Sustainable Coffee Practices and Eco-Certification in Indonesia

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Outline of Presentation

1. Brief overview of the Indonesian coffee economy
2. Excerpts from case studies: Lampung, Toraja, and Gayo
3. Dynamics and complexity of coffee certification
4. Coffee value chains and market integration
5. Impact of eco-certification on economy and environment
6. Policy implications and actions: The way forward
Overview: The Coffee Economy of Indonesia

- Indonesia is the **4th largest** coffee producer, after Brazil, Vietnam, and Columbia, but the **2nd largest** Robusta producer after Vietnam
- Coffee production in 2013 was 698,900 tons, a 1.1 percent increase from 691,100 tons of production in 2012.
  - 85% of coffee is Robusta (mostly from Lampung and South Sumatra)
  - 15% of coffee is Arabica (from some highlands, but virtually all exported)
- Eco-certification in coffee has grown rapidly in the last decade, following global price increase, growing significance of non-state regulation and global environmental governance in agricultural commodities trade.
Coffee Producing Regions in Indonesia

- Aceh
- Lampung
- Toraja
- East Java
- South Sumatra
- Wamena
- Flores
<table>
<thead>
<tr>
<th>Year</th>
<th>Harvested Area (ha)</th>
<th>Production (ton)</th>
<th>Productivity (ton/ha)</th>
<th>Growth (%/year)</th>
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</thead>
<tbody>
<tr>
<td>2000</td>
<td>1,385.100</td>
<td>613.470</td>
<td>0.44</td>
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<td>2001</td>
<td>1,322.000</td>
<td>587.450</td>
<td>0.44</td>
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<td>1,376.200</td>
<td>681.040</td>
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<td>2003</td>
<td>1,300.600</td>
<td>674.440</td>
<td>0.52</td>
<td>-0.97</td>
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<td>2004</td>
<td>1,303.900</td>
<td>647.360</td>
<td>0.50</td>
<td>-4.02</td>
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<tr>
<td>2005</td>
<td>1,255.300</td>
<td>640.410</td>
<td>0.51</td>
<td>-1.07</td>
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<td>2006</td>
<td>1,308.700</td>
<td>682.200</td>
<td>0.52</td>
<td>6.53</td>
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<tr>
<td>2007</td>
<td>1,295.900</td>
<td>676.400</td>
<td>0.52</td>
<td>-0.85</td>
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<tr>
<td>2008</td>
<td>1,295.100</td>
<td>697.970</td>
<td>0.54</td>
<td>3.19</td>
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<tr>
<td>2009</td>
<td>1,266.200</td>
<td>682.570</td>
<td>0.54</td>
<td>-2.21</td>
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<tr>
<td>2010</td>
<td>1,210.400</td>
<td>686.910</td>
<td>0.57</td>
<td>0.64</td>
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<tr>
<td>2011</td>
<td>1,233.700</td>
<td>638.620</td>
<td>0.52</td>
<td>-7.03</td>
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<tr>
<td>2012</td>
<td>1,235.300</td>
<td>691.100</td>
<td>0.56</td>
<td>8.22</td>
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<tr>
<td>2013</td>
<td>1,240.900</td>
<td>698.900</td>
<td>0.56</td>
<td>1.13</td>
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</table>

Source: Central Agency of Statistics (BPS), 2014
## Coffee Production in Major Producing Regions

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>Share** (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aceh</td>
<td>48,080</td>
<td>47,811</td>
<td>50,171</td>
<td>50,774</td>
<td>6.97</td>
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<tr>
<td>North Sumatra</td>
<td>50,158</td>
<td>54,944</td>
<td>54,355</td>
<td>54,100</td>
<td>7.56</td>
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<tr>
<td>South Sumatra</td>
<td>148,281</td>
<td>155,372</td>
<td>131,601</td>
<td>134,602</td>
<td>20.25</td>
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<tr>
<td>Bengkulu</td>
<td>56,128</td>
<td>54,267</td>
<td>55,418</td>
<td>54,948</td>
<td>7.82</td>
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<tr>
<td>Lampung</td>
<td>140,095</td>
<td>140,087</td>
<td>145,220</td>
<td>145,053</td>
<td>20.20</td>
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<tr>
<td>Central Java</td>
<td>14,991</td>
<td>15,897</td>
<td>16,412</td>
<td>16,585</td>
<td>2.26</td>
</tr>
<tr>
<td>East Java</td>
<td>47,000</td>
<td>51,634</td>
<td>54,012</td>
<td>55,690</td>
<td>7.37</td>
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<tr>
<td>Bali</td>
<td>15,653</td>
<td>13,683</td>
<td>14,909</td>
<td>14,959</td>
<td>2.10</td>
</tr>
<tr>
<td>East Nusa Tenggara</td>
<td>17,965</td>
<td>20,548</td>
<td>20,580</td>
<td>20,583</td>
<td>2.82</td>
</tr>
<tr>
<td>South Sulawesi</td>
<td>32,736</td>
<td>33,510</td>
<td>31,964</td>
<td>31,238</td>
<td>4.59</td>
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<tr>
<td>Others</td>
<td>105,388</td>
<td>95,185</td>
<td>216,358</td>
<td>105,544</td>
<td>18.07</td>
</tr>
<tr>
<td>Indonesia</td>
<td>676,475</td>
<td>682,938</td>
<td>791,000</td>
<td>684,076</td>
<td>100.00</td>
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</tbody>
</table>

** Average annual share to national production

Source: Ministry of Agriculture, 2014
The growing significance of specialty coffee in the world market coincides with the growth of global environmental governance in the agri-food industry.

**Arabica Specialty Coffee of Indonesia**
- Mandheling Coffee (12,000 ton/year)
- Gayo Coffee (25,000 ton/year)
- Lintong Coffee (8,000 ton/year)
- Toraja/Kalosi Coffee (5,000/ton/year)
- Washed Java Coffee (4,000/ton/year)
- Bali/Kintamani Coffee (2,000/ton/year)

**Robusta Specialty Coffee of Indonesia**
- Lampung Specialty ALP (20,000 ton/year)
- Lampung Specialty ELB (10,000 ton/year)
- Semendo Coffee (2,000 ton/year)
- Washed Java Coffee (20,000/ton/year)
- Robusta Flores Coffee (2,000/ton/year)

Source: Commodity Market Outlook, World Bank, July 2014
Sustainable Practices of Coffee Agroforestry

• Initially, “sediment pit” conservation technique was introduced.
• In the 2000s, sustainable practices of coffee agroforestry system were adopted rapidly by smallholder farmers in the watershed;
• Agroforestry system is a source of securing household income; and seen as forest stewardship methods and then developed as a PES strategy (payment or reward for environmental services)
Sustainability and Eco-Certification Standards

• First party: Starbucks preferred supplier program, later evolved into CAFÉ (coffee and farmer equity) Practices
• Second party: Sustainable Agriculture Information (SAI)
• Third party regulatory systems:
  – Utz Kapeh: originally by Guatemalan, Dutch company Ahold
  – Fair Trade: now thru Fairtrade Labelling Organization (FLO)
  – Organic: e.g. USDA Organic labelling
  – Shade-grown: now thru Bird-friendly and Rainforest Alliance
• Fourth party: Common Code for Coffee Community (4C), was led by GTZ and DKV (German Coffee Association).
Lampung: Non-conducive starts of certification

• On one hand, the debates might improve the governance level, and traceability mechanisms of coffee production in Lampung and in Indonesia as a whole.

• On the other hand, however, campaigns to shame the importers who receive Lampung coffee without asking too many questions on the origin of the beans could hinder the efforts to improve the asymmetric structures of coffee market.
Is coffee agroforestry system a solution?

• Coffee Multistrata or Coffee Agroforestry System is a major shift to community-based forestry management is a “win-win” solution;
• Coffee-agroforestry system (shaded & multistrata) could be seen as both forest stewardship and reward for environmental services.
Toraja: Market & information access

- Market access and information access determine farm-gate price of coffee;
- Issues of origin and traceability and incentives to improve coffee quality;
- High-yielding coffee varieties are not easily adopted and grown by farmers;
- The roles of middlemen and small-scale processors are very important in ensuring quality standards;
- Overlapping government programs: Organic certification vs Prima Tani.
- Renewed focus on domestic markets.
Aceh Gayo: Organic Coffee

- Restructuring of Gayo coffee could be attributed to eco-certification or sustainability partnership initiatives;
- Buyers in Europe and North America have worked closely with exporters, improving the capacity of coffee farmers’ groups and cooperatives;
- Most of Gayo coffee is certified as by major certification agencies: USDA Organic, Control Union, Utz Kapeh, Forest Trade, Fair Trade etc
- Does this process increase price premium and farm-gate price received by poor coffee farmers?
Rivalry and Brand Disputes

- PD Genap Mufakat & Holland Coffee formed a joint venture: Gayo Mountain Specialty Coffee (GMSC), partnering with Koperasi Tunas Indah, registered Gayo Mountain Coffee (GMC) brand;

- NCBA (National Cooperatives and Business Association), partnering with Koperasi Baitul Qiradh Baburrayyan under Gayo Supreme Coffee (GSC);

- Gajah Mountain Coffee partnering with Koperasi Gayo Mountain Cooperatives is exporting using general (no) brand.

- Aceh Coffee Forum is has registered Geographical Indication (GI) for Gayo.
Generalized Coffee Supply Chains in Indonesia

- Farmers
  - Collector Traders
    - Rural Area
      - Large traders Exporters
        - Domestic industries
      - Urban Area
        - Large traders Exporters
          - International markets
        - Roasters
          - Domestic markets
Export Destination of Indonesian Coffee

Arabica
- Japan: 20%
- United States: 46%
- Germany: 11%
- Others: 16%
- Singapore: 5%
- Taiwan: 2%

Robusta
- Japan: 17%
- Germany: 18%
- Poland: 14%
- Others: 16%
- Taiwan: 2%
- Italy: 5%
- United States: 8%
Coffee Eco-Certification: New Complexities

• Market chains to exports are unregulated, but some certification systems have been adopted in Indonesia.

• Market-based schemes to induce sustainable farm practices:
  – ‘Forest stewardship’ payments, such as those linked to carbon markets;
  – Supply chain certification programs that attempt to create price premiums at the farm level, such as ‘Organic’, ‘Rainforest Alliance’, ‘Utz Kapeh’ or “4C”.
## Dynamics of Coffee Eco-Certification and Sustainability in Indonesian

<table>
<thead>
<tr>
<th>Important Dimension</th>
<th>First Party Starbucks</th>
<th>Second Party SAI</th>
<th>Third Party</th>
<th>Fourth Party the 4C</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Corporate sector-driven</td>
<td>Interaction with public and NGOs</td>
<td>Corporate sector-driven</td>
<td>Interaction with public and NGOs</td>
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<td>Interaction with public and NGOs</td>
<td>Interaction with public and NGOs</td>
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<td></td>
<td></td>
<td></td>
<td>Interaction with public and NGOs</td>
<td>Interaction with public and NGOs</td>
</tr>
<tr>
<td>Introduction and interaction with public and society</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Pilot Project and networking process with farmers’ groups</td>
<td>Pilot project in Sulawesi and Sumatra</td>
<td>Not available</td>
<td>After price drops in 2001</td>
<td>Post-tsunami in Aceh and North Sumatra</td>
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<tr>
<td>Modes of operation for market-link and certification</td>
<td>Encourage farmers groups or cooperatives</td>
<td>Encourage farmers groups or cooperatives</td>
<td>Not specific, but is likely direct links to companies</td>
<td>Encourage farmers groups or cooperatives</td>
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<tr>
<td>Progress on certification</td>
<td>Not available</td>
<td>Not available</td>
<td>15 companies have been certified</td>
<td>2 companies have been certified</td>
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<tr>
<td>Likelihood to integrate with the growing approach of environmental services</td>
<td>Very strong, Starbucks as captive buyer</td>
<td>Strong, NGO and public agency can play roles</td>
<td>Weak, but public agency can play roles</td>
<td>Very Strong, although starts with negative campaigns</td>
</tr>
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</tbody>
</table>

Source: Expanded from Arifin (2010)
Coffee Value Chains and Market Integration
(Source: Arifin and Ogtasari, 2011)

• Coffee value chain in Indonesia is spatially integrated, where regional price and national price of coffee are affecting each other, implying long-term relationship among coffee markets.

• New global initiatives affecting the determination of coffee prices in New York market and London market have also some impacts on the farm-gate coffee price in Indonesia, albeit very small.

• The value chain system of coffee market in Indonesia has low level of transmission elasticity, but fast growing market of specialty coffee could provide more opportunities for improving efficiency.

• The study suggests more access for market information, openness in business contracts and economic governance to improve the market structures, hence increasing income of coffee farmers.
Eco-Certification on Economy and Environment  
(Source: Arifin et al, 2014)

- Coffee agroforestry systems and certifications adopted in Sekampung Watershed in Lampung, Sumatra-Indonesia have contributed to conservation practices in food production centers of the province;

- Agroforestry systems have positive impacts on environmental benefits, by reducing chemical fertilizer application in the sites, but have no significant impacts on economic benefits. Farm income of agroforestry adopters and non adopters has no statistical difference.

- Coffee certificates have positive significant impacts on improving economic benefits (higher farm income) and environmental benefits (less chemical fertilizer use). Farmers joining RFA certification has higher economic and environmental benefits than those 4C certification.

- The study calls for a more structured and comprehensive action-research and development activities that facilitate the reward transfers for environmental services generated from coffee agroforestry systems.
Coffee Cupping: Improving the Quality?
Coffee Promotion in Australia: Shorten the Chain
Summary: Eco-certification Mechanism

• Start at the very basic level of better farming practices
• Provide technical assistance, extension services and empowerment actions at the field level.
• Apply selected red cherry and strip picking for ripen fruits.
• Provide access for road pavement and concrete floors to ensure a better drying process for coffee bean.
• Encourage coffee producers to organize as a group, to ensure the monitoring system and traceability principles
• Environmental services vs. global buyer-driven initiatives
• Economic valuation is a necessary step to synchronize
Policy Implication & Action: The way forward

• Positions of coffee smallholders in the eco-certification
  – How to translate global-initiative requirements to form farmers group or cooperatives into improving bargaining positions of small-farmers in the coffee supply chain and eco-certification?

• Compatibility with environmental services (ES) approach
  – How to link the different concerns (buyers about brand-image, while ES about developing market-based transaction between beneficiaries (buyers) and providers (sellers) of the services?

• Market structures and price transparency
  – How to reduce the tendency of single buyer, which its quality standard is used as a reference, but at the same time allowing specific local quality diversity of coffee, especially to meet the demand from potential domestic markets and new lifestyles?