Social Life Cycle Assessment in the Value Chain

A Pilot Study in the Steel Industry

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Introduction to Mahindra Sanyo Special Steel Pvt. Ltd. (MSSSPL)

Formerly Known as **Mahindra Ugine Steel Company (MUSCO)**

**Established**: 1962

**Location**: Khopoli (Maharashtra), India

2012 MUSCO renamed as Mahindra Sanyo Special Steel Pvt Ltd. as joined venture between Mahindra & Mahindra (51%) India, Sanyo Special Steel (29%) Japan, and Mitsui (20%) Japan

**Business**: Manufacturing & Sales of Special Steel Long Products

**Products**: As-cast Ingots, Rolled products, Forged bars, Rings

**Turnover**: USD 135 Million

**Employee**: ~1000
Introduction to Mahindra Sanyo Special Steel Pvt. Ltd. (MSSSPL)

**Process Route**: Electric Arc Furnace, Rolling Mills, Forge Shop, Heat Treatment

**Forward integration**: Rings Division for value added products in the bearing sector

**Customers**
- Auto: Suzuki, M & M, JD
- Bearing: Timken, SKF, NSK, FAG
- Oil & Gas Application: Cameron, Halliburton, Smith International, T 3 Energy, FMC technology
- Engineering: Cummins, Siemens, Ferromatik, Kabra
- Mining Tools: Sandvik, Atlas Copco, Mitsubishi Materials
- Indian Railways
MSSSPL’s Vision is to be the most Admired, Successful and Socially Responsible Special steel Manufacturer in India by 2019
Our Sustainability Framework

- Guidelines
- Feedback Mechanism
- Balanced Score Card
- Enablers (MQW Framework of Management Processes)
Motivation for establishing round table

We assess the environmental impacts,
What about the social ones?
Meaning of modern slavery, includes the term slavery itself, but also other concepts such as human trafficking, forced labor, debt bondage, forced or servile marriage, and the sale and exploitation of children.

In absolute terms, the countries with the highest number of people in modern slavery are:

- India
- China
- Pakistan
- Uzbekistan
- Russia
- Nigeria
- Democratic Republic of the Congo
- Indonesia
- Bangladesh
- Thailand

Triggered by these practical shortcomings, a group of experts from large companies decided to join forces, initiating the Roundtable for Product Social Metrics.
Stakeholder Categories & Topics of Social Impact Assessment

Workers

- Occupational Health & Safety
- Wages
- Social Benefits
- Forced Labor
- Discrimination
- Freedom of Association & Collective bargaining
- Employment relationship
- Training & Education
- Work-life balance
- Job Satisfaction & Engagement

Consumers

- Health & Safety
- Experienced well-being

Community

- Community Health & Safety
- Access to tangible resources
- Local capacity building
- Community engagement
- Employment
**Assessment Methodology: Referencing Quantitative**

### Referencing

**Quantitative approach:**

**Performance indicator**

1. Numbers of hours of training per employee during the reporting period.

*Answer format: whole number*

**Reference value**

Performance indicator 1: 1 hour

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**Scale-based approach:**

**Performance indicator**

1. Percentage of workers who received training or have participated periodically in programmes aimed at capacity and skill development.

*Answer format: percentage*

**Reference scale**

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>All workers are trained periodically</td>
</tr>
<tr>
<td>1</td>
<td>&gt;75% workers are trained occasionally</td>
</tr>
<tr>
<td>0</td>
<td>Between 50% and 75% of workers are trained occasionally</td>
</tr>
<tr>
<td>-1</td>
<td>&lt;50% of workers are trained occasionally</td>
</tr>
<tr>
<td>-2</td>
<td>Workers do not receive training</td>
</tr>
</tbody>
</table>
OBJECTIVE:
The main target of this project was to develop a feasible methodology for a quantitative and qualitative assessment of positive and negative SOCIAL IMPACT of a product along its life cycle.

Challenges such as data availability and necessity to involve companies along the product life cycle have to be faced for further case studies!
Examples of Snapshot summary of the Scales Based Approach

<table>
<thead>
<tr>
<th>Stakeholder category</th>
<th>Social Topic</th>
<th>Reference value</th>
<th>Approach</th>
<th>Performance indicator</th>
<th>MSSSPL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers</td>
<td>Worker’s training and education</td>
<td>1 hour</td>
<td>Qt1</td>
<td>Number of hours of training during the reporting period.</td>
<td>724</td>
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<tr>
<td></td>
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<td></td>
<td>Qt1 1</td>
<td>All workers are trained periodically.</td>
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<td>Workers do not receive training.</td>
<td></td>
</tr>
</tbody>
</table>

![ILLUSTRATIVE](chart.png)
Hurdles & Insight

Data gathered

<table>
<thead>
<tr>
<th></th>
<th>Steel Scrap</th>
<th>Steel manufacture</th>
<th>Bearing manufacture</th>
<th>Assembly to car</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>Various</td>
<td>India</td>
<td>Hungary</td>
<td>Germany</td>
</tr>
<tr>
<td>Quantitative Data</td>
<td>+/-</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Qualitative Data</td>
<td>+/-</td>
<td>+</td>
<td>+/-</td>
<td>+</td>
</tr>
</tbody>
</table>

**Hurdles:**

- Time consuming
- Reaching to the relevant point of contact
- Skeptical about social data sharing from the suppliers
- So, no complete information according to PSIA could be gathered.
- Impacts on local community undeterminable
Benefits

- Quantitative approach could be easily integrated with the E-LCA for reaching a comprehensive life cycle sustainability assessment.

- Understanding the risk and improvement opportunities before decisions are made to start a pilot project.

- Assess the impacts of a product for internal assessment and optimization, helping companies to identify and take up joint projects that address the concerns highlighted in the study.
Thank you..!!


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