Safe Vegetable Production in Cambodia

Developing Safe Vegetable Value Chains

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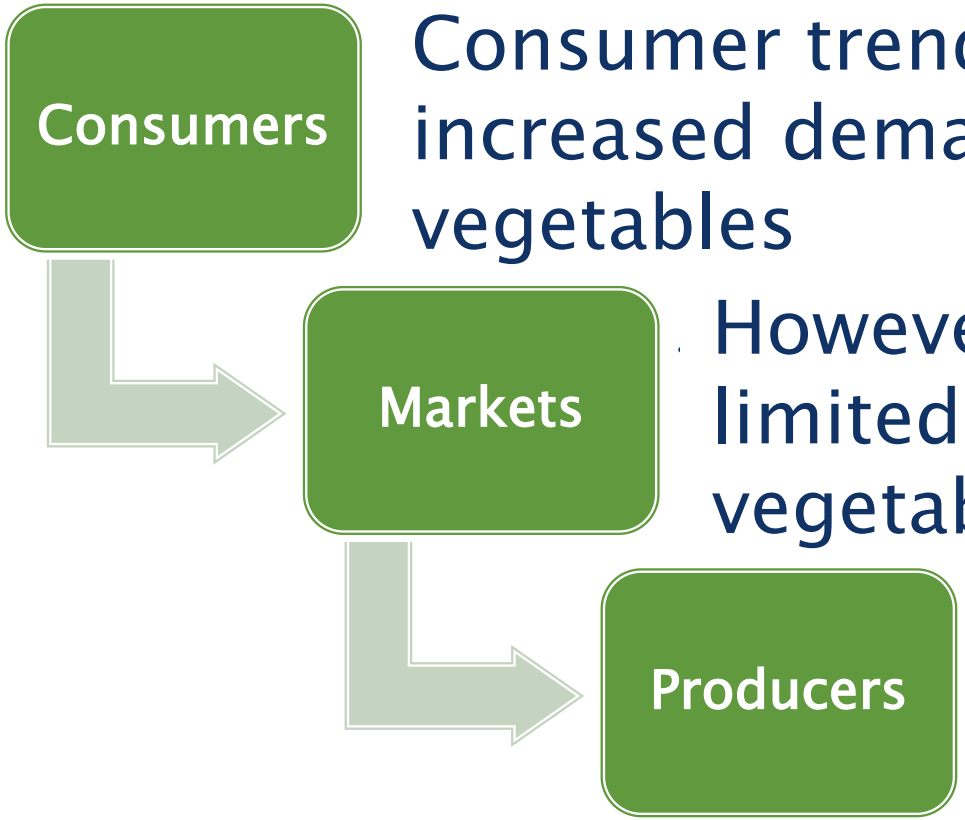
Where???
SVAY PROTEAL
TUEKVIL

What is it about?

–Net house
Saving group
Value Chain

WHY???



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

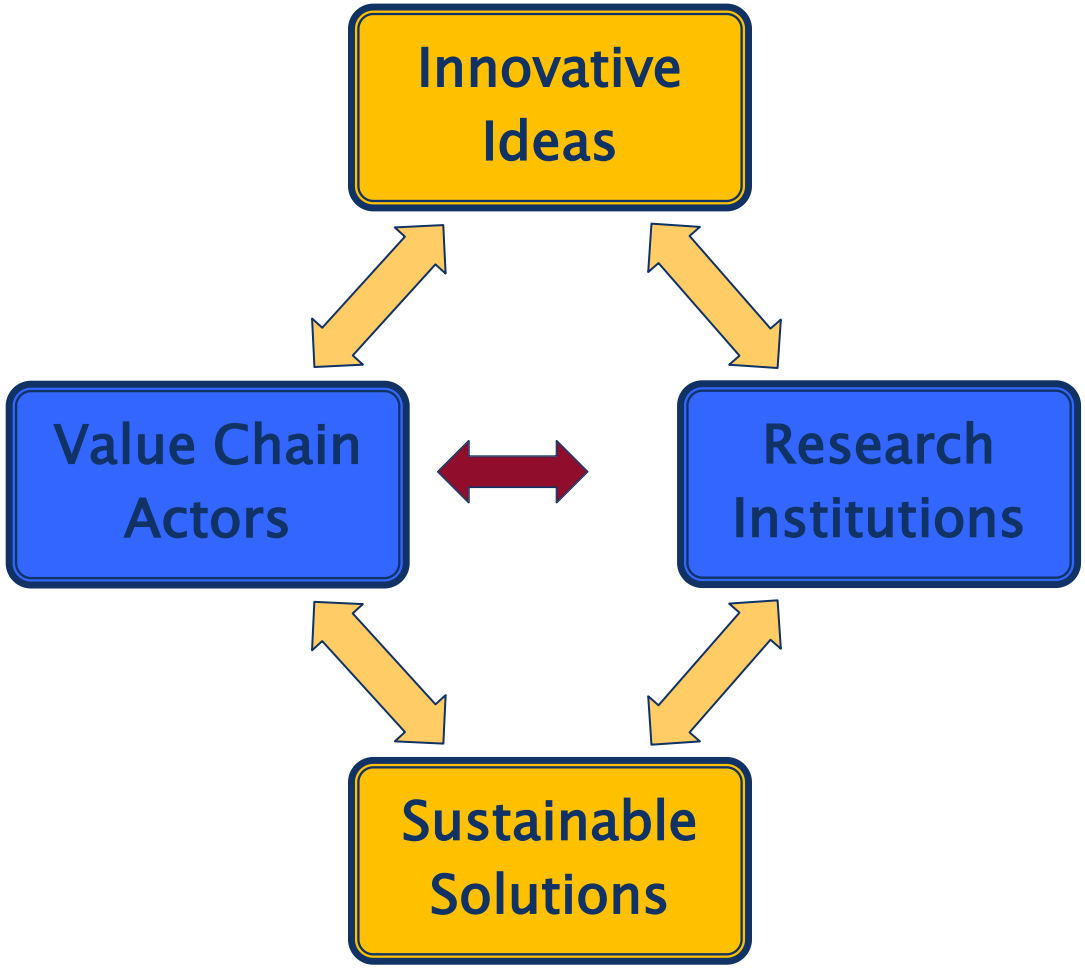
***Grown with correct use of chemical pesticides and inorganic fertilizers with preference for organic fertilizers and natural pesticides.**

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

Constraints

- Pre- and post-harvest
- Transportation

Hard Technologies

- Crop selection
- Inputs
- Technique
- Finances

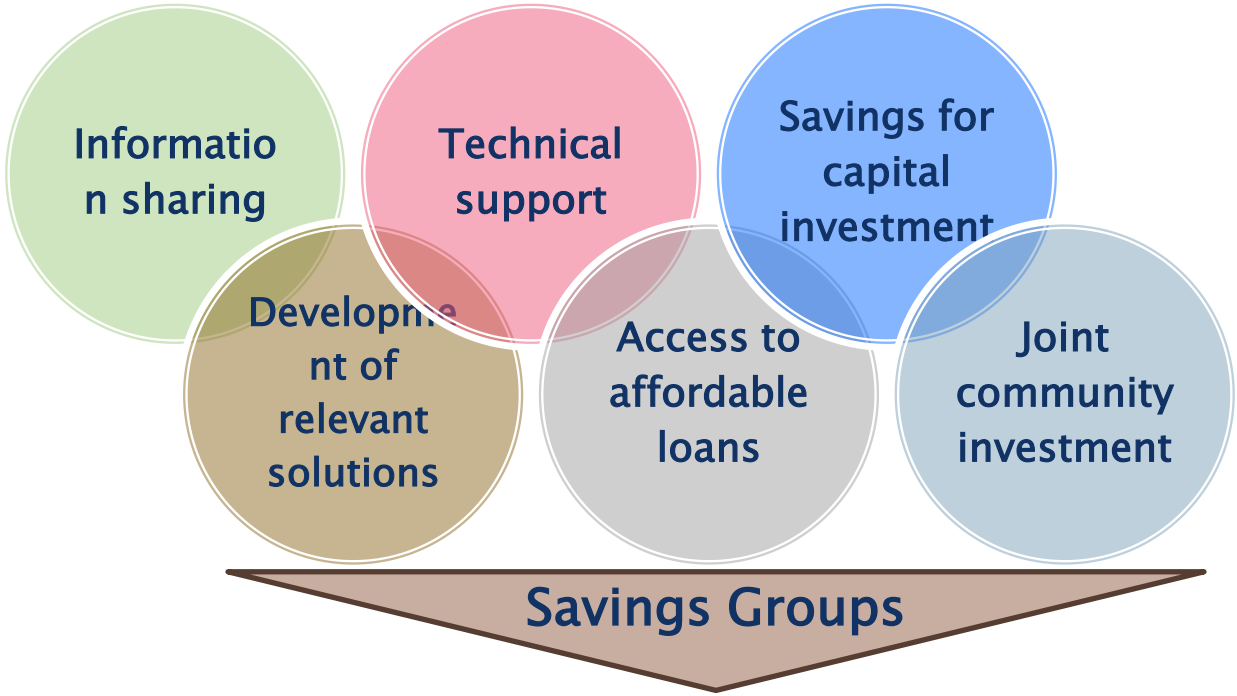
Soft Technologies

- Community dynamics
- Mitigation of risk

Multi-faceted approach addresses numerous constraints simultaneously

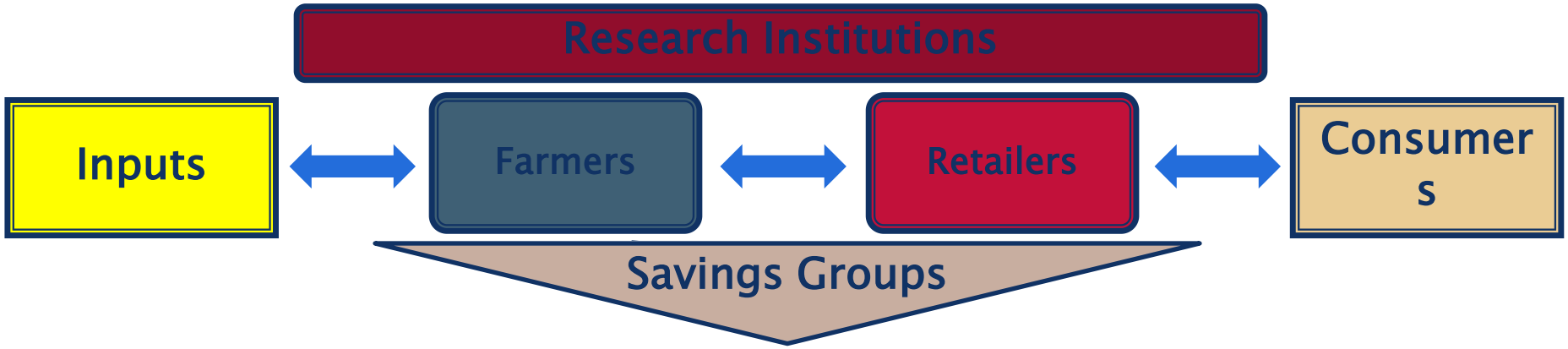
Constraints

Solutions



Not just for saving!

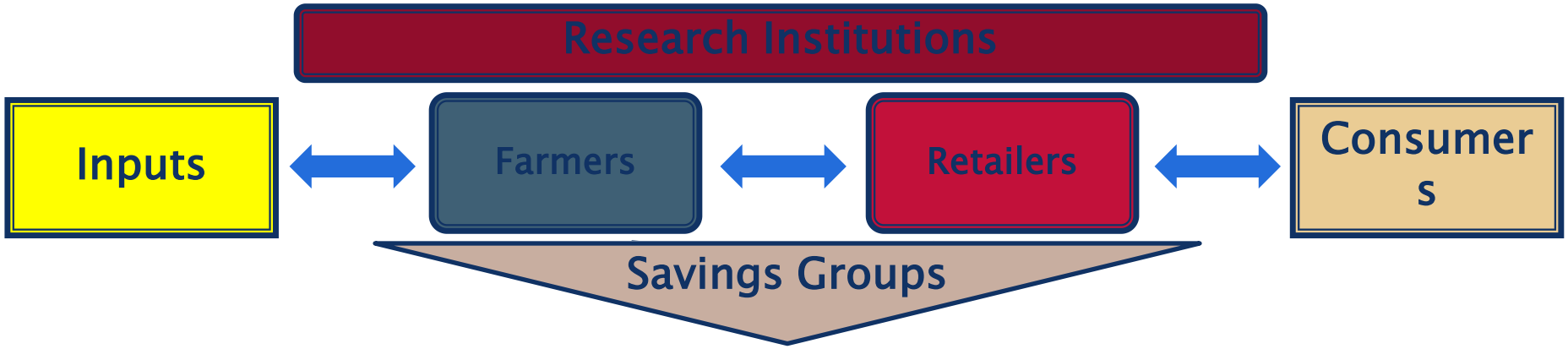
Shared interest savings groups are the platform for collaboration



Weekly meeting of members from one savings group in S'ang District, Kandal Province

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

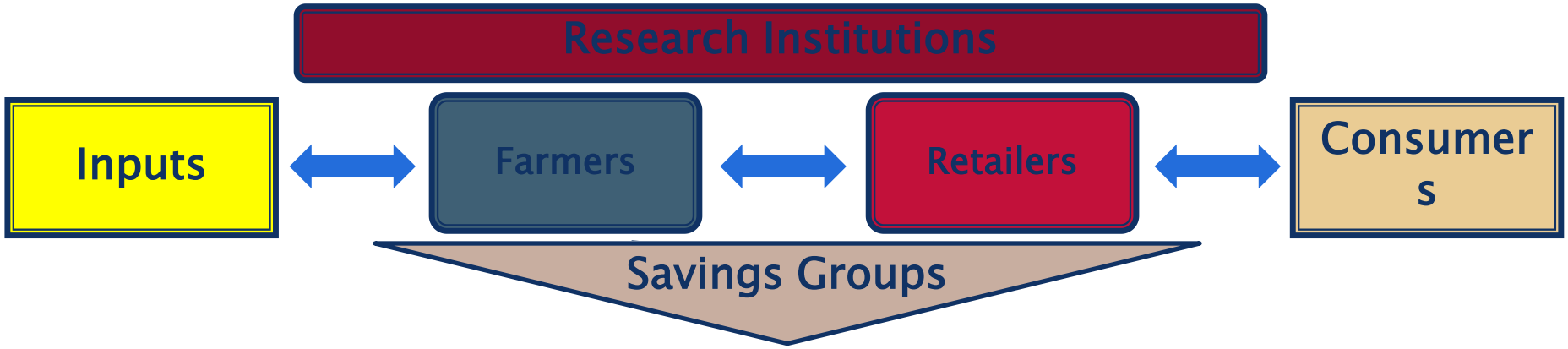
Value chain actors collaborated to identify the major constraint



Vegetable farmers from 6 villages in S'ang District on a field trip to a safe vegetable market fair in Phnom Penh

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

Value chain actors worked collaboratively to identify ways to address this major constraint

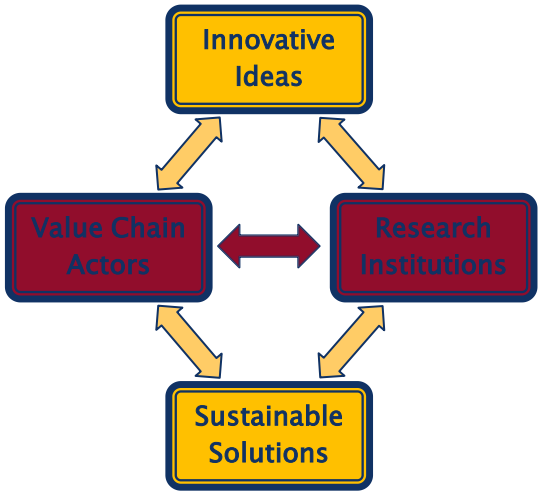


Farmers, marketers and input suppliers on a field trip to a technology fair at the Royal University of Agriculture

- New inputs and technologies were demonstrated
- Most potential to address key problem: pest exclusion nets

Local adaptation of agricultural technology bridged the major gap

Approach



Original design **Adapted design**

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

Is there opportunity for scaling?
Is it possible to sustain this system?

Additional constraints previously concealed by the major barrier

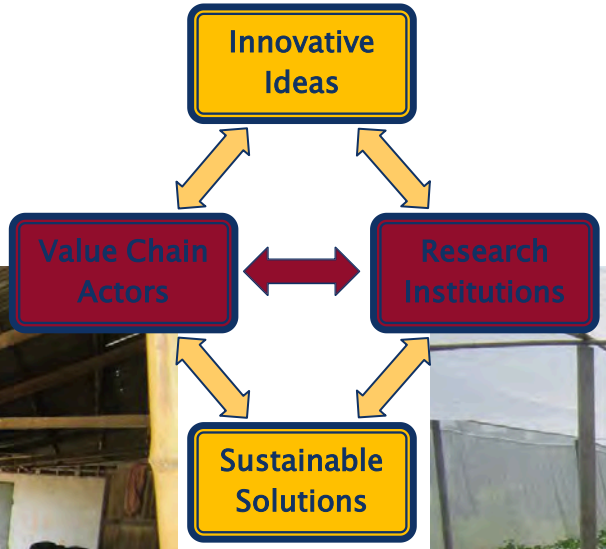
- Demand
- Market required a steady supply
- Consumers demanded more selection
- Marketing system based on mutual trust

- 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

Contract negotiation

New crops
Cropping calendar



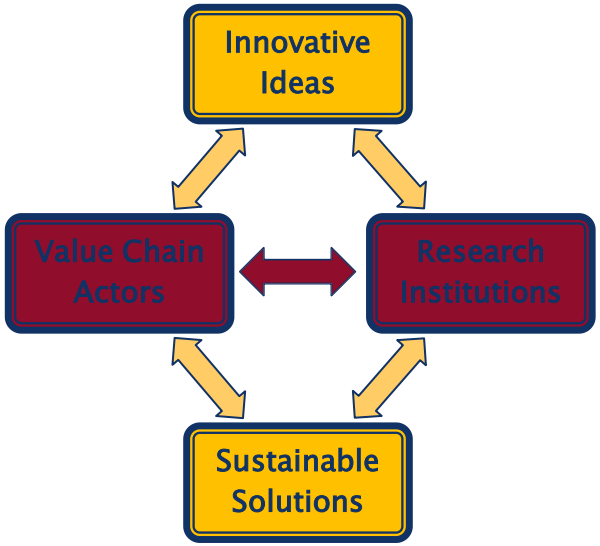
Meeting between farmers, marketers and researchers to determine the support required to maintain trust within the system.

Multiple crop varieties in nethouses cultivated according to methods developed in collaboration with researchers and marketers.

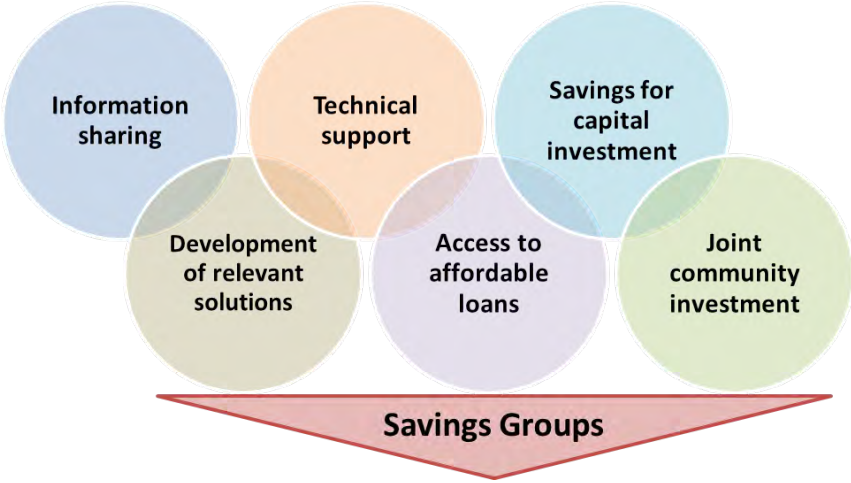
Disrupting wide-ranging constraints through trusted collaboration develops sustainable solutions

Constraints

Approach



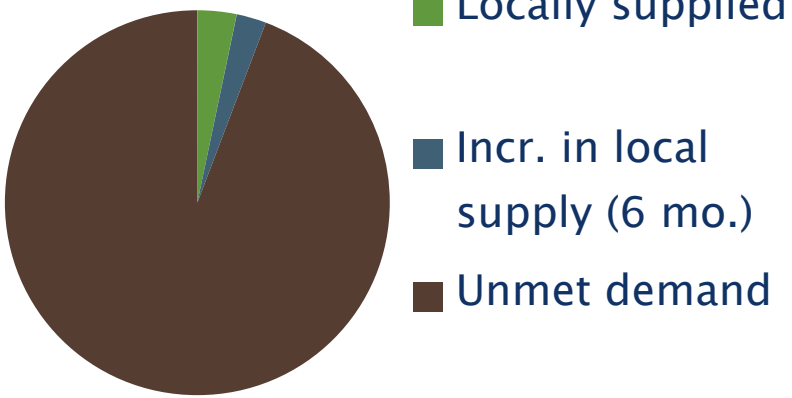
Solutions



Farmer adoption continues and markets still have unmet demand

Indicator	As of Dec., 2014	As of July, 2015
# of nethouses / square meters	7 / 845	10 / 1,485
Est. annual production	12,000 kg	21,088 kg
Est. annual revenue	$10,200 USD	$17,925 USD
Annual increase in revenue	$7,800 USD	$13,707 USD

Demand of one small shop as of July, 2015



Vegetable farmers on a field trip to the Phnom Penh Aeon Mall

Is there opportunity for scaling? Is it possible to sustain this system?