JICA supported the Africa Kaizen Initiative (AKI) in collaboration with the African Union Development Agency-New Partnership for Africa's Development (AUDA-NEPAD) and the Pan-African Productivity Association (PAPA) (Jin and Ohno, 2022). AKI aims to serve as a knowledge-sharing network of *Kaizen* practices among African countries (both the public and private sectors), provide opportunities for mutual learning, and facilitate the process of translative adaptation of the *Kaizen* approach suitable to each country. Such ongoing efforts can be viewed as one way to create a chain of learning and knowledge co-creation at the regional level, with Japan functioning as a facilitator.

Thailand offers a brilliant case of the learning and localization of foreign knowledge for industrial development related to the regional spread of *Kaizen* in East Asia via the Japanese FDI channel. The Technology Promotion Association (Thailand-Japan) (TPA) was established in 1973 with the objective of promoting industrial development in Thailand at the initiative of Thai students who graduated from Japanese universities and ex-trainees of AOTS. After returning from Japan, they established the TPA as a non-profit organization (NPO) to promote Japanese-style industrial technology for Thai companies and people in Thailand. In doing so, the TPA took a four-stage approach: (i) "technology transfer" by learning from Japanese experts; (ii) "technology promotion" by nurturing Thai experts while reducing dependence on Japanese experts; (iii) "technology diffusion" by building the capacity of local companies through training and consulting activities; and (iv) "technology education" through the establishment of the Thai-Nichi Institute of Technology (TNI) as a university specialized in Japanese-style manufacturing by the Thai people for the Thai people. More recently, TNI started an international program for neighboring countries such as Cambodia, Laos, Myanmar, Vietnam, and Japan. This is an impressive initiative of local learning, translative adaptation, and further development of a chain of knowledge creation¹² (Ohno, 2020).

7. Final Thoughts

¹² See the website of the Japan-Thailand Economic Cooperation Society (JTECS).
<http://www.jtecs.or.jp/>

COVID-19 experiences highlight the importance of localized initiatives tailored to diverse country-specific circumstances. There is no “one-size-fits-all” solution, and each country and society must discover optimal solutions through trial-and-error. In this regard, a model based on the experiences of developed countries is not always superior. There is no need to assume that knowledge and technology should flow “from the North to the South.” Rather, it is important for diverse partners to learn from each other and “co-create.” It is important to support proactive learning and to increase knowledge flow and mutual learning within and beyond Asia.

In the post-COVID-19 world, it is important to increase knowledge flow and promote mutual learning within and beyond Asia. This is particularly true because few Asian countries are interested in sharing their development experiences as emerging donors¹³. They have their own experiences of learning foreign knowledge and technologies, and adapting and institutionalizing them to suit their country-specific situation. Therefore, they are in a position to show diverse paths to development and to promote local learning and translative adaptation during their catch-up processes.

We should also focus on the population dynamics. It is estimated that by 2100, 80% of the world’s population will live in Asia and Africa. This highlights the importance of Asia and Africa (“AfrAsia”) in shaping the global future (Mine, 2019). Therefore, knowledge co-creation should be promoted proactively both in and beyond Asia. It is my hope and expectation that Japan will play an active role in this global engagement based on its experience of industrial catch-up and development cooperation. As history shows, Japanese experiences stimulated neighboring countries and generated a chain reaction of learning and translative adaptation in East Asia. It is important for Japan to systematically build intellectual networks with other emerging donors in Asia so that their experiences can be shared with developing countries. Japan should also play a facilitating role so that it can consider translative adaptation perspectives when sharing its catch-up experiences. In this regard, Japan’s current engagement in promoting *Kaizen* in Africa in partnership with regional institutions offers useful insights.

Finally, we should recognize the opportunities and challenges of learning in the age of digitalization. On the positive side, new knowledge and technologies are available more easily and quickly in a standardized format. Simultaneously, this may discourage the process of creating localized learning unless conscious efforts are made by individuals, organizations, governments, and the private sector to make the best use of digital technologies conducive to translative adaptation. It is also important to ensure fair

¹³ In addition to South Korea and China, which have sizable aid programs, Singapore, Malaysia, Thailand, Indonesia, and India have institutional mechanisms for international cooperation.

and equitable access to digital infrastructure. There is a need to maximize the benefits of digitalization while giving due consideration to our pledge to “Leave No One Behind.” “The co-creation of practical knowledge for development in the era of new dynamism is a central task that should be carried out to shape the post-COVID-19 world.”

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