“Developing a typology of agricultural holdings for improved policy design: a preliminary case study of Malawi”

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1. Context

• French team interested in Malawian agricultural policy

• Objectives of the report
  – Contribute to discussions on the WAW International Framework
  – Raise interest of Malawian stakeholders on the need for a typology

⇒ Agricultural based country
⇒ Dual farm sector: estate vs. smallholders

Typology useful for improving policy design
1.1. Agricultural based country

- 84% rural
- Staple: maize, Commercial crop: tobacco
- 30% population: food insecure, 10% chronic (seasonal)
- 94% of households: net food consumers
- 50% of population poor (2012)
- Densely populated: N 46hab/km² to S 144hab/km²
- Recurrent climatic shocks
1.3. The data: IHS3, 2009-2011

- LSMS: Living Standards Measurement Study (World Bank)
- LSMS-ISA: Integrated Surveys on Agriculture, special module on agriculture
- 12,272 households
  - 10,158 farm holdings
- Many details on farm and off-farm activities, socio economic characteristics
1.3. The data: main limitations

- Not representative: no estates interviewed (est. 1% holdings and 27% land, most commercial crops)
- No direct question on the decision making process, legal status of holdings
- Concern on reliability of some data (share production sold, prices)
2. Methodology: International Framework

Agricultural holdings

**Labor**
- Pure Family
- Patronal
- Corporate

**Management**

**Market**
- <50
- >50
- <50
- >50
- <50
- >50
2. Methodology: Malawi

Agricultural holdings

Labor
- Pure Family
- Family w hired
- Patronal
- Corporate

Market
- 0
- <50
- >50

1 2 3 4 5 6 7 8 9 10 11 12

2.1. The labor entry: WAW

Agricultural holdings

Labor
- Pure Family
- Patronal
- Corporate

Definition
- Temporary hired labor
- Permanent hired labor
- No family labor

Threshold (share hired labor)
- 50%
- 100%
2.1. The labor entry

**Data**

3 types of labor, in day, by season (rainy / dry)

- Household labor (members living in the household)
- Hired labor
- Free and exchange labor
2.1. The labor entry

- Test: permanent labor?
  - >130 days hired
    only 26 observations (0.3% sample)

- « Ganyu »
  ie daily informal job
  Most common practice for hired labor in agriculture
2.1. The labor entry

- Threshold

![Graph showing distribution of holdings per share of hired labor.](image)
### 2.1. The labor entry

**Agricultural holdings**

<table>
<thead>
<tr>
<th>Labor</th>
<th>Pure Family</th>
<th>Family w hired</th>
<th>Patronal</th>
<th>Corporate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of hired labor</td>
<td>72 %</td>
<td>23 %</td>
<td>3 %</td>
<td>1 %</td>
<td></td>
</tr>
<tr>
<td>Average Sh hired labor</td>
<td>0 %</td>
<td>11 %</td>
<td>71 %</td>
<td>100 %</td>
<td>5%</td>
</tr>
<tr>
<td>Labor intensity (days/ha)</td>
<td>263</td>
<td>173</td>
<td>73</td>
<td>59</td>
<td>235</td>
</tr>
<tr>
<td>Agri revenues (th MKW)</td>
<td>11 681</td>
<td>42 586</td>
<td>20 411</td>
<td>59 046</td>
<td>19 757</td>
</tr>
<tr>
<td>Off-farm revenues (th MKW)</td>
<td>16</td>
<td>105</td>
<td>560</td>
<td>1 000</td>
<td>62</td>
</tr>
</tbody>
</table>

=] Ordered by increasing revenues
2.2. Marketing threshold: WAW
The marketing threshold

- Threshold

Nb holdings

Distribution of holdings per share of production sold

Share of production sold

10% ?
2. Methodology: Malawi

Market Labor

Agricultural holdings

<table>
<thead>
<tr>
<th>Pure Family</th>
<th>Family w hired</th>
<th>Patronal</th>
<th>Corporate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>&lt;50</td>
<td>&lt;50</td>
<td>&lt;50</td>
<td>&lt;50</td>
</tr>
<tr>
<td>&gt;50</td>
<td>&gt;50</td>
<td>&gt;50</td>
<td>&gt;50</td>
</tr>
</tbody>
</table>

% of total

Size of land

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.3</td>
<td>1.2</td>
<td>1.1</td>
<td>1.6</td>
<td>1.8</td>
<td>1.1</td>
<td>1.1</td>
<td>1.9</td>
<td>0.7</td>
<td>2.9</td>
<td>1.6</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Agri revenues

| 0 | 16 | 48 | 11 | 35 | 108 | 2 | 14 | 164 | 0 | 99 | 286 | 20 |

Off farm daily wage

| 0.6 | 0.5 | 0.6 | 1.8 | 1.2 | 1.4 | 6.4 | 1.1 | 2.4 | 7.9 | 3.3 | 8.9 |

% engaged in ganyu

| 53 | 57 | 55 | 29 | 33 | 32 | 7 | 2 | 7 | 4 | 7 | 0 | 47 |

Durable goods (th of MK)

| 9 | 7 | 7 | 41 | 24 | 31 | 145 | 47 | 112 | 293 | 166 | 352 | 20 |

% Only staples

| 98 | 73 | 52 | 99 | 75 | 47 | 99 | 92 | 71 | 100 | 79 | 50 | 83 |
3. The 6 preliminary types

Agricultural holdings

Labor
- Pure Family
- Family w hired
- Patronal
- Corporate

Market
- 0
- <50
- >50

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

# 3. The 6 preliminary types

**A. Autarkic family farms**

<table>
<thead>
<tr>
<th>% of total</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of land</td>
<td>0.9</td>
<td>1.3</td>
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<td>14</td>
<td>164</td>
<td>0</td>
<td>99</td>
<td>286</td>
<td>20</td>
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<tr>
<td>Off farm daily wage</td>
<td>0.6</td>
<td>0.5</td>
<td>0.6</td>
<td>1.8</td>
<td>1.2</td>
<td>1.4</td>
<td>6.4</td>
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<td>8.9</td>
<td>47</td>
</tr>
<tr>
<td>% engaged in ganyu</td>
<td>53</td>
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<td>55</td>
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<td>33</td>
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<td>7</td>
<td>2</td>
<td>7</td>
<td>4</td>
<td>7</td>
<td>0</td>
<td>47</td>
</tr>
<tr>
<td>Durable goods (th of MK)</td>
<td>9</td>
<td>7</td>
<td>7</td>
<td>41</td>
<td>24</td>
<td>31</td>
<td>145</td>
<td>47</td>
<td>112</td>
<td>293</td>
<td>166</td>
<td>352</td>
<td>20</td>
</tr>
<tr>
<td>% Only staples</td>
<td>98</td>
<td>73</td>
<td>52</td>
<td>99</td>
<td>98</td>
<td>98</td>
<td>31</td>
<td>47</td>
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<td>293</td>
<td>166</td>
<td>352</td>
<td>83</td>
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</tbody>
</table>

**Agricultural holdings**

- **Pure Family**
- **Family w hired**
- **Patronal**
- **Corporate**
3. The 6 preliminary types

<table>
<thead>
<tr>
<th>Market</th>
<th>Pure Family</th>
<th>Family w hired</th>
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<th>Corporate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of total</td>
<td>44%</td>
<td>19%</td>
<td>10%</td>
<td>10%</td>
<td>100%</td>
</tr>
<tr>
<td>Size of land</td>
<td>0.9%</td>
<td>1.3%</td>
<td>1.2%</td>
<td>1.1%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Agri revenues</td>
<td>1%</td>
<td>16%</td>
<td>48%</td>
<td>11%</td>
<td>1%</td>
</tr>
<tr>
<td>Off farm daily wage</td>
<td>0.6%</td>
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<td>83%</td>
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</table>

B. Commercial pure family farms
3. The 6 preliminary types

<table>
<thead>
<tr>
<th>Market</th>
<th>Pure Family</th>
<th>Family w hired</th>
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<td>33</td>
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<td>7</td>
<td>7</td>
<td>41</td>
<td>24</td>
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<tr>
<td>% Only staples</td>
<td>98</td>
<td>73</td>
<td>52</td>
<td>99</td>
<td>75</td>
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C’. Commercial family farms with hired labor
### 3. The 6 preliminary types

<table>
<thead>
<tr>
<th>Market</th>
<th>Pure Family</th>
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<td>11</td>
<td>35</td>
</tr>
<tr>
<td>Off farm daily wage (0.6)</td>
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<td>0.6</td>
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<td>1.2</td>
</tr>
<tr>
<td>% engaged in ganyu (53)</td>
<td>57</td>
<td>55</td>
<td>29</td>
<td>33</td>
</tr>
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<td>Durable goods (9)</td>
<td>7</td>
<td>7</td>
<td>41</td>
<td>24</td>
</tr>
<tr>
<td>% Only staples (99)</td>
<td>92</td>
<td>71</td>
<td>100</td>
<td>79</td>
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</tbody>
</table>

**D. Subsistence farms with hired labor (urban patronal)**
### 3. The 6 preliminary types

<table>
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<tr>
<th>Market</th>
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<th>Family w hired</th>
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<th>Corporate</th>
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<td>7</td>
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</tr>
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<td>99</td>
<td>92</td>
<td>71</td>
<td>100</td>
</tr>
</tbody>
</table>

**Total**

**E’ Commercial patronal farms**
3. The 6 preliminary types

<table>
<thead>
<tr>
<th>Market</th>
<th>Pure Family</th>
<th>Family w hired</th>
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<th>Corporate</th>
</tr>
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<tbody>
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<td>98</td>
<td>73</td>
<td>52</td>
<td>41</td>
</tr>
</tbody>
</table>

F*, Commercial corporate farms
3.1. Socio-economic characteristics

- Share hired labor
- Off farm income
- Durable goods value
- Share sold
- Farm income
- Rural
- Literacy
- Age
- Access to safety nets

- A. Autarkic family farms
- B. Commercial pure family farm
- C'. Commercial family farm with hired labor
- D. Urban subsistence farms with hired labor
- E'. Commercial patronal farms
- F'. Commercial corporate farms
3.2. Agriculture

- A. Autarkic family farms
- B. Commercial pure family farm
- C. Commercial family farm with hired labor
- D. Urban Subsistence farms with hired labor
- E. Commercial patronal farms
- F. Commercial corporate farms

<table>
<thead>
<tr>
<th>Mean land area/hh,</th>
<th>Credit (% access)</th>
<th>Extension (% access)</th>
<th>Receiving coupons</th>
<th>Qty fertilizer used/ha</th>
<th>Agr eqt</th>
<th>Land productivity</th>
<th>Labor productivity</th>
</tr>
</thead>
</table>

- D. Urban Subsistence farms with hired labor
- C'. Commercial family farm with hired labor
- B. Commercial pure family farm

- F'. Commercial corporate farms
- E'. Commercial patronal farms
3.3. Cropping patterns

- A. Autarkic family farms
- B. Commercial pure family farm
- C. Commercial family farm with hired labor
- D. Urban Subsistence farms with hired labor
- E. Commercial patronal farms
- F. Commercial corporate farms

Crop patterns include:
- maize
- leguminous
- tobacco
- cassava
- gdnut
- veg
- rice
- cotton
- rice
- other
4. Concluding remarks: WAW framework

1) Labor criteria strong determinant
   - 0% hired labor
   - Malawian case: corporate ≠ patronal?

2) Marketing criteria discriminating but threshold?
   - 50% was not kept
   - 10% ?

3) Off farm income determinant: critical K asset

4) Land qty/ hh member and quality?
4. Concluding remarks: Next steps

6 types very preliminary, need to be deepened:

• IHS3:
  – Labor (weight child, men, women, and analyze rainy season separately)
  – Land (quantity/quality)
  – Rural/urban (link with off farm income, off farm activity of HH head)

• Additionnal data
  – Livelihood zones
  – Poverty

• Stakeholder consultations

• Field studies (test robustness & complement – corporate/estate)
Thank you for your attention