COOPERATIVE MOVEMENT IN THE SUPPLY CHAIN OF AGRICULTURAL PRODUCTS: WAY FORWARD

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Paper presented at
Seoul, South Korea
1. Background
   - Marketing of agricultural products

2. Cooperative movement
   - Roles of cooperative movement

3. Way forwards
   - Conclusions
Issues: Small farms in the world

More than 90% of farms are run by an individual or a family and rely primarily on family labour.

Family farms occupy around 70-80% of farm land.

Family farms produce about 80% of the world’s food.

Due to the variety of food they produce, family farmers also strongly contribute to food security.

Source: IIASTD, 2014
Challenges: Small farm in the world

72% are smaller than one hectare

6% are bigger than five hectares

22% other sizes

Challenges

- Fragmented
- Lack economy of scale
- Lack Market Access
- Low Price
Marketing of agricultural Products

Deliver products for customer satisfaction

Malaysian Agricultural Research and Development Institute (MARDI)
Attempts to include farmers/suppliers in supply chain

- Farmers are unable to supply according to volume, quality and delivery
- Competition among retailers make them reluctant to raise prices – farmers losing
- Safety, quality and standards squeeze suppliers’ margin – eg EUREP GAP
- Unable to meet traceability requirement
Modern Retailers Requirements = Challenges to Farmers

- **Quality and standard**
  - Strict requirement on physical quality of products
  - Grading system
  - Minimal damages
  - Consistent size
  - Packaging

- **Safety**
  - Produce certificate of safety
  - Traceability (if problem or customer complaint)

- **Diversity**
  - Diversity/variety but small quantity
  - To plan new crop is risky
Modern Retailers Requirements
=Challenges to Farmers

• Delivery
  – Daily delivery regardless of traditional, religious or social obligations - supply 365 days of the year.

• Terms of payment
  – Payment by hypermarket and supermarkets normally 15-30 days compared to 1-3 days in traditional chain

• Organized farmer/producer
  – prefers to work with organized farmers:
    • to avoid problems of dispersion of producers and high transaction costs
Agriculture supply chain (vegetable)

Intermediaries objectives is to maximize profits

Input suppliers | Collectors | Wholesaler | Processor | Retailers |
---|---|---|---|---|
Grower/farmers: 10-15% | Collectors: 10-17% | Wholesaler: 9-12% | Processor: 20-25% | Retailers: 35-50% |
Consumers: (84-114%)

Selling price

Source: Roslina, 2010
Supply chain of agricultural produce

**FRESH VEGETABLES SUPPLY CHAIN**

- **GROWERS/FARMERS**
  - 1%
  - 64%
  - 26%
  - 7%
  - 2%
- **COLLECTORS/TRANSPORTERS**
  - 59%
- **WHOLESALERS**
  - 3%
  - 46%
  - 27%
  - 24%
  - 41%
- **OTHER WHOLESALERS/MIDDLEMEN**
  - 25%
  - 20%
  - 55%
- **HYPERMARKETS/SUPERMARKETS**
- **OTHERS** e.g. Institutional Buyers
- **RETAILERS** e.g. Wet Markets
- **FAMA**

**FRESH FRUITS SUPPLY CHAIN**

- **GROWERS/FARMERS**
  - 1%
  - 58%
  - 26%
  - 3%
  - 12%
- **COLLECTORS/TRANSPORTERS**
  - 70%
- **WHOLESALERS**
  - 2%
  - 45%
  - 30%
  - 30%
  - 23%
- **OTHER WHOLESALERS/MIDDLEMEN**
  - 20%
  - 30%
  - 50%
- **HYPERMARKETS/SUPERMARKETS**
- **OTHERS** e.g. Institutional Buyers
- **RETAILERS** e.g. Wet Markets
- **FAMA/PPK/OTHERS**

Source: Amin, 2010
Ineffective supply chain to farmers

Source: IIASTD, 2014
Transformation of supply chain

Traditional
- Individual and pragmatic
- Not competitive
- High cost of production
- Lack of information
- Lack of support services
- Manipulation

Cooperative movement
- Institutional
- Economy of scale
- Share of information
- Share of profit
- Common objective
- Bargaining power
Example of institutional marketing

Table 1. Comparison of transaction costs by market

<table>
<thead>
<tr>
<th></th>
<th>Farmers market: 20 weeks/40 markets</th>
<th>Institutional market: 20 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation vehicle expenses</td>
<td>$.25/mi, 3,200 miles $800</td>
<td>$.25/mi, 1,600 miles $400</td>
</tr>
<tr>
<td>Labor charges</td>
<td>2 people @ 12hr/wk, 20wks, @$10/hr $4,800</td>
<td>1 person @ 4hr/wk, 20wks, @$10/hr (includes selling) $800</td>
</tr>
<tr>
<td>Supplies (bags, sacks, other supplies)</td>
<td>$20/wk $400</td>
<td>$30/wk $600</td>
</tr>
<tr>
<td>Total transaction costs for the season</td>
<td>$6,000</td>
<td>$1,800</td>
</tr>
<tr>
<td>Total transaction costs allocated to tomatoes (20% of total sales)</td>
<td>$1,200</td>
<td>$360</td>
</tr>
<tr>
<td>Total transaction costs/lb sold</td>
<td>(760 lbs sold) $1.58</td>
<td>(800 lbs sold) $.45</td>
</tr>
</tbody>
</table>

Example 1.

<table>
<thead>
<tr>
<th></th>
<th>Farmers’ market</th>
<th>Institutional market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected selling price</td>
<td>$3.00</td>
<td>$2.10</td>
</tr>
<tr>
<td>Production and transaction costs</td>
<td>$1.96</td>
<td>$0.83</td>
</tr>
<tr>
<td>Estimated profit</td>
<td>$1.04</td>
<td>$1.27</td>
</tr>
<tr>
<td>Estimated price mark-up</td>
<td>53%</td>
<td>153%</td>
</tr>
<tr>
<td>Number of pounds sold</td>
<td>760 lb.</td>
<td>800 lb.</td>
</tr>
<tr>
<td>Estimated profit</td>
<td>$790</td>
<td>$1,016</td>
</tr>
</tbody>
</table>

Source: Craig Chase (2008)
Cooperative movement

A group of people work in cooperation for a common objectives

- Voluntary organization and open to every one
- Democratic and control by members
- Initial capital from members
- Autonomous and self-help
- Provide education and training to members
- Sustainable development for their communities
## Cooperative movement by functions

<table>
<thead>
<tr>
<th>No</th>
<th>Cooperative functions</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Banking and credit</td>
<td>Provides financial services</td>
</tr>
<tr>
<td>2</td>
<td>Industry</td>
<td>Production, processing, services</td>
</tr>
<tr>
<td>3</td>
<td>Logistics and transportations</td>
<td>Logistics and transportation</td>
</tr>
<tr>
<td>4</td>
<td>Agricultural production</td>
<td>Aggregate purchases, storage and distribution of farm input. Producing agricultural products</td>
</tr>
<tr>
<td>5</td>
<td>Agricultural marketing</td>
<td>Collective marketing activities</td>
</tr>
<tr>
<td>6</td>
<td>Consumers</td>
<td>Collective purchase and selling of agricultural products</td>
</tr>
</tbody>
</table>
# Transformation of supply chain to cooperative movement

<table>
<thead>
<tr>
<th>Intermediaries in Traditional Supply Chain</th>
<th>Cooperative functions</th>
<th>Scope of activities</th>
<th>Products/Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money lender</td>
<td>Banking/Credit</td>
<td>• Financial services</td>
<td>• Loan/mortgage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial / Supplier</td>
<td></td>
<td>• Input supplier</td>
<td>• Fertilizer &amp; Bio-products • Seed and plant materials</td>
</tr>
<tr>
<td>Logistics and transportation</td>
<td>Logistics and transportation</td>
<td>• Logistics and transportation of agricultural products</td>
<td>• Storage and transportation services</td>
</tr>
<tr>
<td>Producer</td>
<td>Agriculture production</td>
<td>• Production of agricultural products</td>
<td>• Fresh and processed products</td>
</tr>
<tr>
<td>Collector</td>
<td>Services</td>
<td>• Commission agents</td>
<td>• Collection and distribution of agricultural products</td>
</tr>
<tr>
<td>Processor</td>
<td>Industrial</td>
<td>• Processing of agricultural products</td>
<td>• Producing agricultural products</td>
</tr>
<tr>
<td>Wholesaler</td>
<td>Agricultural marketing</td>
<td>• Marketing of agricultural products</td>
<td>• Agricultural products</td>
</tr>
<tr>
<td>Retailer</td>
<td>Agricultural marketing</td>
<td>• Marketing of agricultural product</td>
<td>• Agricultural products</td>
</tr>
<tr>
<td>Local market</td>
<td>Consumers</td>
<td>• Marketing of agricultural products</td>
<td>• Agricultural products</td>
</tr>
</tbody>
</table>
Way Forwards: cooperative movement in agricultural supply chain

Information Flow

Cooperative Farmers

Flow

Cooperative Traders

Cooperative Hypermarket/supermarket

Consumers

Producer relationship/service management

Supplier relationship/service management

Government – Facilitating Function
Way Forwards: cooperative movement in agricultural supply chain

![Diagram of the agricultural cooperative supply chain]

- **Support services**: Banking/credit, Logistical and transportation cooperative, Banking/credit Cooperative
- **Physical flows**: Exporters Cooperative, Local markets, Consumer cooperative
- **Financial flows**: Global Markets
- **Information flows**: Industrial cooperative, Services Cooperative, Producers Cooperative

National agricultural cooperative supply chain

International agricultural cooperative supply chain
Transformation of agriculture supply chain: farmers benefit

Cooperative members

- Individual Farmers
- Institutional Farmers
- Industrial cooperative
- Agriculture production cooperative
- Agricultural marketing cooperative
- Consumer cooperative
- Banking/credit

Malaysian Agricultural Research and Development Institute (MARDI)
Conclusions

• The nature of the business model for linking small farmers and cooperative to modern markets and agro-industries – the most important determinants of how value is created by supply chain actors, including small farmers and cooperative

• Effective vertical relationships ensure inclusion of farmers and Cooperative in modern supply chain

• Enabling environment should facilitate effective and efficient relationships among chain actors which subsequently develop win-win collaborations – attained economic, social and environmental sustainability
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gomabseubnida

Thank you