Chickpea Production, Technology Adoption and Market Linkages in Ethiopia

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On behalf of TL III Team-Ethiopia and partners

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Chick pea production in Ethiopia by zone
Place of Chickpea Production among Major Pulse Crops in Ethiopia

Share of Major Pulse Crops to Total Pulse Acreage
Average (2009/2014): **1.6 million ha**

Share of Major Pulse Crops to Total Pulse Production
Average (2009/2014): **11.5 million tons**

Source: CSA, Various Reports (2009-2014)
Chickpea Area, production and yield in Ethiopia during the TLII & TLIII Intervention Years (2007-2014)

Source: CSA (2007-2014)
Chickpea Technology Dissemination Under TL Projects

Diagram showing the dissemination process:
- National
- Regional State
- Zone
- Woreda/District
- Kebele/village
- TL focus

The diagram illustrates the hierarchical structure of technology dissemination, with the TL focus at the center, expanding outward to the Kebele/village level.
Technology Adoption in Sample TLII Intervention areas

Study sites and distribution of area under chickpea production in Ethiopia (ha)

Key

- Chickpea area (in ha):
  - 0
  - 1 - 2,500
  - 2,501 - 5,000
  - 5,001 - 7,500
  - 7,501 - 10,000
  - 10,001 - 12,500
  - 12,501 - 15,000
  - 15,001 - 17,500
  - 17,501 - 20,000
  - > 20,000

- Regional boundary
- Zonal boundary
- Woreda boundary
- Study sites
- Roads
Adoption trends

- Chickpea adoption increased from 30-80%
The Success Stories of Ethiopian Agriculture

Ethiopia’s chickpea productivity is the highest in top ten producing countries of the world (FAOSTAT, 2012-14 avg.)

<table>
<thead>
<tr>
<th>Country</th>
<th>000 Ha</th>
<th>Kg/Ha</th>
<th>‘000 MT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. India</td>
<td>9553</td>
<td>922</td>
<td>26413</td>
</tr>
<tr>
<td>2. Pakistan</td>
<td>996</td>
<td>599</td>
<td>1786</td>
</tr>
<tr>
<td>3. Iran</td>
<td>557</td>
<td>530</td>
<td>885</td>
</tr>
<tr>
<td>4. Australia</td>
<td>538</td>
<td>1430</td>
<td>2304</td>
</tr>
<tr>
<td>5. Turkey</td>
<td>409</td>
<td>1199</td>
<td>1474</td>
</tr>
<tr>
<td>6. Myanmar</td>
<td>336</td>
<td>1472</td>
<td>1482</td>
</tr>
<tr>
<td>7. Ethiopia</td>
<td>236</td>
<td>1913</td>
<td>1278</td>
</tr>
<tr>
<td>8. Tanzania</td>
<td>152</td>
<td>745</td>
<td>330</td>
</tr>
<tr>
<td>9. Mexico</td>
<td>118</td>
<td>1822</td>
<td>654</td>
</tr>
<tr>
<td>10. Malawi</td>
<td>116</td>
<td>576</td>
<td>200</td>
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</table>
Ethiopia has the highest yield gain of chickpea among the top 10 producing countries in the world, 2000-14, (FAOSTAT, 21/01/2016)
The position of Ethiopia’s chickpea production

- Ethiopia: 63%
- Tanzania: 15%
- Malawi: 9%
- Morocco: 4%
- Algeria: 5%
- Sudan: 2%
- Uganda: 1%
- Tunisia: 1%

Source: Compiled from FAOSTAT, 2013
Source: Bekele & Hailemariam, 2007
80% of the total annual chickpea trade volume

Factors favoring the large share of local markets:

a. low incentives for exporters (low volume & unreliable supply)

b. grain quality problem (standards)

c. Problem of price competitiveness

The marketing supply chain involves a number of actors to reach the final consumers

- Increases transaction costs
EXPORT MARKETS

- highly variable
- Ethiopia’s share in the global chickpea export market is very limited:
  - average about 4% by value and volume (2000-2010);
  - However, it accounts for 63.5% of the total chickpea export from Africa (ranks first in Africa)

Market share of Ethiopia in world exports
(2010-12 average – million USD)

<table>
<thead>
<tr>
<th></th>
<th>Rest of world</th>
<th>Ethiopia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market share</td>
<td>96%</td>
<td>4%</td>
</tr>
<tr>
<td>Export Value</td>
<td>945,680</td>
<td>4% 945,680</td>
</tr>
</tbody>
</table>
Composition of Ethiopian Pulse Export

Average (2010/2012): **709 thousand tons**

- Chickpea: 25.02%
- Haricot bean: 45.60%
- Mung bean: 6.77%
- Faba beans: 18.02%
- Lentil: 2.65%
- Others: 1.81%

Source: Ethiopian Customs and Revenue Authority, 2014
Ethiopia’s chickpea export earnings also grew substantially (FAOSTAT, 22/01/2016)

2014:
Volume exported: 48,739 t
Value: 22.56 M USD
The share of major Ethiopian chickpea export markets to total chickpea trade volume for the period 2005-2010

Source: compiled from Ethiopian Customs Authority
Share of Regional Chickpea Export Destination Markets:
Global Chickpea Export (2010): 822 million USD

- Indian Sub-continent: 39.3%
- Middle East: 24.4%
- Europe: 15.1%
- North Africa: 10.2%
- South & Central America: 3.4%
- North America: 3.2%
- Asia: 2.9%
- Sub-Saharan Africa: 1.3%
- Commonwealth of Independent States: 0.2%

Source: Compiled from FAOSTAT, 2013
Major Export Destination …

Unit Value of Chickpea Export in Major Regional Markets (US$ per ton): 2010

Source: Compiled from FAOSTAT, 2013
Major challenges in Ethiopian chickpea export?

I. Poor product quality

- **Mixture:**
  - kabuli with desi, or with other crops like grasspea and foreign materials

- **sources of quality problems:**
  1. Poor post harvest practices (harvesting and threshing),
  2. Deliberate mixture for unfair advantages (some farmers and traders/exporters)

- **Small seed size (kabuli)**
  - Mostly < 7 mm (>= 8 mm for export market)
II. Chickpea export price determination is entirely based on spot prices (present demand)

- Exporters are price takers and highly vulnerable to price risk

III. Lack of marketing information

- Lack of information on prices, demand, and quality requirements of different chickpea export markets
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• Lack of information on prices, demand, and quality requirements of different chickpea export markets

IV. Unable to meet export demand not only in terms of quality but also in terms of supply
Opportunities

- **Government commitment** e.g. establishment of ECX
- **Untapped potential in terms of yield gap (local varieties??)**

**III. Poorly coordinated and extended market chain**

- High transaction costs

**V. High price fluctuation in local markets**
• **Spatial advantage: proximity to major export markets**

✓ The major global chickpea export markets (75%) (S. Asia, M. East, and Europe) are situated at a convenient distance.

• **Ethiopian chickpea production can safely be considered as organic:**

✓ limited application of chemicals and external inputs
Amasegnalehu (Thank you)