UNIKASSEL VERSITÄT

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Challenges Towards Sustainable Cocoa Production in Indonesia

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1. Introductions

Background

The sustainability of cocoa commodity is endanger, considering the projection of low cocoa production growth compare to the demand growth. To fulfil the global demand in 2010, cocoa production is predicted need to increase by 100,000 – 120,000 tonnes per year. However, cocoa market is unique since it is a cash-crops commodity that is dominated by south to north trade. Since cocoa tree is a forest tree, it adapts very well in tropical forest ecosystem, which mostly found in West Africa, Latin America and South-East Asia.

However, the economic condition of the cocoa farmers' is woeful. In 2010, the average income of Indonesian cocoa farmers' is only 650 EUR a year. In this research, the author is motivated to have a closer look and a deeper examination particularly on the Indonesian cocoa production by means of case study method.

Objective

1. to have a better understanding of the challenges in the cocoa production in Indonesia
2. to identify potential alternative solutions to tackle the challenges.

2. Methodology

Qualitative study – with inductive approach (case study)

Research area
- Kalimantan island
  - Malinau district
  - Berau district
- Sulawesi island
  - Polewali Mandar district
  - North Luwu district

1st stage: Farmer level *(n=38)* - standardised open-ended approach interview

2nd stage: Other stakeholders *(n=14)* - guided approach interview

Data collection
- Empirical study method with 2 stages expert interviews
- Purposive sampling method with snowball approach

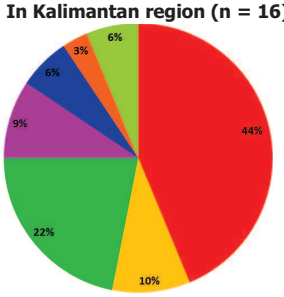
Data analysis

Qualitative content analysis

3. Findings

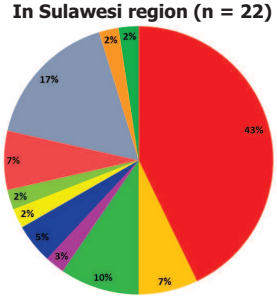
1st stage – Challenges on farmer's level

In Kalimantan region (n = 16)



- Infection of pests & diseases
- High maintainence cost (esp. for input cost)
- Low marketing power (price & marketing access)
- Ageing farmers' age (lack of capacity/workers)
- Low good practices implementation (PsPSP)
- Weak roots
- Lack of shade trees

In Sulawesi region (n = 22)



- Ageing trees
- Natural disaster (float, erotion)
- Climate change
- Bad infrastructure / transportation
- Low product quality
- Soil degradation

2nd stage – Challenges for other stakeholders:

1. **Crop losses from pest and disease**
   - Top soil degradation
   - Intoxicated environment from chemicals, low nursery, and lack of shade trees
2. **Low adaptation level of good agriculture practices**
   - Irregular GAP application
   - Unmeasured and ineffective agrochemical input
   - Farmers' demotivation
3. **Complex supply chain and unstandardized product quality**
   - Large options of cocoa market channel, i.e.: *tengkulak*, cooperative, collector, processor, etc.
4. **Lack of human resources**
   - Limited skilled labour and human power due to senior age of farmers
   - Scarcity of young farmers generation

4. Discussions

Taking consideration of the findings from both stages, the author tried to categorise the challenges and also to see the alternative solutions.

Problem categorisation

Problem Category	Factor	Effect
Low farmers' empowerment	Low motivation to adapt good agriculture practices	Crop losses from pest and disease
	Lack of skilled human resources	Low product quality Low productivity
	Low education level	Low management level
Unbalance marketing power of stakeholders (esp. farmer)	Complex supply chain	Less direct benefit for farmer
	Small quantity trade	Low selling price
	Unstandardized bean quality	Low income -> Cocoa field abandonment
Ecological degradation	Biodiversity degradation	Soil depletion
	Soil depletion	Sensitive to pest and disease
	Inefficient input application	Crop's & soil's intoxication
	Natural disaster	Crop's damage
Poor access to infrastructure & transportation	Limited market access	High transportation cost
	Limited information from other region	Lack of sharing-knowledge and conservative ideology

Alternative solutions

Problem category	Preventive actions	Corrective actions
Low farmers' empowerment	Simultaneous farmers' capacity building	Improve cultivation technique skill
	Strengthen farmers organisation	Apply express and simple solution to reduce infection
	Increase management skill	Increase trainings on pest and disease handling
		Increase demonstration plot and farmers' sharing knowledge
Unbalance marketing power of stakeholders (esp. farmer)	Strengthen farmer's organisation & cooperative	Promote price transparency
	Shorten supply chain through PPP	Encourage collective marketing to increase bargaining power
	Strengthen quality standardisation	Motivate farmer to fulfil standard quality
Ecological degradation	Scale-up agroforestry system	Improve best practices application
	Research on soil condition	Maintain shade tree
Poor access to infrastructure & transportation	Engage more trader to open buying station in remote area	Improve productivity by best practices application

5. Concluding Remarks

- To sustain cocoa production, it is necessary to understand and conserve the core ecosystem of cocoa tree as forest tree with biodiversity preservation
- Improvement of farmers' empowerment (capacity building, management skill, etc.) is required to motivate farmers managing the cocoa field
- Most problem categories are dependable to each other and contribute immensely to pest and disease infections
- Preventive and corrective action should be done simultaneously in each supply chain stages (farm to fork) including the establishment of supportive policies
- Sustainable cocoa production is the responsibility of all stakeholders, thus common understanding and engagement to promote sustainability is fundamental

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