

JORDAN ENTERPRISE DEVELOPMENT CORPORATION (JEDCO),
THE HASHEMITE KINGDOM OF JORDAN

THE PROJECT
ON
THE DISSEMINATION OF
QUALITY / PRODUCTIVITY IMPROVEMENT (KAIZEN) PRACTICES
FOR SMALL AND MEDIUM ENTERPRISES
IN
THE HASHEMITE KINGDOM OF JORDAN

(SUMMARY)

MAY 2013

JAPAN INTERNATIONAL COOPERATION AGENCY

UNICO INTERNATIONAL CORPORATION

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Abbreviations

ACI	Amman Chamber of Industry
ASEZ	Aqaba Special Economic Zone
BDC	Business Development Center
C/P	Counter Part
CBJ	Central Bank of Jordan
EDP	Executive Development Program
EJABI	Euro Jordanian Advanced Business Institute
EU	European Union
F/U	Follow-up
FFF	Faculty for Factory
FZC	Free Zone Corporation
GDP	Gross National Product
GM	General Manager
GMP	Good Manufacturing Practice
GSC	Garment Design and Training Services Center
HACCP	Hazard Analysis (and) Critical Control Point
HAPPI Program	Human Affiliated Program for Productivity Improvement
ICI	Irbid Chamber of Industry
IDD	Industrial Development Directorate
IMC Jordan	Institute of Management Consultants and Trainers of Jordan
ISO	International Standard Organization
IT	Information Technology
JAED	Jordan Agency for Enterprises Development
JCI	Jordan Chamber of Industry
JEDCO	Jordan Enterprise Development Corporation
JFEMA	Jordan Furniture Exporters and Manufacturers Association
JGATE	Jordan Garments, Accessories and Textile Exporters' Association
JIB	Jordan Investment Board
JICA	Japan International Cooperation Agency
JICA SV	JICA Senior Volunteer
JIEC	Jordan Industrial Estates Corporation
JOPEA	Jordan Olive Products Exporters Association
JSMP	Jordan Service Modernization Program

JUMP	Jordan Upgrading and Modernization Program
JUMP II	Support to Enterprise and Export Development Program
M/M	Minutes of Meetings
MOIT	Ministry of Industry and Trade
NAFES	National Fund for Enterprise Support
NLP	National Linkage Program
OJT	On-the-Job-Training
PEU	Productivity Enhancement Unit
PR	Public Relation
PU	Productivity Unit
QC	Quality Control
QCD	Quality, Cost, Delivery
QIZ	Qualifying Industrial Zones
R & D	Research and Development
RSS	Royal Scientific Society
S/W	Scope of Work
SME	Small and Medium Enterprise
TPM	Total Productive Maintenance
TQM	Total Quality Management
UAE	United Arab Emirate
USAID	United States Agency for International Development
ZCI	Zarqa Chamber of Industry
5S	Disposal, Putting in order, Cleaning, Standardization, Discipline

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**Part I Background and Framework of the Project, and
Current Situation of KAIZEN Dissemination
Initiatives in Jordan**

1 The Framework of the Project

(1) Background of the project

The Jordanian Government in 2007 requested the Japanese Government to implement a technical cooperation project related to SME development. Along with various issues, the Jordanian Government decided to request technical cooperation for improvement of quality and productivity by KAIZEN, recognizing low level of productivity and lack of human resources and systems capable of guiding productivity improvement in Jordan.

In response to this request, the Japan International Cooperation Agency (JICA) discussed the content of a project with the Jordan Enterprise Development Corporation (JEDCO) which is under the Ministry of Industry and Trade (MOIT) and which would be the implementing agency, and JEDCO and JICA signed a Scope of Work (S/W) agreement on July 19, 2010.

(2) Goal of the project

Materials for disseminating quality/productivity improvement (KAIZEN) practices for small and medium enterprises (SMEs) in Jordan, and the recommendation for disseminating KAIZEN practices are formulated through pilot exercises.

(3) Outcome of the project

The following outcome was adopted as targets to accomplish the above goal.

1. Awareness of KAIZEN practices are to be raised within Jordanian industrial circles.
2. Following outcomes will be produced through supporting pilot SMEs by utilizing KAIZEN practices.
 - a. A number of private consultants and employees of relevant organizations are to be equipped with KAIZEN expertise necessary for them to perform their duty of disseminating KAIZEN practices.
 - b. Pilot SMEs are to produce tangible benefits from pilot KAIZEN exercises.
 - c. Materials for training KAIZEN related human resources are to be developed.
3. Recommendations for institutionalizing KAIZEN dissemination measures are to be provided based on the above outcome.

(4) Implementation agency

The implementation agency for the project is JEDCO. Executive Development Plan (EDP) of the Government assumes JEDCO as the core agency to promote enhancement of industrial competitiveness, and the EDP assumes JEDCO to be responsible for all the support initiatives for enhancement of competitiveness of SMEs as well as industry sectors.

2 Necessity of Enhancement of SMEs' Competitiveness in the National Economy, and Economic Development Plans in Jordan

The Jordanian economy has achieved substantial growth in the past decade. Its GDP in constant prices shows annual growth rates of 8.1% - 8.6% between 2004 and 2007, far exceeding the rates of 4.2% - 5.8% in the period of 2000 through 2003. The GDP in 2010 was 1.8 times that in 2000.

In recent years, however, economic growth has stagnated due to the worldwide economic downturns and political and economic turmoil in the region¹, i.e., from 7.2% growth in 2008 to 5.5% in 2009, 2.3% in 2010, and 2.6% in 2011.

Jordan has a small domestic market and produces only a few types of raw materials for industrial use. The labor force available to the manufacturing industry is limited in terms of both quality and quantity. In addition, labor cost is relatively high in international comparison². It is therefore difficult for the country and its industry to establish a comparative advantage in mass produced goods if they intend to take advantage on the basis of the labor costs. Instead, Jordan should promote the development of specialty industries that are capable of developing and making original products or offering services that meet market needs, which are not satisfied by low-cost, mass market products. Critical to the development of such industries and manufacturers are the management capability to accurately understand the market needs and to plan products and services that can satisfy them effectively, and the ability to develop and maintain the workforce required for product marketing, planning, and manufacturing, including quality control and service delivery.

In actuality, most of SME managements in Jordan are hampered by obstructions to the improvement and increase of quality and productivity. This is discussed in Chapter 3. Improvement of the quality of labor, among other factors, is one of the most important challenges for these SME managements. Development of labor forces which are concerned about their working methods, and which devise improvements of those methods, is essential for a production system for manufacturing a variety of products in small lots, in line with the needs of their target markets and customers. The KAIZEN approach is useful and effective in creating such labor forces, and efforts to improve quality and productivity with by promotion of KAIZEN practices is not just a necessary strategy for an individual company to survive but it should be positioned as an important matter in terms of achieving the goal of the National Agenda. Especially, considering

¹ Central Bank of Jordan, "Annual Report 2011".

² According to "Global Apparel Manufacturing Labor Cost Analysis 2008", when the labor cost in Bangladesh is indexed at 100, the cost in Jordan is 459 and that in Egypt is 377.

the difficulties of SMEs to tackle the improvement of quality and productivity by themselves, promotion and support of such improvement should be included in the national industrial policy.

3 Needs and Expectation for KAIZEN Dissemination in View of SME Management Conditions in Jordan

3.1 Needs for KAIZEN Dissemination in View of Management Characteristics of Jordanian Enterprises

Enhancement of SMEs' competitiveness is one of the most important challenges for industrial development in this country. There are many factors influencing efforts and results for most Jordanian SMEs that try to strengthen their competitiveness, and thus, needs of the SMEs for dissemination of the KAIZEN approach is quite significant as discussed in the following.

- (1) Need for dissemination of the KAIZEN approach in view of work habits of workers, technical staffs and supervisors of Jordanian SMEs

Managements of many Jordanian companies complain about high turnover of employees, which is both a result and cause of a lack on the part of the employees of a sense of belonging to the company. This problem is associated with poor motivation to improve personal work performance and to accumulate and share work experience. Among the results of this are many idle hours and poor work efficiency. In fact, managers seem to expect no reports from the workers when a problem related to operations occurs. As a result, the management has a limited set of solutions and most problems are left as it is, prohibiting improvement of competitiveness.

On the other hand, many companies retain technicians (e.g., machine operators) and supervisors for a relatively long period of time; some of them are on the job for more than 10 years. They tend to attach importance to their own experience in relation to work methods and procedures but are reluctant to teach necessary skills to junior employees. Also, they do not like to change their work methods or style at the direction of the supervisor. Further, they are unwilling to report or solve a problem encountered in daily operation.

At the same time, middle management (such as production managers, factory managers, and technical managers, etc.) tends to stay with the same company for a relatively short period of time. While they will report a problem relating to operation and management and propose a solution, they generally lack experience (especially experience on the shop floor) and face difficulty in obtaining cooperation from veteran workers.

The practice of KAIZEN is characterized as companywide, continuous activities for quality and productivity improvement as the primary objective, to be accomplished by self-motivated participation of employees. The quality problems pointed out in above can be significantly reduced or prevented once individual workers become capable of being alert to their work and spotting a problem promptly.

Further, KAIZEN practice will allow the management to make the transfer of power to the in-house organization appropriately, by mobilizing the proactive attitude of workers.

- (2) Need for dissemination of the KAIZEN approach in view of machinery and equipment, and technologies, available to Jordanian SMEs

Machinery and equipment form the backbone of production technology of most of the Jordanian companies. The heavy dependence on machinery, however, often leads to low utilization rate of the machinery, and therefore, overinvestment.

If the market demand is small as in the case of Jordan, in order to improve productivity, enhancement of production management should be considered first, rather than trying to improve productivity by investing in machinery and equipment. In this context, the need for dissemination of the KAIZEN approach, which is useful for enhancement of production management, is high for the Jordanian SMEs.

The dependence of production technology on machinery tends to result in production of products commonly-seen in the market, rather than the products developed from home-grown technology. This is also true for the Jordanian SMEs in the manufacturing sector. For enhancement of their competitiveness, **they have to meet the needs of the markets by manufacturing a wide variety of products in small production lots. The dissemination of KAIZEN practice, which enables mobilization of the proactive attitude of workers, is expected to make the accumulation of know-how possible to the SMEs, contributing to laying down the basis of innovative management for them.**

- (3) Need for dissemination of the KAIZEN approach in view of the way of thinking of middle management and technical staff on production and business management

In most companies, middle management and the technical staff are highly aware of importance of quality. In fact, they understand that quality is a source of their competitiveness. However, they try to maintain quality by rejecting defect products from shipping, or reworking defective products, rather than preventing production of defects. As a result, in many companies defectives, including those waiting for reworking, are found piled up on the shop floor.

Further, the imbalances in production capacity among different process steps, which are often difficult to adjust due to the lack of multi-skilled workers, have resulted in a large stock of products from one process to the next.

Defects, on the other hand, often occur due to equipment failure or malfunctioning in a production line. However, workers often do not deal with such problems promptly, leading to a large quantity of defective products. The malfunctioning rate also seems to be fairly high. Most companies leave machinery maintenance to a specialized department, and machine operators are responsible for production only.

At many factories, defective products in process and defective parts are sent to the next step and reworked, which disturbs normal production. Further, some defectives are not detected and continue to flow on the line, creating a further defects and greater losses.

In most of these cases, **the middle managers from the beginning tend to give up trying to make the workers ensure the assumed level of works, or to expect them to try for more accurate job performance. KAIZEN practice will allow the managers to undertake appropriate production management in tandem with the workers, with a placing of trust in the workers.**

3.2 Expectation for KAIZEN Approach by Jordanian Companies

In fact, most of the managements in Jordanian companies concern seriously about these issues, and their expectation of the KAIZEN approach is high in this regard.

According to the interviews by the JICA Project Team with the management of the companies which applied to participate in the KAIZEN practice support program, at the project preparation stage, their major expectation to KAIZEN practice was found to be change in employees' attitude and awareness in terms of commitment to work and a sense of belonging to the company. This type of expectation seems to be even stronger than the expectation for improvement of operation and management including productivity. This seems to be the reflection of the serious problems facing Jordanian companies in relation to labor management.

As a reflection of the need for quality and productivity improvement, many companies tried to apply various methods of production management and business management. However, as many companies pointed out – especially those that have experience of introducing advanced production and business management techniques – the serious issue is the lack of effective means to make such techniques an integral part of daily operations and management. Employees lack the attitude

of compliance with work standards which are newly introduced. As a result, the introduced techniques cannot drive quality and productivity improvement. Further, once an engineer or manager in charge leaves the company, in many cases, it simply loses momentum to continue the improved practices.

4 KAIZEN Dissemination Initiatives in Jordan

The KAIZEN dissemination initiatives are to be carried out in two ways; one is the initiatives to apply KAIZEN practice in the individual companies, while another is the initiatives to promote, disseminate, support and encourage the initiatives in the individual companies through organized/institutional initiatives.

4.1 Organized Initiatives by the Government and Public Sector for KAIZEN Dissemination and Guidance in Jordan

(1) The initiatives by the Government

The Executive Development Program (EDP), which has been developed as a component of the National Agenda, positions JEDCO as the major player to promote the competitiveness of industry. It also assumes JEDCO shall cover all support activities aiming at promoting the competitiveness of small and medium enterprises (SMEs) and industrial sectors. JEDCO has adopted the enterprise development programs of JUMP (Jordan Upgrading and Modernization Program) and JSMP (Jordan Service Modernization Program), as its core measures to enhance competitiveness of enterprises.

(2) The initiatives by public organizations

Besides JEDCO, among the public bodies related to industry, most chambers of industry have programs intended to help their members enhance their competitiveness. The industrial associations, which are the quasi-public organizations, also have programs to strengthen the competitiveness of their members. These programs, however, are mostly one-time seminars or workshops, and are not organized, continuing programs focusing on quality and productivity improvement, or enhancement of competitiveness. Among them, Amman Chamber of Industry in particular has been active in providing support programs for its members, but most of them have been one-time programs without a systematic and organized curriculum.

4.2 KAIZEN Practices Performed in Individual Enterprises in Jordan

(1) Initiatives in KAIZEN practice programs undertaken in Jordan in the past

1) KAIZEN guidance by KAIZEN Institute

KAIZEN Institute Consulting Group Limited is a private consulting firm that is based in Switzerland, with offices worldwide, and is specialized in KAIZEN-related guidance service. In Jordan, it held seminars and workshops from 2001 to 2005 intending to establish an office in Jordan. In 2004, it signed a consulting agreement with Jordan Garments, Accessories and

Textiles Exporters' Association (JGATE). However, results were not realized as expected, since the consulting fee was too high for the Jordanian companies.

2) Human Affiliated Program for Productivity Improvement (HAPPI)

HAPPI was implemented as part of the Jordan – Japan Industrial Cooperation Program. It provided KAIZEN guidance service for 10 model companies.

Based on the results of the 18-month program that was provided as the first stage, the HAPPI proposed to establish a system and institution to continue the program in the future. Unfortunately, however, the proposal was not put into practice and no system to promote the KAIZEN concept was established, thus failing to develop the KAIZEN practice into a nationwide or industry-wide movement. As a result, there was no further dissemination to other companies and many of the model companies have reportedly discontinued the practice after employees engaged in the HAPPI project had left the companies.

(2) Initiatives under ongoing programs

There are two ongoing technical guidance programs that include among other activities an introduction to the KAIZEN practice. These are carried out by ACI and FFF as mentioned earlier. Neither program is primarily designed to provide guidance on the KAIZEN practice and its implementation. But they incorporate technical guidance support by JICA's Senior Volunteer (SV) advisers, which often includes guidance on methods and techniques used in the KAIZEN practice. Nevertheless, the contents of the guidance to be included in the program are left for the SV adviser to determine and not being structured according to a coherent guideline tend to result in un-systematic, piecemeal, one-time guidance.

(3) Others

In addition to the above programs, Japanese companies (including Japanese-affiliated companies) operating in Jordan are engaged in the KAIZEN practice on their own. At least, two companies are confirmed to be practicing KAIZEN.

Part II Implementation and Outcomes of the Project, and Lessons from the Project

1 Project Implementation

The project was implemented with the following five components.

1. KAIZEN dissemination and awareness campaign activities
2. KAIZEN consultants training program
3. Development of course materials
4. Pilot SME support program for KAIZEN practices
5. Drafting of recommendations for establishment of a system and organization for KAIZEN dissemination

The project consisted of the following three phases.

Phase 1: Establishment of the Implementation Framework

Phase 2: Implementation of a pilot SME support program for KAIZEN practices

Phase 3: Follow-up and the submission of final recommendations on KAIZEN practices dissemination with the summary of lessons learned through the project.

The implementation process of the project is summarized in Figure 1.

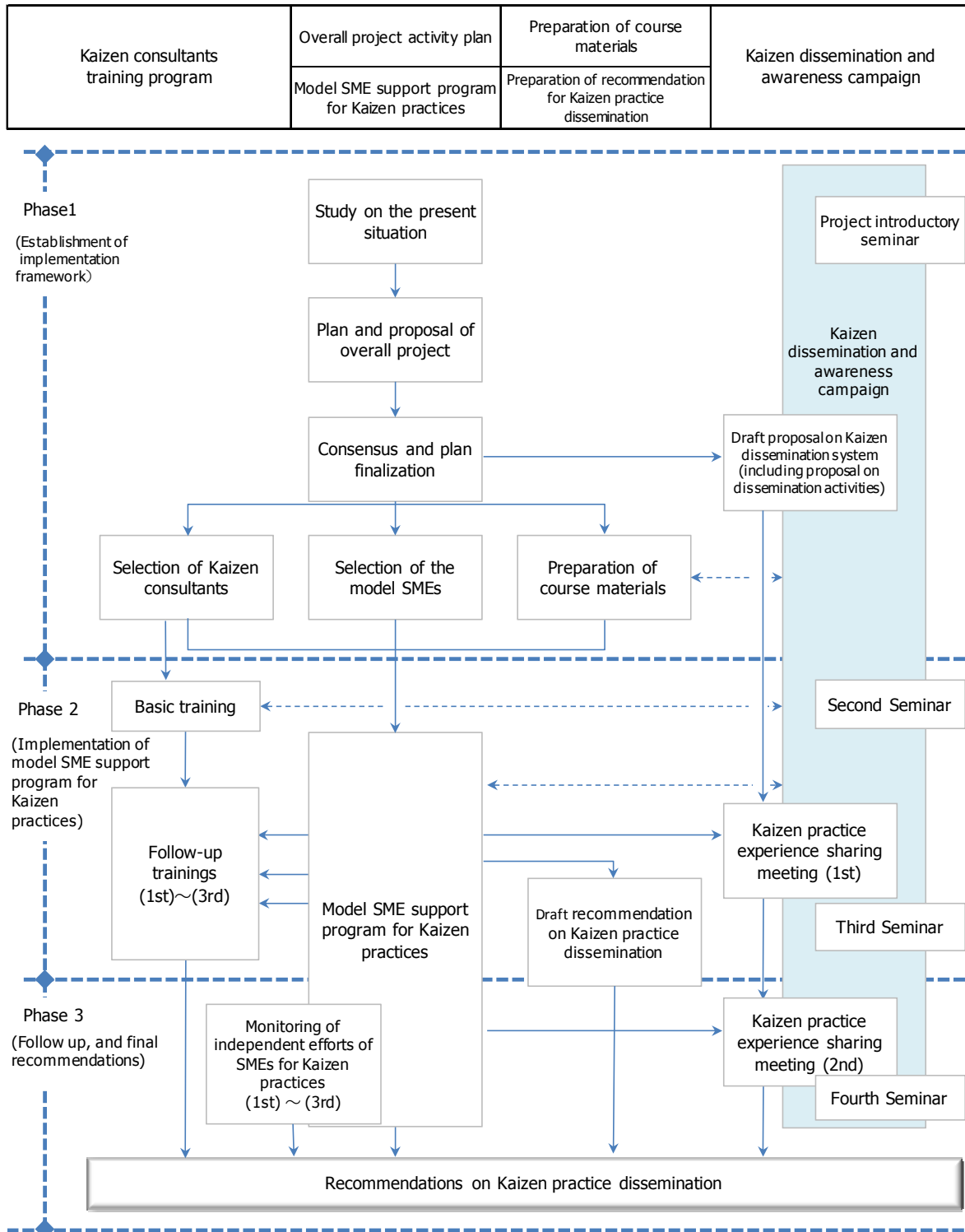


Figure 1: Outline of Implementation Process of the Project

2 Lessons from the Guidance on KAIZEN Practice in the Individual Enterprises under the Current Project

2.1 KAIZEN Practice Targeted under the Current Project³

With consideration given to the general concept of KAIZEN and the expectation of industries for KAIZEN dissemination in Jordan, to orient the mindset of the employees toward increased motivation on the job and toward a sense of belonging to the company, the KAIZEN practice under the current project was defined as “the activity of continuous reforms of the company’s operations and management that is carried out companywide, under the extensive and self-motivated participation of employees, with a strategic focus on improvement of quality and productivity.”

The above concept of KAIZEN practice assumes the following four factors as its requirements:

1. Self-motivated participation of employees
2. Bottom-up approach
3. Scientifically and logically justifiable planning and implementation process
4. Use of statistical quality control methods

Such “keep improving” culture is expected to allow the company to nurture key personnel who will drive continuous quality and productivity improvement (i.e., those who promote, guide, plan, propose, implement and maintain the KAIZEN practice).

2.2 Methodological Emphasis of KAIZEN Guidance in the Individual Companies under the Current Project, and Lessons from the Guidance

(1) Issues of the production management methods in Jordan in the past as the basis for developing the guidance methods for KAIZEN practice under the current project

As pointed out above, the country has tried various methods for improvement of production management, including methods for KAIZEN practice. According to the past experiences of production management methods, the following are identified as the challenges in the future in view of attaining KAIZEN practice as defined above.

³ The KAIZEN activities to be disseminated and promoted under the project were defined in the Minutes of Meeting and its annex, which were signed to define the project scope, as the philosophy and methods of quality and productivity improvement as practiced by many Japanese companies. The following section confirms it specifically, instead of newly defining the required conditions.

1. The improvement themes under these programs have been set either with a top-down approach or on the basis of diagnosis made by a consultant, and mostly focused on the modification or upgrading of machinery, equipment or systems. The activity was largely carried out by top and middle management, including problem identification and solution development. Participation of employees was limited to that of directly related sections, if any. Then, after the target improvement was achieved, a subject for further improvement had to be proposed by the management or a consultant again, thus failing to produce a continuous improvement mechanism.
 2. As the methods and technique relating to quality and productivity improvement or KAIZEN were transferred to a designated person or a limited group of persons, the efforts lost momentum once those persons left the company. Considering the fact that many Jordanian companies have a high turnover, sometimes the technology transfer might not have been completed if these persons leave the company before the new technique becomes well established.
 3. While the modification or upgrading of machinery or system certainly may have produced some desirable results, it was not accompanied by a change in attitude or mindset of employees, and a change in production management thus was not incorporated into day-to-day operation and management as would have been intended by the project. Worse still, because employees resist adoption of modified work methods and procedures and instead persist in adhering to the existing ones, day-to-day operations soon return to the state before the improvement proposal.
- (2) Factors emphasized in the current project, and the outcomes

The guidance on the initiatives for KAIZEN, which was provided under the current project, was designed to overcome the above issues, particularly by emphasizing the following with introduction of small-group activity and the improvement suggestion system:

1. KAIZEN practice as an organizational effort, not a matter of individual-based initiative
2. Promotion of understanding and application of the KAIZEN concept, process, and techniques through day-to-day operations and management
3. Recognition of and provision of incentives for KAIZEN practice

The participant companies with the average performance or better, which represent around 70% of all the participated companies, have been successful in introducing the small-group activity.

We could also see good progress not only in terms of workplace management and operations, but also in terms of workers' attitude toward their jobs, characterized by a new sense of ambition and ingenuity, as many managements have expected for the KAIZEN approach.

(3) Establishing the KAIZEN activities as an organizational initiative of the company

To lay down the organizational basis of KAIZEN activities in the companies, it was proposed to establish the following organizations within each company.

1. Appointment of a KAIZEN leader and the creation of a secretariat for the KAIZEN activity
2. Introduction of workplace-based small-group activities and an improvement suggestion system, which are the core approach for KAIZEN practice, with participation of all the employees
3. Establishment of a KAIZEN Promotion Committee that sets a strategic direction for KAIZEN practice and serves as a bridge between the management and employees.

In most of the companies that participated in the program (or 70% of the participating companies), these organizations have constituted the foundation of KAIZEN practice, which helped maintain sustainability in the companies, where there had been a high turnover of managers and workers.

(4) Understanding of the KAIZEN way of thinking, process and techniques, and application of them to the day-to-day operation and management

Instead of conveying management techniques and KAIZEN ideas in their entirety (either separately or systematically), the program started with the introduction of KAIZEN implementation steps, followed by relevant ideas and techniques. The emphasis of guidance was placed on the KAIZEN steps, or "QC Story," thereby to teach the methods and techniques used in each step. Through these steps, it was also intended to teach key KAIZEN ways of thinking that play an important role in the KAIZEN practice, namely:

1. To grasp the essence of a problem (phenomenon and situation) in an objective manner.
2. To focus on a key aspect or element of the problem.
3. To analyze the problem, identify a real cause, and devise measures to deal with the real cause.
4. To incorporate the devised measures in day-to-day operation.

The KAIZEN guidance was conducted following the activities of the small-groups of the respective pilot companies. Since the progress and level of KAIZEN practice varied company by company, the methods and tools of KAIZEN practice, which were transferred to the pilot companies, also varied. In some companies, due to time constraints the guidance could not

complete covering all the methods and tools, which were planned to be transferred to all the participated companies. In order to accomplish technology transfer covering a wider scope of KAIZEN-related knowledge and know-how, therefore, it is imperative to establish a system to provide continuous technical guidance service on KAIZEN practice.

(5) Recognition and encouragement of the KAIZEN practice

KAIZEN practice should motivate employees for improvement particularly through accomplishment of the goal, and should therefore be designed to contain a mechanism to lead in that direction. In fact, many companies have experienced the changes in attitude and awareness of their employees about work, as the result of the KAIZEN practice.

At this point the KAIZEN practice is becoming well established in many companies. The next step is to maintain momentum. Management needs to provide support by organizing activities to encourage continuous efforts, such as a regularly scheduled internal meetings to exchange experience, give recognition to individuals and groups who have produced excellent results, etc. In fact, at most of the companies that achieved excellent performance under the current program, the management was particularly appreciative of the outcomes of the KAIZEN practice, and made their appreciation known to employees, thus encouraging KAIZEN efforts.

Furthermore, external resources can be used as a good stimulus. Also effective is the award by a renowned organization of commendations to the companies and to individuals for outstanding activities. The current project held experience sharing meetings among the participating companies, including KAIZEN leaders' meetings. Regular holding of this type of meeting, establishing an institutional basis for the meetings, will be also useful in continuously giving momentum to the employees practicing KAIZEN activities.

(6) Need for establishment of a system to drive the KAIZEN practice continuously

Since the guidance under the current program has covered those who had been selected at the initiative of small-groups, the techniques covered by the guidance under the current program was necessarily confined to those relating to the themes identified by the small-groups, including analysis, problem solving, and evaluation. In the future, there will be a need to continue and upgrade the guidance themes, to the techniques which meet the needs of future improvement subjects. In this context also, it is quite essential to establish a system to provide continuous and consistent guidance on KAIZEN practice.

2.3 Lessons from the Current Project on the Organized Initiatives for KAIZEN Promotion and Dissemination

(1) Outline of the initiatives under the current project

In Jordan, before the current project was launched, there was no system or institution to undertake KAIZEN promotion and dissemination initiatives as a part of purposes of the system or institution. The current project has carried out a part of the KAIZEN promotion and dissemination activities as follows:

- 1) Activities of KAIZEN practice awareness campaign and dissemination
 1. Seminars and mini-seminars
 2. Promotion of understanding of the KAIZEN approach on the part of executives and managers of companies that have applied for the pilot support program of SMEs practicing KAIZEN
- 2) Activities to provide guidance and support for KAIZEN practice
 1. Guidance and advice for SMEs participating in the pilot program to introduce KAIZEN practice
 2. Follow-up guidance to the KAIZEN Leaders of the participating enterprises
- 3) Activities to consolidate the experiences of enterprises on KAIZEN practice
 1. Provision of opportunities for the participating companies to exchange experience in KAIZEN practice
 2. Provision of reference books and materials, based on the KAIZEN guidance experiences
- 4) Human resource development for KAIZEN practice and dissemination
 1. Training of KAIZEN consultants
 2. Training of KAIZEN leaders and the leaders of the small-group activity, through KAIZEN guidance to the individual enterprises
 3. Nurturing of KAIZEN leaders and small-group leaders, through the experience sharing meetings of KAIZEN practice
 4. Provision of training materials, and nurturing of KAIZEN leaders and small-group activity leaders
 5. Promotion of understanding of KAIZEN and its approach for those who are in charge of industrial development planning, and the staff of the public organizations
- 5) Activities to create an organization in charge of dissemination of KAIZEN practice

(2) Activities for awareness campaign and dissemination, and the lessons from the activities

For the purpose of promoting wide understanding of KAIZEN practice among industries and encouraging its implementation, two seminars and two mini-seminars were held as part of the

project.

While many participants expressed their interests in starting up the KAIZEN practice at their own companies, the project could not meet the demand, since there was no provision enabling acceptance of additional participants. This indicates that the effect of the promotion campaigns of KAIZEN will produce a limited result, until this strong demand can be satisfied.

Promotion of understanding of KAIZEN was conducted through interviews with owners and managers of companies that showed interest in the program. It is obvious from the performance evaluation result of the program that the top management's understanding and commitment to the KAIZEN approach is the key to the successful introduction of KAIZEN, besides the appropriate guidance for introduction of KAIZEN in the company. There is a need for further awareness campaign targeting top management of enterprises.

- (3) Activities to guide and support the KAIZEN practice of individual enterprises, and the lessons from the activities

The pilot program to provide guidance for SMEs introducing KAIZEN practice was conducted for companies that were selected among those who had made an application to participate in the program. As an outcome the program has revealed that it is feasible to introduce the KAIZEN practice to Jordanian companies in general. Nevertheless, the companies that participated in the program are too small in number to affect a significant impact of the KAIZEN approach on the Jordanian industry. Considering the fact that there are many companies who expressed their desire to participate in the program at application time and at the seminars after the launching of the program, there is a need to set up an institutional basis to ensure the continuity of KAIZEN support and guidance services to the companies which intend to introduce the KAIZEN approach to their factories and offices, instead of ending the KAIZEN support program with the guidance for the current participating companies only.

- (4) Activities to consolidate the experience of KAIZEN practice in Jordan, and the lessons from the activities

The meeting for exchange of KAIZEN experiences among the participating companies of the program was the first such attempt made in this country. It appears that the meeting produced good results in that it enabled participating companies to learn from successful cases. At the same time, the meeting seems to have served as a good impetus for participants who reported their experience in front of an audience, presumably creating a strong motivation for continuous efforts. However, the development of methods, which best fit the needs of Jordanian industries, was not performed through the program, so far.

Reference books and materials are indispensable in providing effective support and guidance for companies that strive to introduce the KAIZEN practice. As more and more companies introduce the KAIZEN process to obtain a better understanding of guidance methods suitable for Jordanian companies, as well as specific tools and techniques to be emphasized, it is imperative to develop a better approach and reference materials that address the needs identified from accumulated experience. Further, development of reference and training materials in Arabic is essential particularly for the guidance on workplace-based activities.

For this purpose, it is essential to develop an institutional basis to consolidate the experiences of KAIZEN practices, including consultants who understand the KAIZEN approach and have sufficient knowledge about management of the local enterprises.

(5) Activities to develop human resources for KAIZEN guidance, and the lessons from the activity

The current project assumed the human resources necessary for KAIZEN guidance and dissemination as follows: 1) private consultants who give advice to individual companies and serve as training program instructors; 2) KAIZEN leaders and small-group leaders who promote the KAIZEN practice in companies; 3) staff members of public organizations that are expected to play a certain role in promotion and dissemination of KAIZEN (e.g., planning and implementation of a dissemination program), such as JEDCO and the chambers of industry; and 4) policy planning staff of the government and the industrial leaders who advocate and lead the KAIZEN approach at the industry level.

1) Need for human resources with sufficient local knowledge for KAIZEN guidance

The KAIZEN guidance in Jordan has mostly been dependent on foreign advisors. However, the foreign advisors have faced the problems of difficulty in understanding the detailed issues which are caused by differences in culture and way of thinking. Language was also one of the barriers for smooth guidance. Nurturing of the local resources for the guidance is the urgent requirement in promoting dissemination of the KAIZEN approach.

2) Need for development of a mechanism to mobilize KAIZEN consultants

For the development of consultants for KAIZEN guidance, there is a need to develop a mechanism to recruit consultants in the field of KAIZEN guidance. Efforts should be made to create incentives for local companies to use consulting services, with, for example, by incorporation of the KAIZEN approach into JUMP's scope to facilitate use of consultants, and provision of opportunities for group training in KAIZEN practice, engaging the consultants as the instructors, thereby improving affordability of opportunities to use consultants for SMEs

and creating job opportunities for consultants. Needless to say, they should be supported by an organization or a system dedicated to promotion and dissemination of KAIZEN practice.

In addition, the development of training materials and consolidation of KAIZEN experience in the country is indispensable to support the activities of the consultants.

3) Need for development of human resources to plan the KAIZEN dissemination activities

So far, training for human resources for guidance has focused on persons in a position to provide direct guidance (or training) for companies. In the future, the target leaders should be extended to government officials in charge of industrial policy, and the executive staff members of government and public agency offices.

So far no systematic training has been carried out for personnel to be engaged in KAIZEN dissemination. The training should be extended to those who are in the organizations to be responsible for KAIZEN dissemination in the future.

(6) Activities to develop organizational arrangements for KAIZEN promotion and dissemination

There is a need of organized support for KAIZEN promotion and dissemination at the national level, in addition to supporting the initiatives for KAIZEN approach of the individual companies. The project proposed the organization of a KAIZEN Network as an instrument to create a mechanism to drive nationwide promotion and dissemination efforts. Although a basic agreement was reached respectively with JEDCO, the chambers of industry, and a university, regarding the necessity of the network, so far it has been difficult to find an organization that would take the leadership role.

Then, JEDCO has expressed concern over establishing a permanent setup for this purpose. It consisted of a proposal of developing a new organization within JEDCO to extend technical guidance. However, the proposal was not accepted by JEDCO, because of the Government policy of not creating a new organization in the Government sector.

There is strong need for an organization that takes the lead in planning and implementation of KAIZEN promotion activities under its own responsibility, and such organization is expected to disseminate the KAIZEN practice more effectively than the proposed network, without the risk of no leadership among the concerned agencies, institutes and organizations.

Part III proposes an institutional setup for better KAIZEN promotion and dissemination, taking into account the current conditions of JEDCO, while expecting future mobilization of the potential of the relevant institutes and organizations in KAIZEN promotion and dissemination.

Part III Recommendation on Dissemination of KAIZEN Approach in Jordan

Since there are many factors impeding efforts by most Jordanian companies to improve quality and productivity, the quality and productivity improvement is to be positioned not only as a strategic factor for survival or development of individual companies, but also as a critical element of the country's industrial policy of accomplishing the objective of the National Agenda. In particular, given the major presence of microenterprises (MEs) and small-and-medium enterprises (SMEs) in the country's industrial sector (in terms of the number of enterprises, the number of employees, and value of production), and in light of the fact that it is generally difficult for MEs and SMEs to make such efforts with their own resources alone, promotion and support of quality and productivity improvement should be focused more as a part of the country's industrial development policy.

The following chapters discuss the future of KAIZEN dissemination in Jordan, and recommend specific measures for the dissemination

The efforts for KAIZEN dissemination will be carried out in two ways; namely, KAIZEN practice in the individual enterprises, and organized initiatives to increase awareness of KAIZEN, encourage and support the practice in the individual enterprises.

Recommendation 1 Recommendation on KAIZEN practice to be disseminated in Jordan

It is recommended to disseminate the KAIZEN practice, which is defined as a company-wide challenge for continuous improvement of management and operation, featured by self-motivated and proactive participation of employees at their workplaces, and which meets the expectation of the company management for KAIZEN to increase ambition of the employees in their work and enhance their sense of belonging to the company.

1.1 General Concept of KAIZEN

“KAIZEN” is often used interchangeably with the words “continuous improvement,” but it is a much more profound and broad concept used in the context of management philosophy. At the same time, it contains some ambiguities that are difficult to be defined clearly. The general concept of KAIZEN is a company-wide challenge for continuous improvement of management and operation featured by self-motivated and proactive participation of employees at their

workplaces, which have been initiated and evolved by Japanese companies.

1.2 KAIZEN Practice to be Disseminated in Jordan

In consideration of the general concept of KAIZEN, and the expectation of Jordanian industries on KAIZEN to generate employee ambition and enhance their sense of belonging to the company, the KAIZEN practice to be disseminated as developed by the current project is recommended to be defined as **“the activity of continuous reforms of the company’s operation and management that is carried out companywide, under the extensive and self-motivated participation of employees, with a strategic focus on improvement of quality and productivity.”**

Under this concept of KAIZEN practice, it is assumed that there are the following four factors:

Factors	Recommended tools/methods to be used under the current project for realization of the factor
1. KAIZEN activities in accordance with company’s management policy and target	KAIZEN Leader, and KAIZEN Promotion Committee
2. Bottom-up approach with self-motivated participation of employees, setting the KAIZEN in place in daily operations and control	Small-group activity
3. Scientifically and logically justifiable process of planning and implementation	QC Story
4. Statistical quality control methods	QC 7 Tools

Such “keep improving” culture allows the company to nurture key personnel who drive continuous quality and productivity improvement (i.e., those who promote, guide, plan, propose, implement, and maintain the KAIZEN practice).

Recommendation 2 Recommendation on dissemination of promotion method of KAIZEN practice in the individual enterprises, which is developed in due consideration of specific nature of business management of the Jordanian enterprises

It is recommended to disseminate the promotion method of KAIZEN practice, including Recommendations 2-1, 2-2, and 2-3 described below, which was developed with due consideration of the experience of Jordanian companies to have introduced production management methods, and lessons from KAIZEN guidance conducted under the current project.

2.1 Promotion of Organizational Integration of KAIZEN Practice into Company Management and Operation

Recommendation 2-1

It is recommended to set up the following in-house organizations to ensure the organizational integration of KAIZEN practice to the company's management and operation, including:

1. Appointment of a KAIZEN leader who is responsible for promotion of the KAIZEN practice, and establishment of the KAIZEN secretariat
2. Organization of small-group activities in each workplace as the base organization of the KAIZEN practice, and establishment of an improvement suggestion system
3. Establishment of the KAIZEN promotion committee that sets the strategic direction of the KAIZEN practice and serves as a bridge between the management and the employees

They are expected to form a stable foundation for implementation of the KAIZEN practice at Jordanian companies that are characterized by a high turnover from top management to workers. They will be useful also in leading and getting the small-group activities on track for the Jordanian companies where many foreign workers are employed.

2.2 Promotion of Understanding and Application of the KAIZEN Concept, Process, and Methods Through Daily Operations and Management

Recommendation 2-2

It is recommended to promote application of the following KAIZEN way of thinking and the KAIZEN methods in day-to-day operations following the scientifically and logically justifiable standard steps for KAIZEN, which is represented by QC Story, with the objective of enhancing the capacity of employees to propose sustainable and effective improvements after due understanding of the way of thinking and methods:

1. To grasp the essence of a problem (phenomenon or situation) in an objective manner.
2. To focus on a key aspect or element of the problem.
3. To analyze the problem, identify the real cause, and devise corrective measures to deal with the real cause.
4. To incorporate the devised measures into day-to-day operations.

2.3 Promotion of Recognition and Encouragement of Good KAIZEN Practice

Recommendation 2-3

It is recommended to promote recognition and encouragement activities of the company management for the individuals and groups who have made an outstanding achievement in KAIZEN practice, to maintain their momentum in KAIZEN practice.

This will be activities of management in support of KAIZEN practice, providing opportunities to share the experiences of KAIZEN practice among the participating employees and/or recognizing the performance of individuals or groups with giving awards for their efforts.

Recommendation 3 Recommendation on development of institutional setups to promote awareness of KAIZEN, disseminate and support implementation of KAIZEN practice, and encourage initiatives of individual enterprises for the KAIZEN approach

It is recommended to develop the institutional setups of KAIZEN dissemination functions, including promotion of awareness of KAIZEN, dissemination, support implementation of KAIZEN practice, and encouragement of continuation and development of the KAIZEN approach at individual companies, and make good use of the KAIZEN practices being implemented under the current project.

3.1 Need for Development of Institutional Setups to Promote Awareness of KAIZEN, Disseminate, Support Implementation of KAIZEN Practice, and Encourage Initiatives of Individual Enterprises for the KAIZEN Approach

In order to make good use of the KAIZEN practices being implemented under the current project, it is strongly recommended to continue activities to disseminate KAIZEN practice, including promotion of awareness and understanding in the industry, by capitalizing on successful cases. The dissemination activities should be backed by organized and systematic initiatives.

At the same time, a similar initiative should be provided to support companies that have implemented the KAIZEN practice so as to ensure its continuation and effectiveness, including on-site guidance, financial support, and a mechanism to disseminate their experience to other companies. These functions are recommended to be ensured through establishment of institutional setups for KAIZEN dissemination.

The significance of activities to develop the institutional setup for the KAIZEN dissemination, increase the good practices, and disseminate the outcomes of the practices, is obvious from the past experience of KAIZEN dissemination in Jordan⁴. Increase in the number of good KAIZEN practices will generate a momentum for KAIZEN-related HR development, and promote accumulation of the local KAIZEN experiences. On the other hand, if the

⁴ Jordan has a bitter experience of decline in KAIZEN dissemination, due to lack of support system for KAIZEN approach, which was introduced by the HAPPI program.

magnitude of good practice is limited, it will result in difficulty in ensuring the scale of human resources which are interested in dissemination of KAIZEN, and reduce the impact of the practice on the other enterprises.

3.2 Functions to be Institutionalized for Dissemination of the KAIZEN Approach

The institutional setup required for ensuring the dissemination of the KAIZEN approach is the setup which has the following dissemination functions (see Figure 2).

1) Function for promoting awareness on KAIZEN and disseminating KAIZEN approach (for promotion of understanding of needs of KAIZEN and benefits of KAIZEN, including the function of providing information on available measures to support application of KAIZEN, etc.)	
2) Functions to support introduction of the KAIZEN approach to the individual companies	2)-1 Function of technical guidance on approach, methods, and tools for KAIZEN, including guidance for enterprises wishing to introduce KAIZEN
	2)-2 Function of financial support for the enterprises practicing KAIZEN
3) Functions to consolidate the experiences of KAIZEN practice, develop training and reference materials based on the experience in Jordan, and develop relevant human resources	3)-1 Function to consolidate the experiences of KAIZEN practice in Jordanian enterprises for dissemination
	3)-2 Function of consolidation, development, and publication of effective methods and good practices of KAIZEN in Jordanian enterprises
	3)-3 Function of development of human resources for KAIZEN guidance
4) Function to provide incentive schemes to encourage continuation and development of KAIZEN practice in the individual enterprises, such as KAIZEN awards	

(The lower part of Figure 2 shows the required functions of organized initiatives in response to the stages of introduction and application of KAIZEN practice in the individual enterprises which are shown in the upper part of the figure.)

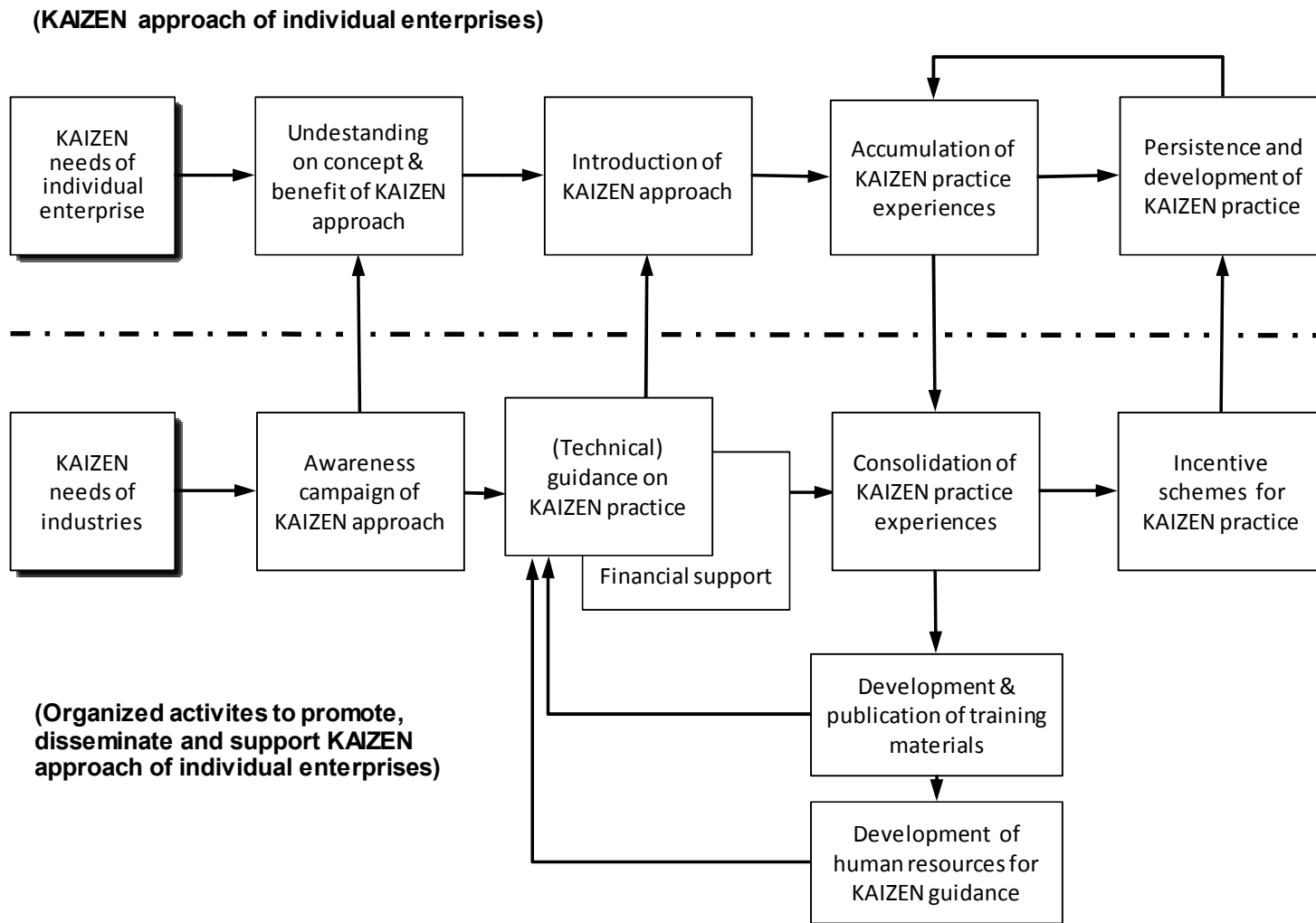


Figure 2: Required Functions for Promotion and Dissemination of KAIZEN Approach

3.3 Implementation Body

(1) Possible arrangements for the implementation body

Table 1 shows the list of functions necessary for dissemination of KAIZEN practice among Jordanian industries. The dissemination functions are not necessarily implemented by one organization. There are some organizations which seem to have the potential capability to perform a part of the dissemination function. The collaboration among these organizations regarding the dissemination activities is also useful in view of involvement of the concerned organization in the dissemination activities as much as possible.

Under the current project, the possibility of establishing an organization to take a lead in KAIZEN dissemination with collaboration among the concerned organizations has been discussed among them. However, despite the basic consensus on necessity of such organization, no organization has offered to take the initiative in establishing a new organization by themselves (or in collaboration with other organizations).

If the above situation regarding the establishment of new organization for KAIZEN dissemination, is taken into account, the concepts of implementation of the dissemination activities by an organization operated jointly among the concerned organizations, or allocation of the required dissemination functions among the potential organizations, seem to involve risks of uncertainty in terms of ensuring the actions. Thus, it is now assumed to assign priority to establishing institutional setups under the initiative a single organization, namely, JEDCO, as discussed in (2) below.

Nevertheless, there remains a possibility for the organization to undertake a function jointly with one other organization or more, or through outsourcing by contract. After establishing the institutional basis of dissemination activities, within JEDCO, development of networking among the concerned agencies and institutions is strongly recommended in this context.

Table 1 List of Functions Necessary for Dissemination of KAIZEN Practice with Preliminary Consideration on Possibility of Collaboration among the Relevant Organizations and Institutes

Function	Main activities	JEDCO (KAIZEN dissemination)	JEDCO (JUMP)	Network	Chamber of Industry/ Commerce and business associations, etc.	Private consultants/ consulting companies
Promotion at the industrial policy level	Promotional activities as a part of enterprise/industrial development	X			(#)	
	Financing schemes to support introduction of KAIZEN		X	(a)		
Introduction, dissemination and promotion	Seminars and introductory trainings	X			(#)	
	Exchange of experiences in KAIZEN practice	(*)		X		
	Recognition and awards	(*)			X	
Guidance	Guidance and consultation as a public industrial/business support service	X			(#)	
	Consultancy service	(*)				X
	Training service	(*)			(#)	X
Research and publication	Research and development of KAIZEN methods best fit to Jordan	X				
	Forum among the concerned organization and individuals	(*)		X		
	Publication of the relevant reference books and materials	(*)				X
	Development of guidance tools	(*)				X
HRD	Leaders and consultants development	(*)				X
	KAIZEN consultants registration system		X			

Note: Among these functions, the functions marked with (*) above are the functions which may be performed on a commercial basis in the future by the private sector, while others need government/public⁵ initiatives on half of assistance for Jordanian industries. The functions marked with (#) are those which are recommended to be performed with collaboration of chambers of industry/commerce. (a) assumes JEDCO to promote SME related financing institutes to accept KAIZEN activities as one of their financing areas.

The proposed government/public-led KAIZEN dissemination setup is expected to take the initiative for all the above functions at the initial stage, when the existing players are weak to fill the required demand of the industry, while promoting the development of private-sector-led functions for those marked with (*) in the future.

⁵ Including chambers of commerce and industry.

(2) Recommended institutional setup for KAIZEN dissemination with assuming JEDCO as the core implementation body

1) Step 1: Realization of functions for KAIZEN promotion and dissemination with assuming JEDCO as the core implementation body

It is recommended that JEDCO, which is assumed to be the responsible agency to support enhancement of competitiveness of the industry in Jordan, to establish the organizational set-up for KAIZEN promotion and dissemination as follows:

1. JEDCO will take the core role in promoting, disseminating, supporting and encouraging the KAIZEN approach in Jordan: this role of JEDCO should not be limited to support of KAIZEN applications by individual companies, rather it should be extended to include institutional promotion and dissemination functions.
2. JEDCO will mobilize the existing programs of JUMP and JSMP for KAIZEN promotion and dissemination within the framework of the purpose of these programs to enhance competitiveness of enterprises.
3. JEDCO will appoint the sections and staff among the existing sections and staff to be in charge of planning and coordination for implementation of KAIZEN promotion and dissemination activities.
4. JEDCO will mobilize the necessary outside resources, including KAIZEN consultants who have been trained under the current project, for implementation of promotion and dissemination activities with outsourcing the activities.

2) Step 2: Development of the network among the concerned agencies, institutes and organizations

JEDCO is recommended to make efforts for development of a KAIZEN network in Jordan, involving the concerned agencies, institutes and organizations, and mobilize their functions and organizations for KAIZEN promotion and dissemination as much as possible, for development and diversification of the functions.

(3) Internal set-up in JEDCO

JEDCO is recommended to establish the following organizational set-up internally, appointing sections and staff for the following:

1) Planning and Coordination Section

This section/staff will:

1. Prepare the base plan of promotion and dissemination activities, make arrangements for implementation, and manage the implementation. The actual promotion and dissemination activities will be conducted by the consultants and/or the organizations which have experience and capacity to implement it, with outsourcing of the activities to them. The Planning and Coordination Section will consult with the Technical Section when they decide on the target of the promotion and dissemination activities, contents of the activities, potential outsourcing sources, etc., if necessary.
2. Make efforts to develop the KAIZEN network. The section/staff will request the potential institutes and organizations, which have the capability, to provide support for promotion and dissemination activities.
3. Introduce available support measures for the companies intending to apply the KAIZEN approach
4. Play a role as a contact point of Jordan regarding the KAIZEN approach dissemination

2) Technical Section

This section/staff will:

1. Offer advice to, and support, the Planning and Coordination Section about important points in dissemination of the KAIZEN approach, to make the activities best meet the needs at the time, including advice on topics, dissemination targets, outsourcing sources, etc.
2. Plan and promote mobilization of existing programs which may be used for KAIZEN dissemination, including Schemes 3 and 5 of JUMP, etc.

Figure 3 shows the concept of institutionalized functions for KAIZEN promotion, dissemination, support and encouragement, in which JEDCO will play the core role.

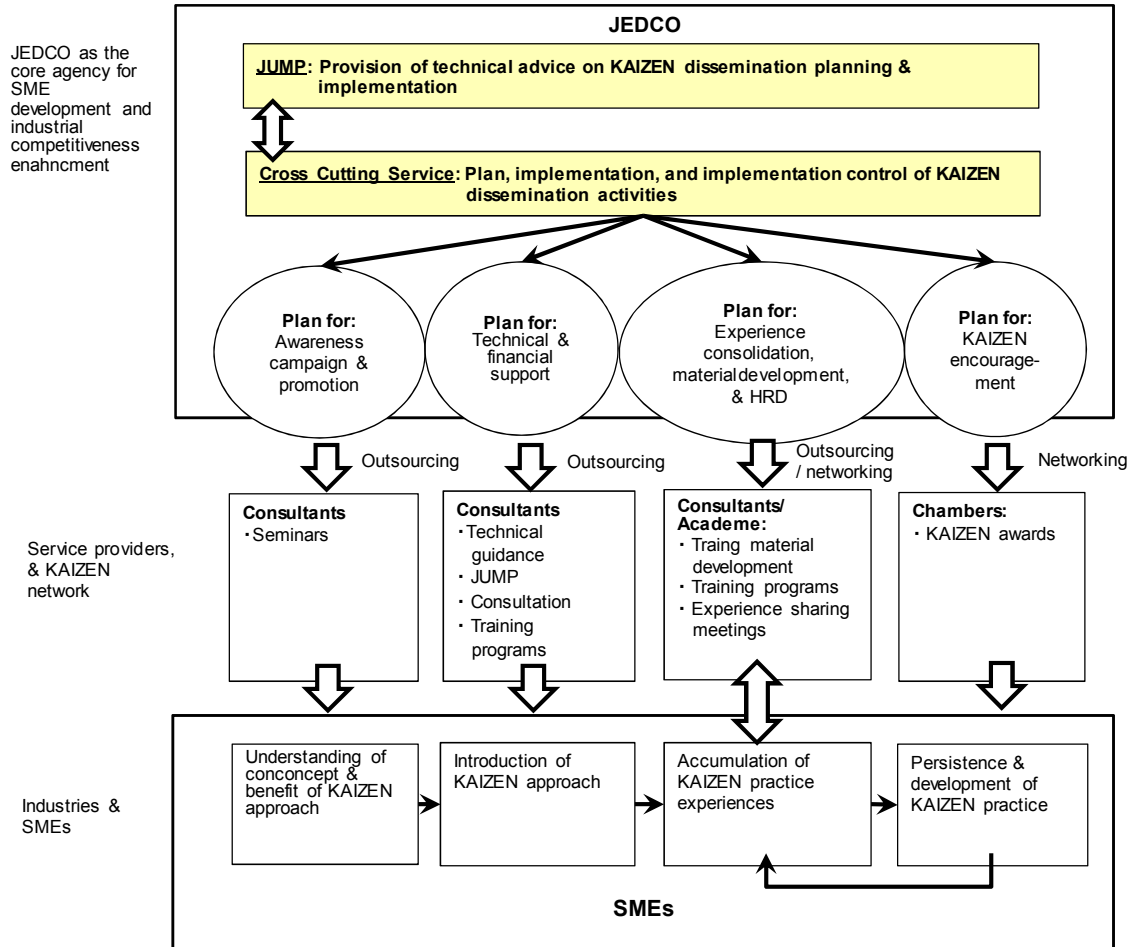


Figure 3: Concept of Institutionalized KAIZEN Dissemination Functions

3.4 Proposed Activity Plan of JEDCO for KAIZEN Promotion and Dissemination

3.4.1 Setting the dissemination target

The dissemination activities are assumed to cover not only the manufacturing sector, but also the commerce and service sectors. The dissemination targets are proposed to be set at 30% for the manufacturing sector while 7.5% for the commerce and service sectors. Based on these dissemination targets, annual dissemination targets are proposed respectively for the short-term (two years), mid-term (three years), and long-term (three years) periods, as follows:

**Table 2 Proposed Dissemination Target
(Case 2: Including commerce and service sectors)**

Target	At the end of:	Number of enterprises practicing KAIZEN	Dissemination rates (% of total enterprises in the sector in question) (*)	
			Manufacturing sector	Other sectors
Short-term	Year 2014	135	4%	0%
Mid-term	Year 2017	610	18%	1%
Long-term	Year 2020	1,000	30%	4.5%

Note: (*) Assuming that total number of enterprises in all the sectors is 7,500, while the KAIZEN dissemination rates in the sectors other than manufacturing sector being 1/4 of the manufacturing sector three years ago.

The above level of the KAIZEN approach dissemination rate is the level where the dissemination rate is expected to increase conspicuously in a self-multiplication manner.

3.4.2 Setting the activity targets

(1) Activity target

Table 3 shows the number of consultants required for dissemination of KAIZEN activities in line with the proposed target set in 3.4.1 for the case extended for commerce and service sectors.

**Table 3 Targets of KAIZEN Dissemination Activities and Estimated Required Actions
(Including Commerce and Service Sectors)**

Year	Base	Short-term Activities		Mid-term Activities			Long-term Target
	0	1	2	3	4	5	8
	2012	2013	2014	2015	2016	2017	2020
Assumed Dissemination Targets (*1)							
Number of enterprises practicing KAIZEN	20	50	80	155	260	410	825
% of total number of enterprises with more than 10 employees (*2)	0%	1%	1%	2%	3%	5%	11%
No. of enterprises newly introduced KAIZEN practice in the year		30	30	75	105	150	155
No. of enterprises to receive on-site guidance (*3)		43	41	98	129	173	143
Action Targets							
(1) Awareness seminars							
1) No. of awareness seminars (*7), targeting - Industrial leaders - Managements		2	2	2	2	2	1
2) No. of special seminars for focused targets (*4)(*7)		2	2	1	1	1	0
(2) On-site technical guidance program							
1) No. of enterprises to receive the guidance (No. of man-days required for the guidance) (*8)		43	41	98	129	173	143
		301	287	686	903	1,211	1,001
2) Introductory & F/U trainings for KAIZEN leaders for enterprises starting KAIZEN practice							
(No. of set of introductory & F/U training) (*5)(#)		3	3	4	4	4	0
(No. of days required for the trainings (Total)) (*7)		15	15	20	20	20	0
- No. of Introductory training (3 days/training)		9	9	12	12	12	0
- No. of F/U training-1 (1 day training)		3	3	4	4	4	0
- No. of F/U training-2 (1 day training)		3	3	4	4	4	0
(3) No. of KAIZEN leader/consultants advanced training (Semi-annual) (*6)(#)(*7)		2	2	4	4	4	0

Year	Base	Short-term Activities		Mid-term Activities			Long-term Target
	0	1	2	3	4	5	8
	2012	2013	2014	2015	2016	2017	2020
(4) Review & update of training materials							
1) Basic training materials [No. of updates]		1	1	1	1	1	1
(Man-days required (30 man-days/update))		30	30	30	30	30	
2) Good practice [No. of updates]		0	1	0	1	0	1
(Man-days required (90 man-days/update))		0	90	0	90	0	
3) Guideline for consultants [No. of updates]		1	0	1	0	1	0
(Man-days required (30 man-days/update))		30	0	30	0	30	
4) Other materials to support/encourage KAIZEN practice [No. of updates]		1	0	1	0	1	0
(Man-days required (90 man-days/update))		90	0	90	0	90	
(5) KAIZEN experience sharing meeting & good practice awards (*7), No. of;		1	1	1	1	1	1
Total required man-days for consultants		539	495	948	1,135	1,473	
- Number of KAIZEN consultants required (*9)		9	8	16	19	25	
Estimated costs/expenses required (Unit: JD)							
a) Honararia for lecturers/speakers for seminars, trainings, and training materials review (*10)		35,000	30,600	38,500	34,100	38,500	
b) Consultants fee for guidance for the individual enterprises (*11)		22,800	21,700	51,900	68,300	91,600	
c) Miscellaneous costs/expences for invitation, venue, materials, etc. (*12)		16,500	16,500	21,000	21,000	21,000	
Total		74,300	68,800	111,400	123,400	151,100	

- Notes: (*1) At the end of the year (*2) Assumed total number of enterprises: 2,000
- (*3) 95% of the companies, which newly introduce KAIZEN practice, are assumed to receive the on-site guidance in 2013. The rate is assumed to decrease by 5% every year. 65% of the SMEs, which receive the on-site guidance, are assumed to continue the KAIZEN practice.
- (*4) e.g.; the enterprises in a industry sector designated as the priority sector in the National Agenda, etc. The seminar is targeted to be held semi-annually for the short-term, but the frequency will be reduced accordingly with increased awareness on KAIZEN approach among the industries.
- (*5) Assuming that a set of introductory and F/U trainings is held for each 20 participating companies
- (*6) Assuming that the training is annually held for each 20 participating companies, while 60% of the companies practicing KAIZEN will participate in the training for the short-term planning period. The participation rate is assumed to decline to 40% for the mid-term planning period.
- (*7) 4 consultants/day is assumed to be engaged
- (*8) 8 stages (man-days)/Company
- (*9) Assuming 3 man-months (or 60 man-days)/year/consultant
- (#) The maximum frequency of the programs will be 4 times a year, whereas additional training programs are assumed to be organized by private sector BDS providers.
- (*10) Honararia: JD 140/man-day plus 5% of contingency
- (*11) Consultants fee: JD 180/man-day plus 5% of contingency
- (*12) Snacks and drinks, invitation letter, material reproduction and others: JD 750/day

(2) Development of human resources necessary for KAIZEN dissemination and guidance

There is a need to nurture the human resources for KAIZEN dissemination and guidance at the different stages of dissemination activities as shown in 1) below, with provision of the various types of opportunities for the HRD as shown in 2).

1) Target human resources to develop

- a) For planning and implementation of a promotional initiative (including an organizational setup)

Level 1: Policy designer and administrator

Level 2: Project planner, operator and coordinator

- b) For guidance and technical support on KAIZEN practice

Level 1: Management consultants, and KAIZEN leaders at the company level

Level 2: Group leaders at the company level

- c) For daily activities of KAIZEN practice

Level 1: Technical staff and field supervisor at the company level

Level 2: Group member at the company level

Level 1 is the level with function for planning and promotion, whereas the level 2 is the level with function of real dissemination activities.

While possible human resources for the guidance include consultants, university faculty members and staff members of relevant public organizations, and resources available in the individual companies, are also expected to play an important role.

2) Method of the HRD

- a) Development of training materials

- b) Accreditation of qualified resources for KAIZEN guidance

The best system will be a KAIZEN consultant registration system, which is similar to the consultant registration system under JUMP. In other words, qualification is necessary to be judged by those who use their services based on their biographical data as well as other information available for them.

- c) Development of a mechanism to mobilize the KAIZEN consultants

For development of consultants, development of a mechanism to encourage use of the consultants in the field of KAIZEN guidance is also important, including a system to hire them as the advisors for the individual companies and instructors at the training programs.

- d) KAIZEN practice experience sharing meeting and KAIZEN practice award system

Recommendation 4 Recommendation on measures to materialize the functions to promote, disseminate, support and encourage KAIZEN activities

It is recommended to implement the following measures to materialize and ensure the functions to promote, disseminate, support and encourage KAIZEN activities, according to the activities shown in Table 4.

Table 4 shows the recommended measures to be implemented by JEDCO to materialize the required functions for dissemination and guidance of KAIZEN approach, indicating also the activity plan (for the period of 2013 and 2014), assuming that JEDCO will function as a core implementation body for dissemination of the KAIZEN approach which is regarded as one of the important functions of JEDCO for support of industry's competitiveness enhancement, with the dissemination target set in the previous sections.

The recommended measures to be implemented by JEDCO shown in the table are:

- 1) Measures to build awareness of the KAIZEN approach (e.g. awareness promotion seminars)
 - Expected fund source: JEDCO
 - Implementation method: Outsourcing to KAIZEN consultants, or inviting the experienced visiting lecturers
- 2) Technical training programs on KAIZEN practice
 - Expected fund source: JEDCO
 - Implementation method: Outsourcing to KAIZEN consultants, or inviting the experienced visiting lecturers
- 3) Technical guidance programs for the companies intending to apply KAIZEN practice
 - Expected fund source: Participating companies, use of Schemes 3 or 5 of JUMP, and/or JSMP
 - Implementation method: Introduction of qualified consultants to the companies under the consultant registration system, development and provision of technical guidance curriculum, and financing support in case of necessary
- 4) Measures to provide the companies practicing KAIZEN activities with opportunities to learn lessons from other companies, and measures to provide incentives for the companies for continuation and development of their KAIZEN activities
 - Expected fund source: JEDCO, or contribution by chambers of industry
 - Implementation method: Outsourcing to the consultants

- 5) Measures for technical development on KAIZEN activities (such as regular review and updating of the training/educational materials)
- Expected fund source: JEDCO
 - Implementation method: Outsourcing to the consultants

Table 4 Proposed Activity Plan of Productivity Unit

Objectives		Contents	Assumed Measures	Activity Plan Target (2013 and 2014)
(1) Building awareness on KAIZEN approach	Promotion of understanding about the need for promoting KAIZEN approach in Jordan, targeting those who are in a position to lead and support industries	1. KAIZEN awareness seminars targeting industrial policy planners of the government	1) Measures to build awareness of the KAIZEN approach (e.g. awareness promotion seminars) <ul style="list-style-type: none"> • Expected fund source: JEDCO • Implementation method: Outsourcing to KAIZEN consultants, or inviting the experienced visiting lecturers 	1) Seminar for MOIT staffs (*1) [One-shot] 2) Seminar for JEDCO staffs [One-shot]
		2. KAIZEN awareness seminars targeting industry leaders.		1) Seminars for chambers of industry & commerce, and for leaders of industrial/business associations (*2) [Annual campaign]
		3. KAIZEN awareness seminars targeting enterprise managements in the industrial estates.		1) Seminar for companies in industrial estates (*3) [Annual campaign]
(2) Support for companies introducing KAIZEN approach	1) Technical guidance on KAIZEN practice	1. Transfer of KAIZEN techniques and methods to field leaders of enterprises (training of KAIZEN Leaders of the companies intending to introduce KAIZEN approach)	2) Technical training programs on KAIZEN practice <ul style="list-style-type: none"> • Expected fund source: JEDCO • Implementation method: Outsourcing to KAIZEN consultants, or inviting the experienced visiting lecturers 	1) KAIZEN leaders' training for the companies intending to introduce KAIZEN activity, and the leaders newly appointed in the companies practicing KAIZEN activity [3-4 times/year] 2) Follow-up guidance seminar on KAIZEN technology [3-4 times/year] 3) Advanced training program targeting consultants and experienced KAIZEN leaders [Semi-annual program]

Objectives		Contents	Assumed Measures	Activity Plan Target (2013 and 2014)
(2) Support for companies introducing KAIZEN approach	1) Technical guidance on KAIZEN practice	2. On-site technical guidance to the individual companies which intend to introduce KAIZEN approach newly	3) Technical guidance programs for the companies intending to apply KAIZEN practice <ul style="list-style-type: none"> Expected fund source: participating companies, use of Schemes 3 or 5 of JUMP, and/or JSMP Implementation method: Introduction of qualified consultants to the companies under the consultant registration system, development and provision of technical guidance curriculum, and financing support in case of necessary 	1) 40 companies [Annual program](the same program as (2) 2)-2. below)
	2) Financial support for KAIZEN practice	1. Dissemination of concept, benefits, and method of KAIZEN approach for management consultants	2) Technical training programs on KAIZEN practice <ul style="list-style-type: none"> Expected fund source: JEDCO Implementation method: Outsourcing to KAIZEN consultants, or inviting the experienced visiting lecturers 	1) Guidance seminar on KAIZEN approach and practice for the consultants registered for JUMP [One-shot] 2) Guidance seminar on KAIZEN approach and practice for the consultants engaged in FFF (*4) [One-shot]

Objectives		Contents	Assumed Measures	Activity Plan Target (2013 and 2014)
(2) Support for companies introducing KAIZEN approach	2) Financial support for KAIZEN practice	2. Provision of financial support for the companies applying KAIZEN practice under the programs/ projects by JEDCO	3) Technical guidance programs for the companies intending to apply KAIZEN practice <ul style="list-style-type: none"> Expected fund source: participating companies, use of Schemes 3 or 5 of JUMP, and/or JSMP Implementation method: Introduction of qualified consultants to the companies under the consultant registration system, development and provision of technical guidance curriculum, and financing support in case of necessary 	1) Financial support for the companies applying KAIZEN practice under JUMP (the same program as (2) 1)-2. above)
(3) Consolidation of KAIZEN practice experience, and development of KAIZEN techniques which fit effectively to the business and work culture of Jordan	1) Consolidation of KAIZEN practice experiences	1. KAIZEN experience sharing among the companies applying KAIZEN approach	4) Measures to provide the companies practicing KAIZEN activities with opportunities to learn lessons from other companies, and measures to provide incentives for the companies for continuation and development of their KAIZEN activities <ul style="list-style-type: none"> Expected fund source: JEDCO, or contribution by chambers of industry Implementation method: Outsourcing to the consultants 	1) Annual KAIZEN leaders' meeting [Semiannual program](a part of the Program (4))(*2)

Objectives		Contents	Assumed Measures	Activity Plan Target (2013 and 2014)
(3) Consolidation of KAIZEN practice experience, and development of KAIZEN techniques which fit effectively to the business and work culture of Jordan	2) Development & publication of training materials for KAIZEN approach	1. Compilation of the basic training materials prepared by the JICA Team under the current project	5) Measures for technical development on KAIZEN activities (such as regular review and updating of the training/educational materials) <ul style="list-style-type: none"> Expected fund source: JEDCO Implementation method: Outsourcing to the consultants 	1) Compilation and updating of the basic training materials prepared by the JICA Team under the current project [Continuous activity with annual review]
		2. Publication of good practice of KAIZEN in Jordan		1) Publication of good practice of KAIZEN in Jordan (*5) [Biennial activity]
		3. Arabic publication of training/educational materials for KAIZEN practice		1) Arabic publication of “KAIZEN Leader Training Text” (*5) [Biennial review and updating] 2) Arabic publication of “Guideline for KAIZEN Guidance” (for consultants) (*5) [Biennial review and updating]
		4. Development of visual aid materials for training/education of KAIZEN practice based on the experiences in Jordan		1) Development of visual materials for training of “5S” [One-shot activity & biennial review and updating]

Objectives		Contents	Assumed Measures	Activity Plan Target (2013 and 2014)
(3) Consolidation of KAIZEN practice experience, and development of KAIZEN techniques which fit effectively to the business and working culture of Jordan	3) Development of human resources for KAIZEN guidance	1. Industrial planners of the government (MOIT, JEDCO, Industrial Estate Corporation, etc.)		For MOIT & JEDCO, see (1)-1.
		2. KAIZEN consultants		See (2)-1)-1-3)
		3. KAIZEN leaders & small- group leaders of the companies		See (2)-1)-1-1) & 2), and (2)-1)-2.
(4) Provision of incentives for KAIZEN approach	Provision of incentives for persistence and development of KAIZEN practice among the industries	1. Launching of Good Practice Awards of KAIZEN	4) Measures to provide the companies practicing KAIZEN activities with opportunities to learn lessons from other companies, and measures to provide incentives for the companies for continuation and development of their KAIZEN activities <ul style="list-style-type: none"> • Expected fund source: JEDCO, or contribution by chambers of industry • Implementation method: Outsourcing to the consultants 	1) Promotion of the awards giving system among the relevant government agencies, industrial/ business organizations, and institutions 2) Launching of “Good Practice Awards System of KAIZEN” 3) Implementation of 2012 awards giving ceremony [Annual program]

Notes:

(*) With collaboration with other agencies/organizations/institutes

(*1) MOIT, (*2) Jordan Chamber of Industry, (*3) Industrial Estate Corporation, (*4) FFF, (*5) Group of KAIZEN consultants engaged in SME KAIZEN guidance program under the current project