IMPACTS OF RSPO CERTIFICATION ON LIVELIHOOD & SUSTAINABILITY
Evidence from Independent Smallholders in East Malaysia

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Outline

- Background
- Rationale
- Objectives
- Methodology
- Results & Findings
- Conclusions and Recommendations
- Acknowledgment
Background

- In Malaysia, smallholder farms cover about 38% of the total area of oil palm cultivation.
  - Organized smallholders – 24%
  - Independent smallholders – 14%
- Independent smallholders’ average farm size – 2.6 ha
- Average annual yield of independent smallholders - 17 tons/ha

“...towards sustainable agriculture...”
Rationale

 Smallholders should not be left out of the global certified sustainable palm oil (CSPO) market.
 Little is known about the changes that RSPO certification has brought to smallholder’s livelihood.
 Important to understand the smallholders’ underlying motivation in adopting RSPO and also the challenges and barriers they encounter.

“...towards sustainable agriculture...”
Objectives

To examine the impacts of RSPO adoption on independent smallholder’s livelihoods within the sustainable development spectrum.

“...towards sustainable agriculture...”
Methodology

- Locations
- Data collection
- Samples
- Data Analysis

“...towards sustainable agriculture...”
Methodology

- **Locations**
  - 10 longhouses in Bintulu, Sarawak, Malaysia
  - 10 villages in Telupid/Beluran, Sabah, Malaysia

- Data collection
- Samples
- Data Analysis

“...towards sustainable agriculture...”
Methodology

- **Locations**
- **Data collection**
  - Questionnaire interview.
  - **Started on 15th March and completed on 27th March 2015 in Sarawak.**
  - **Started on 29th July and completed on 14th August 2015 in Sabah.**
- **Samples**
- **Data Analysis**

“...towards sustainable agriculture...”
Methodology

- Locations
- Data collection
- **Samples**
  - 76 respondents were interviewed in Sarawak (Keresa).
  - 100 respondents were interviewed in Sabah (Sapi).
- Data Analysis

“...towards sustainable agriculture...”
Methodology

- Locations
- Data collection
- Sampling
- Data Analysis
  - Basic statistics
  - Indices
  - OLS Regression

“...towards sustainable agriculture...”
Social Structure in Keresa

KSGS
- Extension Services
- Corporate Social Responsibility
- Fertilizer Assistance Scheme

KERESA MILL

RSPO CERTIFIED SMALLHOLDERS

FFBs
Social Structure in Sapi

Sponsorship

Potential Smallholders

CERTIFIED SMALLHOLDERS

FFBs

SAPI PALM OIL MILL

Advisory services
Payment Premium
(RM5/ton: kicked off 2H of 2015)

WAGS- MPOB SPOC

Technical Advice
Management Support
Training & Capacity Building
# Background of respondents

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Keresa</td>
</tr>
<tr>
<td>Age of Household Head</td>
<td>55 years old</td>
</tr>
<tr>
<td>Household Size</td>
<td>6 persons</td>
</tr>
<tr>
<td>Farming Experience</td>
<td>8 years</td>
</tr>
</tbody>
</table>

“...towards sustainable agriculture...”
70% have heard of RSPO previously as early as 2009.

79% have applied for the RSPO certification.

“...towards sustainable agriculture...”
37% of respondents have achieved RSPO certification.

- The first group of independent smallholders in Malaysia certified by RSPO.
- Certified in 2010 and 2012.

“...towards sustainable agriculture...”
93% have heard of RSPO previously as early as 2013.

73% have applied for the RSPO certification.

“...towards sustainable agriculture...”
23% of respondents have achieved RSPO certification.

- The first group of independent smallholders in Telupid/Beluran, Sabah certified by RSPO through Wild Asia Group Scheme (WAGS).
- The certified smallholders are from Kampung Ulu Sapi and Kampung Toniting.
- Certified in 2014.
RSPO Awareness

The main motivations to apply for RSPO certification are to:

- Sell their fresh fruit bunches (FFBs) at premium price;
- Improve their farm yield;
- Manage their farm(s) more efficiently;
- Learn about sustainable farming practices; and
- Improve their household income.

“...towards sustainable agriculture...”
# Farm Profile

## Total Hectarage in Keresa & Sapi

<table>
<thead>
<tr>
<th>Mean Total Land Size (ha)</th>
<th>Keresa</th>
<th>Sapi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certified</td>
<td>Non Certified</td>
<td>Certified &amp; Waiting</td>
</tr>
<tr>
<td>6.64</td>
<td>3.49</td>
<td>5.01</td>
</tr>
</tbody>
</table>

$$\bar{x}_C - \bar{x}_{NC}$$

- \(t(69) = 3.976, \quad p = 0.000\)
- \(t(88) = 0.444, \quad p = 0.658\)
### Farm Profile

**Annual Application of Agricultural Inputs by Smallholders in Keresa & Sapi**

<table>
<thead>
<tr>
<th>Agricultural Input</th>
<th>Annual Application of Agricultural Inputs</th>
<th>Keresa</th>
<th>Sapi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Certified</td>
<td>Non Certified</td>
</tr>
<tr>
<td>Pesticide/Herbicide (L/ha)</td>
<td></td>
<td>6.6</td>
<td>13.8</td>
</tr>
<tr>
<td>$H_0: \bar{x}<em>C - \bar{x}</em>{NC}$</td>
<td>$t(70) = -3.353, p = 0.000$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fertilizer (kg/ha)</td>
<td></td>
<td>196.5</td>
<td>160.7</td>
</tr>
<tr>
<td>$H_0: \bar{x}<em>C - \bar{x}</em>{NC}$</td>
<td>$t(60) = 1.228, p = 0.112$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Farm Profile

**Percentage of smallholders who have attended agricultural input training programs & training index in Keresa & Sapi**

<table>
<thead>
<tr>
<th>Agricultural Input</th>
<th>Keresa</th>
<th>Sapi</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Certified</td>
<td>Non Certified</td>
<td>Certified &amp; Waiting</td>
<td>Non Certified</td>
</tr>
<tr>
<td>Seed</td>
<td>7 (27%)</td>
<td>12 (27%)</td>
<td>59 (87%)</td>
<td>7 (22%)</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>22 (85%)</td>
<td>27 (59%)</td>
<td>61 (90%)</td>
<td>8 (25%)</td>
</tr>
<tr>
<td>Pesticide</td>
<td>5 (20%)</td>
<td>12 (27%)</td>
<td>59 (87%)</td>
<td>8 (25%)</td>
</tr>
<tr>
<td>Herbicide</td>
<td>23 (85%)</td>
<td>24 (52%)</td>
<td>61 (90%)</td>
<td>8 (25%)</td>
</tr>
<tr>
<td>Training Index</td>
<td>2.12</td>
<td>1.61</td>
<td>3.53</td>
<td>0.97</td>
</tr>
<tr>
<td>$H_0: \bar{x}_C - \bar{x}_NC$</td>
<td>$t(67) = 1.384, p = 0.086$</td>
<td></td>
<td>$t(98) = 8.49, p = 0.000$</td>
<td></td>
</tr>
</tbody>
</table>
Storage facilities for chemical inputs in Keresa & Sapi

- The percentages of smallholders with pesticide/herbicide and fertilizer storage facilities are higher among the certified smallholders/waiting for certification.

- Some smallholders do not have designated storage facilities for pesticide/herbicide.
  - They only buy inputs in small quantity, as needed for one-off application.
The percentages of certified smallholders and those waiting for certification with chemical inputs storage facilities are higher than the non-certified ones.

- The facilities are clearly marked with proper labeling and secured.
Perceived social benefits of RSPO certification by smallholders in Keresa

- Perceived social benefits of certification are higher among certified smallholders.
  - Largely derived from Keresa Plantation’s goodwill to improve the current state of sustainable development among local communities.
Social Impacts of RSPO Certification in Sapi

Perceived social benefits of RSPO certification by smallholders in Sapi

- Perceived social benefits of certification are higher among those waiting for certification compared to the certified ones.
  - They perceive that they are going to enjoy various social benefits upon getting RSPO certification.
Environmental Impacts of RSPO Certification in Keresa & Sapi

Perceived environmental benefits of RSPO certification by smallholders in Keresa & Sapi

- Environmental impact index for both certified smallholders and those waiting for certification are higher than the non-certified ones.
  - Certified/waiting smallholders have a consensus on the positive effects of RSPO certification on the environment.
### Economic Impacts of RSPO Certification in Keresa & Sapi

#### Annual Household Income

<table>
<thead>
<tr>
<th></th>
<th>Keresa</th>
<th>Sapi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Certified</td>
<td>Certified &amp; Waiting</td>
</tr>
<tr>
<td></td>
<td>23,922</td>
<td>27,011</td>
</tr>
</tbody>
</table>

\[ H_0: \overline{x}_C - \overline{x}_{NC} \]

\[ t(66) = 0.88, \ p = 0.382 \]

\[ t(82) = 0.25, \ p = 0.804 \]
**Economic Impacts of RSPO Certification in Keresa**

*Changes in Annual Income among Certified/Waiting Smallholders in Keresa & Sapi upon joining RSPO*

<table>
<thead>
<tr>
<th>Changes in Annual Income</th>
<th>Keresa</th>
<th>Sapi</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Certified</strong></td>
<td>81%</td>
<td>76%</td>
</tr>
<tr>
<td><strong>Waiting</strong></td>
<td>63%</td>
<td>35%</td>
</tr>
</tbody>
</table>

- Increased
- Unchanged
- Decreased

Majority of the **certified smallholders/waiting for certification** enjoy increment in their household income upon joining RSPO.
## Economic Impacts of RSPO Certification in Keresa & Sapi

### Annual Yield (tonne/ha)

<table>
<thead>
<tr>
<th>Age of Tree</th>
<th>Annual Yield (tons/ha)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Keresa</td>
<td>Sapi</td>
<td>Keresa</td>
<td>Sapi</td>
<td>Sapi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Certified</td>
<td>Non Certified</td>
<td>Certified</td>
<td>&amp; Waiting</td>
<td>Non Certified</td>
</tr>
<tr>
<td>3 – 6 years old</td>
<td>15.13</td>
<td>8.17</td>
<td>10.56</td>
<td>13.19</td>
<td>t(24) = 2.848, p = 0.009</td>
<td>t(8) = - 0.67, p = 0.261</td>
</tr>
<tr>
<td>7 – 20 years old</td>
<td>11.61</td>
<td>8.42</td>
<td>13.41</td>
<td>12.11</td>
<td>t(31) = 1.58, p = 0.062</td>
<td>t(30) = 0.68, p = 0.250</td>
</tr>
<tr>
<td>Above 20 years old</td>
<td>-</td>
<td>4.16</td>
<td>14.79</td>
<td>16.74</td>
<td>t(21) = - 0.78, p = 0.222</td>
<td></td>
</tr>
</tbody>
</table>
### OLS Regression

**Dependent variable : Annual Yield**

<table>
<thead>
<tr>
<th>Explanatory Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSPO</td>
<td>2.74</td>
<td>1.08*</td>
</tr>
<tr>
<td>Age of Trees</td>
<td>0.19</td>
<td>0.05*</td>
</tr>
<tr>
<td>Land/Labor Ratio</td>
<td>-0.69</td>
<td>0.43**</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>2.85E-03</td>
<td>1.69E-03**</td>
</tr>
<tr>
<td>Fertilizer²</td>
<td>-3.29E-07</td>
<td>3.49E-07</td>
</tr>
<tr>
<td>Herbicide</td>
<td>0.03</td>
<td>0.09</td>
</tr>
<tr>
<td>Herbicide²</td>
<td>-2.33E-04</td>
<td>4.22E-04</td>
</tr>
<tr>
<td>Age of HH Head</td>
<td>-0.04</td>
<td>0.04</td>
</tr>
<tr>
<td>Constant</td>
<td>10.23</td>
<td>2.74</td>
</tr>
</tbody>
</table>

\[ n = 119 \]
\[ R\text{-squared} = 0.219 \]

* Significant at 1%
** Significant at 10%
Certified smallholders/waiting for certification in Keresa and Sapi believe that RSPO certification generally improves social wellbeing.
Conclusions & Recommendations

Environmental Impacts

- Certified smallholders/waiting for certification from Keresa and Sapi perceived that RSPO certification is beneficial to the environment.
CONCLUSIONS & RECOMMENDATIONS

ECONOMIC IMPACTS

- Majority of the certified smallholders/waiting for the certification in Keresa and Sapi enjoy increment in their household income upon joining RSPO.
- Annual yield for RSPO members is higher.
CONCLUSIONS & RECOMMENDATIONS

- Three **recommendations** to improve the effectiveness of RSPO certification on smallholder’s livelihood.

- Continuous education and agronomic support should be provided to the smallholders.
  - *Constantly improve their productivity and help achieve maximum benefits of the certification.*
  - *There is an incentive for certified mills to provide these services in exchange for continuous quality supply of FFBs.*
CONCLUSIONS & RECOMMENDATIONS

- Premium pricing of FFBs and transparency in pricing and payment mechanism can attract more smallholders to get certified.
  - Smallholders are responsive to economic incentives
  - Certified mills could transfer some of the premium they get from selling certified sustainable palm oil (CSPO) to the certified smallholders.
  - Certified mills have to be transparent towards grading, pricing and payment for FFBs.
CONCLUSIONS & RECOMMENDATIONS

- Group managers need to play an active role in organizing certified smallholders.
  - Not only for certification purposes, but also as a farm business decision-making entity.
  - RSPO certification provides a platform for the smallholders to be organized as a unit to enable collective bargaining in terms of input purchase, request for extension services, transportation, and FFB sales.
ACKNOWLEDGMENT

We would like to extend our gratitude to the following parties:

- **RSPO**
  Roundtable on Sustainable Palm Oil

- **Keresa Plantations SDN BHD**

- **Wild Asia**
  [Website](www.wildasia.org)

- **Wilmar**

- **PPB Oil Palms Berhad**
  (Incorporated in Malaysia)
  (376090-W)
ACKNOWLEDGMENT

We would like to extend our gratitude to the following parties

- *Longhouse communities* living nearby Keresa and *the villagers* living nearby Sapi for their hospitality and cooperation; and
- *All smallholders* who voluntarily participated in the interview.
THANK YOU FOR YOUR ATTENTION

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