Cross-Country Evidence of Postharvest Loss in Sub-Saharan Africa: Insights from Purdue Improved Crop Storage (PICS) Project

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Data from 5 countries so far

- Smallholder household survey
  - Benin: 360 households
  - Nigeria: 2,010 households
  - Ethiopia: 300 households
  - Uganda: 1,193 households
  - Tanzania: 309 households
Status of Postharvest Loss

Postharvest loss is the outcome of:

• Environment
  • Pest pressure
  • Climate
• Farmer behavior
  • Storage Technology
  • Storage time
  • Savings/Liquidity

Farmer behavior takes action to reduce PHL!

Average Actual PHL for Maize (Quantity Lost/Quantity Stored)

<table>
<thead>
<tr>
<th>Country</th>
<th>Average Actual PHL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benin</td>
<td>6.2%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>4.7%</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>4.7%</td>
</tr>
<tr>
<td>Uganda</td>
<td>3.7%</td>
</tr>
<tr>
<td>Tanzania</td>
<td>6.9%</td>
</tr>
</tbody>
</table>
Major Source of PHL in Maize

<table>
<thead>
<tr>
<th>Country</th>
<th>Insects</th>
<th>Rodents</th>
<th>Mold</th>
<th>Moisture</th>
<th>Theft</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benin</td>
<td>70%</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>80%</td>
<td>20%</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>70%</td>
<td>30%</td>
<td>10%</td>
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<td>5%</td>
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<tr>
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<td>80%</td>
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<tr>
<td>Tanzania</td>
<td>70%</td>
<td>30%</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>
Storage Technology Use for Maize

- Benin
  - Woven bag: 40%
  - Traditional granaries: 30%
  - Hermetic: 10%
  - Other: 20%

- Nigeria
  - Woven bag: 50%
  - Traditional granaries: 20%
  - Hermetic: 5%
  - Other: 25%

- Ethiopia
  - Woven bag: 60%
  - Traditional granaries: 20%
  - Hermetic: 5%
  - Other: 15%

- Uganda
  - Woven bag: 65%
  - Traditional granaries: 15%
  - Hermetic: 5%
  - Other: 15%

- Tanzania
  - Woven bag: 70%
  - Traditional granaries: 15%
  - Hermetic: 5%
  - Other: 10%
Conclusion

• Need to increase farmers access to effective storage Technologies:
  • Increase smallholder farmers’ incomes
  • Improve smallholder farmers’ food security

• To improve access we need:
  • To Build awareness on effective storage technologies
  • To make the technologies available to smallholder farmers
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