Agriculture and Seed Security Programming: conflict and strategic links to the future

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FAO ‘SEED’ Funds: Emergency and Early Rehabilitation programs

- 1996-7: US$ 51 million
- 2002-3: US$ 349 million

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- 2003-5: 400 projects
- 2008-2010: Seed aid plans for 48 countries
- 2011: special relief funds 744.5 million
- 2016: 76 countries with seed projects

Sperling, Osborn and Cooper, 2004,
Sperling and McGuire, 2010 + McGuire per comm.
Seed/Commercial Develop’t $$$ !!!

- $US 32 billion/year

Seed/new varieties/resilience Innovation !!!!

- High yielding maize
- Nutritious varieties
- Drought tolerant..
# Repeated Seed Aid Delivery in Many Countries

<table>
<thead>
<tr>
<th>Site</th>
<th>Extent of Seed Aid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burundi</td>
<td>42+ seasons: since 1995</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>Near continuous since 1991 (food aid, seed aid or both)</td>
</tr>
<tr>
<td>Malawi</td>
<td>15 seasons or more, since 1992</td>
</tr>
<tr>
<td>South Sudan</td>
<td>20+ years; continuous since 2006</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>Since 1974: 42 years</td>
</tr>
</tbody>
</table>
Where do smallholders actually source their seed?

(*focus on smallholder, vulnerable, IDPs*)
## Seed System Security Assessments:
### Global N=15,744 transactions
### Africa N=10,684 transactions

<table>
<thead>
<tr>
<th>SSSA Country (Africa only)</th>
<th>Date</th>
<th>Stress context</th>
<th>Immediate (acute)</th>
<th>Longer-term (chronic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malawi</td>
<td>2011</td>
<td>Drought</td>
<td></td>
<td>Low purchasing power</td>
</tr>
<tr>
<td>Kenya</td>
<td>2011</td>
<td>Drought</td>
<td></td>
<td>Decline of maize, low purchasing power</td>
</tr>
<tr>
<td>DR Congo (Katanga)</td>
<td>2012</td>
<td>Ongoing conflict</td>
<td></td>
<td>Low innovation, weak infrastructure</td>
</tr>
<tr>
<td>South Sudan</td>
<td>2010</td>
<td>Ongoing conflict</td>
<td></td>
<td>Weak state &amp; infrastructure</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>2009</td>
<td>Political Instability/ Currency Collapse</td>
<td></td>
<td>Declining purchasing power</td>
</tr>
<tr>
<td>Zambia</td>
<td>2013</td>
<td>Drought</td>
<td></td>
<td>--</td>
</tr>
<tr>
<td>Madagascar</td>
<td>2013</td>
<td>--</td>
<td></td>
<td>--</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>2016</td>
<td>Drought</td>
<td></td>
<td>--</td>
</tr>
<tr>
<td>DR Congo (Kasai Oriental)</td>
<td>2017</td>
<td>(some conflict at border)</td>
<td></td>
<td>“</td>
</tr>
<tr>
<td>Burundi</td>
<td>2017</td>
<td>On and off conflict</td>
<td></td>
<td>“</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>2017</td>
<td>--- (currency challenge)</td>
<td></td>
<td>“</td>
</tr>
<tr>
<td>Syria - NW</td>
<td>2016</td>
<td>acute conflict</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Seed sources of all crops

- Own stock: 35.6%
- Local market: 29.7%
- Social networks: 16.2%
- Government: 6.2%
- Agro-dealer: 2.8%
- CB Seed: 0.5%
- NGO / FAO: 9.0%

N transactions = 10,489
Seed markets

Informal/local seed markets

Many crops: cereals, legumes

Agro-dealers/seed companies

Maize, vegetable seed
Seed sources of key legumes

- Groundnut
- Common bean
- Cowpea

Seed sources:
- Own stock
- Local market
- Agro-dealer
- Government, NGO/FAO

Total kg = 38,970
Crops supplied by local markets— for seed

<table>
<thead>
<tr>
<th>Maize</th>
<th>Millet</th>
<th>Sweet Potato</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bean</td>
<td>Okra</td>
<td>Bambara Nut</td>
</tr>
<tr>
<td>Groundnut</td>
<td>Cabbage</td>
<td>Eggplant</td>
</tr>
<tr>
<td>Sorghum</td>
<td>Yams</td>
<td>Taro</td>
</tr>
<tr>
<td>Pigeonpea</td>
<td>Carrots</td>
<td>Pumpkin</td>
</tr>
<tr>
<td>Cowpea</td>
<td>Tomato</td>
<td>Chickpea</td>
</tr>
<tr>
<td>Sesame</td>
<td>Leeks</td>
<td>Spinach</td>
</tr>
<tr>
<td>Green Gram</td>
<td>Onion</td>
<td>Greens</td>
</tr>
<tr>
<td>Rice</td>
<td>Lima Bean</td>
<td>Cotton</td>
</tr>
<tr>
<td>Cassava</td>
<td>Pepper</td>
<td>Pea</td>
</tr>
<tr>
<td>Irish Potato</td>
<td>Mustard</td>
<td></td>
</tr>
</tbody>
</table>
Local Market use: Residents vs. IDPs  
(n=4,787)

Kenya  
DRC (Katanga)  
South Sudan

Residents  
Internally-Displaced People
SUMMARY Smallholder Seed Use

Overview
- Own stocks and local markets key
- Formal sector (agro-dealers) <3% seed (so modest importance)
- Local markets often serve farmers even in high stress (e.g. conflict) areas

Local Markets, key for
- Diverse crops (resilience)
- Nutritious crops
- Particularly serving the poorest (incl. sometimes, IDPs)
2 quick cases-

Seed and Conflict
## Farmer Bean Seed sources during Rwanda Emergency

<table>
<thead>
<tr>
<th>Source</th>
<th>Sept 1994 % Total seed (N=143 farmers)</th>
<th>Sept 1995 % Total seed (N=883 farmers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own Stock</td>
<td>45</td>
<td>40</td>
</tr>
<tr>
<td>Relief aid</td>
<td>28</td>
<td>6</td>
</tr>
<tr>
<td>Market</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>Friends/neighbors</td>
<td>&lt;1</td>
<td>1</td>
</tr>
<tr>
<td>Kin</td>
<td>&lt;1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Sperling, 1997; IDRC/USAID funded
NW Syria Farmers’ (N+399) seed sources, 2014-15 major crops Winter season

+13% seed use
NW Syria: Wheat Pile Stores (2014-15)- broken down
Moving Forward

4 practical (immediate !) suggestions for action
I. Leverage markets: especially informal (private sector)

**Invest in traders:** ...

+ go to high risk areas **routinely**

+ may move large volumes
  (.e.g 400-2000 MT)

+ are **conflict savvy**
2. Leverage markets: formal \textit{(private sector)}

Focus on \textit{select} companies that:

- Have wide crop/variety portfolio (adapted to stress area)

- Routinely serve area

- Are \textit{conflict savvy}
3. Develop sector-specific technical guidance

(linked to conflict areas)

Agriculture (seeds pest management,.. Storage)

Seed and Conflict

a. Have to be able to harvest what is sown (timing)
b. Consider intensity of management needs

...
4. Refine Conflict typology- tied to ag interventions (practical-- precise...)

(...armed vs. unarmed not enough, level of violence not enough............) ...
Summary: next step actions

**Field Action**

1. Leverage informal markets- invest in traders (private sector)  
   (conflict savvy)

2. Leverage formal markets/companies- select wisely  
   (conflict savvy)

**Management / technical tools**

3. Develop sector-specific technical guidance- linked to conflict  
   (e.g. seed, pest management)

4. Develop/refine Conflict typology--- as linked to agriculture interventions
http://seedsystem.org