CHAPTER

1

Overview: Technology Transfer for Quality and Productivity Improvement in Africa and Its Implications for Translative Adaptation

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1. Introduction

The quality of products and services is an essential factor for determining the strength of business and industry, and for creating customer satisfaction and trust. Higher productivity in business brings advantages for firms in terms of improved efficiency and competitiveness in their target markets. Therefore, quality and productivity improvement (QPI) is crucial to support the development of industries and services and to ensure their success in the modern economy. This is in particular an indispensable step in transforming the African economy and realizing its potential so that African industries can compete in international markets and global value chains. There are many knowledge sets and methodologies that can contribute to QPI, including *Kaizen*, which is a set of Japanese knowledge used to promote QPI based on a bottom-up[1] participatory approach. Japan introduced QPI methodologies from the United States (US) in the 1950s and developed them into the Japanese way of production management, called *Kaizen*. This was first used in the Japanese manufacturing industry, but now is recognized worldwide (JICA 2018, 1-4, 1-5, also see Section 3.1 for the definition of *Kaizen*).

The Japan International Cooperation Agency (JICA) has been promoting *Kaizen* through its development cooperation in several African countries. In the late 2000s and early 2010s, JICA significantly expanded its support of *Kaizen* promotion in Africa because its success in selected countries had stimulated the aspirations of African governments for their economic transformation. A strong push by the government of Japan to consider

[1] Although the 'bottom-up' approach is often explained as one of the key characteristics of *Kaizen*, it is reinforced by a 'top-down' approach where the top management of company presents vision, strategy, and clear commitment to QPI and customer satisfaction.

the brand value of Japanese official development assistance (ODA) has also contributed to the promotion of JICA-supported *Kaizen* projects in Africa. While these projects were initially started based on bilateral agreements between Japan and African governments, more countries are now integrated under the multilateral framework of the Africa Kaizen Initiative (AKI) in collaboration with the African Union Development Agency - the New Partnership for Africa's Development (AUDA-NEPAD) and the Pan-African Productivity Association (PAPA)[2] (see Section 2.2 for details).

There are several publications and other research outputs on *Kaizen* promotion in Africa (Otsuka et al. 2018; Hosono et al. 2020; Shimada and Sonobe 2021). They all show encouraging results of QPI at the micro level. Nevertheless, we need to make sure that the impact of *Kaizen* can create sustainable changes in these countries and, together with other industrial policy measures, can contribute to substantive macro-level economic transformation in Africa. Information sharing and comparisons among African countries under the framework of AKI can promote mutual learning for better QPI activities. Currently, Africa faces tremendous challenges such as a slowdown in economic growth, rapidly changing environments through digital transformation, and the impact of the Coronavirus pandemic in 2019-21 (COVID-19). To accept and overcome these challenges, it is important to discuss how *Kaizen* can contribute to the capacity development of workers and managers of business entities and other people who are engaged in *Kaizen* activities in Africa.

As explained, *Kaizen* is the Japanese way of QPI, extensively used in the manufacturing industry. When Japan supports *Kaizen* promotion in various countries including Africa, it is particularly important to respect partner countries' initiatives to modify and customize the original Japanese model into their own models—just as Japan learnt from the US in the 1950s. In this regard, a key role of *Kaizen* promotion through development cooperation should be to support a process of translative adaptation by partner countries, by respecting the views and ownership of the insiders and their customization process of technology transfer. We

[2] PAPA has been collaborating on productivity improvement with the Asian Productivity Organization (APO) since 2005 and the Japan Productivity Center (JPC) since 2006. However, the analysis of this volume focuses on AKI activities and does not cover the activities of PAPA before its launch in 2017. As AKI has gradually become a platform for promoting *Kaizen*/QPI in Africa, PAPA member countries are also joining AKI activities.

argue translative adaptation can be a key success factor of sustainable and substantive *Kaizen* promotion in Africa (see Section 3.3 for details).

This overview chapter is structured as follows. Section 2 explains how Japan established *Kaizen* by learning from the US and how Singapore learned *Kaizen* from Japan and tailored it to its own system, to provide concrete examples of the translative adaptation process and its related analytical framework (building on Chapter 2) as the background for the remaining chapters. It then shows the outline of AKI that started as a cluster of JICA's eight development cooperation projects but now is developing into a broader initiative involving more than ten countries in total, including several member countries of PAPA in Africa. Section 3 discusses the definition and characteristics of *Kaizen* as an evolving the concept of 'continuous improvement,' and then presents the concept of translative adaptation or customization as an underlining key perspective of cases studies on AKI. It also touches upon a research-practice nexus on which our research project places high importance. Section 4 introduces key messages drawn from case studies conducted in the other chapters, such as a comparison of seven[3] AKI countries (Chapter 3), a comparison between Tunisia and Ethiopia (Chapter 4), a review of the Africa Kaizen Award (AKA) and the Africa Kaizen Annual Conference (AKAC) (Chapter 5), a discussion on innovation and *Kaizen* in Africa, the broader implications of *Kaizen* in the current context of technology development (Chapter 6), and the implications of non-cognitive skill development through *Kaizen* practices (Chapter 7). Lastly, a concluding section follows.

2. QPI/*Kaizen* Cooperation in Africa

2.1. Kaizen promotion in Japan and Singapore

Providing the background and foundation of QPI/*Kaizen* promotion in Africa, Chapter 2 of this volume written by Ohno and Mekonen illustrates the history of the national movement for QPI in Japan and Singapore. These two countries learned QPI technologies from abroad and organized national movements for QPI that helped the industry and business of each nation to be productive and competitive in international markets in the late 20th century. Although they took different approaches to designing and implementing their own models of national movements for QPI, two countries successfully learned management technologies to improve

[3] Cameroon is not included.

quality and productivity from abroad, customized them in their own context, and diffused them at the national level by promoting national movements. Ohno and Mekonen point out that a national movement does not consist of just one or two projects that last only for a few years, or time-bound, foreign-assisted development projects. It must be a national project including a comprehensive program package with many components that require continued effort, often for a decade or more. Japan and Singapore learned and customized foreign models, created the necessary institutional mechanisms, and organized a series of nationwide activities for igniting a mindset change in their people although the two countries took different approaches to designing and implementing national movements for QPI. These can be regarded as good examples of the translative adaptation of foreign management technologies to respective domestic situations.

Japan's productivity movement and the Quality Control (QC) method were promoted by the business community, although public policy also played a supportive role. Three non-profit, private organizations spearheaded the initiative of QPI in Japan during post World War II reconstruction and the period of high economic growth; the Japan Management Association (JMA), the Union of Japanese Scientists and Engineers (JUSE), and the Japan Productivity Center (JPC). These organizations, in collaboration with private companies and public bodies, dispatched study missions to the US and Europe, organized training and seminars, published newsletters and learning materials, and created awards. Collaboration and close interactions among academia, industry, and government have been a key feature throughout the process of local learning and translative adaptation in the Japanese quality and productivity movement. Manufacturing companies and academia developed and improved new QC tools, overhauled their own production systems, and improved the quality of their products to be competitive in the international market. As a result, together with other complementary measures taken by the government, Japanese industry performed magnificently in the 1960s-70s and the country became one of the leading industrial economies in the world.

Singapore's productivity movement was led by the government and introduced to both public and private sectors as a conscious policy effort to change the mindsets of broader segments of the society. Since middle of the 1960s, national productivity organizations in Singapore have evolved according to the stages of development and the needs of the Singaporean

economy. The Singaporean government launched its nationwide Productivity Movement in 1981, under strong initiative by the then-Prime Minister Lee Kuan Yew. Prime Minister Lee lamented the poor work ethics of Singaporean workers and requested the Japanese government to transfer its know-how in quality and productivity improvement. Singapore was the first country that JICA provided with comprehensive technical cooperation called the 'Productivity Development Project (PDP)' to transfer Japan's know-how in quality and productivity improvement, from 1983 to 1990. Singapore introduced the Productivity Movement to both the business and public sectors, aimed at broader impacts on popular mindset change. To implement the Productivity Movement, the Singaporean government created a centralized oversight and coordination mechanism and reinforced the existing national productivity organization to perform such operational functions as public campaigns, training, consulting, research, measurement, and industrial relations.

The above brief history illustrates how these two countries have customized the technologies and know-hows learned from abroad and internalized them into own industrial systems. They showed strong aspirations to digest foreign technologies and utilize them in an effective manner within their capacity. They also confirm the importance of leadership—especially, the top national leader in the case of Singapore, and business leaders in the case of Japan—in initiating a national movement for QPI and establishing institutional mechanisms for facilitating translative adaptation. These experiences also suggest that the degree of private sector dynamism matters (Ohno 2011). Where a dynamic private sector exists (as in the case of Japan), it can take a lead in initiating, scaling-up, and sustaining a productivity movement, and the government can play a supportive role. However, if the private sector is weak as in the case of many developing countries (and in the case of Singapore at that time), the government's role becomes even more important in the introduction, adaptation, and development of the productivity movement accompanied by grassroot participation.

Despite such differences, there are certain general lessons to be learnt as well as common methods and instruments for success. The experiences of Japan and Singapore suggest that the six factors are critical for designing and implementing a national movement that can successfully transform the mindset of the people. They are: (i) national commitment to a quality and productivity movement; (ii) an institutional infrastructure for quality

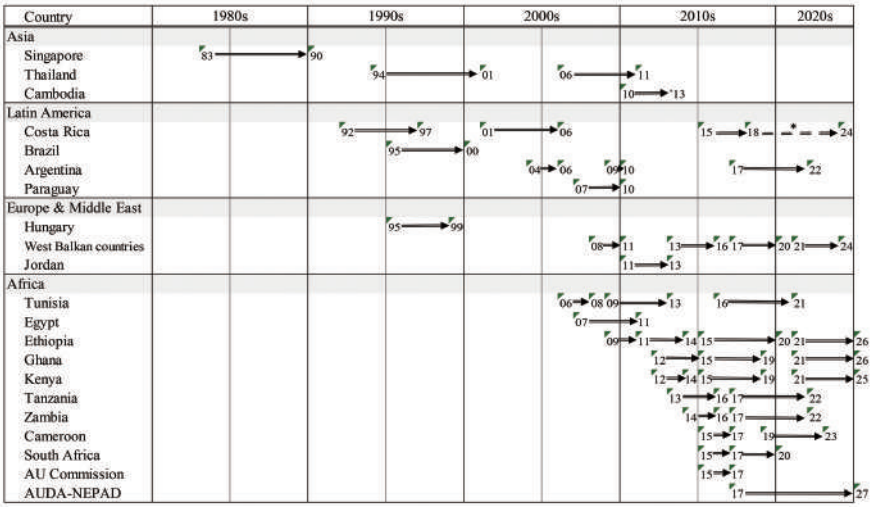
and productivity movement; (iii) grass-roots awareness raising and participation; (iv) standardized training and consulting programs; (v) industry-academia-government partnership for quality and productivity movement; and (vi) the development of private sector capability to sustain quality and productivity improvement. These factors can be valuable when we examine the process of *Kaizen* movements in African countries and are referred to in case studies of African countries in some other chapters of this volume.

Chapter 2 also presents the three-staged process of technology transfer comprised of learning, adaptation, and diffusion, to provide an analytical framework for understanding the process of translative adaptation that is explained in Section 3 of this overview. This three-staged process of technology transfer is a basic principle of our interpretation of how translative adaptation takes place within local society.

2.2. Kaizen promotion in Africa

The African economy stagnated from the 1980s to mid-1990s. This was, as Hirano (2002) said an 'economy without growth,' and many countries faced the challenge of shrinking Gross Domestic Product (GDP) per capita due to higher population growth than economic growth. Under such circumstances, the main focus of development cooperation with Africa by the Development Assistance Committee (DAC) members of the Organisation for Economic Co-operation and Development (OECD) was on the social sector such as basic education and health under the framework of the Millennium Development Goals (MDGs) adopted by the General Assembly of the United Nations (UN) in 2000. Until the early 2000s, major OECD countries were not interested in supporting industrial development in Africa.

From the early 2000s, the economies of African countries started to record significant growth. The average annual GDP growth of sub-Saharan Africa reached 5.2 per cent during the period of 2000-10 (World Bank 2020). The fourth Tokyo International Conference on African Development (TICAD IV) was held in 2008 under the theme of 'Boosting Economic Growth,' and included accelerated industrial development as one of the major focused areas (MoFA 2008). Economic transformation in Africa has become a key issue in the 2010s, and the African Development Bank (AfDB) has highlighted the structural transformation of economy as shown in its



* JICA supports Dominican Rep., El Salvador, Nicaragua, Guatemala, and Honduras in collaboration with Costa Rica.

Source: Jin (2018), modified and updated by the authors.

Figure 1.1. Countries/Organizations and Periods of Major JICA Projects on Quality and Productivity Improvement (QPI) as of June 2021

Annual Report in 2012 (AfDB 2012).

Leading such a new ODA trend in industrial development in Africa, JICA started its development cooperation projects in the field of QPI/*Kaizen* in the middle of 2000s. As shown in Figure 1.1, the first QPI project in Tunisia started in 2006, the second and third projects followed in Egypt in 2007 and Ethiopia in 2009, respectively.[4] JICA-supported QPI/*Kaizen* projects further increased in additional six countries and two international organizations in the African continent. At the occasion of TICAD VI in 2016, the Japanese government announced to cooperate with the then New Partnership for Africa's Development (NEPAD) Planning and Coordinating Agency (currently, the AUDA-NEPAD) to spread *Kaizen* throughout Africa (MoFA 2016).

[4] JICA dispatched four short-term senior volunteers to Zambia in 2008 who triggered *Kaizen* promotion in the country although their dispatch is not categorized as a project in JICA's record (JICA et al. 2016).

Table 1.1. List of Organizations Involved in AKI as Potential Nominators of AKA

Country	Institute	Remarks
Botswana	■ Botswana National Productivity Center	PAPA member
Burkina Faso	■ Burkina Association for Quality Management (ABMAQ)	PAPA member
Cameroon	■ Division of Study, Project and Planning, Ministry of SME, Social Economy and Handicraft (MINPMEESA)	JICA project
Egypt	■ Kaizen Center, Ministry of Industry and Trade	JICA project
Ethiopia	■ Ethiopian Kaizen Institute (EKI)	JICA project
Ghana	■ National Board for Small Scale Industries (NBSSI)	JICA project
	■ Management Development and Productivity Institute	PAPA member
Kenya	■ Kenya Institute of Business Training (KIBT)	JICA project
	■ National Productivity and Competitiveness Center	PAPA member
Malawi	■ Technical, Entrepreneurial and Vocational Education and Training Authority (TEVETA)	PAPA member
Mauritius	■ National Productivity and Competitiveness Council (NPCC)	PAPA member
Namibia	■ Productivity Promotion Unit, Ministry of Labour, Industrial Relations and Employment Creation	PAPA member
Nigeria	■ National Productivity Center of Nigeria	PAPA member
South Africa	■ Automotive Industry Development Center (AIDC)	JICA project
	■ Productivity South Africa (PSA)	PAPA member
Tanzania	■ Tanzania Kaizen Unit, Ministry of Industry, Trade & Investment	JICA project
	■ National Institute for Productivity	PAPA member
Tunisia	■ Management Unit of the National Program of Quality and Productivity Promotion (UGPQP)	JICA project
Zambia	■ Kaizen Institute of Zambia (KIZ)	JICA project
	■ National Productivity Development Department (NPDD)	PAPA member
Zimbabwe	■ Zimbabwe National Productivity Institute (ZNPI)	PAPA member

In 2017, JICA and the current AUDA-NEPAD signed the letter of agreement on AKI, which is a ten-year joint initiative to promote *Kaizen* in Africa. AKI has four pillars of activities, namely: (i) advocating *Kaizen* at the policy level; (ii) creating and strengthening the functions of the center of excellence (COE) for *Kaizen*; (iii) standardizing *Kaizen* in Africa; and (iv) networking with *Kaizen* promotion institutions around the world. While this initiative was started as a coordination framework for AUDA-NEPAD

and JICA's *Kaizen* projects in eight countries,[5] it has gradually expanded to involve all the member countries of PAPA. As of 2021, 21 organizations in 16 countries are fully or partially engaged with AKI (see Table 1.1). QPI/*Kaizen* has become a brand of Japanese cooperation in industrial development in Africa, and AKI aims to create momentum to promote *Kaizen* among policy makers in Africa and to promote the mutual learning of good practices among African countries.

In this way, *Kaizen* promotion has gained momentum, and the structural transformation of the African economy from an agrarian-based to industry- and technology-based one has high priority (AU 2014). However, the African economy has again been slowing down (from the late 2010s), and the average per capita GDP growth in US dollars in sub-Saharan Africa has become negative since 2016 (World Bank 2020). Furthermore, the COVID-19 pandemic that broke out in early 2020 is affecting economic activities and the movement of people, including the tourism industry that is one of major business activities in Africa. Therefore, economic competitiveness has become a critical and challenging issue again. Efforts towards QPI are becoming even more important in the current context of structural transformation in Africa. The next section will review the major features of QPI/*Kaizen*, their historical evolution, and our ongoing efforts to promote *Kaizen* in Africa.

3. Cross Cutting Issues in This Volume

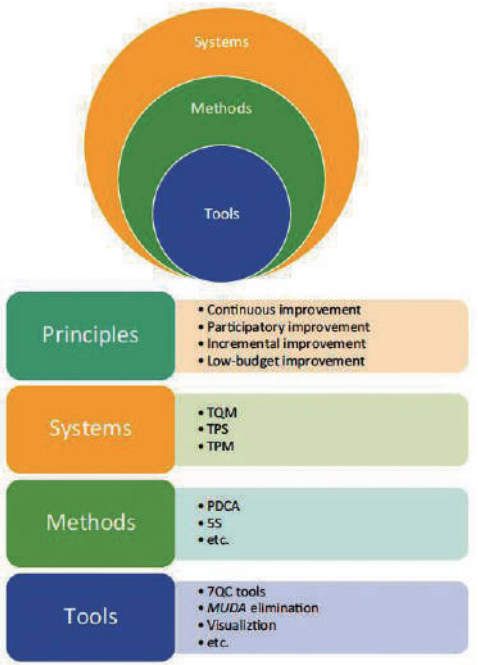
3.1. The definition of Kaizen

Kaizen in Japanese is a general term that means improvement. However, *Kaizen* as a technical term in management is a comprehensive knowledge structure of QPI and has become an English term.[6] Regarding the latter, the major characteristics of the structure are continuous, participatory, incremental, and less resource-oriented but knowledge-driven features. Although there are various definitions of *Kaizen* based on the context and activities of its implementation, the following are some of these that are often referred to in JICA's cooperation projects.

Sonobe (2018) defines *Kaizen* in the context of its promotion in Africa.

[5] Egypt (MoIT) has participated in AKI activities since 2020 as the 9th country.

[6] The Oxford Dictionary of English (2003) indicates that *Kaizen* is 'a Japanese business philosophy of continuous improvement of working practices, personal efficiency, etc.'



Source: Sonobe (2018).

Figure 1.2. *Kaizen* Tools, Methods, Systems, and Principles

Based on discussions with *Kaizen* experts working for JICA projects, he regards it as the management philosophy and know-how that brings about continuous, participatory, incremental, and low-budget improvements in quality, productivity, cost, delivery, safety, morale, and environment (or QPCDSME). It is also a collection of ideas and insights that many managers and workers from firms in the manufacturing and service sectors have created and refined through observations and experiments carried out over several decades in Japan and other parts of the world (p. 4). He further adds that *Kaizen* contains a variety of knowledge at different levels that are called systems, methods, and tools as illustrated in Figure 1.2 (Sonobe 2018).

There are many concrete *Kaizen* tools and methodologies to improve quality and productivity in workplace. 5S (sort, set in order, shine, standardize, and sustain) is the most fundamental one for the purpose of improving the work environment to make it more efficient. *Muda* elimination is an activity to identify and eliminate actions and processes that do not produce

any additional value. Standardization of the production process can lead to an optimum operation plan that consists of the required manpower, the skill levels of workers and the cycle time of each step, which works as a benchmark to identify problems and points to be improved. Seven QC tools are the control chart, Pareto chart, cause and effect diagram, check sheet, histogram, stratification, and scatter diagram, all of which are used to sort out data, analyze current problems, and identify countermeasures. A QC story is a standardized procedure for problem-solving or task-achieving. QC circle is a unit of small group activities organized at the workplace to improve work on the production floor. Total Quality Management (TQM) is a comprehensive system that includes ideas, tools, mechanisms to maintain and improve quality in general at companies, and Total Productive Maintenance (TPM) is a system to maintain the health and efficiency of machines used in operations.

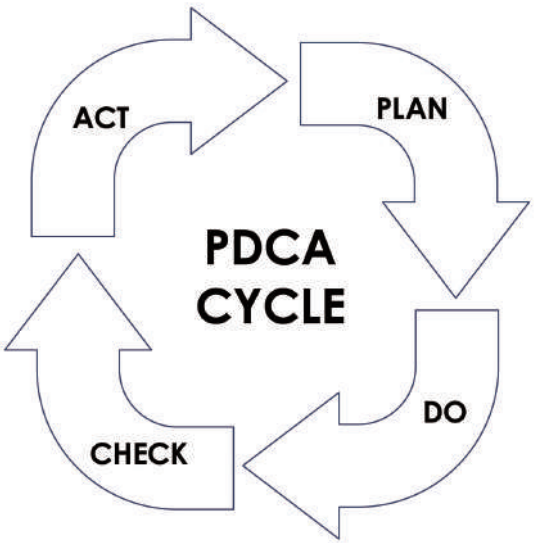
JICA's *Kaizen Handbook* (2018) states that people have different views and perspectives on the understanding and scope of *Kaizen*. The handbook directs that the core value of *Kaizen* is found in creating the attitudes shared among all members of an organization who consistently pursue advanced levels of quality and productivity, not just in applying its management methods (p.1-1). Imai (2012), in his popular publication *Gemba Kaizen* (second edition), contrasts *Kaizen* and innovation and states that *Kaizen* is often undramatic and subtle, based on commonsense and low-cost approaches, ensures incremental progress that pays off in the long run and is a low-risk approach. According to him, managers can always go back to the old ways without incurring large costs. On the other hand, innovation brings a major change in the wake of technological breakthroughs and the latest management concept or production techniques. It is dramatic, a real-attention getter but one-shot and its results are often problematic (p. 2). Such a contrast between *Kaizen* and innovation is a typically observed perception. However, in Chapter 6, Takeuchi comprehensively discusses the relation between *Kaizen* and innovation in the context of business in Africa and suggests that *Kaizen* and innovation are integral to each other. His analysis is consistent with other arguments made by JICA's *Kaizen Handbook* (2018, 1-9) and Sugimoto (2018, 73).

Garcia-Alcaraz et al. (2018) point out a cultural aspect of *Kaizen*, noting that the Japanese understand and accept that the world is changing and can always be improved. They stress that *Kaizen* is a still evolving term, leading to different meanings depending on the time and organizational

context where it has appeared (pp. 15-16). They further state that *Kaizen* is expanding to other domains, not only within the industrial sector, but including human resource training, healthcare, construction, and even in the public sector as a means to improve educational programs and administrative processes (pp. 29-30).

QPI can be regarded as a broader concept that includes *Kaizen* as a part of its methodology. However, as explained above, *Kaizen*, as a technical term,[7] consists of several critical issues that are not covered in the concept of QPI. They are: (i) creating the attitude shared among all members of an organization who consistently pursue advanced levels of quality and productivity; and (ii) seeing *Kaizen* as an evolving term, leading to different meanings depending on the time and organizational context. One interesting point to be noted in this volume is the relationship between QPI and human resource development (HRD). In the narrow concept of QPI, HRD is one of the inputs or processes to achieve a better quality of products/services, hence customer satisfaction. However, in the concept of *Kaizen*, HRD is one of the valuable outputs of the activities because workers can develop their own skills and knowhow through *Kaizen* activities. This is one of its important objectives because a company exists not only to meet the needs of customers and shareholders but also for creating benefits for its workers and members. This may be a fundamental difference between Western-type business management theory that is based on linear thinking of cause-and-effect to achieve an objective and *Kaizen*-type management that values HRD as an important output while using it as an input as part of *Kaizen*'s continuous cyclical process (such as the PDCA cycle, see Figure 1.3) of improvement. Recently, the discussion on the multiple purposes of a company, including human dimensions (e.g., the rights of workers), is gaining momentum in Western business forums. For example, there is increasing awareness of 'stakeholder capitalism' which considers the need of various stakeholders such as employees, suppliers, and customers, in contrast with the orthodox 'shareholder capitalism' which only focuses on profit maximization of companies (Hosono 2020). In this context, we reiterate that HRD is regarded as both output and input of *Kaizen* activities under the assessment process of AKA.

[7] There are various interpretations of *Kaizen* even as a technical term. In JICA, *Kaizen* is used as a set of methodologies and tools. In the Toyota Motor Company, *Kaizen* means activities designed to upgrade the level of management (Sakai 2016). This is because *Kaizen* is a general term that is commonly used in Japanese companies.



Source: Authors.

Figure 1.3. PDCA Cycle

Kaizen is often called a Japanese business philosophy (Sonobe 2018). While the word 'philosophy' creates a mysterious and vague image that may be difficult to learn and less universal, we argue that placing high value on HRD and the continuous nature of practices is an essential element of *Kaizen* philosophy. We would like to make *Kaizen* scientific and pragmatic by disaggregating it into various concept and methods.

3.2. Evolution of Kaizen concept and practices

Kaizen is an evolving term, and this is consistent with the above-mentioned characteristics of its continuous and cyclical process. In fact, there are many concrete cases that explain the evolution of *Kaizen* concept. Chapter 2 shows that development of *Kaizen* was started in the Japanese private sector to learn foreign management technologies (mainly from the US). It is well known that the American method of statistical QC was the base of a Japanese-style Quality Control Circle (QCC). However, QC methodologies have been modified and adjusted to the conditions of the Japanese workplace and skill levels of workers. Seven QC tools, including an Ishikawa diagram, were developed; the activities of QCC expanded to the national level; and these were networked with regional branch offices

and magazines and newsletters. Toyota Motor Co. developed its own production systems that are well known as *Kanban* and Just-in-Time (JIT) systems, collectively known as the Toyota Production System (TPS).

Another case is that of Total Quality Management (TQM), which has been practiced in Japan and conventionally called Total Quality Control (TQC). This originated from Statistical Quality Control (SQC) learned from the US, as explained in Chapter 2. However, control in English originally implies comparison with a standard, and does not necessarily mean the establishment of a standard or plan. Because TQC deals with all aspects of business operations, it has become increasingly clear that the phrase 'quality management' is a more accurate word to convey the meaning of the activities covered under TQC. As such, Japanese TQC has come to be commonly called TQM in Western countries. JUSE which is the primary organization for the promotion of TQC in Japan declared the change of the phrase from TQC to TQM in 1996 (Kikuchi and Suzuki 2018). Although *Kaizen* is generally regarded as a bottom-up approach, it is well known that the role and commitment of the top leaders of a company is a prerequisite for *Kaizen* activities. That is because the bottom-up approach has certain limitations for total optimization (see Sugimoto (2018, 96) for total optimization) if no support is given from the top leaders who have company-wide perspectives. Combination of bottom-up and top-down approaches is an essence of TQM as well as *Kaizen*.

Six Sigma is a problem-solving method developed by Motorola, Inc. of the US in the early 1980s. It is said that this method was invented with reference to Japan's QC circle activities, factory floor *Kaizen* activities, TQC, TQM, and TPS (Kikuchi and Suzuki 2018). General Electric (GE) introduced Six Sigma to successfully carry out its wide-ranging quality upgrade program. Six Sigma was introduced not only in the manufacturing departments but also in the non-production business departments throughout the company. What was emphasized during its application process was the clear definition of who their customers were and what the focused problems and issues for improvement were (Harry and Schroeder 2000).

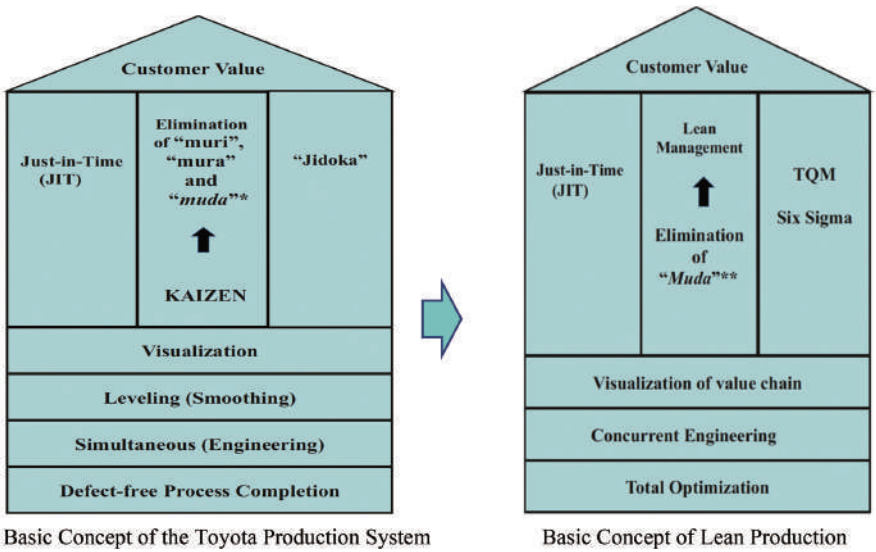
The Lean Production System (or 'Lean') was developed in the US as a method for thorough elimination of *muda* (waste) with reference to TPS in the middle of the 1990s. It has since become widely known and used by not only American companies but also European ones. Although Lean is

said to hardly differ from TPS, some researchers claim that these systems differ in several respects. Kikuchi and Suzuki (2018) quote one of the explanations of the differences between TPS and Lean shown in Figure 1.4. They argue that there are 'Japanese style' *Kaizen* and 'Western style' *Kaizen* that include Six Sigma and Lean Production. Western-style *Kaizen* as defined by them can be understood as cases of translative adaptation and we emphasize its importance in Section 3.

Apart from the evolution of *Kaizen*, there is a certain level of condemnation regarding the inhumanity of the Lean Production System. Stewart (2014) mentions that there are a number of criticisms showing that Lean is implicitly responsible for increasing levels of stress in society. He concludes that Lean firms and Lean work strategies are concerned with taking labor out of production by increasing labor and other efficiencies, at the expense of a firm's own staff here and its competitors in response to the impact of neoliberalism in the firm's external economy. Such criticism of the Toyota Production System has arisen periodically,[8] but given the evolution of *Kaizen* over the years, the criticisms of TPS are not reviewed. The latest argument focuses on the question of whether JIT is still effective or not under COVID-19 pandemic conditions that may hinder timely transportation of goods. We have to see cases in different locations and conditions to determine this.

Improved productivity through *Kaizen* generates surplus manpower on the production floors. This situation leads to the question of who should be removed. Sugimoto points out that a better way of labor saving after the application of *Kaizen* is to select excellent workers from the improved production floor and to assign them to more creative jobs (Sugimoto 2018, 100). This is how to improve productivity and expand the business based on *Kaizen* activities. However, its result may be influenced by labor-management relations in the company as well as shared norms in the labor market when Lean is introduced. In the situation where dynamic labor management including relatively easy lay-offs is common, the application of Lean may result in making the surplus workers redundant given their inferior workplace competence, which surely will kill off the initiative of *Kaizen* that depends on bottom-up participation. Our recent

[8] In the initial stage of development of TPS in the early 1970s, Kamata (1973) disclosed a story of automotive factory workers in Toyota. His report was based on his own experience as a seasonal worker in the factory and presents a vivid reality of working conditions in the 1970s.



Source: Kikuchi and Suzuki (2018).

Figure 1.4. Comparison of the Toyota Production System (TPS) and Lean Production

research (JICA and JIN Corporation 2021) suggests that in the case of Africa, most business managers are conscious about the job security of their workers and that layoff is not an easy option due to restrictive labor laws. So, criticism of *Kaizen* as an exploitive system may not be warranted.

We all know that human beings are not machines. Hence, when an analytical and scientific approach is introduced, the human elements as shared vision and participation should be also strengthened. Otherwise, there is a risk that the stringent application of mechanical and scientific tools may lead to an exploitative system. In the end, a participatory and bottom-up approach relies on the consent and support of workers on the floor where we face problems. Therefore, HRD is essential. It is often said that any methodologies and tools can be modified according to the circumstance and environment of their recipients if they are transferred to foreign countries and societies. However, we need to understand the varying degree of sensitivity of methodologies and tools. Obviously, a participatory system is more sensitive to differences in culture and environment than a top-down system when it is introduced to another country. In addition, a voluntary participatory approach can give

opportunities and choices to the workers who want to change the status quo and improve their own work.

3.3. Customization and translative adaptation[9]

Apart from the historical evolution of QPI/*Kaizen* methodologies in Japan and the US, Mekonen (2018) who is a co-author of Chapter 2 and the author of Chapter 3, and Jin (2018, 2020) argue the importance of customizing *Kaizen* practices in the African context while applying standardized methodologies for *Kaizen*. The arguments are derived from practical experiences of Mekonen and Jin through *Kaizen* promotion in Ethiopia from 2009 to now. Mekonen was a head of the *Kaizen* unit of the Ministry of Industry and Trade when JICA's project started in 2009 and served as the first Director General of the Ethiopian Kaizen Institute (EKI) from 2011 to 2016 when that *Kaizen* unit was elevated to EKI. Through actual working experience, Mekonen strongly advocates the importance of customizing *Kaizen* methodologies taught by JICA experts for Ethiopian situations.

The concept of customization includes flexible application of *Kaizen* methods and activities to modify them based on the local reality that workers and managers face in respective shop floors (*Gemba*). For such flexibility, it is important to understand the working conditions, skills and capacity of workers, and their constraints at the micro level, as well as the characteristics and practicality of *Kaizen* methodologies on the other hand. To this end, it is fundamental to promote interactions between the insiders who are in a company and have detailed knowledge of operations and the outsiders such as JICA experts who can bring different views with technical knowledge about *Kaizen*. This is a process of knowledge co-creation advocated by Nonaka (Nonaka 1991; Nonaka and Toyama 2003).

Customization also implies the importance of ownership and responsibility for the recipient side of management technology transfer to accomplish learning, based on their own strategies, priorities and aspirations to achieve outputs. In the case of Ethiopia, the transfer of *Kaizen* was directly requested by the then Prime Minister of Ethiopia so that consecutive

[9] See also the Overview (Chapter 1) of Volume 1 (industrial policy) of this research project (Ohno et al. 2022) regarding discussions on the concept of translative adaptation and local learning.

JICA projects received strong support and resource allocation from the government. The achievement of the EKI in implementing projects and scaling-up nationwide encouraged the governments of Ethiopia and Japan to strongly support *Kaizen* promotion in the country. The Ethiopian side insisted the JICA project should work on the Kaizen Promotion Team (KPT), which is the Ethiopian customization of group activities as an intermediate of the QCC and multifunctional team. EKI also developed a strategy for promoting national movement that was named TIISO (Test, Institutionalize, Implement, Sustain, Ownership). The Ethiopian side initiated the scaling-up process of *Kaizen* application to state-owned enterprises and the public sector using their own budget because it was priority of the government despite being outside the scope of the JICA project. The project formulation and customization process observed in Ethiopia was a truly demand-driven process.

Customization in a broader sense means incorporating the issues related to the norms and culture of the society into our practices. For example, we have to consider the existing labor laws and bylaws, labor-management relations in a company, employment systems, and the motivation and skill level of workers from a broader societal perspective, when foreign experts want to introduce a new system to the company. A concrete example is how to operate QC circle, which is recognized as a volunteer-based after work activity in many companies in Japan. However, in many African countries, successful QC circles activities are operated within working hours (Uesu 2011) and recognized as tasks assigned by management (Mekonen 2018). Through the accumulation of such customization cases based on social norms, technology transfer between societies with different cultural backgrounds and their adaptation to new society can be promoted. These viewpoints are particularly important when the government formulates a policy and strategy for scaling-up *Kaizen* to the level of a national movement. Another important point is about the mindset change of workers in Ethiopia. In Ethiopia, national leaders especially Prime Minister Meles Zenawi and his successor, Prime Minister Hailemariam Desalegn keenly recognized a potential role for *Kaizen* in transforming people's mindset toward hard-work, teamwork, and creativity and stimulating private sector dynamism. This is why the Ethiopian government decided to promote *Kaizen* as part of its industrial policy and launched a national movement (Ohno 2018). The introduction of *Kaizen* initially focuses on factories, but later can been expanded to other entities including educational institutions and even kindergartens. In fact,

Mekonen (2018) and Jin (2018, 2020) report and argue the mindset change of people in Ethiopia brought by *Kaizen* practices. Mindsets of people is a highly cultural issue to be shared among the society as Jin notes in his Japanese article (2021).

While there are varieties of tools and methodologies under the umbrella of *Kaizen*, we can divide them into two types. One type consists of those technical tools/methods based on the utilization of scientific data and statistical calculation that are less influenced by cultural issues. Another type comprises social tools and methods such as group activities and incentive systems that are influenced by social and cultural issues. Because of its participatory nature, *Kaizen* incorporates sensitive tools and methods for accepting cultural differences or adjusting its practices—for example, by receiving inputs through suggestion systems and group works—into scientific data based analytical approaches (Jin 2018).

It is well known that the transfer of technologies and knowhow between countries and societies are influenced by natural and social environments. The history shows that the dissemination of agricultural technologies and the prevention of infectious diseases heavily depends on the natural environment, and hence the social factors in their area (Diamond 1997). Therefore, in the field of technology transfer in agriculture and natural resource management, knowledge of vegetation and soil possessed by the people on the recipient side serve as crucial inputs for the successful development of appropriate technologies. Participatory knowledge co-creation is vital and should be a functional feature for development cooperation in agriculture and natural resource management. Technology transfer in the field of education, public administration and even small- and medium- enterprise (SME) development is also affected by cultural and social factors because these fields are closely related to human behavior. Tools and methodologies that have limited cultural sensitivity may not be effective in technology transfer in these fields.

Regarding the transformation of knowledge and technologies through transfers between societies and nations, we consider it important to understand the process of 'translative adaptation' introduced by Maegawa (2000), a Japanese economic anthropologist. According to Maegawa, translative adaptation is about the adaptive acceptance of advanced systems and new cultures by developing countries in the process of modernization. It is a process under the influence of culture on

the recipient side. Maegawa explains the concept of translative adaptation as follows, in the context of interaction of various factors between Western society and traditional society:

> Factors brought from modern Western Civilization are not simply introduced to a local society as their original forms. Instead, people in the local society rather translate (reconceptualize) external structures of the factors (or events that express the structures) by using the existing internal structures of the local society. Namely, reactions of people in a traditional society are intermediated by such the internal structures. The marginalized traditional societies have been adjusting their cultural systems and factors to the foreign cultural systems and factors that are originated from global powers of capitalism. However, the societies do not entirely change their traditional ideas and values but do adapt and half-maintain their original ideas and values through translation (reconceptualization) of foreign cultural factors into own existing cultural structure. I shall call this process 'translative adaptation.' (p.35)

Although Maegawa explains translative adaptation as an economic anthropological phenomenon, it fits in the formation of *Kaizen* in Japan that are a product of the modification process of technologies brought from the US into its own cultural factors. Here, we would like to stress that development cooperation should duly recognize the importance of supporting translative adaptation within partner countries through the process of technology transfer. And note that, for translative adaptation, people who examine foreign technologies from the viewpoint of the inside value structure of the recipient side play an important role. This is because they have intimate knowledge of the local cultural systems and factors, which foreigners seldom have. Particularly in Africa, there is significant ethnic heterogeneity in society, which is different from the highly homogeneous society in Japan. In this way, translative adaptation highlights the importance of ownership on the recipient side.

Furthermore, technology transfer in the framework of development cooperation has the characteristics of the intentional transplantation of foreign technologies, which has tendency to be organized under the asymmetric power balance between 'donors' (outsider) and 'recipient'

(insider) of the technologies. The outsiders, in many cases, bring their own past success models so that they might have a clear sense of purpose and assertions. The insiders who have less knowledge and experience about the foreign models may feel a difficulty in proposing alternative models even if they foresee challenges based on their own contextualization and interpretation of the foreign models. Also, it is less likely that the outsiders would consider counter-proposals made by the insiders because there might be little evidence that guarantees their success.

Under such an asymmetrical relationship in technology transfer, the outsiders must be mindful of understanding values and the implications of translative adaptation and proactively accepting the views and propositions presented by insiders. Moreover, if the insiders and the outsiders can co-create new knowledge through their interactions, it may add dynamic and creative values and broaden the concept of translative adaptation. Thus, translative adaptation can not only be an economic anthropological phenomenon, but also a basic concept to be shared among practitioners who work on knowledge/technology transfer between nations or societies.

When the insiders practice translative adaptation of technology intentionally or unintentionally, such practices are similar to what Stiglitz advocates as local learning, that is a practice to learn knowledge from outside, to modify it based on the country-specific condition and to promote it (Stiglitz and Greenwald 2014). Local learning in this context is a process of reconceptualization of the obtained information through the value structure of users, which is indigenous learning practice. This process requires strong ownership over the process, as well as independence and self-directed initiative that someone shows by acts based on their own will, judgement, and responsibility. Independence and self-directed initiatives are a part of the core capacity that consists of will and motivation in the context of capacity development theory (Jin 2020). The concept of core capacity and non-cognitive skills are discussed in Chapter 7.

Although customization and translative adaptation are not synonymous, we use both of them interchangeably in this volume because our argument over customization in *Kaizen* promotion is in the context of inter-national knowledge and technology transfer in development as well as development cooperation (see Jin 2018, 36-39). In this argument,

knowledge is always linked with the culture and environment from which it comes. And knowledge is deliberately interpreted to be applicable to the social values and environment that it goes to.

The question is how we can ensure effective translative adaptation in the development process instead of the mechanical application of technology that comes from outside of the society. We argue that both the recipients and suppliers of knowledge should be cognizant of the value of translative adaptation and pay significant attention to the value structure and institutions of the recipient side. Moreover, the recipient side needs to play a proactive role in adaptation and the supplier side needs to create an enabling environment for it.

3.4. Knowledge co-creation by enhancing the practice-research nexus

The research topics of this volume are closely linked with the ongoing projects of Japanese development cooperation for *Kaizen* promotion in Africa, especially the Africa Kaizen Initiative (AKI). Some of the authors are directly involved in the initiative and struggling how to implement technology transfer in an effective manner. Chapters 3 and 4 are written by practitioners who are directly engaged in JICA-supported *Kaizen* projects as well as AKI as *Kaizen* experts. Chapters 6 and 7 are written by practitioners who have worked extensively on technology transfer in Africa. These practitioners have rich tacit knowledge of *Kaizen* promotion and technology transfer through their own experience. The compilation of the volume is an effort to convert their tacit knowledge into explicit knowledge as Nonaka (1991) advocates. These efforts involve the wider stakeholders of AKI through questionnaire surveys, meetings, and discussions as an interactive process. The responses received from these stakeholders reflect reality on the ground, giving important insights into local incentive systems and organizational culture. This makes our research project powerful and practical. In addition, the researchers, and academics who wrote Chapters 2 and 5 also play key roles in *Kaizen* promotion and the broader activities of industrial development based on their academic background and practical experience.

Our research project aimed to stimulate knowledge co-creation through two types of interactions between people who have different perceptions. The first type is the interaction between the insider communities of

Africa and the outsider communities of Africa as we discussed in the context of translative adaptation. The second is the interaction between researchers and practitioners, which can promote action-research type knowledge creation and intervention on the ground. Action research aims to contribute to intervention in the field through discussion, data collection and feedback of research findings to the practitioners in the ongoing activities, which is different from conventional field research that does not aim to create change in the field (Minoura 2009). We aim to provide feedback on our research outputs to the stakeholders of AKI and will collect further responses from them to refine our findings. This approach is based on our desire to strengthen the nexus between research and practice, which always has room for further improvement or *Kaizen* as continuous efforts are made.

Moreover, when we conduct projects as practitioners, there are many issues that we do not have an answer for in advance. Even for the customization/translative adaptation process of *Kaizen*, in many cases, the right foci and points of adjustment that should be made are not known before its actual application on the ground. There is always a risk of failure as well as the potential of improvement to be better. Therefore, trial and error is an effective process. The authors of this report have tried to address the ongoing challenges faced by practitioners, for which no readymade technical solutions have been found. Therefore, while the outputs of our research may not be shaped as fine academic work, the authors of the volume have focused on real concrete problems that are considered important to achieve successful results on the ground. And useful analysis demands an intensive practical process of examination at *Gemba* in addition to desktop research.

In this regard, Schon (1987) writes the following insightful and suggestive description:

> In the varied topography of professional practice, there is a high, hard ground overlooking a swamp. On the high ground, manageable problems lend themselves to solution through the application or research-based theory and technique. In the swampy lowland, messy, confusing problems defy technical solution. The irony of this situation is that the problems of the high ground tend to be relatively unimportant to individuals or society at large, however

> great their technical interest may be, while in the swamp lie the problems of greatest human concern. The practitioner must choose. Shall he remain on the high ground where he can solve relatively unimportant problems according to prevailing standards of rigor, or shall he descend to the swamp of important problems and non-rigorous inquiry? (p. 3)

Although he describes professional practitioners, the comment is applicable to the relationship between researchers and practitioners. Actual practices on the ground involve various problems that are changing day by day whether academics like it or not. So, practitioners are more interested in getting something useful for their ongoing activities, such as supportive evidence or constructive suggestions for the practical solution of various problems that they are facing, rather than interventions that make their practices more complicated or diverted. On the other hand, researchers may want to present concrete and reliable evidence that can be obtained from a manageable and promising research framework. Because there is a potential gap between what practitioners want from research activities and what academics want to create as academic outputs, the linkage between research and practice remains as a challenging issue. However, as we advocate the importance of industry-academia-government partnership in Chapters 2, 3, and 4, it is valuable to demonstrate a concrete case of collaboration between researchers and practitioners in our research activities.

Chapters 3, 4, and 5 of this volume are derived from the information and discussion on AKI activities. To make our action research effective, our current outputs as compiled in this volume need to be reexamined as practice and used as inputs for the implementation of QPI/*Kaizen* activities and AKI. The Africa Kaizen Annual Conference and the working group activities of for the AKI action plan are opportunities to interactively examine the findings and also collect feedbacks from broader practitioners, which is useful practices for both researchers and practitioners. As *Kaizen* is a continuous and cyclical process, our action research needs to go through a cyclical process while sharing outputs to the public.

4. Structure of This Volume

Based on review of the Japanese and Singaporean experiences of

introducing and promoting QPI movements in Chapter 2, the following chapters present various approaches of research that contribute to the upgrading of ongoing activities of the project and our initiative.

In Chapter 3, Mekonen analyzes the implementation modalities of bilateral cooperation projects for *Kaizen* promotion in seven partner countries that participate in AKI. He examines a wide range of issues that include expenditures, institutions, strategies, relations with the AKI that is an umbrella framework of cooperation between Japan and African organizations, the detailed practices of *Kaizen* consultants at the firm level, and how each country customizes *Kaizen* practices. His analytical framework is developed through his rich experience as a key promoter of *Kaizen* movement in Ethiopia and an expert who has been contributing to the implementation of AKI. Based on intensive review of project reports and questionnaire surveys addressed to the heads of *Kaizen* promoting institutes/units, Mekonen reports differences of approaches and progress of each of the JICA-supported cooperation projects in the seven countries. He presents eight recommendations to the institutions/units responsible for *Kaizen* promotion in the respective countries in Africa. These are the need to: (i) consider both short-term and long-term costs and benefits; (ii) secure tangible contributions to national development under crafted roadmap; (iii) take advantage of the current institutional arrangement in each country; (iv) introduce a cost-sharing system with companies or fee-based consultation, (v) standardize *Kaizen* training and consultancy services; (vi) involve scholars/academics in project implementation; (vii) customize and utilize team/circle activities of *Kaizen*; and (viii) prepare executive briefing notes for policy makers. These recommendations are presented from the viewpoint of an African expert, an insider at the continent level but an outsider at the country level and also have commonality with the six factors articulated in Chapter 2. It is important to mention that some of these recommendations have been already incorporated into the AKI process as activities of the working group.

In Chapter 4, Kikuchi compares institutions and activities of QPI promotion in Tunisia and Ethiopia. He was a consultant who worked for JICA-supported *Kaizen* projects in both countries at different times. Three pillars of his analytical framework are also developed through his working experience as well as a series of his academic achievements, and these are: (i) clarification of the vision, policy, and strategy; (ii) establishment of the mechanism, organization, and system; and (iii)

development and accumulation of capacity as the subject matters for comparison. Based on a comparative analysis of two countries including similarities and differences of their approaches to *Kaizen* promotion, he identifies that the institutional setting in Tunisia is a collaborative type based on the networks of several technical centers and that in Ethiopia is an independent type centered by strong core institute, EKI. He argues that, although Tunisia has not established a full-fledged core institution equivalent to Ethiopia's EKI, the country may be in a better position to master advanced *Kaizen* technologies as the next step. That is because UGPQP, a core institution of *Kaizen* promotion in Tunisia, can mobilize knowledge on inherent technologies of each sub-sector of industry from collaborative centers. In contrast, EKI may face challenges in the learning and dissemination of advanced *Kaizen* because of its weak collaboration with industrial development institutions that have knowhow of inherent technologies in the country.

In Chapter 5, Faull analyzes a process of the Africa Kaizen Award (AKA) and modality of the Africa Kaizen Annual Conference (AKAC) in 2019. The AKA was established in 2019 as the first trial of cross continental award for *Kaizen* practitioners. Faull is a member of the examination committee of the award and has been deeply engaged in the selection process of awardees as a practitioner. As a researcher, he reviews the award process and keeps valuable records for practitioners to learn from the process. He also analyzes the evaluation criteria of the award through comparison with the criteria of similar awards in the world. He further analyzes the result of questionnaire surveys addressed to the nominators and nominees of the award by demonstrating numerical methods of data processing although the sample number is small. His framework of analysis gives valuable advice to the practitioners of the award on how to improve awarding system. He presents several recommendations that include: (i) rearrangement of the evaluation process of AKA and redesign of the sessions of AKAC so as to accommodate participants, namely nominators and nominees who have different interests; (ii) periodic review of the evaluation criteria of AKA and sharing knowledge and information with and learning from the Global Excellence Model Council; and (iii) follow up activities to visit the awardees and nominators to promote awareness and adoption of *Kaizen* as well as to boost the prestige of the award winner. He further commented on the importance of translative adaptation and urges national industry associations and government departments in Africa to make concrete and resolute efforts to adapt *Kaizen* to their own country

context.

Chapter 6 by Takeuchi is the output of the theoretical consideration of the relationship between innovations and *Kaizen* and the opportunities of innovation in Africa. While *Kaizen* has been promoted in Africa, there is an argument that innovation is more important than *Kaizen* in economic development. The author of this chapter is an IT specialist working for Africa. He sorts out various concepts of innovation, such as radical/incremental, disruptive/sustaining, and product/process/service/business model innovations and *Kaizen* approaches. He argues that: (i) disruptive innovation involves incremental innovation within itself, and *Kaizen* contributes to this incremental innovation process during the period of business development; and (ii) the first step of innovation is to discover worthy problems and this ability can be cultivated by acquiring the philosophy of *Kaizen*. He further argues, based on the case of M-PESA, a disruptive innovation in the money transfer system in Kenya by using airtime transfer systems on mobile phones, that Africa has more business opportunities than in developed countries because there is enormous room for innovative solutions due to a lack of public and private services.

Chapter 7 by Jin focuses on the features of human development in *Kaizen* activities. Jin argues that, through *Kaizen* activities that include groupwork, voluntary participation, and suggestions of own ideas, workers can develop own non-cognitive skills such as communication skills, teamwork, empathy, and motivations. The groupwork in a team consists of members who share similar mindset to realize improvement can also foster perseverance of the members and 'yes, we can' type way of thinking. And such non-cognitive skills are increasingly important in the current development of digital technologies because the tasks that cannot be replaced easily by digital technologies are related to non-cognitive skills. Although *Kaizen* in English is used as a technical term for QPI in manufacturing industry, *Kaizen* mindset implies much broader sense that encourages and stimulates any efforts towards improvement, as the original meaning of Japanese word suggests. With the word of *Kaizen*, people can try many things to realize change for better. Therefore, if a company or organization can create *Kaizen* mindset-type culture with continuous efforts, the organization can become more resilient and adaptable to change. And continuity may ensure that the organization keep adaptability while adapting to new situation in the current changing business environment.

5. Conclusion

Knowledge is always linked with the culture and environment from which it originates. *Kaizen* methodologies and tools are also influenced by the work ethics and labor-management relations where they are born. Therefore, *Kaizen* technologies need to be customized for sustainable utilization at the place where they are applied. We call this process translative adaptation because international knowledge transfer under the framework of overseas development cooperation is often influenced by cultural differences. The asymmetric power balance between the provider and the recipient of knowledge is the point of contention. In the context of development cooperation, the outsiders are the ones who need to understand the values and implications of translative adaptation and proactively accept the views and propositions presented by the insiders.

Kaizen promotion in the countries under the framework of AKI shows a variety of progresses and achievements, although one of the four pillars of AKI is standardizing *Kaizen* in Africa. There are significant differences, especially in institutional arrangements, which may show different types of pros and cons depending on the stage of development and the level of skills in each recipient country. It is recommended to take advantage of current arrangements because these differences are concrete cases that may give a foundation to translative adaptation processes in each country. However, it is also important to share information and promote mutual learning among African countries that can accelerate translative adaptation at the continental level, or we may say, the Africanization of *Kaizen*. We can learn from experiences in each country, select those that are applicable to neighboring countries or regions, and make them standard models within the African environment. This is a step toward standardization. At the same time, standardization serves the objective of *Kaizen* promotion at the company and the national levels—only when there exist committed leaders in the private and public sectors. We would like to recall that in both Japan and Singapore clear and senior leadership was evident. This was also true in Ethiopia under the then Prime Minister. Leadership at the national and the company levels will be also necessary for effective translative adaptation, although this may not be sufficient.

Philosophy is a theory or attitude that acts as a guiding principle for behavior. What is a guiding principle of *Kaizen* as a business philosophy if there is any? Here, our answer is that it is a human-centered approach

that places higher values on benefit sharing with workers and a cyclical approach rather than profit maximization of shareholders. When we talk about Africanization of *Kaizen*, principles that are shared among African business-people can be reflected in *Kaizen* as the human aspect of 'Afrikaizen' or whatever we call it. Some of the possible entry points for 'Afrikaizen' may be found in the incentive mechanisms that make *Kaizen* promotion effective in African work ethics, the tools that fit with the practices of female entrepreneurs in African SMEs, as well as the utilization of digital technologies adoptable in Africa.

The landscape of business and job opportunities is rapidly changing due to technology development and COVID-19. Under such evolving environment, continuity of *Kaizen* is particularly important. While the importance of translative adaptation cannot be overemphasized, we should also recall the words of an American organizational theorist that 'adaptation can preclude adaptability' (Weick 1979). Under the current changing situation, we need to keep adaptability while adapting to new situation, which seems to be a trade-off. However, continuity of *Kaizen* is the answer to maintaining adaptability while adapting, which becomes more and more important in the current world. And how we can stimulate our own adaptability critically depends on our own mindset because we have to choose our way under a balance of perpetuation of the status quo and the force for change.

As we have reviewed in this chapter, QPI/*Kaizen* promotion in Africa has so far made significant progress. But, there remain challenges how it can contribute to the creation of tangible impacts on the macroeconomy and their sustainability in Africa, together with other policy measures. This is an ongoing process that we do not have a ready-made answer on how to proceed. Therefore, it is a knowledge co-creation process in Africa through interactive communication between the insiders and the outsiders who have different views and contexts. And the nexus between practice and research also accelerates the process. We live in a changing society which is experiencing accelerated globalization and technology revolution. And the COVID-19 pandemic adds further unforeseeable factors. However, *Kaizen*-type continuous improvement and its mindset to make things better may help us adapt our own business to the changing environment.

References

AfDB (African Development Bank). 2012. *Annual Report 2012.* Abidjan: African Development Bank.

AU (African Union). 2014. *Agenda 2063 The Africa We Want.* 2nd ed. Popular version. Addis Ababa: AU

Diamond, Jared. 1997. *Guns, Germs, and Steel, the Fates of Human Society.* New York: W. W. Norton & Company.

Garcia-Alcaraz, Jorge Luis, Midiala Oropesa-Vento, and Aidé Aracely Maldonado-Macias. 2018. *Kaizen Planning, Implementation and Control.* Berlin: Springer.

Harry, Mikel, and Richard Schroeder. 2000. *Six Sigma.* New York: Doubleday.

Hirano, Katsumi. 2002. *Zusetu Africa keizai* [African economy: Explanatory diagrams]. Tokyo: Nihon Hyoron sha.

Hosono, Akio. 2020. "Kaizen seminar closing remarks." https://www.jica.go.jp/jica-ri/news/topics/l75nbg000019bubj-att/closing_remarks.pdf.

Hosono, Akio, John Page, and Go Shimada, eds. 2020. *Workers, Managers, Productivity-Kaizen in Developing Countries.* New York: Palgrave Macmillan.

Imai, Masaaki. 2012. *Gemba Kaizen, A Commonsense Approach to A Continuous Improvement Strategy*, 2nd ed. New York: McGraw-Hill.

JICA (Japan International Cooperation Agency). 2018. *Kaizen Handbook.* Tokyo: JICA. https://www.jica.go.jp/english/news/field/2018/c8h0vm0000d1y0h4-att/KaizenHandbook_Main.pdf.

JICA (Japan International Cooperation Agency), and JIN Corporation. 2021. *Study on the Impact of Digital Technology in South Africa and Ghana.* Tokyo: JICA.

JICA (Japan International Cooperation Agency), UNICO (UNICO International Corporation), and JPC (Japan Productivity Center). 2016. *National Kaizen Project in the Republic of Zambia, Final Report.* Tokyo: JICA.

Jin, Kimiaki. 2018. "Role of Kaizen in Japan's Overseas Development Cooperation." In *Applying the Kaizen in Africa – New Avenue for Industrial Development*, edited by Keijiro Otsuka, Kimiaki Jin, and Tetsushi Sonobe, 31-68. New York: Palgrave Macmillan.

——. 2020. "Kaizen Promotion in Ethiopia: A Role of the Government and Change of Mindset of People." In *Workers, Managers, Productivity: Kaizen in Developing Countries*, edited by A. Hosono, J. Page, and G.

Shimada, Chapter 5. New York: Palgrave Macmillan.

——. 2021. "Kaizen katudō ga motarashita kachikan no henyō: Nihon no seisansei kōzyō model ga Ethiopia no dentōteki syakai ni oyobosu gan-i" [Change of value structure by Kaizen: Implication to Ethiopian tradition]. In *Tozyōkoku no sangyō zinzai ikusei* [Industrial human resource development in developing countries], edited by Shoko Yamada and Izumi Ohno. Tokyo: Nippon Hyoron sha.

Kamata, Satoshi. 1973. *Zidōsya zetubō kōzyō, aru kisetukō no nikki* [Japan in the passing lane: Insider's account of life in a Japanese auto factory in English translation]. Tokyo: Gendaishi Shuppankai.

Kikuchi, Tsuyoshi, and Momoko Suzuki. 2018. "Kaizen and Standardization." In *Applying the Kaizen in Africa: New Avenue for Industrial Development*, edited by Keijiro Otsuka, Kimiaki Jin, and Tetsushi Sonobe, 111-49. New York: Palgrave Macmillan.

Maegawa, Keiji. 2000. *"Kaihatu no zinruigaku, bunka setugō kara honyakuteki tekiō he"* [Anthropology for development: From cultural junction to translative adaptation]. Tokyo: Shinyosha.

Mekonen, Getahun Tadesse. 2018. "*Kaizen* as Policy Instrument: The Case in Ethiopia." In *Applying the Kaizen in Africa: New Avenue for Industrial Development*, edited by Keijiro Otsuka, Kimiaki Jin, and Tetsushi Sonobe, 151-98. New York: Palgrave Macmillan.

Minoura, Yasuko. 2009. *Fieldwork no gihō to zissai II-Bunseki, kaisyaku hen* [Ethnographic fieldwork II: Analysis, and interpretation]. Tokyo: Minerva Shobo.

MoFA (Ministry of Foreign Affairs, Japan). 2008. "Yokohama Declaration Towards a Vibrant Africa." Tokyo: MoFA. https://www.mofa.go.jp/region/africa/ticad/ticad4/doc/declaration.pdf.

——. 2016. "Japan's measures for Africa at TICAD VI 'Quality and Empowerment'." Tokyo: MoFA. https://www.mofa.go.jp/files/000183835.pdf

Nonaka, Ikujiro. 1991. "The Knowledge-Creating Company." *Harvard Business Review* November-December: 96-104.

Nonaka, Ikujiro, and Ryoko Toyama. 2003. "The Knowledge-creating Theory Revisited: Knowledge Creation as a Synthesizing Process." *Knowledge Management Research and Practice* 1: 2-10.

Ohno, Izumi. 2011. "Overview: National Movements and the Synthesis of Selected Country Experiences." In *Kaizen National Movement, A Study of Quality and Productivity Improvement in Asia and Africa*, edited by I. Ohno, Chapter 1. Tokyo: JICA and GRIPS Development Forum.

——. 2018. "Industrial Policy and Kaizen: A Perspective from Japan-Ethiopia Industrial Policy Dialogue." *Journal of International Development Studies* 27(2).

Ohno, Izumi, Kuniaki Amatsu, and Akio Hosono, eds. 2022. *Policy Learning for Industrial Development and the Role of Development Cooperation*. Research Project - Japanese Experiences of Industrial Development and Development Cooperation: Analysis of Translative Adaptation Processes. Volume I. Tokyo: JICA Ogata Sadako Research Institute for Peace and Development.

Otsuka, Keijiro, Kimiaki Jin, and Tetsushi Sonobe, eds. 2018. *Applying the Kaizen in Africa: A New Avenue for Industrial Development*. New York: Palgrave Macmillan.

Sakai, Takao. 2016. *Toyata no tuyosa no himitu: Nihonzin no siranai Nihon saidai no global kigyō* [Secret of Toyota's strength: The biggest global enterprise in Japan that Japanese don't know]. Tokyo: Gendaishinsho-Kodansha.

Schon, Donald. 1987. Educating Reflective Practitioner: *Toward a New Design for Teaching and Learning in the Professions.* New York: Jossey-Bass.

Shimada, Go, and Tetsushi Sonobe. 2021. "Impacts of Management Training on Workers: Evidence from Central America and the Caribbean Region." *Review of Development Economics.* https://doi.org/10.1111/rode.12773.

Sonobe, Tetsushi. 2018. "How Kaizen Brightens Africa's Future." In *Applying the Kaizen in Africa: New Avenue for Industrial Development*, edited by K. Otsuka, K. Jin, and T. Sonobe, Chapter 1. New York: Palgrave Macmillan.

Stewart, Paul. 2014. "Lean Production and Globalization: A 'Revolutionary' Management Agenda and the Re-Making of Labour Intensification?" In *International Human Resource Management: An Employment Relations Perspective*, edited by Miguel Martinez Lucio, 137-58. New York: SAGE.

Stiglitz, Joseph, and Bruce Greenwald. 2014. *Creating a Learning Society*: *A New Approach to Growth, Development and Social Progress*. New York: Colombia University Press.

Sugimoto, Seiji. 2018. "Kaizen in Practice." In *Applying the Kaizen in Africa: New Avenue for Industrial Development*, edited by K. Otsuka, K. Jin, and T. Sonobe, Chapter 3. New York: Palgrave Macmillan.

Uesu, Sayoko. 2011. "Quality Control Circles in Burkina Faso: Lessons Learned and Implications for Other Developing Countries." In *Kaizen*

National Movement, A Study of Quality and Productivity Improvement in Asia and Africa, Chapter 4. JICA-GRIPS Development Forum, Tokyo.

Weick, Karl E. 1979. *The Social Psychology of Organizing.* New York: McGraw-Hill.

World Bank. 2020. World Development Indicator. Washington DC: World Bank. https: //databank. worldbank. org/source/world-development-indicators.