

# 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, p.1)*

In Japanese management, *kaizen* means “continuous improvement” involving the entire workforce from the top management to middle managers and workers.<sup>1</sup> 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 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 spread overseas as Japanese business activities expanded abroad and Japanese companies 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 are a lot of unexploited benefits of selective and well calibrated application of *kaizen* from which African countries can draw upon to improve their production and service units.<sup>2</sup>

There is also a need for Japan to more actively propagate the idea of *kaizen* in Africa as an additional menu item in their industrial development 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. In addition, this is important 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

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<sup>1</sup> *Kaizen* literally means improvement: change (*kai*) for good (*zen*).

<sup>2</sup> 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 the specific actions needed in detail.

Africa.<sup>3</sup>

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 schools of teaching 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 Canon's.

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).

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<sup>3</sup> 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 the Japan International Cooperation Agency: JICA) and to facilitate trade and investment by transferring Japanese manufacturing and marketing skills (by the Association for Overseas Technical Scholarship: AOTS); (ii) establishing 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) regularly providing information on the 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, Suggestion System, Quality Control Circles (QCC) or Quality Circle (QC), Total Quality Control (TQC), Total Quality Management (TQM), Toyota Production System (TPS), Just-In-Time (JIT) System, *Kamban* System, and so on. Among these, 5S is generally considered to be the most basic step for improving quality and productivity. Beyond that, the emphases vary according to the particular author or expert. A brief explanation of each is provided below.

**Table 1. Selected Components of the *Kaizen* Toolkit**

Term	Explanation
5S	5S is a 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.
Suggestion System	A Suggestion System is the method by which the ideas and suggestions of employees are communicated upwards through the management hierarchy 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 reviewing ideas and rewards given for successful adoption of those ideas.
Quality Control	QCC is a small group of workers who collectively find a problem,

Circle (QCC) or Quality Circle (QC)	discuss alternative remedies, and propose a solution. QCCs voluntarily perform improvement activities within the workplace, as part of a company-wide program of mutual education, quality control, self-development and productivity improvement.
Total Quality Control (TQC)	TQC is an organized activity 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)	TQM represents 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 activities function as an integral part of TQM. TQM evolved from TQC in the late 1980s.
Toyota Production System (TPS)	TPS is the philosophy which organizes manufacturing and logistics at Toyota, including 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.
Just-In-Time (JIT) System	JIT, a part of TPS, 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.
<i>Kamban</i> System	<i>Kamban</i> refers to a communication tool in the JIT production and inventory control system, developed at Toyota. A <i>kamban</i> (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 <i>kamban</i> is returned to its origin where it becomes an order to produce more.

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 to be as “low price, low quality.” Driven by a sense of urgency for industrial catch-up, Japan learned American style quality management from Drs. W. E. Deming and J. M. Juran, and adapted this to the Japanese context. A national movement for quality and productivity improvement emerged, supported by the Union of Japanese Scientists and Engineers (JUSE), established in 1946, and the Japan Productivity Center (JPC), established in 1955 and renamed the Japan Productivity Center for Socio-Economic Development (JPC-SED) in 1994. 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 diffusion throughout Japanese companies, including small and medium-sized ones. This led to a rapid increase in the number of QCCs 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<sup>4</sup> 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), established in 1959, the Asian Productivity Organization (APO), established in 1961 as a regional inter-governmental organization, the Japan Overseas Development Corporation (JODC), 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* assistance.<sup>5</sup>

The fourth phase, which is now beginning, has witnessed growing interest in East Asia's industrial experience in other developing regions (including Africa). However, outside, interest in and knowledge of the East Asian approach often remains general and insufficient, and has 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.

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<sup>4</sup> The governments of the US, Japan, France, Germany and the United Kingdom agreed to depreciate the US dollar against the yen and the mark. It was signed on September 22, 1985 at the Plaza Hotel in New York City. The exchange rate value of the dollar versus the yen declined by 51% from 1985 to 1987.

<sup>5</sup> 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 Latin America and the Caribbean Region.

## 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 the 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 et. al., 2009; Imai, 1986 and 1997).<sup>6</sup> Second, the Japanese approach focuses on human elements and advocates people’s process-oriented efforts for improvement, while the Western approach is more inclined towards reviewing performance from results-based criteria (Imai, 1997). *Kaizen* does not necessarily call for large investments, such as installing new machines or hiring experts. Instead, it requires continuous effort and commitment at all levels of the workforce to propose and practice 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**

	<i>Kaizen</i>	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. Generally, few Japanese managers belittle the importance of having the right kind of equipment or conducting Research and Development (R&D), while Western managers cannot

<sup>6</sup> Clark et. al. (2009) describes it as the difference between *kaikaku* (reform, big change) and *kaizen* (small incremental changes).

be accused of neglecting the workers in factory management. For example, Toyota makes enormous efforts for innovation and integrates such efforts with its *kaizen* activities (Clark et. al., 2009). There are many areas of overlap 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 of 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. 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 through 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 central responsibility by representing the functional units being reengineered and having all other units depend upon it.

Another popular management tool from the West is 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. *Kaizen* also differs from benchmarking, since the latter is 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 Center<sup>7</sup>). Benchmarking is mainly for identifying one’s weaknesses and setting goals in relation to others whereas *kaizen* is applied mainly to find room for improvement internally and realizing this through team effort.

For example, in the process of assisting the Ethiopian government in formulating a master plan for the 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, India—specifically West Bengal (leather), Vietnam (leather and footwear), China (footwear) and Italy (footwear). This exercise analyzed the availability of raw materials, labor costs, the level of human capital, the establishment of backward and forward linkages, design capacities, as well as strategies and policy mixes adopted by these four countries (e.g. price, product, and communication). In doing this, it intended to help generate an understanding of 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.

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<sup>7</sup> [http://www.apqc.org/portal/apqc/ksn/GlossaryofBenchmarkingTerms.pdf?paf\\_gear\\_id=contentgearhome&paf\\_dm=full&pageselect=contentitem&docid=119519](http://www.apqc.org/portal/apqc/ksn/GlossaryofBenchmarkingTerms.pdf?paf_gear_id=contentgearhome&paf_dm=full&pageselect=contentitem&docid=119519)

## **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, 1995; Imai, 1986; also see Chapter 4 of this book). This implies that it is possible to apply *kaizen* in countries with different socio-cultural contexts but that 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.

### ***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 a successful 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 here. It appears that a meaningful answer must come from proper contextualization 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 introducing 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.

However, from another angle, there is some concern. BPR is most compatible with top-down management styles while *kaizen* requires an organizational structure which permits bottom-up decision making. Yet, the two cannot be embodied in one organization—or can they? Our purpose here is to raise questions without suggesting finite answers. To go beyond this, further studies and drawing concrete lessons from experience 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 since it 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, improvement efforts should be considered a failure. Thus, *kaizen* is particularly suited for enterprises in low-income countries which face financial access problems.



While a large sum of capital is not needed, however, other things must be invested in, in order to garner the benefits of *kaizen*. They include strong commitment by executives, long-term orientation, a 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, a number of attempts to implement *kaizen* have yielded a wide range of results, for example, in Southeast Asia and India.

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 skills 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, 1995). Short-terminism, the lack of upward mobility, and inattention to details of the workers in general may also add to 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 common sources of difficulty, since they often expect instant results, whereas in reality it takes time before the benefits of quality management become visible (Karsten and Pennink, 2007). In such circumstances, even if managers know the concept and tools, translating these ideas into practices and internalizing *kaizen* as a company-wide movement remains very complex tasks.

On the other hand, the diffusion of *kaizen* philosophy and practices are already observable in some parts of the developing world, especially in 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*. This 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 key issues to be considered in applying *kaizen* activities to African manufactures. Chapter 3, by Akio Hosono, explains how quality and productivity improvements originating in the US were developed into the *kaizen* movement in Japan. He suggests possible application of *kaizen* in a variety of activities and in different country contexts, highlighting the cases of JICA's assistance in Brazil and Central America. Chapter 4, by Tsuyoshi Kikuchi, explains how Japan implements *kaizen* assistance in developing countries, based on the case of a JICA project in Tunisia. It contains information on the specific activities supported by the project, institutional arrangements, outputs, and so on, and draws upon lessons 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 explore particular aspects of the topic. For specific details about *kaizen* philosophy, 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 on to find practical suggestions from other documents. To help readers get started, we attach a short list of selected links and websites below (Table 3).

**Table 3. Selected Links and Websites**

<b>Links:</b>
<ul style="list-style-type: none"> <li>• 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 and Volume II. Published in October 2003, Inter-American Development Bank (IDB).</li> <li>• Imai, Masaaki (1986) <i>Kaizen: The Key to Japan's Competitive Success</i>. McGraw-Hill Publishing Company.</li> <li>• Imai, Masaaki (1997) <i>Gemba Kaizen: A Commonsense, Low-Cost Approach to Management</i>. McGraw-Hill Publishing Company.</li> <li>• Liker, Jeffrey K. (2004) <i>The Toyota Way: 14 management principles from the world's greatest manufacturer</i>. McGraw-Hill.</li> </ul>
<b>Websites:</b>
<ul style="list-style-type: none"> <li>• American Productivity &amp; Quality Center (APQC) &lt;<a href="http://www.apqc.org/portal/apqc/site">http://www.apqc.org/portal/apqc/site</a>&gt;</li> <li>• Association for Overseas Technical Scholarship (AOTS) &lt;<a href="http://www.aots.or.jp/eng/indexeng.html">http://www.aots.or.jp/eng/indexeng.html</a>&gt;</li> <li>• Asian Productivity Organization (APO) &lt;<a href="http://www.apo-tokyo.org/index.htm">http://www.apo-tokyo.org/index.htm</a>&gt;</li> <li>• Japan Productivity Center for Socio-Economic Development (JPC-SED)</li> </ul>

<<http://www.jpc-sed.or.jp/eng/index.html>>

- Kaizen Institute <<http://www.kaizen.com/>>
- National Productivity & Competitiveness Council, Mauritius  
<<http://www.npc mauritius.com/pressrelease/>>
- Union of Japanese Scientists and Engineers (JUSE) <<http://www.juse.or.jp/e/>>

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