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Key Success Factors for Quality and Productivity Movement (*Kaizen*): The Case of African Countries

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1. Introduction

Chapter 2 of this volume—"National Movements for Quality and Productivity Improvement in Japan and Singapore: From a Perspective of Translative Adaptation"—identified six key success factors for quality and productivity movement (*Kaizen*). These are: (i) national commitment for quality and productivity improvement; (ii) institutional infrastructure for quality and productivity improvement; (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) development of private sector capability to sustain quality and productivity improvement.

This chapter aims to explore the characteristics of these six success factors in seven 'target countries'[1] (Zambia, South Africa, Tunisia, Tanzania, Kenya, Ghana, and Ethiopia) currently implementing *Kaizen* to shed light on the process of learning from abroad (Japan), customizing this to local situations, and expanding its dissemination nationwide. The chapter is organized in four broad sections. Following this introduction, the methodology used in the study is explained in Section 2. Section 3 illustrates how those six success factors play out in the seven target countries with the help of primary and secondary data collected from them. In Section 4, the important findings are summarized and presented and this is followed by the conclusions and recommendations in Section 5.

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[1] All throughout this chapter the term 'target countries' refers to those seven countries selected for this study. The *Kaizen* project profiles of those countries are given in Appendix 3.1.

2. Research Methodology

In constructing this chapter, primary and secondary sources are used to collect data. The primary data are collected through a questionnaire prepared for the purpose of this study. The questionnaire is designed to collect data related to the six factors and additional supporting information to illustrate the current status of countries on: (i) national level commitments; (ii) customization and institutionalization of *Kaizen* activities and the strategy perused by counterpart organizations; (iii) *Kaizen* promotion: teams (Quality Control Circles (QCCs), 5S Committee, Total Productive Maintenance (TPM) team) formation and activation, and Africa Kaizen Annual Conferences (AKAC) and Awards at continental level; (iv) training of *Kaizen* consultants[2] and utilization of the *Kaizen Handbook*[3] to standardize *Kaizen* activities in Africa; and (v) maintaining the sustainability of *Kaizen* activities.

The questionnaire was sent to the seven countries listed above, directly to the heads of counterpart organizations on November 9, 2019 through the Japan International Cooperation Agency (JICA), to be filled in and returned by December 6, 2019 (please see Appendix 3.2. for the structure and contents of the questionnaire). Some countries failed to respect the due date and reminders were sent to them through the same link. The responses are collected, organized, graded, and analyzed in Tables 3.1-3.8.[4]

The secondary sources used in this study are the 'JICA *Kaizen* Project Reports'[5] prepared for six target countries (Zambia, Tunisia, Tanzania, Kenya, Ghana, and Ethiopia). The *Kaizen Handbook* (JICA 2018) and discussions and conclusions made in Chapter 2 are explained in the introductory part of this chapter. The JICA *Kaizen* Project Reports are

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[2] In the context of this chapter, *Kaizen* consultant refers to those trained by Japanese experts on *Kaizen*.

[3] The *Kaizen Handbook* is prepared by JICA (2018) to support the implementation of Africa Kaizen Initiative's (AKI) strategic activity; 'Standardizing *Kaizen* Activities in Africa.'

[4] Please note that all tables are constructed based on this questionnaire.

[5] 'JICA *Kaizen* Projects Reports' refer to those reports (JICA 2008, 2011, 2014a, 2014b, 2015, 2016a, 2016b, 2019) prepared by each project in each of the six target countries, submitted to JICA and documented. In this chapter, unless otherwise individually cited, this phrase is used to indicate the reviews made and the extracted ideas that include all target countries. The reports of the six target countries of this study are given in the references. For South Africa, no such report is referred to.

collected from JICA as well as target countries and reviewed to build comprehensive understanding on the progress and challenges of each country. For South Africa a JICA *Kaizen* Project Report is not available and only the response to the questionnaire is considered.

These three sources (JICA *Kaizen* Projects Reports, data collected through a questionnaire, and the conclusions of Chapter 2) are used as inputs to construct this chapter. In writing this chapter, a descriptive approach is followed, and no statistical analysis is attempted.

3. The 'Six Success Factors' in the Context of African Countries

This section reviews the current status of the above-mentioned six factors in the context of seven African countries selected as a target group for the analysis in this chapter.

3.1. National commitments for quality and productivity improvement

The pioneer country that brought a leap forward in quality and productivity/*Kaizen* is Japan, followed by Singapore. Deming (Orsini 2013, 280) explained what he calls the meteoric rise in quality and productivity in Japan:

> The success of Japanese manufacturers is an example of what can happen when a whole nation submerges itself in a determined, enthusiastic, methodical effort involving the study and use of statistical methods in all stages of production. […] The leap forward in quality that took place in 1950 was no accident; it was not accomplished by resolution, nor by cost benefit analysis. It was the result of the concerted efforts of management, engineers, and production workers, throughout Japanese industry, company-wide and nation-wide.

The meteoric rise that happened in Japan was mainly due to the commitments by the government, institutions and companies as explained in detail in Chapter 2. The JICA *Kaizen* Project Reports and some other studies indicate the involvement of a few top government officials in

the *Kaizen* activities in the target countries. Among the top government officials, the Prime Ministers of Ethiopia (Mekonen 2018), the President and Cabinet Ministers of Zambia (JICA 2016a), and the Secretary of the Ministry of Industry and Trade (MIT) in Tanzania (JICA 2016b) are some of those in the top lists. Government officials, such as Small and Medium Enterprises (SMEs) agencies and department heads have also close contacts with organizational units they have established or delegated as counterparts to Japanese experts. Government officials are encouraged to get committed through different approaches. In this regard, the author of this chapter is well aware of the close contacts of Japanese Ambassadors and JICA representatives with target countries from personal observation while traveling to those countries for *Kaizen* studies (JICA 2018). In one case involving the former head of the Ethiopian Kaizen Unit (EKU) and the Director General of the Ethiopian Kaizen Institute (EKI), the author remembers his frequent invitations to the residence of the Ambassadors of Japan to Ethiopia for dinner with high level government and JICA officials. The discussion that took a long time during every dinner was about *Kaizen*.

In addition, government officials are invited to the Africa Kaizen Annual Conferences (AKACs). Some officials are also invited to Japan to get more exposure through the Tokyo International Conference on African Development (TICAD) processes. On top of that, *Kaizen* and its impact were officially raised at TICAD meetings. In my view, all those efforts are to create awareness and encourage government officials for national commitments.

Then, the question is 'to what extent the government officials of those target African countries are committed to *Kaizen* activities?' Countries are asked to reply to the questions intended to know the commitment of their governments in terms of allocating 'adequate'[6] budgets, as one indicator of commitment for *Kaizen* activities. The budget items asked for include: (i) salary and wages; (ii) office equipment and consumables; (iii) transport and allowances for field work; and (iv) the costs of national conventions, conferences, awards, and so on. In this study, three alternative choices are given for each budget item: (i) 'adequate' with 3 points; (ii) 'not adequate' with two points; and (iii) 'not at all' with zero. The responses of each

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[6] The term 'adequate' refers to the earmarked budget for planned and agreed upon *Kaizen* activities.

country are scored and presented in Table 3.1.

Table 3.1. Cost Components for *Kaizen* Expenditure

No.		Items	Score of responses by country						
			Zam	SA	Tan	Tun	Ken	Gha	Eth
1		Government allocate budget for counterpart organization (country average 1)	2	2.75	2	2	2.5	2	2.5
	a	Salary and wages	2	2	3	2	3	2	3
	b	Office equipment and consumables	2	3	3	2	3	2	3
	c	Transport and allowances for field work	2	3	2	2	2	2	2
	d	Costs for national conventions, conferences, awards etc.	2	3	0	2	2	2	2
2		Companies allocate budget (country average 2)	2	0.8	0	1.2	0	2	2
	a	Company training	2	0	0	2	0	2	3
	b	QCCs activities	2	2	0	2	0	2	3
	c	Allowances for *Kaizen* consultants	2	0	0	2	0	2	2
	d	Recognition and awards	2	2	0	0	0	2	2
	e	Cost sharing (consultancy fees)	2	0	0	0	0	-	0
Country average score (average of 1 and 2)			2.0	1.7	0.9	1.6	1.1	2.0	2.2
Country ranking			2nd	4th	7th	5th	6th	2nd	1st

Scores: Adequate (3); Not adequate (2); and not at all (0)

The salary and wages allocated by governments are adequate for three countries namely; Kenya, Ethiopia, and Tanzania while four countries (Zambia, South Africa, Tunisia, and Ghana) they are reported as inadequate. The responses to the budget for transport and allowances are inadequate in all cases except South Africa. These two budget items are particularly important in the more effective execution of *Kaizen* activities. The only country that allocates an adequate budget for these two important line items as well as for the costs of covering national conventions, conferences, awards, and so on is South Africa (see Table 3.1, block 1).

In general, the commitments of governments in terms of allocating adequate budgets do not seem satisfactory, according to these responses.

However, it is important to note that the institutional infrastructure, the number of *Kaizen* consultants, and the administrative workers engaged in *Kaizen* activities vary from country to country. In some instances there are cases whereby budgets allocated by government may not be utilized by a project. For instance, according to the JICA *Kaizen* Project Report on Tanzania (JICA 2016b), the approved budget of the Tanzania Kaizen Unit (TKU) (total of recurrent and development budgets) amounted to 80 million TZ shillings (approximately 40,000 US dollars, nominal) in 2014/2015, and 120 million TZ shillings (approximately 60,000 US dollars, nominal) in 2015/2016, respectively. However, the disbursed amount in 2014/2015 was estimated to be roughly 10.5 million TZ shillings (approximately 5,000 US dollars, nominal), and in 2015/2016 to be 4.2 million TZ shillings (approximately 2,000 US dollars, nominal). These figures reveal two facts. On one hand, they show the commitment of the government in allocating reasonably high budget for *Kaizen* activities, but on the other hand, they indicate a lower level and declining trend in budget utilization by TKU.

National quality and productivity movement in general and *Kaizen* activities in particular presuppose the commitment of companies. Government commitment alone is not enough as the experience of other countries tells us. In the case of Japan, for instance, Deming argues that 'the Japanese manufacturers did not look to their government nor to ours for assistance. Instead they raised the money […] an invitation enclosed a ticket and a check' (Orsini 2013, 280-84). This clearly indicates the commitment level of Japanese companies in the Country's meteoric rise, as Deming argued.

To understand the commitments of companies in Africa, counterpart organizations are asked about the budget allocation for *Kaizen* activities implemented, as one important indicator of level of commitment, using five budget line items (company training, QCCs activities, and allowances for *Kaizen* consultants, recognition and awards and cost sharing for consultancy fees) in those seven target countries. The alternative choices are similar to those given to budget allocations by governments and the responses are organized as in Table 3.1. This table reveals that companies in Kenya and Tanzania do not allocate budgets at all. Except for Zambia, companies in the other countries do not assign budgets for the cost sharing of consultant fees (for example see Table 3.1. line 2.e). It is only in Ethiopia that companies allocate adequate budgets for company training and QCC activities (Table 3.1, line 2.a and 2.b). In the rest budgets are either not

adequate or do not exist.

The experience of Tanzania in obtaining a firm level of commitment by pilot companies in *Kaizen* implementation is worth mentioning at this juncture. TKU started to collect a fee of 50,000 TZ shillings from each company, to be used for *Kaizen* dissemination activity. However, the commitment fee was then transferred to the National Treasury indicating that it could not be used for *Kaizen* dissemination activity. As a result, the incentive to collect the fee was lost and TKU terminated collection in 2014 (JICA 2016b).

3.2. Institutional infrastructure for quality and productivity improvement

A meteoric rise in the nation-wide engagement in quality and productivity improvement happened in Japan due to the meticulous support of dedicated institutions such as the Japan Management Association (JMA), the Japan Productivity Center (JPC), the Union of Japanese Scientists and Engineers (JUSE), and so on (see Chapter 2). It is also due to the full participation of management and workers various industries in establishing and activating small group activities such as the 5S committee, QCCs, Total Productive Maintenance (TPM) teams, and the commitment of companies (JUSE 1985; Shirose 1984; Kikuchi 2011).

To what extent the African countries currently attempting to transfer *Kaizen* from Japan are committed in terms of establishing and supporting dedicated institutions and the role played by them are areas to explore.

During the first pilot project in Ethiopia, the Ethiopian Kaizen Unit (EKU) conducted a study on Institutional Frameworks (Sato 2011) in preparation for the organization of the Ethiopian Kaizen Institute (EKI). This was to learn from global experience on how to establish an institute dedicated to *Kaizen* that could organize, coordinate, and provide nation-wide leadership. In that study, case studies from thirteen countries were compiled and it was learnt that different countries follow various ways of institutional setup. These case studies revealed that countries disseminate *Kaizen* through their productivity centers (five countries), SME agencies (two countries), and technological or training institutes (three countries).

Generally, the practice of those thirteen countries show there are a

number of ways to institutionalize *Kaizen* activities. The success stories and failures reflected in the case study revealed the institutional strengths, dedication and leadership as core determining factors. This study confirms the conclusion made in Chapter 2 with regard to the importance of institutional infrastructure as one of the factors for the success of *Kaizen* quality and productivity movement.

The experiences of African countries are summarized in Table 3.2.

Table 3.2. Institutional Framework, *Kaizen* Strategy/Model and Means to Sustain *Kaizen* Activities

Countries	*Kaizen* promoting institutions	Period of JICA projects in years	Strategy/model designed	Means of sustaining *Kaizen* activities
Zambia	KIZ	11	Anchored on fundamentals of QCCs Developing 'Golden Triangle' (TQM, QCCs, Standardization)	Introducing fee-based system. Collaborating with donors having interest in productivity improvement
South Africa	AIDC	20	Practical workshops on workshop floor level	JICA has trained adequate *Kaizen* consultants
Tunisia	UGPQ	12	Dissemination of *Kaizen* in industrial companies	Establishing productivity center
Tanzania	TKU	7	Integration approach. Combining *Kaizen* with cluster development	Introducing fee-based services. Preparing *Kaizen* responsive strategic plan and *Kaizen* responsive budget
Kenya	KIBT/KU	13	Learning *Kaizen* principles by Master trainers, adapting the principles and disseminating the information to MSMEs and working with them during implementation	Incorporating *Kaizen* in the annual work plan
Ghana	NBSSI/ BACs	8	Customization through content and process modification Creation of local success stories Demand creation	Cost sharing Integrating *Kaizen* activities into core operations Sourcing adequate resources (budget) Train private consultants

Countries	*Kaizen* promoting institutions	Period of JICA projects in years	Strategy/model designed	Means of sustaining *Kaizen* activities
Ethiopia	EKI	11	Developing a 15-year strategy to transfer *Kaizen* step-by-step Designed TIISO Model (Testing, Implementing, Institutionalizing, Sustaining, and Owning)	Designing 10-Year Dissemination Strategy Strengthening networking between public and private institutions. • Continual commitment of the government • Aligning *Kaizen* with the National Development Plans • Introducing fee-based consultancy • Integrating *Kaizen* into the education system • Developing public and private consultant capability in both the private and public institutions • Involving Professional Associations

Among the seven countries, two of them (Ethiopia and Zambia) have *Kaizen* Institutes; three of them (Tunisia, Tanzania, Kenya) organized a *Kaizen* Unit (KU) under different ministries and institutes; Ghana conducts *Kaizen* activities through SME Agencies, and in South Africa, an Automotive Industry Development Center (AIDC) is responsible for organizing *Kaizen* activities. The institutional arrangements followed by the African countries are therefore not very different to the global experience. The issue is the effectiveness of those institutions in providing leadership: the optimum utilization of *Kaizen* projects in learning the new management technologies, customizing, and innovating new ones, disseminating, and scaling up nation-wide. This requires institutions to craft appropriate strategy and policy or model their steps and actions from the start to the end; this being the ownership stage like that in Singapore as discussed in Chapter 2.

In whatever form they are established, the institutes, agencies and units are expected to play the role of those institutions in Japan and Singapore that are discussed in Chapter 2. In fact, countries are not expected to follow

the same institutional model. However, those organizations designated as counterparts in different countries are expected to build their capacity of coordination and provide leadership in a nationwide *Kaizen* movement for *Kaizen* activities to succeed and contribute to the development agenda of the countries and the continent.

From their responses, most of the countries showed their intention to be centers of excellence. Zambia has an ambition to expand *Kaizen* into its neighbors, Tunisia has a desire to take a leading role in Francophone countries, Ghana and Kenya expressed their will to extend *Kaizen* activities to Pan-African Productivity Association (PAPA) countries, and Tanzania to Southern African Development Community (SADC) countries. But there are no concrete experiences or proposals that could lead into action so far by all countries except Ethiopia that has started to involve its neighbors (mainly Sudan and Djibouti), as reported by EKI.

The experiences of two major countries (Japan and Singapore) explored in Chapter 2 show at least two approaches. The journey of Japan is through learning foreign management technologies, customizing (adapting), and disseminating their lessons. The Singapore model consists of three stages: awareness creation, action, and ownership. The three stages models of Japan and Singapore are highly generalized and take a macro level view. If we take the case of JPC,[7] it has passed through four stages. The first stage (1955-70) was the Learning Stage, and the main activities were organizing and leading study missions to the United States (US) and Europe to learn modern management methods, disseminating this knowledge through seminars, training, consultation, and the establishment of healthy labor-management relations. The second stage (1970-85)—the Application Stage—was the period of modification of management methods suitable to Japan. The third stage (1985-95), known as the Harmonization Stage, focused on the studies of socio-economic issues related to productivity. The fourth one is the Innovation Stage (1995-now) dwelling on supporting innovation, career management, and work-life balance (Fujita 2016). The other example is the case of JMA who like other institutions engaged itself in transferring, modifying, and disseminating *Kaizen* and side by side continuing to transfer and disseminate new management principles and techniques from the western world (Saito 2013).

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[7]   https://www.jica.go.jp/english/news/field/2015/c8h0vm00009ulhdo-att/02_fujita.pdf.

Those seven countries covered by this study are asked to explain their strategies or framework of their model. The response of each country is organized in Table 3.2 and the summary is presented to show the overall picture as a continent. There are only two countries (Ethiopia and Zambia) who claimed to have their own model. Ethiopia has a 15-year (2011-25) strategy to transfer and own *Kaizen* from Japan step by step. Each step consists of 5 years. It has also developed a model known as TIISO (testing, institutionalizing, implementing, sustaining, and owning). The details of EKI's strategy and model are illustrated in the works of Mekonen (2018).

According to the responses of various countries, in Zambia, JICA experts designed a model known as a 'Golden Triangle.' The basis of this model is anchoring *Kaizen* on three pillars: TQM, QCC, and Standardization. Other countries have mentioned how they are thinking to expand *Kaizen*; looking at more actions. These include: (i) Tanzania following integration approach by combining *Kaizen* with cluster development; (ii) Kenya to incorporate *Kaizen* in its annual work plan; and (iii) Ghana to customize *Kaizen* through content and process modification. The response of Tunisia and South Africa cover more activities: disseminating *Kaizen* in industrial companies (Tunisia) and conducting practical workshops on the shop floor (South Africa).

One important role of institutions is to maintain sustainability of *Kaizen* activities. Countries are asked 'How to sustain *Kaizen* activities after the project is completed and the Japanese experts have left?' The responses of all countries are organized in Table 3.2 and the major points are summarized as follows: (i) collaborating with other donors who have similar objectives in productivity improvement (Zambia); (ii) no major gap can be created since JICA trained an adequate number of *Kaizen* consultants (South Africa); (iii) establishing a productivity center (Tunisia); (iv) preparing a *Kaizen* responsive strategic plan and *Kaizen* responsive budget including introducing fees (Tanzania); (v) incorporating *Kaizen* in the annual work plan (Kenya); (vi) integrating *Kaizen* into core operations, introducing cost sharing, and sourcing for adequate resources (Ghana); and (vii) (a) developing a long-term *Kaizen* dissemination strategy, (b) strengthening public-private institutional networks, (c) aligning *Kaizen* activities with the national development plan to secure government support, (d) introducing a fee-based consultancy system, (e) integrating *Kaizen* into the education and training system, (f) placing more emphasis on the development of the capability of consultants, and (g) involving professional associations

(Ethiopia).

3.3. Grass-roots awareness raising and participation

Practically all *Kaizen* projects have a program for awareness creation in the form of workshops and conferences. While this is mostly in selected pilot companies, company owners and managers, government officials, counterparts, and stakeholders are invited to those workshops and conferences (see JICA *Kaizen* Projects Reports).

In Zambia, an annual conference has been conducted to reward the best companies and QCCs since 2010 (JICA 2016a). In Ethiopia, public and private Media are mobilized to report *Kaizen* activities and effects. Sponsored programs are frequently aired on Ethiopian Television (ETV). Training is provided to parliament members, and Federal and Regional political leaders and communicators. Annually a *Kaizen* booklet is published. A *Kaizen* song has been developed and an 'Annual Kaizen Award Conference' for best companies and QCCs is conducted (Mekonen 2018; JICA 2014a). In Kenya, they have prepared promotional booklets to popularize *Kaizen* (JICA 2014b).

JICA in collaboration with the African Union Development Agency - the New Partnership for Africa's Development (AUDA-NEPAD) have been conducting *Kaizen* Knowledge Seminars and Africa Kaizen Annual Conferences (AKAC), and currently the Africa Kaizen Award (AKA). Government officials from the host countries and all *Kaizen* implementing countries, counterparts, academicians researching *Kaizen*, and Japanese experts are invited to exchange experiences and learn from each other on a number of issues. Countries are asked the level of their participation in those seminars and conferences, what lessons they have drawn and their opinions for future improvement. Their responses are organized in Table 3.3. The replies of most of the countries indicate they have taken back home a number of lessons.

Table 3.3. Country Responses on Lessons Learnt from Africa Kaizen Annual Conferences

Country name	Conferences participated	Lessons taken away	Improvement ideas for the future
Zambia	Addis Ababa, Nairobi, Durban, Tunis	Nil	Allowing four project presentations per country; 2 from manufacturing and 2 from services and 2 from QCCs chosen through national competitive process such as national conferences
South Africa	Nairobi, Durban, Tunis	Involvement of political principals on *Kaizen* development and unfortunately not successful in South Africa so far	The panels of judges must be more industry or service representatives with practical *Kaizen* experiences than only academicians
Tunisia	Addis Ababa, Nairobi, Durban, Tunis	Presentations of *Kaizen* on the on-going projects Presentation of TQM for private sector in the on-going projects	Giving bonus to the laureates
Tanzania	Nairobi, Durban, Tunis	Difficulty of having common KPIs Mobilization of candidates from manufacturing enterprises as participants on the conferences Enthusiasm gained from AKAC to improve performance and getting Award in Tunis	Extending durations for five days Exhibition of products and training materials Involving other productivity institutes
Kenya	Addis Ababa, Nairobi, Durban, Tunis	Use of *Kaizen* to improve; ensure survival, sustainability, and profitability of SMEs	Continuation of AKAC and AKA
Ghana	Nairobi, Durban, Tunis	Adoption of *Kaizen* to the needs of the country Commitment and involvement of top officials Ensuring adequate resources Incorporating *Kaizen* into national plans Increasing awareness of *Kaizen* from the demand side Strengthening AKI institutional infrastructure	Adequate exposure on the actual implementations of *Kaizen* in countries Increase chances of participation for enterprises Involving associations
Ethiopia	Addis Ababa, Nairobi, Durban, Tunis	Companies best experiences Standardization of training materials Digitalization of *Kaizen* Networking and partnership Private consultant development	Expansion of the Award by sectors (manufacturing, services, etc.) Awarding *Kaizen* promoting institutions

It is well understood that teams like 5S committee, QCCs, and TPM have pre-eminent roles to promote *Kaizen* at grass-root-level in enterprise. They can accelerate the processes of learning new ways of improvement, applying new tools, creating team dynamism, learning from each other, and creating new knowledge, thus maintaining the momentum of continuous improvement (JUSE 1985). While the applicability of QCCs in Africa is sometimes questioned, Zambia and Ethiopia are good examples that justify this in Africa. According to the response of Zambia (JICA 2016a), the fundamentals of QCC are one of the pillars of the Golden Triangle Model on which *Kaizen* is anchored. In Ethiopia, small group activities (5S Committee, QCCs, and TPM) are customized by the Kaizen Promotion Team (KPT) involved in implementing *Kaizen* step-by-step from simple to complex. KPTs play the roles of the 5S committee, QCCs, and TPM (Mekonen 2018). From the responses of those seven countries, it is understood that almost all countries have introduced QCC activities.

The responses of target countries with regards to QCCs are shown in Table 3.4. The ranges of the scores are from 4 (high grade), 3 (medium grade), 2 (low grade) to Nil or Zero. The items sorted from different tables presented in this chapter are: (i) establishing QCCs in companies; (ii) all employees are involved in QCCs; (iii) company managements provide assistance to *Kaizen* units and QCCs; (iv) *Kaizen* units/coordinators prepare and provide training to QCCs; and (v) company management establishes systems to assist and motivate QCCs.

Table 3.4. Establishing and Promoting Quality Control Circles

No.	Activities	Score of responses by country						
		Zam	SA	Tan	Tun	Ken	Gha	Eth
1	Establishing QCCs in companies	4	3	3	3	4	4	4
2	All employees are involved in QCCs	3	3	3	4	4	4	4
3	Company management provides assistance to *Kaizen* unit and QCCs	4	3	3	3	4	4	3
4	*Kaizen* units/coordinators prepare and provide training for QCCs	2	3	3	3	4	3	3
5	Company management establishes system to assist and motivate QCCs	3	3	2	3	4	3	3
	Country average score	3.2	3	2.8	3.2	4	3.6	3.4
	Country ranking	4th	6th	7th	4th	1st	2nd	3rd

Scores: High grades (4); Medium grades (3); Low grades (2); Nil (0)

Kenya scores all high points (4) and is ranked 1st, followed by Ghana with an average score of 3.6 and ranked 2nd. The 3rd country is Ethiopia whose average score is 3.4. The other countries that are in the medium grade category are: Zambia and Tunisia with 3.2 points each (4th rank) and South Africa with 3 points (6th rank). Tanzania scored 2.8 and ranked 7th. In general, Table 3.4 provides a positive picture about the QCCs in all countries. Although this is encouraging, countries have to learn more about the roles of the 5S committees, QCCs, and TPM teams and customize small group activities according to their circumstances. Particularly, the formation, role, and activities of QCCs under the current challenges of COVID-19 and the working culture that may take shape post COVID-19 (the new norm) have to be given due consideration.

3.4. Standardized training and consulting programs

According to the JICA *Kaizen* Project Reports, each country follows a similar process to prepare and deliver training by Japanese experts for both class-room training (CRT) and in-company-training (ICT). However, the duration of CRT and ICT differs from country to country. The whole process can be summarized as follows:

(1) Japanese experts select the type of courses to be given and prepare training materials. There are cases to add or reduce course types and contents depending on the learning capacity of selected *Kaizen* consultants, company management, and workers for the training.

(2) The duration of CRT and ICT is determined depending on the course items, the complexity in learning and applying project approaches stipulated in the work plan prepared for each project by JICA experts. There are wide differences in the duration of CRT and ICT from country to country. In the micro, small, and medium enterprises (MSME) category, the duration for basic *Kaizen* training in Ghana is 5 weeks and advanced *Kaizen* 8 weeks; in Kenya *Kaizen* training for trainers is 1 year and for master trainers 3 years. In Tanzania, training for trainers is 3.5 months and for master trainers 13 months. In Zambia, training for *Kaizen* consultants is 1 year and for *Kaizen* trainers is 2 years. In Ethiopia, training for basic *Kaizen* is 6 months and for advanced *Kaizen* 8 months (JICA 2018, 79). All training incorporates CRT and ICT.

(3) After completing CRT, the trainees (*Kaizen* consultants) are examined to know their level of understanding and readiness for

ICT. This understanding is important when teaming up the trainees for ICT by combining those at different level of capacity to facilitate learning from each other.

(4) ICT is conducted initially under the guidance of Japanese experts, particularly during the first batch, and their involvement is reduced in the second and third batches. On the other hand, the involvement of *Kaizen* consultants increases until finally they are able to conduct ICT independently. In the second and third batch ICT, mainly in the second and third years of the projects, the *Kaizen* consultants assume the leadership with little assistance from Japanese experts. However, the JICA *Kaizen* Project Reports show differences in capacities among consultants and some may take time to assume leadership.

The review of the JICA *Kaizen* Projects Reports also shows that there are differences in the overall training and consultancy approaches followed by Japanese experts. Some follow the JUSE approach (basically QCCs based *Kaizen*) while others favor the JPC approach (mainly consultant led problem solving based *Kaizen*).[8] In some instances, for example in Ghana and Kenya, a diagnosis and consulting system (*Shindan* System[9]) in combination with 5S/*Kaizen*[10] has been introduced.

Counterpart organizations are asked questions related to the capacity level of trained *Kaizen* consultants to assess the effectiveness of training. The responses from those seven target countries are organized in Table 3.5. The table is constructed to indicate the *Kaizen* activities to be undertaken by local *Kaizen* consultants trained by Japanese experts without their assistance. Eight activities are listed in the table; they are believed to measure the capacity of trained *Kaizen* consultants directly and the 'effectiveness'[11] of the training (CRT, ICT) indirectly: (i) selecting pilot companies; (ii) organizing trainings for companies; (iii) preparing tailor

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[8]   JUSE and JPC approaches are the two most favoured ways of transferring *Kaizen* knowledge by JICA experts. For the details of these approaches please refer to the *Kaizen Handbook* (JICA 2018).

[9]   *Shindan* is a Japanese term used to describe a state authorized and sponsored management support for SMEs in an institutionalized form which was started in the year 1952 (Ohno 2009).

[10]   The term '5S/*Kaizen*' is used in Ghana.

[11]   Effectiveness in the context of this chapter is referring to achieving one of the outputs of the project in producing capable *Kaizen* consultants: the most important output in all *Kaizen* projects.

made training specific to the need of companies; (iv) providing training for companies; (v) establishing QCCs and providing training; (vi) assisting companies in the preparation and implementation plan and performance evaluation; (vii) periodically reviewing and upgrading training materials by including local best practices; and (viii) modifying *Kaizen* technologies/developing new technologies.

Table 3.5. *Kaizen* Activities to be Undertaken by Local *Kaizen* Consultants Trained by Japanese Experts without Their Assistance

No.	Activities	Score of responses by country						
		Zam	SA	Tan	Tun	Ken	Gha	Eth
1	Organizing training provided for companies	3	3	3	3	3	3	3
2	Selecting pilot companies	0	3	3	3	3	3	3
3	Preparing tailor-made trainings specific to the companies	3	2	3	3	3	3	3
4	Providing training for companies	3	3	3	3	3	3	3
5	Establishing QCCs and providing training	3	3	3	3	3	3	3
6	Assisting companies in the preparation and implementation plan and performance evaluation	3	3	2	3	3	3	3
7	Periodically reviewing and up-grading training materials by including local best practices	3	3	3	3	3	3	3
8	Modifying *Kaizen* technologies/developing new technologies	0	3	2	3	3	1	3
	Country average score	2.3	2.9	2.8	3.0	3.0	2.8	3.0
	Country ranking	7th	4th	5th	1st	1st	5th	1st

Note: CA=∑in; where, CA is country average, ∑ in is the sum of the score Items (∑i) of each country divided for the number of items (n=8).

Scores: 3: Yes (High); 2: Very little (Medium); 1: Not at all (Low); 0 for not providing any of those choices

Three choices were given for each item: (i) 'Yes' with 3 points and marked as High grade if the consultants are able to perform the activities without any assistance; (ii) 'Very little' with 2 points and marked as Medium grade if the consultants are able to perform the activities with some assistance; and (iii) 'Not at all' with 1 point and marked as Low grade if the consultants are not able to perform the activities without assistance. As depicted in Table 3.5, Tunisia, Kenya, and Ethiopia scored the highest grade '3' and

were ranked 1st among the seven countries. These countries, according to their responses, can conduct tailor-made training as per the needs of companies. More interestingly, they can modify and even develop new *Kaizen* technologies that are the highest stage of a consultants' capability. The country in the medium grade is South Africa with a score of 2.9 and a ranking of 4th. It scored high (3 points) in all except in preparing tailor-made training specific to companies (2 points). Like others who stood first, South Africa also indicated the capability of its consultants in modifying and developing new *Kaizen* technologies. Tanzania and Ghana scored 2.8 and were ranked 5th. Still these countries; South Africa, Tanzania and Ghana are in the high grade range since their scores are greater than 2.5, the lowest limit for the high grade. Zambia is in the medium grade, scoring 2.3 and ranked 7th.

3.4.1. *Preparing standardized training and consultancy programs*

Standardized training and consultancy programs include preparing standardized training materials, consultant training programs, consultant evaluation, grading, and certification system; company management and workers training programs; QCCs training and supporting conventions from company to national level programs; establishing incentives, and acknowledgement and awarding systems. As part of the Africa Kaizen Initiative (AKI)—the cooperation initiative signed by JICA and AUDA-NEPAD in April 2017—JICA commissioned a study on 'Standardizing *Kaizen* Activities in Africa' and a *Kaizen Handbook* (JICA 2018) to serve as a minimum requirement in those programs mentioned here and this is prepared and distributed to those target countries covered by this study.

Eight major contents of the *Kaizen Handbook* are incorporated in the questionnaire that was sent to the heads of counterpart organizations to assess to what extent each country has utilized the *Kaizen Handbook*. Four alternative choices were given: (i) 'to a very large extent' with 4 points and High grade; (ii) 'to some extent' with 3 points and Medium grade; (iii) 'to a limited extent' with 2 points and Low grade; and (iv) 'not practiced yet' with zero points. The responses of each country are organized in Table 3.6.

Table 3.6. Content of the *Kaizen Handbook*

No.	Content of the Handbook	Score of responses by country						
		Zam	SA	Tan	Tun	Ken	Gha	Eth
1	Training courses	2	3	3	3	4	3	4
2	Selection of companies	2	3	3	3	4	3	4
3	Training modules step by step	2	2	3	3	4	3	4
4	Establish QCCs in *Kaizen* implementing companies	2	2	3	3	4	3	4
5	Evaluation and measurement	2	2	3	3	4	2	4
6	Standardization	2	3	3	4	4	3	4
7	Recognition and awards	2	3	3	2	3	4	4
8	Aligning *Kaizen* with development policy of the country	0	2	2	3	3	4	4
	Country average score	1.8	2.5	2.9	3.0	3.8	3.1	4.0
	Country ranking	7th	6th	5th	4th	2nd	3rd	1st

Note: CA=∑in; where, CA is country average, ∑in is the sum of the score of Items (∑i) of each country divided for the number of item (n=8).

Scores: to a very great extent (4); to some extent (3); to a limited extent (2); not practiced yet (0)

Overall, two countries—Ethiopia and Kenya—scored High grades. Ethiopia scored all high with average of 4 points and stood 1st, while Kenya was 2nd with an average of 3.8 points. The ranks of other countries with Medium grades are Ghana 3rd (3.1 points), Tunisia 4th (3.0 points), Tanzania 5th (2.9 points), and South Africa 6th (2.5 points). Zambia scored 1.8 points and ranked 7th. In general, there are only four countries that scored 3 points, and above which can be considered to be fairly utilizing the Handbook. The remaining three countries scored below 3 points, indicating a low utilization rate of the *Kaizen Handbook*.

3.4.2. Customization of training materials

One aspect of preparing standardized training and consultancy programs is customization. The seven target countries covered by this study were asked five basic questions that are believed to shed light on their customization efforts. The responses of each country are given in Table 3.7. All countries agreed on the training materials prepared by the Japanese experts at the initial stage of any project reflecting Japanese experience, company cases and in many instances discussing engineering examples. The question that follow is 'have you customized those training materials to your company's specifics? Five countries (Tunisia, Tanzania, Kenya,

Table 3.7. Responses of Countries to the Customization Processes

No.	Process of customization	Zambia	South Africa	Tunisia	Tanzania	Kenya	Ghana	Ethiopia
1	Most of the contents and cases of the training materials prepared by Japanese experts are initially based on Japanese experiences and focuses on engineering companies. Do you agree or disagree?	Agree	Agree (we use TPS)	Agree	Agree	Agree	Agree	Agree
2	If you agree (N1), have you customized those training materials to your companies' specifics?	No Revised to avoid duplication & tuned to our level (1-4) certification step-by-step	No	Yes Insert the results of factories	Yes Using real stories and pictures of enterprises	Yes KIBT team works with JICA experts	Yes Insert local examples, modifying formulas (accounting), and replacing games and exercises with local	Yes Producing sector specific materials. Translating into local languages (Amharic, Afan Oromo, Tigrigna)
3	How frequently do you revise training materials? (i) every 3 months; (ii) every 4 months; (iii) every 6 months; (iv) every year; (v) none	Every year	Every year	Every year	None	Every year	Every year	Every year

No.	Process of customization	Zambia	South Africa	Tunisia	Tanzania	Kenya	Ghana	Ethiopia
4	Have you modified *Kaizen* principles, tools, systems (*Kaizen* technologies) you have acquired from Japanese experts to your specific requirements? (i) yes; (ii) no; If yes, how did you do it?	No	Yes Customized *Kaizen* manual	No	Yes Reduced CRT from 5-3 days. ICT from 11-5 weeks, master training from 24-6 months	Yes	Yes Refer to No.2 above	No
5	Have you introduced new technologies developed by yourself or your organization? i) yes; ii) no; if yes, explain.	No	Yes Applying MFID	No	No	No	Yes Use of 'stickers'	No

Ghana, and Ethiopia) replied 'Yes' while two countries (Zambia, South Africa) said 'No.' For those who replied 'Yes' a follow up question on how they do it is asked.

The summary of their responses are: (i) reviewing the training materials to avoid duplications; (ii) streamlining countries' training and consultancy levels of capacity (for instance Zambia has four levels of step-by-step certification); (iii) customizing the training materials to fit sector-specific needs (manufacturing, services, education, logistics, and so on) such as in Ethiopia; (iv) inserting the best experiences of companies, using real stories and pictures; (v) replacing Japanese examples, games, and exercises with those that reflect country-specific situations (Ghana); (vi) making some formulas in accounting more relevant and simple to facilitate understanding by local companies; and (vii) translating materials prepared in English into local languages. For example, in Ethiopia, the materials were translated into three local languages (Amharic, Afan Oromo, and Tigrigna). Similarly, in Tanzania, they were translated into Kiswahili. As a follow up question, countries are asked about how frequently they make the revision. Six countries make it every year while one country failed to indicate the frequency.

The most important customizing activity is modifying and developing/ innovating *Kaizen* technologies to country-specific situations. A question is forwarded to the countries: 'Have you modified the *Kaizen* principles, tools, and systems (*Kaizen* technologies) you have acquired from Japanese experts through CRT and ICT to your specific requirements?' From those seven countries, four (South Africa, Tanzania, Kenya, Ghana) replied 'Yes' but the remaining three (Zambia, Tunisia, Ethiopia) answered 'No.' Those that replied 'Yes' are asked to reason out how they do it. Their responses are different. South Africa frequently customizes *Kaizen* manual to reflect its current state of development. Tanzania reduced CRT from 5 to 3 days, ICT from eleven to five weeks and master training from 24 to six months. Ghana's response is developing stickers that reflect local examples and replacing formulas used in the training with a modified version.

Countries are further asked questions that helps to explore their customization efforts; 'Have you introduced new technologies developed by yourself or your organization?' The two countries who replied 'Yes' are Ghana and South Africa. The new technologies Ghanaians claim they introduced are 'using stickers instead of marker for visual control'

and 'using stickers instead of computer printout for labeling skill maps.' The new technology introduced by South Africa is the application of a Material and Information Flow Diagram (MIFD).

3.4.3. Assessing training and consultancy programs performance

Assessing the performances of pilot companies is also one way of examining the effectiveness of the training and consultancy programs. Pilot companies imply those selected for ICT and those enterprises practicing *Kaizen* by local capacity such as the Kaizen Institute of Zambia (KIZ), Ethiopian Kaizen Institute (EKI) and industry support centers in Tunisia without the involvement of Japanese experts. Table 3.8, therefore, indicates the degree of involvement of companies or their performances (company level commitments), and indirectly the persuasive ability of local *Kaizen* consultants in motivating those companies for *Kaizen* activities.

Table 3.8. *Kaizen* Activities to be Undertaken by Companies Implementing *Kaizen*

No.	Activities	Score of responses by country						
		Zam	SA	Tan	Tun	Ken	Gha	Eth
1	All management and workers are trained	3	4	3	3	4	4	4
2	Establishes *Kaizen* unit/coordinator	4	4	3	3	4	3	3
3	Established QCCs	4	3	3	3	4	4	4
4	All employees are involved in QCCs	3	3	3	4	4	4	4
5	Plan and execute *Kaizen* activities	4	4	3	3	4	4	4
6	Company management provides assistance to the *Kaizen* unit and QCCs	4	3	3	3	4	4	3
7	*Kaizen* units/coordinators prepare and provide training for QCCs	2	3	3	3	4	3	3
8	*Kaizen* units establish and undertake evaluation and performance measurement	4	3	2	3	4	3	3
9	Company management establishes system to assist and motivate QCCs	3	3	2	3	4	3	3
	Country average score	3.4	3.3	2.8	3.1	4.0	3.6	3.4
	Country ranks	3rd	5th	7th	6th	1st	2nd	3rd

Note: CA=∑in; where, CA is country average, ∑in is the sum of the score of Items (∑i) of each country divided for the number of item (n=9).
Scores: to a large extent (4); to some extent (3); to a limited extent (2); 'not at all' (0)

The table consists of nine standard activities to be undertaken by companies while implementing *Kaizen*: (i) train all management and workers; (ii) establish a *Kaizen* coordinator/team; (iii) establish QCCs; (iv) involve all employees in QCCs; (v) plan and execute *Kaizen* activities; (vi) (company management) provide assistance to the *Kaizen* unit and QCCs; (vii) *Kaizen* units/coordinators prepare and provide training for QCCs; (viii) (*Kaizen* units) establish and undertake evaluation and performance measurement; and (ix) (company management) establishes systems to assist and motivate QCCs.

Four alternative choices are given for each activity. The highest with four points is 'to a large extent' marked as High grade; the second 'to some extent' with 3 points marked as Medium grade; the third 'to a limited extent' with 2 points marked as Low grade; and the fourth 'Not at All,' marked with zero points. Countries' responses are scored, graded, and ranked (see Table 3.8). The first country to score 'High' (4) in all is Kenya. According to the responses from Kenya, it stood 1st in all activities and may show Kenyan companies are carrying out extraordinary activities. Ghana ranks 2nd with 3.6 points.

Countries that scored below 3.5 points—the lower limit for scoring high—are Zambia and Ethiopia in the 3rd rank with 3.4 points; South Africa with 3.3 points and 5th. The 6th country with 3.1 points is Tunisia and Tanzania is 7th with 2.8 points. The six countries whose points are within the range of 3.4-2.8 all fall in the category of Medium grade although their ranks differ according to their respective points. Generally speaking, a Medium grade is not a disappointing achievement. In fact, it can be considered as within the range of the 'satisfactory' level.

3.5. Industry-academia-government partnership for quality and productivity movement

The experience of Japan suggests that *Kaizen* knowledge may not have its current status and scope without the involvement of academia. The author firmly believes that Japanese scholars provided us with the opportunity to learn, expand, and deepen our knowledge of *Kaizen* by leaving behind their research works, practices, and development of *Kaizen* through time. Just four cases, among the many involving prominent scholars, are cited here:

(1) Kaoru Ishikawa who was the author of several books on QC

He received the Deming Prize in Japan, the Grant Prize from the American Society for Quality Control (ASQC). He was honored by ASQC in 1982 with the Shewhart Medal in recognition of his outstanding contribution to the development of QC theory, principles, techniques, QCCs activities, and standardization for both Japanese and the rest of the world industries that enhanced quality and productivity (Ishikawa 1985).

(2) Shigeo Shingo who was a member of JMA

He consulted Toyota from 1955-80 in designing and training productivity courses for about 3,000 technical personnel in 79 rounds and contributed a lot to the development of the Toyota Production System (TPS) (Kato and Smalley 2011). Among his major works, *A Study of Toyota Production System, From an Industrial Engineering Point of View* (Shingo 1981) and *Zero Quality Control: Source Inspection and the Poka yoke System* (Shingo 1985) are worth mentioning.

(3) Kunio Shirose

His contribution was more on TPM. He was the author of *TPM for Workshop Leaders* (1984), editor of *TPM Team Guide* (1988), and was a contributing author of different publications on TPM.

(4) Tokutaro Suzuki

He was the editor and contributor of a book entitled TPM in Process Industries to customize TPM, which was born and developed in the engineering industry, to the special features of process industries (Suzuki 1992).

The responses of countries concerning the involvement of scholars in *Kaizen* practices in Africa can be said to be at an extremely low level, and this might indicate its effect on the low pace of customization and the development of new improvement technologies. One can guess that the low level of research on *Kaizen* activities by African academicians strongly affects the ability to generate, accumulate and professionally document customized or new improvement ideas, technologies, and systems. This reflects the weakest link among the industry (end-user of Quality and Productivity Improvement (QPI tools), academia (generator and provider of QPI tools), and government (supporter and facilitator of the linkage through *Kaizen* institutions). The main actors expected to create

the linkages in the context of Africa are counterpart organizations: *Kaizen* institutes, SME agencies and *Kaizen* units.

3.6. Development of private sector capability to sustain quality and productivity improvement

Chapter 2 illustrates the role of private institutions (JPC, JMA, JUSE, and private companies) in the process of learning improvement technologies from the west, customizing, innovating, and disseminating these throughout Japanese companies. The chapter also highlighted the development of private consultants and association in Singapore during the ownership stage. The counterpart organizations to JICA *Kaizen* projects in Africa are all public institutions, according to their responses. The *Kaizen* projects approach is to produce trainers or *Kaizen* consultants from counterpart institutions. It is expected that the trained consultants from the counterpart institutions will provide wide scale training and produce public and private *Kaizen* consultants in increasing numbers. Of course, training is provided to private companies' management, supervisors, workers, *Kaizen* coordinators, and QCCs, and this might be one of the means to produce private *Kaizen* consultants in those companies.

In this study, countries are asked to what extent they have tried to train and produce private *Kaizen* consultants apart from company training. None of the target countries provides training directly to private *Kaizen* consultants nominated from private consulting companies.

4. Findings

The study made in this chapter with the help of the methodology explained in Section 2, revealed the following findings:

(1) In some countries (Ethiopia, Zambia), the commitments of top political leaders are exhibited in establishing institutions committed to *Kaizen* and allocating budgets. When observed closely, in most cases the commitments of governments and companies in terms of allocating budgets for *Kaizen* activities as one basic indicator are very low compared to those Japanese companies as explained by Deming in this chapter. This is believed to limit the efforts of countries to expand and sustain *Kaizen* activities as part of their responsibilities to scale-up project achievements, ignite nation-wide movements, and increase

the benefits of *Kaizen*. As it stands now, collecting fees by counterpart organizations and utilizing for *Kaizen* activities is a problem in any country. This is because counterpart organizations are public institutions, and their budget is allocated by governments. Collecting fees are not encouraged unless those institutions are allowed by a special regulation to use the fee for *Kaizen* activities.

(2) Although there is no 'one-size-fits all' approach in drawing strategy, designing policy, or modeling the entire journey from the start to finish, there are only few countries that have a clear strategy for learning, customizing, and disseminating *Kaizen*. Ethiopia has crafted a 15-year strategy and its own model that supports the realization of the strategy. It has also incorporated *Kaizen* in its second Growth and Transformation Plan (GTP II) 2016-2020. Zambia has developed a model known as a Golden Triangle that indicates the path it will follow to disseminate *Kaizen*. Except for those two countries, the remaining five do not indicate to have a clear strategy or model on how to transfer, customize, and disseminate *Kaizen*. One exception with Tanzania is that it has reported it will incorporate *Kaizen* in its strategic plan. It can be generalized that either there is limited awareness on having a longer perspective strategy or lack of comprehensive understanding of the experiences of those successful countries (Japan, Singapore). It is also possible to assume that, in most cases, *Kaizen* is seen as project activities managed by Japanese experts and that there is less enthusiasm to takeover (ownership) by the African side. Compared to the experiences of Japan and Singapore, it looks those target countries did not give adequate attention to the importance of developing appropriate strategy or modeling their journeys for *Kaizen*. It is also possible to assume that a QPI process without clear guidance, appropriate strategy, and modeling may limit the success of the process.

(3) In terms of institutional arrangements, Ethiopia and Zambia established *Kaizen* Institutes entirely dedicated to coordinating and disseminating *Kaizen* activities nationwide. Tunisia is using temporarily established quality and productivity activities coordinating unit (UGPQ). Ghana is coordinating *Kaizen* activities through its SMEs Agency (NBSSI) and in Kenya through its business training institute (KIBT) for SMEs. In Tanzania, TKU is established as counterpart and coordinating arm. These institutional setups are expected to play the role of those Japanese

and Singaporeans institutions illustrated in Chapter 2. However, as it is discussed in this chapter from various perspectives, *Kaizen* promoting institutions, commonly called counterpart organizations, are less vibrant than expected to be—except for a few of them; with respect to having standardized training and consultancy programs, it is understood that the priority areas of countries are diverse, ranging from micro enterprises to large-scale enterprises. Existing practices in target countries are often quite different in having standardized *Kaizen* training and exercises to develop *Kaizen* consultants and consultancy services. There are wide differences in the duration of CRT and ICT from country to country. For instance, for training a *Kaizen* consultant in basic *Kaizen* takes 5 weeks in Ghana, and 6 months in Ethiopia. For advanced *Kaizen*, it takes 8 months in Ethiopia. In Kenya *Kaizen* training for a trainer is 1 year and for a master trainer 3 years; in Tanzania, training for trainers is 3.5 months and for master trainers 13 months; in Zambia, training for a *Kaizen* consultant is 1 year and a *Kaizen* trainer is 2 years. This study has disclosed that the rate of utilization of the *Kaizen Handbook* that was prepared to standardize *Kaizen* activities in those target countries and beyond is found to be very low in Zambia, high in Ethiopia and medium to low in the remaining five countries. On the other hand, the capability of consultants, as revealed by counterpart organizations, is encouraging, and can be utilized to trigger national quality and productivity movements in each country. It can be also utilized to expand *Kaizen* to neighboring countries, one of the strategic activities of AKI. Overall, according to the responses of those seven target countries, the capabilities of *Kaizen* consultants show one aspect of the progress of *Kaizen*. They might also indicate the effectiveness of the JICA *Kaizen* projects whose main objective is producing capable *Kaizen* consultants for the provision of standardized *Kaizen* training.

(4) Generally observed, the responses with respect to the lessons each country claimed to take home from AKACs are not well developed for practically putting them into action in the analysis made in different sections of this chapter.

(5) It is learnt that most of the countries established QCCs. Although this is encouraging for the expansion of *Kaizen* and the sustainability of *Kaizen* activities in companies, still they are few in number.

(6) The involvement of scholars in *Kaizen* practices in the target countries can be said to be at an extremely low level, which might have an effect on the low pace of customization and the development of new improvement technologies as seen in Japan. One can guess that the low level of research on *Kaizen* activities by academicians in target countries might strongly affect the ability to generate, accumulate, and professionally document customized or new improvement ideas, technologies, and systems; and systems.

(7) The study further revealed that producing local private consulting houses with capable private *Kaizen* consultants is not given appropriate attention, and this can be seen in JICA *Kaizen* Project Reports and the responses of counterpart organizations.

5. Conclusion and Recommendations
5.1. Conclusion

This chapter has analyzed the current status of the on-going *Kaizen* projects based on the reports of 'JICA *Kaizen* Projects' and the responses of counterpart organizations with respect to the six success factors identified in Chapter 2. Although there are some efforts in all countries that could be seen as a start of a *Kaizen*/quality and productivity movement, much is left to be done in all countries with respect to those six factors.

In general, as viewed from the perspectives of the Japanese and Singaporean experiences discussed in Chapter 2, the responses of target countries can be considered as being at the initial stages of learning and disseminating original knowledge acquired from Japanese experts. The introduction of *Kaizen* into some of those target countries is about an age of decay. No country has made a significant effort to modify what has been acquired from Japanese experts or innovate new improvement tools.

Generally, although some encouraging efforts have been made in each country to promote *Kaizen* activities and report on the effects from time to time (showing progress), it has not developed into a national movement even in Ethiopia where the promotion of *Kaizen* is highly pronounced (indicating the challenges) as was expected.

5.2. Recommendations

From the preceding analysis and findings, the following recommendations are made:

(1) The practice of *Kaizen* should be considered in terms of short and long-term costs and benefits. In the short-term, quick wins help to attract the attention of governments. Institutional preparedness, do-able actions, and quick wins may convince the government to commit some budgets. However, a high-level commitment and devotion is expected from those counterpart institutions to overcome all challenges they may face in discharging their responsibilities. Business as usual cannot lead them to success. Extraordinary efforts are required for the success of QPI/*Kaizen* activities and building their image. Institutions have to win the hearts of their governments by showing the impact of *Kaizen* and secure resources. They have to have clear and convincing visions and strategies on how to transfer, customize, and own *Kaizen* knowledge through time. It has to be understood that government commitment is something that can be earned and maintained through untiring institutional efforts. This is because governments are usually crowded with many competing institutions with diverse services demanding budgets. *Kaizen* institutes have to win this competition.

(2) *Kaizen* institutes/units have to show their importance through their continuous achievements, particularly in contributing to the national development efforts and building their image. They have to craft a roadmap, strategy, and action plan in line with national development plans that show the strong impact of *Kaizen* and successfully implement them. In this way they have to strive to secure sustainable budgets.

(3) Primarily, countries have to take advantage of their current institutional arrangements. For instance, Tunisia is using institutes established for different industrial sectors to learn and disseminate *Kaizen* (see Chapter 4 for details). UGPQ, as a unit, is coordinating those institutes. Those institutes are closer to the companies affiliated to them, have more knowledge to understand their problems better and can combine *Kaizen* activities with their core operations. TKU in Tanzania, with the recognition it has now from MIT, has a chance to grow and expand. NBSSI in Ghana and KIBT in Kenya have a nation-wide institutional infrastructure reaching out to MSMEs

in all corners of the countries. This is a huge opportunity to launch nationwide movements, coordinate and bring success that might be the best experience to learn from. EKI in Ethiopia and KIZ in Zambia are also ideal institutions to play leading roles in a better and more coordinated way than they are doing currently.

(4) It is important to motivate and encourage companies to share costs and eventually pay for *Kaizen* services from the extra profit they are gaining. Unfortunately, most companies in Africa have developed a habit of 'free-lunch services;' high expectation from government support and 'luxury from western donors' assistance compared to *Kaizen* projects that are based on long-term thinking and becoming a learning organization through relentless reflection (Hansei) and continuous improvement (*Kaizen*). In fact, the practice of *Kaizen* in companies brings qualitative and quantitative changes contributing to the cost effectiveness, profitability, and customer satisfaction that might encourage companies to share costs. In general, much remains to be done in each country in this regard. Governments are expected to install regulations to collect and use fees by counterpart organizations with a transparent reporting mechanism to those who allocate and control government budgets. This is an important issue to be resolved in trying to realize the intentions of many countries to introduce fee-based services as one solution to maintain the sustainability of *Kaizen* activities. In addition, it could encourage companies to pay for training and consultancy services and reduce the budget burden on governments. Hence, it is important to encourage companies to share training and consultancy costs through covering the costs of company training, QCCs activities, *Kaizen* consultants' field allowances, and transport from and to *Kaizen* institutes.

(5) Although it cannot be expected that there would be one standard for all ranges of scales of enterprises, the frameworks of standards to be followed in conducting different *Kaizen* activities are important. Activities like selection of trainees, pilot companies, preparing and providing CRT and ICT trainings, follow-up, evaluations, assessments, certification, consultants' development at different levels, and so on, have to follow or meet certain standards practiced in Japan and other successful countries. For instance, the approach for training manufacturing SMEs may differ on the types of courses, depths and identified themes. But the approaches and activities may not have

any basic differences. Standardization could help in assessing the experiences of countries operating at a similar scale of operation using common indicators. It is recommended to encourage counterpart organizations and Japanese experts to give attention and use the *Kaizen Handbook* as minimum requirements to standardize *Kaizen* training and consultancy programs. Utilization of other studies—outputs of *Kaizen* projects as strategic plan, master plan and the like—could support to continuously up-grade *Kaizen* activities. JICA is advised to confirm their utilization through interim and final reports.

(6) It is also recommended to give special attention to industry-academia-government linkages by designing appropriate programs to involve scholars in on-going *Kaizen* projects. This has to be considered as one important role of counterpart organizations.

(7) Encouraging companies to promote team formations such as 5S committees, QCCs, and TPM teams in customized ways could help to create grass-root level awareness and institutionalize *Kaizen* activities. Counterpart organizations are advised to customize the activities of QCCs and TPM teams to the situation of their countries and companies.

(8) Preparing 'Executive Briefing Notes' that are very brief, illustrative, and enlightening brochures (A5-size Booklet) through the collaboration of the AUDA-NEPAD Agency and JICA is helpful to inform political leaders and policy makers on *Kaizen* impact.

Appendix 3.1. Project profiles as reported by target countries

1. Ethiopia:
    (a) The period of the first project: 2009 - 2011
    (b) The period of the second project: 2011-2014
    (c) The period of the third project: 2015-2020

2. Tanzania:
    (a) The period of the first project……2013 - 2016
    (b) The period of the second project……2017 - 2021

3. Tunisia:
    (a) The period of the first project: NA
    (b) The period of the second project: 2016-2019 (3 years)
    (c) The period of the third project: NA

4. Kenya (KIBT):
    (a) The period of the first project……3 year
    (b) The period of the second project……….3 year
    (c) The period of the third project……3 year

5. South Africa:
    (a) The period of the first project: 2001- 2006
    (b) The period of the second project: 2009 - 2013
    (c) The period of the third project: 2015 - 2019

6. Zambia:
    (0) The period of phase zero Project: 2009 - 2013 (before KiZ establishment)
    (a) The period of the first project: 2014 - 2016 and extended by about 8 months
    (b) The period of the second project: 2017 - 2020

7. Ghana:
    (a) The period of the first project: April 2012 - March 2015 (total of three years)
    (b) The period of the second project: October 2015 - January 2019

Appendix 3.2. Questionnaire prepared and sent to counterpart organizations

Country name……………………………………………………….

National Counterpart organization (Ministry, Agency, …) ………………

Name of Implementing institution (institute, agency, department, section, *Kaizen* Unit (KU))……..

1. The period of QPI/*Kaizen* projects implemented including the on-going one, if any:
    (a) The period of the first project………
    (b) The period of second project…………
    (c) The period of the third project……..
    (d) The period of the fourth project…….

2. Indicate your participation in knowledge sharing and Africa Kaizen Annual Conferences. (please mark © on your choice/s
    a) Addis Ababa Knowledge Sharing Seminar……
    b) Nairobi Knowledge Sharing Seminar……
    c) Durban Africa Kaizen Annual Conference……..
    d) Tunis Africa Kaizen Annual Conference………

Can you discuss important lessons you took and implemented from the seminars and conferences you have participated? Please provide facts for the effectiveness of those lessons you have implemented.

Can you recommend for further improvement of the conference and award?

2. In QPI/*Kaizen* projects assisted by JICA, Japanese experts prepare training materials to be used to train *Kaizen* consultants, companies, etc.
    i. Most of the training materials contents and cases presented ***initially*** are Japanese experiences, company cases, and in many instances discuss engineering examples. Do you agree or disagree? Please put © on your choice.

    (a) I agree ……..

    (b) I disagree………

ii. If you agree, have you customized those training materials to your companies' specifics? Please put © on your choice.

    a) Yes…………

    b) No…………

iii. If your answer to (b is yes), please give the details on how you did it. Please also provide examples that could verify your responses.

3. How frequent you revise training materials? Please put © on your choice.

    (a) Every 3 months…….

    (b) Every 4 months……….

    (c) Every six months………..

    (d) Every year…………

    (e) None…….

    if you often revise your training materials, what are your reasons for doing it?

4. Have you modified *Kaizen* principles, tools, systems (*Kaizen* technologies) you acquired from Japanese experts to your specific requirements? Please put © on your choice.

    a) Yes……….

    b) No……….

    If your answer to (5) is yes, please discuss how you did it/them and provide samples/evidence including their impacts on companies.

5. Have you introduced new technologies developed by yourself or your organization? Please put © on your choice.

    a) Yes……….

    b) No……….

    If your answer to (6) is yes, please discuss how you did it/them and provide samples/evidences including their impacts on companies.

6. As part of the Africa Kaizen Initiative to standardize *Kaizen* activities in Africa, JICA has conducted a study and produced a Kaizen HANDBOOK. A general framework of steps to follow from simple to complex and lists of courses for each step in training *Kaizen* technologies are given in the HANDBOOK. To what extent you have exercised the guidelines and recommendations provided in the HANDBOOK? Please put © on your choice.
   a) We haven't exercised at all…………
   b) (b) to a very limited extent…………….
   c) (c) to some extent……………
   d) (d) to a greater extent………….
   If your answer is (c) and/or (d), please discuss how you did it and your view on the benefits you get.

7. In the Kaizen HANDBOOK—from the experiences of Japan, Singapore, and African countries—types of institutionalization (forming responsible institutional structure) are discussed. Which of the following your country adopted as a responsible entity for *Kaizen* activities? Please put © on your choice.
   a) Establishing *Kaizen* Institutes………
   b) Delegating SME agency……………
   c) Delegating sectoral specialized institutes……………
   d) Forming *Kaizen* unit………….

8. If your answer is b or c, please discuss how *Kaizen* activity is organized and run. Please attach the current organizational structure and indicate the unit responsible for *Kaizen*.

9. What type of *Kaizen* activities are undertaken by local *Kaizen* consultants trained by Japanese experts without their (Japanese) assistance? Please fill the following table by marking © on your choice.

S.N.	Activities	Yes	No	Very little
1	Organizing training provided for companies			
2	Selecting pilot companies			

S.N.	Activities	Yes	No	Very little
3	Preparing tailor-made training specific to the companies			
4	Providing training for companies			
5	Establishing QCCs and providing training			
6	Assisting companies in the preparation and implementation plan and performance evaluation			
6	Periodically reviewing and up-grading training materials by including local best practices			
7	Modifying *Kaizen* technologies/developing new technologies			

10. To what extent you have referred to/utilized the *Kaizen* HANDBOOK prepared by JICA? Please fill the following table by marking © on your choice.

S.N.	Content of the HANDBOOK	Not practiced yet	To a limited extent	To some extent	To a very great extent
1	Training courses				
2	Selection of companies				
3	Training modules step by step				
4	Establish QCCs in *Kaizen* implementing companies				
4	Evaluation and measurement				
5	Standardization				
6	Recognition and awards				
7	Aligning *Kaizen* with the development policy of the country				

11. To what extent the following *Kaizen* activities are undertaken in companies implementing *Kaizen*? Please mark © on your choice.

S.N.	Activities	Not at all	To a very limited extent	To some extent	To a large extent
1	All management and workers are trained				
2	Establishes *Kaizen* unit/ coordinator				
3	Established QCCs				

S.N.	Activities	Not at all	To a very limited extent	To some extent	To a large extent
4	All employees are involved in QCCs				
5	Plan and execute *Kaizen* activities				
6	Company management provides assistance to *Kaizen* unit and QCCs				
7	*Kaizen* units/coordinators prepare and provide training for QCCs				
8	*Kaizen* units establish and undertake evaluation and performance measurement				
9	Company management establishes system to assist and motivate QCCs				

12. To what extent universities are involved in *Kaizen* activities? Please mark © on your choice.
    (a) not involved at all……
    (b) to a limited extent ……….
    (c) to some extent………
    (d) to a greater extent…………….
    If your answer is (c) or (b), please indicate the types of activities they are involved in.

13. Japanese strategy/model in transferring western improvement knowledge and methods and developing *Kaizen* took the steps of learning, adapting, and disseminating. Likewise, Singapore's was awareness creation, implementation, and ownership. What is your strategy/model, if any, to transfer, disseminate, sustain, and own QPI/ *Kaizen* activities/practices?

14. PJICA's technical assistance may not continue for unlimited time. How do you sustain the continuity of *Kaizen* implementation by your own efforts after the completion of the project?

15. Do you have any plan to provide training and consultancy to your neighbouring countries? Please make © marks on your choice.
    (a) Yes…………..
    (b) No……………..
    If your answer to (16) is yes, please elaborate your plan or how you think to do it.

    If your answer to (16) is no, what help do you need to build your capacity within the on-going project?

16. What are the factors that explain commitment of the government and implementing companies? Please fill the following table by making © on your choice.

S.Nn	Items	Not at all	Some/not adequate	Adequate
1	Government allocate budget for counterpart organization:			
	a. Salary and wages			
	b. Office equipment and consumables			
	c. Transport and allowances for field work			
	d. Costs for national conventions, conferences, awards etc			
2	Companies allocate budget:			
	a. Company training			
	b. QCCs activities			
	c. Allowances for *Kaizen* consultants			
	d. Recognition and awards			
	e. Cost sharing (consultancy fee)			

We thank you for taking your time and answering the questions with great responsibility.

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