Achievements in the Quality and Productivity Improvement (KAIZEN) Project

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What is KAIZEN?

- Simply a word which means “improvement” in Japanese
- Incremental and continuous improvement with the involvement of entire workforce
- Quality and Productivity Improvement
- Without additional cost: “If no money, use your brain.”
- Participatory process and bottom-up from factory floors (gemba)
- Emphasis on process as well as results
- Reflecting a Japanese philosophy (continuous improvement through all aspects of life)

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Profile of the Project

- Project Title: The Study of Quality and Productivity Improvement (KAIZEN) in Ethiopia
- Project Duration: October 2009 to June 2011
- Project Holder: JICA & Ministry of Industry
- Study area: Addis Ababa and its surroundings
  - Sector Focused: Manufacturing

Objectives

1) Pilot Project Performance: To formulate a manual to be used for conducting KAIZEN activities in Ethiopia, which is prepared based on results from verification study through the implementation of pilot activities for selected 30 (thirty) companies;

2) Human Resources Development: To transfer relevant skills and techniques to the staff members of KAIZEN Unit of MoI; and,

3) National Plan Formulation: To make a plan to disseminate KAIZEN activities for manufacturing companies in Ethiopia.
Sample Improvement Results (1)

Qualitative Results:

- Clean working environment created,
- Team work and motivation of workers developed,
- Health and occupational safety of workers improved,
- Lower level workers accustomed to suggesting improvement ideas to management decisions – Increased Employee Participation,
- Knowledge obtained on how to meet quick delivery and to reduce costs.
Quantitative Results

✓ Monetary impact from the improvements reported is ETB 500,000/company. The reporting ranges from ETB 10,000 to ETB 3.2 mill.

- By reducing costs (a) ETB 10,000 per month and (b) ETB 78,000 per annum;
- By generating additional income of ETB 1.2 million per year;
- By just decreasing down time ETB 204,000 per day;
- By rectifying raw materials defect used for manufacturing ETB 2.4 mill;
- By identifying, repairing and reusing of usable machines & equipments worth of ETB 3.25 mill.

✓ Non-Monetary Measures of Improvement include:

- Increasing labor productivity, by reducing time loss for searching tools on average 50%;
- Reduction of floor space around 50%;
- Defect ratio improvement in the range of 50-70%;
- Lead time improved in the range of 16 to 90%;
- Labor saved from 15 to 90%.

Note: USD1 = approximately ETB 17.1 as of Aug. 2011

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Quantitative Results

- **Company A (Metal)**
  
  Recovered additional revenue with an amount of 118,995 birr

- **Company B (Metal)**
  
  Lead time reduced from 2 weeks to 1 week

- **Company C (Textile)**
  
  Reduced wastage of time by 624 min/month

- **Company D (Chemical)**
  
  Reduced wasters of over production by 50%
  Motion and movement by 100%

- **Company E (Agro)**
  
  Decreased flour wastage by 190 qtl of wheat flour

- **Company F (Agro)**
  
  Produced additional 12,000 lit/day
  By eliminating 6 hours dawn time/day

- **Company G (Agro)**
  
  By decreasing milk wastage recovered 846 birr/day
Fig. 1  **Sort, Set-in-order & Shine (3S)** are implemented to standardize the inventory stock

Fig. 2  In-process stock is repositioned to avoid **Muda of transportation**

Before Kaizen  

After Kaizen
### Highlighted results of the Pilot Project (1)

<table>
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<tr>
<th>Possibility*</th>
<th>high</th>
<th>good</th>
<th>some</th>
<th>low</th>
<th>no</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
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<tr>
<td>number of the companies</td>
<td>6</td>
<td>4</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>28</td>
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* Possibility to be a “KAIZEN model company”

- 10 companies which are graded 5 and 4 are a candidate of the excellent companies.
- Exceeds one third of the companies has a possibility of the KAIZEN model companies.
KAIZEN Model Company (Graded 5) means a company which continuously practices KAIZEN and as the result realizes achievements that significantly excel other companies in terms of quality /productivity improvement (6 companies).

Key Criteria for the Model Company

- Model workplace activities: 5S, Standard operation sheets, Layout study
- General activities: Employee training of basic KAIZEN knowledge, Workload reduced
- Organization management: QCC activities, Wide dissemination of KAIZEN
- Management direction: Active top management, Good employee relations, Development of KAIZEN activities
## Assessment of Capacity Development of KU members

<table>
<thead>
<tr>
<th>Level</th>
<th>Competence</th>
<th>Assignment</th>
<th>Before project</th>
<th>After project</th>
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<tr>
<td>0</td>
<td>no experience of KAIZEN</td>
<td></td>
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<tr>
<td>I</td>
<td>Competent to conduct KAIZEN activities for yourself</td>
<td>Junior KAIZEN Consultant</td>
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<tr>
<td>II</td>
<td>Competent to guide KAIZEN activities</td>
<td>Assistant KAIZEN Consultant</td>
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<td>3</td>
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<tr>
<td>III</td>
<td>Competent to provide consultancy services on KAIZEN</td>
<td>KAIZEN Consultant</td>
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<td>IV</td>
<td>Competent to provide consultancy services on KAIZEN</td>
<td>Senior KAIZEN Consultant</td>
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<td>V</td>
<td>Competent to provide consultancy services on KAIZEN</td>
<td>Lead KAIZEN Consultant</td>
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Institutionalization of KAIZEN dissemination system and JICA’s continuous assistance

1. Established first Kaizen-titled body (KAIZEN Unit) and first Kaizen-titled organisation (Ethiopian KAIZEN Institute) in Sub-Saharan Africa under Ministry of Industry

2. Phase 1 ended with tangible results in June 2011 and Phase 2 will start in November 2011 for 3 years
JICA KAIZEN assistance spread in Africa

LEGEND
- Red: Project implemented/ing
- Green: Project officially requested
- Yellow: MPC course participated*
- (only for Sub-Saharan)

*Malaysian Productivity Center (MPC) have conducted “JICA Third Country Training Programme for African Countries on Enhancement of Productivity and Competitiveness for Trade Promotion through TQM and KAIZEN Approach”.

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Thank you very much.