

Introducing Kaizen in Africa

Chapter 1. Introduction

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*The Kaizen philosophy assumes that our way of life—be it our working life, our social life, or our home life—should focus on constant-improvement efforts.....
In my opinion, Kaizen has contributed greatly to Japan’s competitive success.
(Masaaki Imai, 1997, p1)*

In Japanese management, *kaizen* means “continuous improvement” involving the entire workforce from the top management to middle managers and workers¹. The origin of Japan’s *kaizen* movement was the quality control method imported from the United States (US) in the post WW2 period. Japan assimilated and developed this as its own management practice method which later even surpassed the performance in the US. This adapted method, which became known as *kaizen*, spread rapidly among Japanese companies including a large number of small- and medium-sized enterprises. It subsequently also spread overseas as Japanese business activities expanded abroad and they began to build production networks with local companies.

Japan offers assistance for *kaizen* in many developing countries through private channels such as intra-company technology transfer and support for local suppliers, as well as through public channels such as official development assistance (ODA) and guidance provided by various public organizations. By now, *kaizen* assistance is one of the standard menu items of Japanese industrial support in developing countries. While such assistance initially focused on East Asia where Japan had active business partnerships, it has now been implemented widely in other regions including South Asia, Latin America and Eastern Europe. However, as far as Sub-Saharan Africa is concerned, knowledge sharing and implementation of *kaizen* has been rather limited except in a few notable cases (see below). There is much unexploited benefit which African countries can draw from selective and well calibrated application of *kaizen* to their production and service units². There is also need for Japan to more actively propagate the idea of *kaizen* in Africa as an additional menu item in their industrial strategies. This is partly because of increased interest among African countries in the growth agenda in general and in East Asia’s industrial experience in particular, and also because of the plans announced by the Japanese government at the Fourth Tokyo International Conference for African Development (TICAD IV) at Yokohama in May 2008 to promote trade and investment in Africa³.

¹ *Kaizen* literally means improvement: change (*kai*) for good (*zen*).

² While many documents stress the importance of “continuous improvement” in Africa, especially in relation to trade promotion strategy and activities like Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary measures (SPS) (for example, see Foss (2004), pp.113-118), their recommendations do not discuss in details the specific actions needed.

³ As the main organizer of the TICAD IV, the Japanese government made a commitment to intensify its engagement in boosting economic growth in Africa. Major initiatives in this regard include: (i) expanding training programs in Africa to improve the productivity of promising industries (by Japan International Cooperation Agency: JICA) and facilitate trade and investment by transferring Japanese manufacturing and marketing skills (by Association for Overseas Technical Scholarship: AOTS); (ii) establishing

The purposes of this book are to: (i) introduce the basic concept and characteristics of *kaizen* to African audience; (ii) explain how Japan has implemented *kaizen* assistance in developing countries including the range of sectors and countries and the methodology adopted by Japanese experts to transfer necessary techniques and practices; and (iii) discuss factors that affect the performance of international *kaizen* assistance. The book also provides information on the history of Japan's quality and productivity improvement.

Principles and tools

The two key features of *kaizen* are *incremental and continuous improvement* and *involvement of the entire workforce* in that process. The workforce, even workers, need to participate in producing small but frequent changes by making suggestions for improvement in both process and product. Beyond that, the logical structure of the concept of *kaizen*, the precise relationship among its tools, and concrete measures and sequences adopted on the factory floor, are difficult to pin down since there are many different school of teachings that emphasize different aspects and tools of *kaizen* relative to others. Even among excellent companies, Toyota's way is different from Honda's way, and the Panasonic philosophy is quite distinct from that of Canon.

According to Masaaki Imai, who introduced *kaizen* to the international audience with his seminal book, *KAIZEN—The Key to Japan's Competitive Success*, *kaizen* is an umbrella concept for a large number of Japanese business practices (Imai, 1986, 1997—see Figure 1). It could even be argued that, like Zen Buddhism, it is not just a management technique but a philosophy which instructs how a human should conduct his or her life. *Kaizen* focuses on the way people approach work. It shows how management and workers can change their mindset together to improve their productivity. As Edwards C. Johnson III, CEO of Fidelity Investment, puts it, while there are many strategies for management success, *kaizen* is different since it helps focus in a very basic way on how people conduct their work (Imai 1997).

mechanisms for ODA to complement private sector activities that contribute to African development; (iii) setting up the Japan Bank for International Cooperation (JBIC) Facility for African Investment to offer equity investment, guarantees, and local currency financing; and (iv) regular provision of information on African business climate to Japanese private companies (by Japan External Trade Organization: JETRO). See Yokohama Action Plan and its Appendix.

<http://www.mofa.go.jp/region/africa/ticad/ticad4/doc/actoin.pdf>

<http://www.mofa.go.jp/region/africa/ticad/ticad4/doc/appendix.pdf>



Figure 1: The KAIZEN Umbrella

Source: Imai (1986), p.4.

There are a large number of related and often overlapping components that belong to the *kaizen* toolkit such as: 5S, Quality Control Circles (QCC), Suggestion System, Kanban System, Just-In-Time System (JIT), Total Quality Control (TQC), Total Quality Management (TQM), Toyota Production System (TPS), and so on. Among these, 5S is generally considered to be the most basic step for improving quality and productivity. Beyond that, the emphasis varies depending on the particular author or expert. The brief explanation of each is provided below.

Table 1: Selected Components of the *Kaizen* Toolkit

Term	Explanation
5S	The philosophy and checklist for good housekeeping to achieve greater order, efficiency and discipline in the workplace. It is derived from the Japanese words <i>Seiri</i> (Sort), <i>Seiton</i> (Straighten), <i>Seiso</i> (Shine), <i>Seiketsu</i> (Systematize), and <i>Shitsuke</i> (Standardize/Self-Discipline). There are also different English renditions.
Quality Control Circle (QCC) or Quality Circle (QC)	A small group of workers who collectively find a problem, discuss alternative remedies, and propose a solution. It voluntarily performs improvement activities within the workplace, as part of a company-wide program of mutual education, quality control, self-development, and productivity improvement.
Suggestion System	Method by which the ideas and suggestions of the employees are communicated upward through the management hierarchy in order to achieve cost savings or improve product quality, workplace efficiency, customer service, or working conditions. Examples range from simply placing suggestion boxes in common areas to implementing formal programs with committees to review ideas and rewards for those that are

	adopted.
Just-In-Time (JIT) system	One of the key components of TPS. It is a production system aimed at eliminating non-value-adding activities of all kinds and achieving a lean production system flexible enough to accommodate fluctuations in customer orders.
Kanban System	A communication tool in the JIT production and inventory control system, developed at Toyota. A Kanban (signboard) is attached to a given number of parts and products in the production line, instructing the delivery of a given quantity. When the parts have all been used, the Kanban is returned to its origin where it becomes an order to produce more.
Total Quality Control (TQC)	Organized kaizen activities on quality, involving everyone (from managers to workers) in a totally integrated effort towards <i>kaizen</i> at every level. It is equivalent to Company-Wide Quality Control (CWQC).
Total Quality Management (TQM)	A number of management practices, philosophies and methods to improve the way an organization does business, makes its products, and interacts with its employees and customers. QCC activity functions as an integral part of TQM. TQM was evolved from TQC in the late 80s.
Toyota Production System (TPS)	The philosophy which organizes manufacturing and logistics at Toyota, including the interaction with suppliers and customers. It focuses on the elimination of waste and defects at all points of production including inputs, process, and final output (delivery). The term “Lean Production System” can be used interchangeably.

Source: Compiled by the author, based on Imai (1986, 1997), Fujimoto (1999), Fukui et. al. (2003), Liker (2004), and APO website.

The history of diffusion

Kaizen activities have developed and spread in Japan and later to the rest of the world in four phases.

The first phase was the absorption of foreign technique by Japan in the early postwar period. In the 1950s, the world market perceived Made-in-Japan products as “low price, low quality.” Driven by a sense of urgency for industrial catch-up, Japan learned American style quality management from Dr. W. E. Deming and Dr. J. M. Juran, which was adapted to the Japanese context. A national movement for quality and productivity improvement emerged, supported by the Union of Japanese Scientists and Engineers (JUSE), an organization established in 1946, and the Japan Productivity Center (JPC), an organization established in 1955 and renamed in 1994 to the Japan Productivity Center for Socio-Economic Development (JPC-SED). Many companies developed their own systems of *kaizen*, including the globally known TPS developed by the Toyota Motor Corporation. These efforts laid a solid foundation for establishing the so-called Japanese production management system. Thus, *kaizen* was originally a foreign technique which was adopted and adjusted to become a Japanese technique (Chapters 2-4 will explain the history of Japanese quality and productivity improvement efforts).

The second phase was the diffusion among Japanese companies, including small- and medium-sized

ones. This led to a rapid increase in the number of Quality Control (QC) Circles in the 1970s and 80s (see Chapter 3 for more details). The two oil crises in the 1970s drove Japanese companies to integrate energy saving into their quality and productivity improvement efforts.

The third phase was the regional spreading of *kaizen* beginning in the mid 1980s, which coincided with the globalization of Japanese business activities. The sharp appreciation of the Japanese yen after the Plaza Agreement in 1985 prompted Japanese manufacturing companies to shift their production bases to East Asia where production costs were lower. Japanese firms tried to duplicate the quality management system 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 assisted their local partners to learn *kaizen* philosophy and practices. Also, various public organizations—the Association for Overseas Technical Scholarship (AOTS), an organization established in 1959, the Asian Productivity Organization (APO), established in 1961 as a regional inter-governmental organization, the Japan Overseas Development Corporation (JODC), an organization established in 1970, the Japan International Cooperation Agency (JICA), JUSE, and JPC-SED—began their active engagement in *kaizen* assistance in developing countries. The first JICA project for productivity management was extended to Singapore from 1983 to 1990. Building on the success of this cooperation, the Singapore Productivity and Standard Board has subsequently grown to become a major organization to extend training programs to other countries and regions, including the Southern African Development Community (SADC) under partnership arrangements with JICA. This Singaporean case is regarded as the best example of graduation from and international diffusion of Japan's *kaizen* assistance⁴.

The fourth phase, which is now beginning, has witnessed growing interest in East Asia's industrial experience in developing regions outside East Asia (including Africa). However, their interest in and knowledge of the East Asian approach often remain general and insufficient, and have not been operationalized with practical details. This situation, together with the Japanese government's TICAD IV initiative for promoting trade and investment in Africa, provides an opportunity for Japan to more actively publicize and introduce *kaizen* in developing regions including Africa.

The Japanese approach vs. the Western approach

There are notable conceptual differences between the Japanese and the Western management approaches. In particular, *kaizen* contains many features unique to Japanese industrial experience. First, the Japanese approach emphasizes small incremental changes under existing technology while the Western approach favors innovation based on technological breakthroughs (Clark 2009, Imai 1986, Imai 1997)⁵. Second, the Japanese approach focuses on human elements and advocates

⁴ The Singaporean government and Japanese government jointly implemented the third-country training program on productivity management in SADC countries during 1997-2002. In addition to the bilateral channel, *kaizen* assistance is also offered by Japanese experts utilizing Japanese funds through international organizations. For example, during the 1990s, the World Bank supported the government of Burkina Faso in implementing QCC through technical assistance. In 2003, the Inter-American Development Bank (IDB) produced a handbook for TQM and QCC for the Latin America and the Caribbean Region.

⁵ Clark (2009) puts it as the difference between *kaikaku* (reform, big change) and *kaizen* (small incremental changes).

people's process-oriented efforts for improvement, while the Western approach is inclined more towards reviewing performance from the result-based criteria (Imai 1997). *Kaizen* does not necessarily call for a large investment such as installing new machines or hiring experts, but requires continuous effort and commitment at all levels of the workforce towards proposing and practicing the use of existing human and capital resources to improve quality and productivity. Imai (1986) gives a comparison of *kaizen* and *innovation* in Table 2).

Table 2 Features of *Kaizen* and Innovation

	Kaizen	Innovation
1. Effect	Long-term and long-lasting but undramatic	Short-term but dramatic
2. Pace	Small steps	Big steps
3. Timeframe	Continuous and incremental	Intermittent and non-incremental
4. Change	Gradual and constant	Abrupt and volatile
5. Involvement	Everybody	Select few "champions"
6. Approach	Collectivism, group efforts, systems approach	Rugged individualism, individual ideas and efforts
7. Mode	Maintenance and improvement	Scrap and build
8. Spark	Conventional know-how and state of the art	Technological breakthroughs, new inventions, new theories
9 Practical requirements	Requires little investment but great effort to maintain it	Requires large investment but little effort to maintain it
10. Effort orientation	People	Technology
11. Evaluation criteria	Process and efforts for better results	Results and profits
12. Advantage	Works well in slow-growth economy	Better suited to fast-growth economy

Source: Imai (1986), p. 25.

In a sense, the differences between the Japanese and the Western approach are a matter of degrees. Few Japanese managers belittle the importance of having the right kind of equipment or conducting R&D while Western managers cannot be blamed for neglecting the workers in factory management. For example, Toyota makes an enormous effort for innovation and integrates such effort with its *kaizen* activities (Clark 2009). There are many overlaps and agreements between the two, and they may often produce similar prescriptions for improvement. Nevertheless, the comparison is still meaningful because they point to different initial actions, priorities and sequences which may result in different overall performance. For developing countries, having two distinct perspectives will broaden the strategy space for enterprise managers and policy makers.

One of the frequently recommended management tools with the Western origin is business process re-engineering (BPR). BPR differs sharply from *kaizen* as it aims at a fundamental and drastic change that leads to a breakthrough rather than achieving incremental improvements on a daily basis. According to Hammer (1990), BPR is "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical measures of performance." (Hammer 1990,

Hammer and Champy 1993). In fact, according to Hammer (1990), re-engineering is an all-or-nothing proposition with an uncertain result, which cannot be accomplished in small and cautious steps. BPR usually takes a top-down approach in contrast to *kaizen*'s participatory bottom-up approach. In implementing BPR, the re-engineering team assumes the central responsibility and represents the functional units being reengineered and all other units that depend on them.

Another popular management tool from the West is benchmarking. *Kaizen* also differs from benchmarking whose basic procedure is gathering information on a number of competing firms or countries engaged in the same activities, comparing the performance of targeted domestic firms against the so-called best practice, and setting goals for improvement. It is thus a tool for "identifying, understanding, and adapting outstanding practices and processes from organizations anywhere in the world to help your organization improve its performance" (American Productivity & Quality Center⁶). Benchmarking is mainly for identifying one's weaknesses and setting goals in relation to others while *kaizen* is mainly for finding room for improvement internally and realizing it by team effort.

For example, in the process of assisting the Ethiopian government in formulating the master plan for Leather and Leather Product Industry (LLPI), the United Nations Industrial Development Organization (UNIDO) conducted a benchmarking exercise to compare the Ethiopian LLPI against four of the best LLPI performing countries, namely, West Bengal in India (leather), Vietnam (leather and footwear), China (footwear) and Italy (footwear). By analyzing the availability of raw materials, labor costs, the level of human capital, the establishment of backward and forward linkages, design capacities, as well as the strategies and policy mixes adopted by these four countries (e.g., price, product, communication), this exercise intended to help understand the relative strengths and weaknesses of the supply chains in the Ethiopian LLPI in the global context and design strategies to overcome such constraints and weaknesses (UNIDO 2005). While this specific exercise was undertaken at the industry level, it is also possible to conduct benchmarking at the firm level.

Applicability to developing countries

The philosophy, concept, and tools of *kaizen* have been adopted not only in Japanese firms but also in many multinational corporations in the US and Europe. Many studies note that, in both Japan and abroad (especially in the cases of American and European companies), leadership is the single most important factor for successful implementation of *kaizen* (Kaplinsky 1997, Imai 1987; also see Chapter 4 of this book). This implies that it is possible to apply *kaizen* in countries with different socio-cultural contexts but application must be conducted under proper leadership and with adjustments that reflect the uniqueness of the targeted society.

In introducing *kaizen* to Africa, three issues are raised here for the attention of the interested reader. They are: (i) complementarity with the Western approach which is more frequently adopted in Africa; (ii) cost effectiveness of adopting *kaizen* instead of other methods; and (iii) transferability of *kaizen* to the socio-economic environment of developing countries.

⁶http://www.apqc.org/portal/apqc/ksn/GlossaryofBenchmarkingTerms.pdf?paf_gear_id=contentgearhome&paf_dm=full&pageselect=contentitem&docid=119519

Complementarity with the Western approach

Japanese and Western approaches are different. Can they be adopted simultaneously in the same country, or even in the same firm, to produce synergy? Or are they incompatible so only one model can be implemented? Are *kaizen* and BPR complementary or substitutes? We are not ready to give a simple answer to this difficult question. It appears that a meaningful answer must come from the concrete context of the problem at hand.

To improve different aspects of the same company, it should be possible to mobilize two alternative methods at the same time. For example, BPR can be invoked to make a discontinuous breakthrough such as new overseas marketing or cutting-edge technology, whereas *kaizen* can be used to raise productivity and reduce waste on the factory floor. The former can be achieved by outsourcing experts at market cost, for example, while the latter is a daily process which does not conflict with the former.

But from another angle, there is some concern. BPR is most compatible with top-down management style while *kaizen* requires an organizational structure which permits bottom-up decision making. But the two cannot be embodied in one organization—or can they? Our purpose here is to raise questions without suggesting answers. To go beyond this, further studies and concrete experiences will definitely be needed.

Cost effectiveness

Generally speaking, *kaizen* is a low-cost approach to productivity improvement for two reasons. First, it does not require huge capital investment, expensive technology, or costly R&D as *kaizen* seeks to use existing equipment and human resources in a more efficient—less wasteful—way. Second, the key goal of *kaizen* is to generate the internal capability of the targeted firm and to let it ultimately “graduate” from the guidance of external *kaizen* experts and conduct continuous improvement by itself. In fact, if *kaizen* instructors do not leave the company after one or two years, the effort for improvement should be considered a failure. Thus, *kaizen* is particularly suited for enterprises in low-income countries which face the problem of financial access.

While a large sum of capital is not needed, however, other things must be prepared to garner the benefits of *kaizen*. They include the strong commitment by the executives, long-term orientation, the sense of oneness, trust, and teamwork among all levels of personnel, and willing cooperation of workers. Can that be ensured? This leads to the next issue below.

Transferability across cultures

In the developing world, there are also a number of attempts to implement *kaizen*, for example, in Southeast Asia and India, with a wide range of results.

On the one hand, there are views that question the general applicability of *kaizen* to developing countries. They argue that most developing countries face the problem of weak human resources. Continuous improvement requires a seamless extension of training and skill development to the

entire workforce. However, in a country with low literacy, it is difficult for firms to implement such a training system for the entire workforce (Kaplinsky 1997). Short-terminism, the lack of upward mobility, and inattention to details of the workers in general may also add to the management's problems. Furthermore, in societies where the hierarchical structure is deeply rooted, it may not be easy to introduce a participatory mechanism in which all workers are encouraged to contribute actively to process and product improvements. In addition, managers' misconceptions about continuous improvement are the important source of difficulties, as they often expect instant results whereas it takes time before the benefits of quality management become visible (Karstein and Pennink 2007). In such circumstances, even if managers know the concept and tools, translating these ideas into actual practices and internalizing *kaizen* as a company-wide movement remains a very complex task.

On the other hand, the diffusion of *kaizen* philosophy and practices are already observable in some parts of the developing world, especially Southeast Asia and India. Japan's *kaizen* assistance programs in Brazil, Central America, and Tunisia, which are mentioned in different chapters of this book (Chapters 3-4), also show that efforts are being made by local institutions to adopt *kaizen* which inevitably requires assimilation in the specific country context, and progress is reported in some cases. These cases should serve as useful references for Africa to help understand key factors that determine the success and failure of applying *kaizen* in the developing world.

It should also be added that, even in Japan, workers were lazy, short-sighted, and hardly productive in the early 20th century (Ministry of Agriculture and Commerce, 1901). Disobeying company rules and executive orders was the norm rather than the exception. Through the effort of private firms and public policies, these "ungovernable" workers were transformed into *kaizen* workers half a century later. Culture does not change easily, but it is also incorrect to say that culture is immutable.

A guide to the chapters

Following this introduction, three chapters provide concrete ideas on how Japan implements *kaizen* assistance in developing countries, as well as the information on Japan's postwar experiences in improving quality and productivity

Chapter 2, by Ayako Ishiwata, reviews the ongoing *kaizen* assistance in Africa, discusses the need for *kaizen* in Africa drawing on the cases of Kenya and Ethiopia, and raises the issues to be considered in applying *kaizen* activities to the African manufactures. Chapter 3, by Akio Hosono, explains how the quality and productivity improvement originated in the US was developed into the *kaizen* movement in Japan and suggests the possibility of its application in a variety of activities and in a different country context, showing the cases of JICA's *kaizen* assistance in Brazil and Central America. Chapter 4, by Tsuyoshi Kikuchi, explains how Japan implements *kaizen* assistance in developing countries, based on a concrete case of a JICA project in Tunisia. It contains the information on the specific activities supported by the project, institutional arrangements, outputs, and so on, and draws lessons and factors for successful implementation.

This book is meant for those who are not very familiar with the concept of *kaizen*. It provides a broad picture to help the interested reader go into any particulars which he or she is inclined to explore. For the details of *kaizen* philosophy, concrete *kaizen* tools, or company-specific experiences,

there are a number of books, manuals and handbooks which are readily available. We do hope that the reader will not stop with this book but go to find practical suggestions from other documents. As a starter, we attach a short list of selected links and websites below (Table 3).

Table 3 Selected Links and Websites

Links:
<ul style="list-style-type: none"> • Fukui, Ryu, Yoko Honda, Harue Inoue, Noriharu Kaneko, Ichiro Miyauchi, Susana Soriano, and Yuka Yagi. 2003. <i>Handbook for TQM and QCC</i>, Volume I & Volume II. Published in October 2003, Inter-American Development Bank (IDB). • Imai, Masaaki. 1986. <i>KAIZEN: The Key to Japan's Competitive Success</i>. McGraw-Hill Publishing Company. • Imai, Masaaki. 1997. <i>GEMBA KAIZEN: A Commonsense, Low-Cost Approach to Management</i>. McGraw-Hill Publishing Company. • Liker, Jeffrey K.. 2004. <i>The Toyota Way: 14 management principles from the world's greatest manufacturer</i>. McGraw-Hill
Websites:
<ul style="list-style-type: none"> • American Productivity & Quality Center (APQC) http://www.apqc.org/portal/apqc/site • Association for Overseas Technical Scholarship (AOTS) http://www.aots.or.jp/eng/indexeng.html • Asian Productivity Organization (APO) http://www.apo-tokyo.org/index.htm • Japan Productivity Center for Socio-Economic Development (JPC-SED) http://www.jpc-sed.or.jp/eng/index.html • KAIZEN Institute http://www.kaizen.com/ • National Productivity & Competitiveness Council, Mauritius http://www.npccmauritius.com/pressrelease/ • Union of Japanese Scientists and Engineers (JUSE) http://www.juse.or.jp/e/

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Ministry of Agriculture and Commerce. 1901. *Survey of Industrial Workers* (in Japanese).

United Nations Industrial Development Organization (UNIDO). 2005. *Integrated Programme for Ethiopia Master Plan "A Strategic Action Plan for the Development of the Ethiopian Leather and Leather Products Industry"*. Volume I, prepared by the UNIDO in cooperation with the Ministry of Trade and Industry of Ethiopia, March 2005.