Safe Vegetable Production in Cambodia
Developing Safe Vegetable Value Chains

Borarin BUNTONG
Co-PI – Royal University of Agriculture
WHO?

− UC Davis
  Cary Trexler
  Glenn Young
  David Miller
  James Hill
  Mark Bell
  Mark Van Horn
  Fredrick Sagemuller
  Neda Yousefian
  Karend LeGrand
  Katherine Hoeberling

− Royal University of Agriculture
  Borarin Buntong
  Kong Thong
  Lor Lytour
  Tho KimEang
  Thort Chuong
  Chanjout Kim

− Oxfam
  Brian Lund
  Socheata Sou
  Seng Vanndeth
  Kong Sophea

Antonio "Jun" Acedo
What is it about?

- Net house
- Saving group
- Value Chain
Consumer trends are leading towards increased demand for quality safe* vegetables. However, markets have limited supply of safe* vegetables. Paradoxically, local smallholder farmers lack access to these markets.

*Grown with correct use of chemical pesticides and inorganic fertilizers with preference for organic fertilizers and natural pesticides.
Lack of Knowledge and inefficiencies in farming practices

Farmers spend 53% of their revenue on pesticides

Farmers experience 4–5 losses annually due to price fluctuations
Key Approaches: Cultivating collaborative relationships can lead to sustainable solutions
A wide variety of factors must be considered to address constraints

**Hard Technologies**
- Pre- and post-harvest
- Transportation

**Soft Technologies**
- Crop selection
- Inputs
- Technique
- Finances

- Community dynamics
- Mitigation of risk

**Constraints**
- Limited Technology
  - Farming Activities
  - Social Issues
Multi-faceted approach addresses numerous constraints simultaneously

Constraints
- Limited Technology
- Farming Activities
- Social Issues

Solutions
- Technical support
- Savings for capital investment
- Access to affordable loans
- Joint community investment
- Development of relevant solutions
- Information sharing

Savings Groups

Not just for saving!
Shared interest savings groups are the platform for collaboration

- 6 villages of S’ang District in Kandal Province
- 11 savings groups established
- Meet weekly to save money and share information

Weekly meeting of members from one savings group in S’ang District, Kandal Province
Value chain actors collaborated to identify the major constraint

- Farmers were linked to consumers through retailers
- Major problem: Farmers’ technique to protect crops from insect pests

Vegetable farmers from 6 villages in S’ang District on a field trip to a safe vegetable market fair in Phnom Penh
Value chain actors worked collaboratively to identify ways to address this major constraint.

- New inputs and technologies were demonstrated.
- Most potential to address key problem: pest exclusion nets.
Local adaptation of agricultural technology bridged the major gap

Pest exclusion nets were adapted by farmers, researchers and marketers to meet the local needs

7 farmers volunteered to test the nethouses in their fields
Outcome as of February, 2016

- Increase in annual revenue above conventionally grown crops $7,800 USD (0.20/kg) (425%)

Annual demand by one small shop 365,000 kg

Farmer growing safe vegetables for contract sale in 1 of 7 nethouses

Demand from one small shop

- Locally supplied
- Unmet demand
Is there opportunity for scaling?
Is it possible to sustain this system?

Problem

Consumers • Increased demand
Markets
Producers • Limited supply

Farmers

Safe Veggie Market

Consumers
Additional constraints previously concealed by the major barrier

- **Demand**
  - Market required a steady supply
  - Consumers demanded more selection
  - Marketing system based on mutual trust

- **On-farm reality (constraint)**
  - Farmers traditionally cultivate their entire field at one time
  - Farmers have expertise in cultivating a limited number of crops
  - Lack of experience or technical support can result in conflict
Collaboration developed new solutions to bridge smaller gaps in the fledgling chain

Meeting between farmers, marketers and researchers to determine the support required to maintain trust within the system.

Multiple crop varieties in nethouses cultivated according to methods developed in collaboration with researchers and marketers.
Disrupting wide-ranging constraints through trusted collaboration develops sustainable solutions

**Constraints**
- Limited Technology
- Farming Activities
- Social Issues

**Approach**
- Innovative Ideas
- Research Institutions
- Value Chain Actors
- Sustainable Solutions

**Solutions**
- Information sharing
- Technical support
- Savings for capital investment
- Development of relevant solutions
- Access to affordable loans
- Joint community investment

**Savings Groups**
Farmer adoption continues and markets still have unmet demand

- **Indicator**
  - # of nethouses / square meters
  - Est. annual production
  - Est. annual revenue
  - Annual increase in revenue

<table>
<thead>
<tr>
<th></th>
<th>As of Dec., 2014</th>
<th>As of July, 2015</th>
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<tbody>
<tr>
<td>Indicator</td>
<td></td>
<td></td>
</tr>
<tr>
<td># of nethouses / square meters</td>
<td>7 / 845</td>
<td>10 / 1,485</td>
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<tr>
<td>Est. annual production</td>
<td>12,000 kg</td>
<td>21,088 kg</td>
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<tr>
<td>Est. annual revenue</td>
<td>$10,200 USD</td>
<td>$17,925 USD</td>
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<tr>
<td>Annual increase in revenue</td>
<td>$7,800 USD</td>
<td>$13,707 USD</td>
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Demand of one small shop as of July, 2015

- Locally supplied
- Incr. in local supply (6 mo.)
- Unmet demand

Vegetable farmers on a field trip to the Phnom Penh Aeon Mall
Is there opportunity for scaling? Is it possible to sustain this system?

Problem

Consumers

- Increased demand

Markets

- Limited supply

Producers

- Lack of access

Farmers

Safe Veggie Market

Consumers

Yes!