Outline

1. Background
2. Income results
3. Looking for explanations
4. Preliminary findings
The PEN World - partial

- 19 countries
- 27 Case studies
- 234 Villages
- 5720 Households
## Household Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household size</td>
<td>5.8</td>
</tr>
<tr>
<td>Household head education</td>
<td>3.9</td>
</tr>
<tr>
<td>Household head age</td>
<td>49.7</td>
</tr>
<tr>
<td>% Male Headed Households</td>
<td>90.4</td>
</tr>
</tbody>
</table>
### Data and Methods

#### Data
- **Surveys:** 4 quarterly income, 2 annual, 2 village
- **Analysis restricted to households with data 4 quarters.**
- **Income adjusted by household size.**
- **Work in progress: missing prices, attrition.**

#### Income categories
- **Forest:** direct, derived, payments for forest services.
- **Non forest environmental:** aquaculture, fish, other env.
- **Wage, Business, Crop, Livestock, and Other.**
Forest reliance = forest income share

Preliminary results from 27 study sites (represented by the circles)
Results only representative of study sites
Forest reliance relative to other sources

- Forest
- Crop
- Livestock
- Non-forest env.
- Wage
- Business
- Other

Average share of total income (percent)

Preliminary results from 27 study sites (represented by the circles)
Results only representative of study sites

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PEN Global Analysis
Most important forest products (village)

- **Fuelwood/firewood**
- **Timber**
- **Poles**
- **Game meat & mammals**
- **Medicinal plants**
- **Bamboo**
- **Fodder grass/livestock browse**
- **Wild fruits**
- **Lianas and vines**
- **Shea fruit**

Preliminary results from 27 study sites
Results only representative of study sites

Angelsen, Babigumira

PEN Global Analysis
Most important forest products by forest type (village)

**Natural Forest**
- Fuelwood/firewood
- Timber
- Game meat & mammals

**Managed Forests**
- Fuelwood/firewood
- Timber
- Fodder grass/livestock browse

**Plantations**
- Fuelwood/firewood
- Poles
- Timber

Preliminary results from 27 study sites. Results only representative of study sites.
Important direct forest products (household)

% contribution to sector income

<table>
<thead>
<tr>
<th>Product</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tung-oil seeds, Youtong</td>
<td>99</td>
</tr>
<tr>
<td>Brazil nut</td>
<td>537</td>
</tr>
<tr>
<td>Animal-based medicine</td>
<td>64</td>
</tr>
<tr>
<td>Fuelwood/firewood</td>
<td>13824</td>
</tr>
<tr>
<td>Fodder grass/livestock browse</td>
<td>882</td>
</tr>
<tr>
<td>Sawnwood</td>
<td>156</td>
</tr>
<tr>
<td>Non-animal manure</td>
<td>265</td>
</tr>
<tr>
<td>Acai Palm Fruit</td>
<td>505</td>
</tr>
</tbody>
</table>

Preliminary results from 27 study sites
Results only representative of study sites
Important forest derived products (household)

<table>
<thead>
<tr>
<th>Product</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thurong</td>
<td>96</td>
</tr>
<tr>
<td>Sawnwood</td>
<td>1138</td>
</tr>
<tr>
<td>Alcoholic beverages</td>
<td>71</td>
</tr>
<tr>
<td>Shea butter</td>
<td>303</td>
</tr>
<tr>
<td>Processed Badu bamboo shoots</td>
<td>186</td>
</tr>
<tr>
<td>Soumbala (fermented parkia biglobosa fruits)</td>
<td>476</td>
</tr>
<tr>
<td>Miriti wine</td>
<td>13</td>
</tr>
<tr>
<td>Bamboo</td>
<td>1</td>
</tr>
</tbody>
</table>

Preliminary results from 27 study sites
Results only representative of study sites
Forest reliance by income quintile

Share of Total Income by Source

Quintile

Top 20%

60-80%

40-60%

20-40%

Poorest 20%

Average Forest Income Share

n=27

Angelsen, Babigumira

PEN Global Analysis
Forest reliance by income quintile - disaggregated

Graphs by Income Category
Preliminary results from 27 study sites (represented by the circles)
Results only representative of study sites
Forest reliance by group

- **Sex of Head**
  - Female
  - Male

- **Migrant**
  - Not
  - Member

- **Largest Ethnic Group**
  - Not Member

Preliminary results from 27 study sites
Results only representative of study sites

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PEN Global Analysis
Use of forest income as a crisis coping strategy

- **No**: 95% (Preliminary results from 27 study sites. Results only representative of study sites)
- **Yes**: 5%
Other crisis coping mechanism

- Did nothing in particular
- Spend cash savings
- Assistance from friends and relatives
- Do extra casual labour work
- Harvest more agricultural products
- Harvest more forest products
- Sell assets (land, livestock, etc.)
- Get loan from money lender, credit association, bank etc
- Tried to reduce household spending
- Harvest more wild products not in the forest
Forest clearance in the last year

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PEN Global Analysis
Some preliminary findings

**Confirmed**
- Forest income matters. On average 20-25% share
- High reliance is linked to valuable cash crops
- More analysis is needed

**Modified**
- Subsistence for the poor, cash for the rich?
- Some seasonal gap filling

**New**
- In general, forest reliance doesn’t vary much across inc. groups
- Forests role as a safety net exaggerated?
Acknowledgments

- PEN Partners
- PEN resource persons
- ESRC-DFID, DANIDA, IFS