INTERNATIONAL CONFERENCE ON CSR AND COMBATING MALNUTRITION: OBTAINING MILLENNIUM DEVELOPMENT GOALS (MDGs) IN INDONESIA

Keynote Address

Dr. Manfred Eggersdorfer
Senior Vice President Research & Development
DSM Nutritional Products

Grand Sahid Jaya Hotel, 13 – 14 December 2010
International Conference on CSR and Combating Malnutrition: Obtaining Millennium Development Goals in Indonesia

Corporate Social Responsibility in Fighting Malnutrition

Jakarta, 14 December 2010

Dr. Manfred Eggersdorfer
Senior Vice President Nutrition Science & Advocacy
• Hidden Hunger as a global issue compromising development

• Millennium Development Goals and Malnutrition

• DSM’s engagement in CSR

• Summary and conclusions
Worldwide, ~ 2 billion people are affected by Hidden Hunger.
Hidden Hunger definition

“Deficiencies in essential micronutrients (vitamins & minerals) in individuals or populations which negatively impact on health, cognition, function, survival, and economic development.”

Expert Panel, Bangkok, 2009

Worldwide, over one third of deaths among children under 5 years of age is associated with malnutrition.
Why is Hidden Hunger so relevant to address?


Globally, undernutrition contributes to more than 1/3 of child deaths

- Neonatal: 37%
- Diarrhoea: 16%
- Acute respiratory infections: 17%
- Malaria: 7%
- Measles: 4%
- Injuries: 4%
- HIV/AIDS: 2%
- Other: 13%

Replicated from original source: WHO 2008
What are micronutrients needed for?

Vitamins & Minerals are only needed in small amounts, but are essential for:

- Normal Growth
- Protecting from Illnesses
- Preventing Deaths
- Having Healthy Babies
- Good Work Performance
- Good Health
- Normal Brain Growth

DSM Nutritional Products
What is the impact of Hidden Hunger?

Annual Lives Lost

- 1.1 mio children <5 y
- 600,000 stillbirths
- 115,000 women during pregnancy

Based on well established data, the reason for nearly 2 million lives lost every year among children <5 years old, is mainly due to vitamin A, iron and zinc deficiencies.

Source: WHO

This cause can be addressed through intervention with adequate micronutrients.
What is the impact of Hidden Hunger?

Annual Lives Impaired

- Maternal iodine deficiency: 18 mio babies born mentally impaired
- Vitamin A deficiency: 350,000 children go blind
- Maternal folate deficiency: 150,000 babies born with neural tube defects

A united call to action on vitamin and mineral deficiencies (2009)
Why is Hidden Hunger often neglected?
... because symptoms are largely subclinical!

- Chronic Intake of Low Quality Diet
  - Increased Requirements
  - Tissue & Plasma Depletion
  - Systemic Effects
  - Clinical Effects

- e.g. Xerophthalmia, cretinism, anemia etc
- Subclinical, but can impair cognitive development & immune system, provoke birth defects etc

- 10’s of millions affected
- > 2 billion affected

Visible

Invisible
What needs to be done

• Improving the diets of the world’s poor is a complex and long term undertaking:

  * Rising incomes, improved access to food, better health & nutrition services delivery, etc

• In the short term, however, many lives can be saved and improved through a range of micronutrient interventions
Micronutrient Interventions and coverage today…

• Vitamin A Supplementation
  82% coverage achieved in 2007

• Salt Iodization
  Worldwide, ~70% HH consume iodized salt

• Food Fortification
  30% of the world’s flour produced in large roller mills are fortified (costs $0.1 – $1 per year & person)

DSM Nutritional Products
• **Zinc Supplementation**
  For diarrhea prevention/treatment

• **In-home Fortification**
  New approach using Micronutrient Powder, MixMe™

• **Food-based approaches**
  Dietary improvement related to food security
**GOAL 1: Eradicate extreme poverty**
- Halve the proportion of people whose income is less than US$1 a day
- Halve the proportion of people who suffer from hunger

**GOAL 4: Reduce child mortality**
- Reduce by two thirds the under-five mortality rate

**GOAL 5: Improve maternal health**
- Reduce by three quarters the maternal mortality rate

---

**DSM Nutritional Products**
Globally active specialty company

- Global leadership (~75% of product portfolio)
- Innovation driven (~ € 300 million R&D spend)

Products

- Vitamins
- Carotenoids
- Polyunsaturated fatty acids
- Enzymes
How corporate social responsibility is seen at DSM

“We cannot be successful nor can we call ourselves successful in a society that fails.”

Feike Sijbesma, CEO DSM
Committed to fighting hidden hunger - malnutrition caused by micronutrient deficiencies.

Advocating for sustainable and significant improvement in human nutrition, health and well-being for the poorest and most vulnerable.

Championing the fight against global hidden hunger through the right mix of funds, knowledge, policy, and technology.

25th Anniversary in 2011
The Nutrition Improvement Program works to eliminate malnutrition around the globe.

DSM’s key tasks:

• **Sustainable business models:**
  develop tailor-made solutions that fulfill the needs of the target groups and create opportunities in new markets.

• **Partnerships with governments, organizations and industry:**
  support our partners with extensive technical, scientific and regulatory expertise.
Objectives of DSM – WFP partnership

1. **WFP and DSM**  
   Increase Micronutrient in WFP food basket

2. **WFP**  
   Advocacy and awareness

3. **DSM**  
   - ‘DSM Pride’ – Engaging employees and their families  
   - Employee Development  
   - Strengthen DSM’s Corporate and Brand Reputation
DSM is playing a critical strategic role in enabling WFP to launch the approach at the global level.
Example of innovation from partnership with WFP

MixMe™ Micronutrient Powder

To Increase Micronutrient Intake

• Underfives who consume too little quality foods
• Where general food fortification is not available or feasible
• Water dispersible mix of vitamins & minerals which can be added to food just before consumption
• One sachet equals 1 g and contains 1 RNI of 15 micronutrients
• Formulations with enzymes (phytase, amylase) and/or amino acids
• Stable under harsh climatic conditions
Meeting the recommended dietary intake
Example: children in Indonesia aged 24-36 months

<table>
<thead>
<tr>
<th>Energy (kcal)</th>
<th>Fat (g)</th>
<th>Protein (g)</th>
<th>Iron (mg)</th>
<th>Zinc (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>602.7</td>
<td>16.8</td>
<td>16.7</td>
<td>2.6</td>
</tr>
<tr>
<td>% fulfillment from RNI/RDA&lt;sup&gt;1&lt;/sup&gt;</td>
<td>60.3</td>
<td>48.0</td>
<td>66.8</td>
<td>32.5</td>
</tr>
</tbody>
</table>

Nutrient composition of average habitual dietary intake/day

<table>
<thead>
<tr>
<th>Energy (kcal)</th>
<th>Fat (g)</th>
<th>Protein (g)</th>
<th>Iron (mg)</th>
<th>Zinc (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>602.7</td>
<td>16.8</td>
<td>16.7</td>
<td>12.6</td>
</tr>
<tr>
<td>% fulfillment from RNI/RDA&lt;sup&gt;1&lt;/sup&gt;</td>
<td>60.3</td>
<td>48.0</td>
<td>66.8</td>
<td>157.5</td>
</tr>
</tbody>
</table>

Average habitual intake/day with provision of micronutrient powder

<table>
<thead>
<tr>
<th>Energy (kcal)</th>
<th>Fat (g)</th>
<th>Protein (g)</th>
<th>Iron (mg)</th>
<th>Zinc (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>1008.9</td>
<td>32.9</td>
<td>29.3</td>
<td>6.5</td>
</tr>
<tr>
<td>% fulfillment from RNI/RDA&lt;sup&gt;1&lt;/sup&gt;</td>
<td>100.9</td>
<td>94.0</td>
<td>117.2</td>
<td>81.3</td>
</tr>
</tbody>
</table>

Recommended dietary intake/day based on locally available food in Nias Island, Indonesia

<sup>1</sup> Recommended energy, protein, vitamin A, iron, zinc based on RNI Indonesia (2004); recommended fat intake based on RDA USA (1993)
Source: Prof. Hans K. Biesalski, Uni Hohenheim
Vitamin D Deficiency in Asia
• DSM believes that the **private sector is an essential stakeholder** in the global fight against malnutrition.

• The challenge of undernutrition has to be addressed jointly by **private sector companies in partnership with public sector organizations**.

• DSM integrates social and business agendas.

• Corporations must understand that the immediate benefit is not financial in the early stages of social innovation, but **nutrition and well being of impoverished populations will sustainably improve**.
UN WFP Executive director Josette Sheeran:

“We are really pleased that DSM wants to share its outstanding expertise to address malnutrition with us. You can help increase awareness on the issue of global hunger, as will the active involvement of DSM employees in the partnership.”

Secretary General of the United Nations Ban Ki-Moon:

“The private sector is among the main stakeholders on hunger and nutrition. Nearly 1 billion people go hungry every day - an unprecedented number. Business is a partner from emergency food aid to long-term agriculture, from our road map for nutrition to our Committee on World Food Security.”

Feike Sijbesma receives 2010 Humanitarian of the Year Award