



Cambodia HARVEST | Helping Address Rural Vulnerabilities and Ecosystem Stability

Scaling Agricultural Technologies Global Learning and Evidence Exchange

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Cambodia HARVEST is implemented by Fintrac Inc.

Scaling Agricultural Technologies LAC and ASIA Similarities



Background of Country Constraints

Commercial Horticulture	El Salvador	Cambodia
Dependence on Agriculture (rural)	50%	>80%
Land size (vegetable farming/farmer)	> 1 hectare	1,200 m ²
Access to water (no or lack of)	localized	limited/localized
Climatic risks (floods, drought, etc)	yes	yes
Farming as a business	1/100	1/2,000
Extension services (technology)	poor	poor
Input availability (seeds, fertilizer, etc.)	limited	limited
Finance lending (MFI's and Banks)	out-dated	out-dated
Percent annual fresh imports	>85%	60 to 80%

Developing a Commercial Horticulture Sector

What was Scaled-Up

- More technical staff = more area coverage (locations) = more farmers assisted
- More area under vegetable production = more volume and farmers involved
- Productivity/given area = higher yields, more volume = impact
- Selected crops based on consumer demand = market reliability and stability = \$\$
- Develop/support needed service providers = sector sustainability, cost competitiveness



Scaling-Up Through Technology Transfer

Attaining high **productivity**

- Introducing new farming technology
- Implementing Good Agriculture Practices
- Market driven crops
- Continuous technical assistance
- Field training events

Maintaining product **quality**

- Attention to detail (farm supervision)
- Good post-harvest practices

Controlling **costs**

- Effective farm management
- Accurate record keeping

Developing the Service Provider Sector (Expansion of Services)

Sustainable **Markets**

- Link farmers to informal and formal buyers
- Advantages of farmer buyer relationships

Access to **Finance**

- Educate MFI's and banks (field tours)
- Adjust lending options based on new technology

Progressive **Input Suppliers**

- Training modules for retail suppliers
- Work with whole sale MESS distributors > retailers
- Train suppliers in basic rural extension services



Developing Commercial Greenhouses in El Salvador

Innovation and Scale

- Introduced low cost green houses for commercial tomato farming > UV plastic, anti-virus netting, and structural design
- Introduced new agricultural technology > drip irrigation, raised planting beds, hybrid seed, trellising, GAP and post-harvest practices
- Co-invest in demonstration houses with 30 farmers > 60 houses by the end of the project > reinvest.
- Establish 6 central packing sites
- Work with input suppliers, banks and identified markets
- SME training and capacity building
- Future: Reduce imports of salad tomato by 50%



Developing Commercial Greenhouses in El Salvador

Drivers of Scaling-Up

- Co-invested with 30 demo farmers in 30 houses
- Farmers constructed their own houses with project supervision
- Training = 2.5 years of weekly extension visits/farmer
- Farmer field day events
- Business management
- Formal market linkages
- Input supplier training and MESS availability
- Educating credit lenders on greenhouse cost structure and business plan



Developing Commercial Greenhouses in El Salvador Results

- Green houses at project end > 3 to 87 at 575 m² > 4.6 hectares
- Production = 3.8 tons/ house/year > 27.6 tons/ month to formal markets
- Attracted WalMart C.A. as a primary buyer plus 2 other local supermarket chains
- Reduced imports of salad tomato close to 70%
- Farmers had net earnings of \$8,200/year/house
- Input suppliers developed > 11



Developing Commercial Horticulture in Cambodia

Innovation and Scale

- Introduce new technology for commercial horticulture farming > drip irrigation, raised beds, plastic mulch, GAP > 300 ha >2,340 tons (eggplant, bitter melon, cucumber), > 310% increase in yield over baseline.
- Co-invest in 926 demo sites by end of 2013 reaching 2,000 LOP 2015
- Organize 760 farmers into 40 production groups > markets
- Horizontal replication of 500 new farmers by end 2015
- Input provider expansion > 400
- By LOP reduce seasonal imports of the 3 crops by 20%/province



Developing Commercial Horticulture in Cambodia

Drivers for Scaling-Up

- Intensive farmer training in all agriculture practices through demonstration farms
- Additional staff through partner NGO's (logistics)
- Irrigation companies trained farmers in system operating procedures and maintenance.
- Different fertilizer formulations imported (wholesalers)
- Imported seed varieties based on market demand
- Post-harvest practices > assurance of quality
- Grouped neighboring producers to form producer groups > more volume to attract more reliable buyers.
- Invite all interested farmers to field day events, and service providers > horizontal replication
- Input provider training > 9 modules



Scaling-Up Challenges

1. Technical capacity building - training and managing more technicians through partner NGO staff.
2. Horizontal replication (demonstration farmers)
 - Intense farmer training and technology transfer > **productivity**
 - Knowledge and continued extension (private sector and government)
3. Market security
 - Establishing and maintaining **reliable buyers**
 - Do not sacrifice **quality** for quantity
4. Service provider development > **affordable credit** and **input suppliers**
5. Farmers have to attain acceptable **profit margins** > individual farmer results, which builds farmer confidence.

THANK YOU!

