Lesson Learnt During Implementation of Sustainable Management of Industrial Area Approach in Indonesia

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„Improving the Living and Working Condition of People in and around Industrial Clusters and Zones”
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Outline

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- Objectives and Indicators
- Project Overall Approaches
- Community Dialogue Platforms (CDP)
- Cleaner Production Clubs (CPC)
- Sustainable Management of Industrial Areas (SMIA)
- Conclusions of the Project
Background

- Rapid industrial growth in early 1980s has spread out industrial clusters and zones in cities
- It has been followed by high levels of industrial environmental pollution due to poor planning and resource management
- Inefficiency of resource use in industrial process and limited infrastructure in industrial estates/zones has influenced environment quality
- Raise potential conflict among industrial stakeholders due to the effect to community health and livelihood.
- Need an integrated approach to improve production process, environment, and at the same time reduce social pressure
Objectives and Indicators

- Industrial management stakeholders jointly implement an integrated approach to industrial pollution prevention
- Government takes role as keeper for public interest
- Company reduces resource consumption and waste
- Industrial area management play an active role in facilitating action
- Community support and monitor the action of other stakeholders

- 4 Industrial areas and clusters in urban areas are selected
- 150-200 SME’s workers and managers in the areas from 80 companies are participated in CP
- 16 staff of environmental agencies upgraded in environmental monitoring
- 40 organization of service providers increase their capacity in CP implementation
- 15 members of cluster/forum increase their capacity in mediation of environmental issues
Project Overall Approach

**Improved living and working conditions for people living in and around industrial clusters**

**Sustainable Management of Industrial Areas**
- Understand needs of the industries
- Improve and create joint facilities and services
- Create healthy and safe business environment

**Community Dialogue Platform**
- Understand the needs of industries
- Improve access to information
- Productive motivated manpower, high HR performance
- Good image

**Estate Management**

**Industries**

**Cleaner Production Clubs**
- Increase human resource capacities
- Share experience, support mutually
- Create synergies, gain cost saving
- Increase performance and profit
- Reduce environmental impact
Setting of the Industrial Areas (IA)

- IAs in Indonesia are managed and unmanaged. Management act as ‘developer’ and ‘service provider’

- ‘Developer’ management only sells lot but no service.

- Good for marketing (for specific tenants) in the beginning but potential conflict in the operation

- ‘Service Provider’ management sells property as well as service to tenants.

- Conflict between marketing target and consistency of IA regulation.

### Industrial Estate Profile

<table>
<thead>
<tr>
<th>Industrial Estate</th>
<th>Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kawasan Industri Terboyo Semarang (KITS)</td>
<td>165 ha in operation&lt;br&gt;185 enterprises, workforce about 6000&lt;br&gt;Main produce: Garments, wood manufacturing, food processing, palm and coconut oil</td>
</tr>
<tr>
<td>Kawasan Industri Terboyo Megah (KITM)</td>
<td>48 ha in operation&lt;br&gt;117 SME (24 manufacturing), workforce about 940&lt;br&gt;Main produce: Furniture, plastic, wood manufacturing, warehouse/ wholesale</td>
</tr>
<tr>
<td>Kawasan Industri Wijayakusuma (KIW)</td>
<td>102 ha operational area&lt;br&gt;Around 400 SME, workforce about 25,000&lt;br&gt;Main produce: Furniture, office equipment, plastics,</td>
</tr>
<tr>
<td>Lingkungan Industri Kecil (LIK)</td>
<td>60 ha in operation&lt;br&gt;37 (medium, large - 19 manufacturing) enterprises, workforce about 8000&lt;br&gt;Main produce: Garments, wood manufacturing, food processing, construction, recycling</td>
</tr>
<tr>
<td>Kawasan Industri Maspion</td>
<td>- ha in operation&lt;br&gt;18 (medium, large) enterprises, workforce about 5000&lt;br&gt;Main produce: chemical, metal, plastic, construction</td>
</tr>
</tbody>
</table>
Setting of the Industrial Estates
Community Dialogue Platforms (CDP)

- **Context**
  - Industry is operating in a local community setting
  - CDP is to create understanding and ease potential conflicts among stakeholders.

- **Activities**
  - Identify and motivate relevant stakeholder
  - Identify common interest and baseline for the dialogue
  - Regular Platform meetings (quarterly)
  - Open agenda setting, but logical sequence of issues addressed per meeting
  - Intermediary activities in-between meetings
Community Dialogue Platforms (CDP)

Results and Lesson Learned

- The long process and discussion brings the stakeholders closer and trust each other
- Good starting point in implementing CSR for industry and community empowerment for local community.
- Suspiciousness among industry and community hampers communication.
- Better to form a platform rather than individual action/approach
- Starting with the simple problem which has high opportunity for success is a good starting point.
- Result could motivate all stakeholders.
- Government plays a significant role in giving justification and motivation to the stakeholders.
## Community Dialogue Platforms (CDP)

### Example of Dialogue Results

<table>
<thead>
<tr>
<th>Problem</th>
<th>Action Plan/consensus</th>
<th>Stakeholders in charge</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contamination of waste water to rice field</td>
<td>No action, respective stakeholder in charge is resistant</td>
<td>PT. Perindustrian Bpk. Jenggot, farmer groups</td>
<td>At the end of the program, the industry interested to join again.</td>
</tr>
<tr>
<td>Decreasing of surface water for agriculture irrigation</td>
<td>Cooperation for plantation by PT. Sidomuncul Herbal training by Ny. Meneer</td>
<td>PT. Sidomuncul PT. Ny. Meneer Farmer group</td>
<td>Implemented</td>
</tr>
<tr>
<td>Extraction of underground water</td>
<td>Commitment for making plantation and absorption well</td>
<td>PT. Coca Cola Community in general</td>
<td>Waiting for 2009 budget planning</td>
</tr>
<tr>
<td>Illegal solid waste disposal by company</td>
<td>Cooperation to reuse plastic waste Test for bracket from waste, composting</td>
<td>PT. Sidomuncul, Women and youth group</td>
<td>Implemented</td>
</tr>
</tbody>
</table>
Cleaner Production Clubs (CPC)

- **Principles**
  - CPC is a group of companies working together to save money and reduce waste through the implementation of CP
  - Through training on the various CP aspects and regular meetings exchange ideas and information.
  - In relation to CDP, participation of company in CPC is a follow up of dialogue

- **Activities of the CPC’s**
  - Training of facilitators
  - Training of company representatives in CP
  - Technical Assistance
  - Network meetings
    - Informative meeting
    - Problem identification (NPO & analysis)
    - Monitoring and measurement
  - Evaluation meetings
Cleaner Production Clubs (CPC)

- **Results and Findings**
  - 78 companies organized in 7 CPC’s participated in Semarang (44 companies in 4 CPC’s) and Surabaya (34 companies in 3 CPC’s)
  - Environmental benefits reported in 41 companies
  - Economic benefits reported by 43 companies; 18 in Semarang and 25 in Surabaya

- **Lesson Learned**
  - Hampering the project are lack of commitment, limited of company’s time (especially the smaller companies), not sharing of information and experiences, and lack of investment capacity

- **Success factors**
  - Commitment and support from top management and staff
  - Sector oriented clubs appear to be more active and coherent
  - Clear focus on improvements
  - Involvement of the different departments
Cleaner Production Clubs (CPC)

- Example of Company’s Benefit

FINANCIAL SAVING (ANNUAL)

Environmental Saving
PT. SAMA (Garment)

Pre-washing
Washing
Drying

± 2,500 m³/day wastewater
± 1,800 m³/day water

Sludge
water
Sustainable Management of Industrial Areas (SMIA)

- SMIA enables participants to contribute to reduce environmental impact by evaluating the costs and benefits of action, and sets a framework to facilitate change.
- Identifying potential of IA by mapping ‘hot spot’, interview and stakeholder analysis, and institutional analysis.
Sustainable Management of Industrial Areas (SMIA)

- Implementing Tangible Change through the SMIA - Cycle of Change

1. Problem Analysis
   - Fact Finding
   - Evaluation
   - Change
   - Action
   - Development / assessment of measures

2. Impact Analysis (cost, environment, organisation, social aspects)
   - Consensus building
   - Mobilisation

3. Cause Analysis

4. Implementation of measures

5. Evaluation / Integration
Sustainable Management of Industrial Areas (SMIA)

### Findings

**Problem and its causes**
- Deficient handling of garbage due to inappropriate transfer site for waste collection in IA
- Lack of discipline by companies

**Measures**
- Subcontracting of garbage handling to Municipality
- Collection and direct transport to final disposal site outside of IA
- Reuse of garbage

### Improvement

- Garbage all over the area
- Odour, bad aesthetics
- Improved handling of garbage collection
- Cleaner Industrial Area

### Economic Benefits
- Less raw material cost by reuse of garbage

### Organisational Benefits
- Less complaints by companies
- Better image of Industrial Area (IA)

### Environmental Benefits
- Less bad odour

### Health and Security Benefits
- Less insects
Sustainable Management of Industrial Areas (SMIA)

- **Other Implemented Measures**
  - Improvement of road infrastructure (3 estates)
  - Elevation of streets to mitigate problems of land subsidence and seawater intrusion
  - Increased productivity and public health through improved drainage system (2 estates)
  - Reduction of flooding rainy season by improving the drainage system (3 estates)
  - Minimising impact of tidal water intrusion by improvement of drainage system and water gate
  - Cleaner industrial area due to improved handling of garbage
  - Improved handling of household waste through reorganisation of waste collection
  - Effective waste management through subcontracting
  - Increasing security by professionalizing the informal Kabe-kabe work system
  - Improved communication between estate management and government institutions to attract new investors
  - Safer electricity system by installation of new control panels.
Conclusion of the Project

- The multi-stakeholder approach shows an extraordinary complexity. Finally, sequencing approach have to adjust to condition of each industrial area.
- To change industrial area management from ‘developer’ to ‘service provider’ faces a dilemma where tenants expect better services but they have limited willingness to pay services.
- Role of facilitation by IA management and local government play significant contribution to the implementation of the approach whether in the dialogue platform and CPC.
- The approach is relevant with Indonesian context. Government just issued regulation that obligate companies to operate in IA.
- Effectiveness of the approach is divided; some could be achieve and some need adjustment. In term of dialogue, CSR issue is a good entry point while for CPC economic point of view (efficiency) is more promising.
- To judge impact of the project within 2 years is still premature. However, it is expected continuation of activities are essential for far reaching impact.