Sustainable Resource Management

One way to achieve the Paris Agreement and SDGs

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Growing Demand for Natural Resources in Southeast Asia

Source: Shandl et. Al. 2016

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**Domestic material consumption**

- Unit (million tonnes)
- Viet Nam
- Thailand
- Singapore
- Philippines
- Myanmar
- Malaysia
- Lao PDR
- Indonesia
- Cambodia

**Total water use**

- Unit (billion cubic meters)
- Viet Nam
- Thailand
- Singapore
- Philippines
- Myanmar
- Malaysia
- Lao PDR
- Indonesia
- Cambodia

**Total primary energy supply**

- Unit (thousand PJ)
- Viet Nam
- Thailand
- Singapore
- Philippines
- Myanmar
- Malaysia
- Lao PDR
- Indonesia
- Cambodia
Resource Intensity in Southeast Asia

**Material intensity**
- Unit (kilograms per US dollar)
- **Brunei Darussalam**
- **Cambodia**
- **Indonesia**
- **Lao PDR**
- **Malaysia**
- **Myanmar**
- **Philippines**
- **Singapore**
- **Thailand**
- **Viet Nam**
- **South East Asia**

**Energy intensity**
- Unit (MJ per US dollar)

**Source:** Shandl et. Al. 2016
Impacts on Deforestation in Southeast Asia

On top of that, the increasing global demand, particularly for products like rubber and palm oil has led to the rapid commercialization of agriculture which leads to impacts such as deforestation.

Source: Stibig and Achard 2014
Greenhouse Gas Emission in Southeast Asia

GHG emission by sector

- Unit (million tonnes)
- Other
- Waste
- Transport
- Land Use
- Industry
- Households
- Households
- Energy
- Agriculture

Years: 1970-2015
Carbon Emission from Deforestation in Southeast Asia

• In 2000, Southeast Asia accounted for almost 51 percent of global land use change emissions mainly due to deforestation, logging, fuelwood collection and forest conversion (ADB 2009).

• In 2015, fires from the burning of peat released 1.2 billion tons of CO₂ into the atmosphere over Southeast Asia (Huijnen et al. 2016).

Transforming understanding of sustainability in global supply chains

Brazilian soy exports, 2015
Mapping imports of European soy consumers
Exports of market leading trading companies and consumer nations in 2015
Measuring associated risks – territorial deforestation
New insights: Sourcing patterns of the EU and China in 2015

In 2015 China sourced 44% of all Brazilian soy, whilst the EU only sourced 12% - yet despite differences in total consumption the EU is associated with more deforestation in soy producing regions than China.
Key Issues

• Relatively low productivity showing slow economic growth
  – Based on structural transformation, demographic change and factor accumulation

• Poor land management practices
  – Burning and draining of peat swamps for agriculture
  – Clear cutting for timber harvesting
  – Illegal conversion of forest land for agriculture
Link to SDGs

- SDG 6 Clean water and sanitation
  - Target 6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

- Goal 7 Affordable and clean energy
  - Target 7.3 By 2030, double the global rate of improvement in energy efficiency

- SDG 12 Responsible consumption and production
  - Indicator 12.1.1 Number of countries with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or a target into national policies
  - Indicator 12.2.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption GDP

- SDG 13 Climate Action
  - Target 13.2 Integrate climate change measures into national policies, strategies and planning

- SDG 15 Life on Land
  - Target 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally
    - Indicator 15.2.1 Progress towards sustainable forest management

- SDG 17 Partnerships
  - Indicator 17.11.1 Developing countries’ and least developed countries’ share of global exports
SDGs Integration

SEI’s recent research found that

“There is no fundamental incompatibilities between goals, however, we have identified constraints and conditionalities, that require coordinated policy interventions to manage competing demands over natural resources to support economic and social development within environmental limits."
<table>
<thead>
<tr>
<th>Interaction</th>
<th>Name</th>
<th>Explanation</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>+3</td>
<td>Indivisible</td>
<td>Inextricably linked to the achievement of another goal.</td>
<td>Ending all forms of discrimination against women and girls is indivisible from ensuring women’s full and effective participation and equal opportunities for leadership.</td>
</tr>
<tr>
<td>+2</td>
<td>Reinforcing</td>
<td>Aids the achievement of another goal.</td>
<td>Providing access to electricity reinforces water-pumping and irrigation systems. Strengthening the capacity to adapt to climate-related hazards reduces losses caused by disasters.</td>
</tr>
<tr>
<td>+1</td>
<td>Enabling</td>
<td>Creates conditions that further another goal.</td>
<td>Providing electricity access in rural homes enables education, because it makes it possible to do homework at night with electric lighting.</td>
</tr>
<tr>
<td>0</td>
<td>Consistent</td>
<td>No significant positive or negative interactions.</td>
<td>Ensuring education for all does not interact significantly with infrastructure development or conservation of ocean ecosystems.</td>
</tr>
<tr>
<td>−1</td>
<td>Constraining</td>
<td>Limits options on another goal.</td>
<td>Improved water efficiency can constrain agricultural irrigation. Reducing climate change can constrain the options for energy access.</td>
</tr>
<tr>
<td>−2</td>
<td>Counteracting</td>
<td>Clashes with another goal.</td>
<td>Boosting consumption for growth can counteract waste reduction and climate mitigation.</td>
</tr>
<tr>
<td>−3</td>
<td>Cancelling</td>
<td>Makes it impossible to reach another goal.</td>
<td>Fully ensuring public transparency and democratic accountability cannot be combined with national-security goals.</td>
</tr>
</tbody>
</table>
3. **Whole-of-government** maps interactions across all goals

Source: UNDESA 2015
1. **Sector approach** maps interactions with others’ goals

Source: GEOMAR/ICSU (forthcoming)
Policy Recommendations

Regional Coordination
• Asian and European regional bodies to support and coordinate the shift towards improvement in the quality of human and other capital to transition towards more sustainable productivity-driven growth and technology-intensive development

Mainstreaming SCP concepts across sectors
• National governments to embed sustainable production and consumption concept across the sectors, e.g. promoting environmentally sustainable cities
• Mainstreaming the “reduce, reuse, recycle” (3R) concept through a combination of appropriate incentives and disincentives
• To support and promote green initiatives such as green finance, green/sustainable public procurement (GPP/SPP) and eco-labelling

Monitoring and Evaluation
• Establish the standard for data collection and evaluation for both resource efficiency and land use management