Smallholder System for Rice Intensification (SRI)

- KPL is lifting farmers in 10 villages within 50 km of the farm from subsistence to surplus:
  - In 2009-10, KPL, on its own, KPL introduced SRI to Tanzania
  - Traditional Yields are about 1 ton/ha vs. SRI rain-fed yields that have ranged as high as 9.5 tons/ha rain-fed, a good irrigated yield
  - SRI farmers have averaged 3.66 tons/ha, substantially increasing family income
  - KPL’s smallholder program has expanded quickly:
    - Over 500 farmer families, not formally trained in the KPL Smallholder Program, have adopted SRI techniques from their neighbours
    - In the 2013-14 season, KPL introduced “Zero Tillage” SRI which, through the elimination of annual ploughing and harrowing, reduces the farmers’ production cost by 12%
      - KPL is training another 3,600 farmers in Zero Till next season

<table>
<thead>
<tr>
<th>Harvest Year</th>
<th>New Farmers Trained</th>
<th>Yield High Ton/ha</th>
<th>Yield Low Ton/ha</th>
<th>Yield Avg. Ton/ha</th>
<th>Zero Till Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>15</td>
<td>7</td>
<td>4.7</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>250</td>
<td>8</td>
<td>2.07</td>
<td>3.9</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>1,162</td>
<td>7</td>
<td>0.1</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>2,850</td>
<td>9.5</td>
<td>1.5</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>2,250</td>
<td>5.3</td>
<td>3.0</td>
<td>4.4*</td>
<td></td>
</tr>
<tr>
<td>Total to date</td>
<td>6,527</td>
<td></td>
<td></td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>700</td>
<td></td>
<td></td>
<td>3,600</td>
<td></td>
</tr>
<tr>
<td>Total Trained</td>
<td>7,227</td>
<td></td>
<td></td>
<td>3,850</td>
<td></td>
</tr>
</tbody>
</table>

*Demo Plot Yields

- Over 500 farmer families, not formally trained in the KPL Smallholder Program, have adopted SRI techniques from their neighbours

Extension officer reaching isolated village
Smallholder Credit Challenge

<table>
<thead>
<tr>
<th>Crop Year</th>
<th>Micro Finance Institute</th>
<th>Credit Trained</th>
<th>Loans Disbursed</th>
<th>Avg. Months Late to Repay</th>
<th>Final Rate of Repayment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-12</td>
<td>YOSEFO</td>
<td>265</td>
<td>148</td>
<td>4</td>
<td>94%</td>
</tr>
<tr>
<td>2012-13</td>
<td>NMB</td>
<td>885</td>
<td>189</td>
<td>4</td>
<td>100%</td>
</tr>
<tr>
<td>2012-13</td>
<td>YOSEFO</td>
<td>0</td>
<td>416</td>
<td>10</td>
<td>100%</td>
</tr>
<tr>
<td>2013-14</td>
<td>YOSEFO</td>
<td>0</td>
<td>50</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2014-15</td>
<td>NMB</td>
<td>243</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015-16</td>
<td></td>
<td>1,000*</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*$50/farmer subsidy available from NAFAKA

- Since 2011, KPL has funded the smallholder project with $1.2 million in grant funding from AECF, Norfund and USAID
- The loan program is still a work in progress
- To commercialize the program, KPL needs a larger number of loan farmers to make a margin on inputs and secure paddy at a price fair to both the farmer and the Company
  - YOSEFO experienced an initial 46% default rate in 2013 and was forced to seize farmers assets, perhaps creating a more credit-worthy environment
  - NMB had an excellent repayment rate in 2013 but left due to unclear path to rapid scalability given the low number of farmers and the small size of individual loans (TZS 400,000/acre)
  - Planning to return for the 2014-15 season, NMB trained 243 farmers but pulled out in late Nov 2014 just before planting due to a lower number of loan farmers than anticipated, causing hardship to farmers who had signed up
- The ramp up of the loan program still requires several years to reach 2,500 to 5,000 farmers needed for commercial viability for KPL and the bank
  - The Competitive African Rice Initiative (CARI) has approved in principle a KPL application to scale up the program
  - KPL is in consultations with NMB and CRDB to devise a commercially sustainable loan product