How to cut the Gordian Knot – Sustainability and Yield Increase requires Investments

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In many cases expansion into sensitive areas is the only option for smallholders to increase yields and income

- Currently, deforestation is mostly related to smallholders as expansion of large plantation companies is limited or no longer possible
  - Malaysia: Stop to palm oil expansion
  - Indonesia: Indonesian Palm Oil Moratorium

- **Smallholders** are facing several **challenges**:  
  - No access to finance  
  - Unsustainable cultivation practices  
  - Limited knowledge about Good Agricultural Practices (GAP)

- Hence, expanding into sensitive areas is in many cases the only option to **improve income and livelihood**
Smallholders could achieve higher incomes through other measures than area expansion. However, upfront investments are required.

- Yields on smallholder plantations are far below the average yields, offering tremendous opportunities.
- Realizing them requires **upfront investments** to allow smallholders to achieve **higher incomes**.
- **Price premiums** do not really help at this stage as they are paid only for certified FFBs.
The implementation of GAP and ISCC certification requirements is associated with upfront investments

**Graph:** Costs per ha for training and certifying independent smallholders

- **Costs**

- Year 0 to Year 5

**Parameters:**
- Number of smallholders: 2,500
- Number of central office: 1
- Average cultivated surface of one ISH: 3 ha
- Average Yield: 18 t FFB/ha

**Source:** On-field data Jambi province, SNV and Meo Carbon Solution estimations
With 20% yield increase smallholders could achieve breakeven after 2.5 years

### Cumulated costs and benefits per ha for GAP trained and ISCC certified smallholders, 20% yield increase

- **Benefits**: additional income due to yield increase
- **Costs**:

#### Parameters:
- **Number of smallholders**: 2,500
- **Number of central office**: 1
- **Average cultivated surface of one ISH**: 3 ha
- **Average Yield**: 18 t FFB/ha

**Source**: On-field data Jambi province, SNV and Meo Carbon Solution estimations
A price premium of 10 €/ton for certified FFBs would reduce the time to breakeven. However, this does not solve the problem that upfront investment is required.
Micro-financing could be the solution. Certified smallholders being monitored on a yearly basis could provide an attractive business case for financial institutions.

Cumulated costs and benefits per ha for GAP trained and ISCC certified smallholders, 20% yield increase, 10 €/ton CPO price premium

Parameters:
Number of smallholders: 2,500; Number of central office: 1; Average cultivated surface of one ISH: 3 ha; Average Yield: 18 t FFB/ha; Assumed price premium (pp): 10 €/t CPO; Benefits: additional income due to yield increase.

Source: On-field data Jambi province, SNV and Meo Carbon Solution estimations
Microfinancing could provide smallholders with money upfront. However, financial institutions perceive smallholder loans as a high risk investment.

- **Microfinancing** could provide smallholders with the resources to implement measures like re-plantation, good agricultural practices and certifications.

- However, financial institutions consider lending a loan to smallholders a **high risk investment**.

- Reasons:
  - Low creditworthiness
  - Risk to be blamed for supporting unsustainable practices in cases of smallholder related deforestation

_solution: provide smallholder portfolios to banks which are based on **environmental and financial risk scoring**._

➢ Provide credible **environmental and financial risk monitoring** services for smallholder portfolios.
Many thanks for your attention!