Developing Appropriate Logistics for Perishable Goods and the Integration of Smallholders Farmers

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Challenges of the Small and Rural Farms

- Being small farms
  - Lack of financial capital and small production below threshold capacity
  - Poor costs and operation efficiency
  - Low product quality

- Locality
  - Distance from the collection centers, market and exit port
  - Poor access to reliable information
  - Physical inaccessibility due to terrains, poor transport infrastructure
  - Incur higher transportation costs in produce delivery

- Production decisions
  - Lack of knowledge and information result in the inability to decide what, when, how and how much to grow?
  - What capacities of the small farms able to engage into the Supply Chain System
  - What motivations are needed to want to engage into the Supply Chain System
  - What competencies are needed of small farmers to enable them into the System
Opportunities of the Small and Rural Farms

Advantages of small farms
- Direct and precise control of farm operations
- Detect crop problems quickly
- Personal attention to crop care

Opportunities available to small farms
- With global changes, new markets become available and accessible
- Niche marketing
  - Innovate farm techniques
  - Innovate marketing approaches
- Add value to products
  - Safe food
  - Rare cultivars / varieties
  - Differentiated produce
  - Quality Certification
- Develop supply chain networks
Determinants of an Efficient Logistics Management Program

- Timing – correct time of implementation, shortest transit route
- Reliability – right time of departure / arrival
- Consistency – doing it again and again
- Quality – best quality condition
- Performance – full satisfaction of the customer
- Cost – most efficient logistics cost, economies of scales, inventory
- Price – most competitive price
- Sustainable logistics system – fuel resources, transport mode, etc
- Others – Security, Highest capacity utilization, Responsiveness, etc.
Developing a logistics model for the small & rural farmers group production

Criteria of Membership
- Capacity
- Locality
- Similar Problems
- Compatible crops

Teaming-up a Farmers Group

Agriculture extension

Membership Terms
- Division of Responsibilities
- Individual Financial Responsibilities
- Sharing Equipment / Transportation
- Production Rotation / Allocation
- Share Costs
- Penalty

Knowledge Management

Source: Chan (2012)
Knowledge Management

Production in Farm
- Good Farm Practices
- Agronomy
- P&D Control

Market Information Acquisition
- Identify Buyers / Clients
- Confirm Demand Criteria
- Market conditions
- Environmental conditions
- Forecast conditions
- Connectivity

Farm Logistics
- Harvest
- Farm Grading
- Farm Packing
- Temporary Cool Storage / PHH
- Delivery or Collection

Outsource Transport System

Internal

External

Harvest on Demand
J.I.T

Source: Chan (2012)
Logistics for Export Market

Farm Supply
- Quality
- Consistency
- Timeliness

Transport System
- Shipping Co.
- Shipping Agent
- Haulage Co.
- Port Authorities
- Customs
- Financial Inst.

EDI System

Market Information Acquisition
- Identify Buyers / Clients
- Confirm Demand Criteria
- Market conditions
- Environmental conditions
- Forecast conditions

Regulations
- Certification / Government

Making Decision
Monitoring Production / Market
Control Operations
Improving & Upgrading System

After Delivery
Payment

Source: Chan (2012)
Facilitating Trade and Developing Appropriate Logistics of Small Farmers

- Growing
  - Farmers
  - Farmers

- Collective production system
  - Farmers
  - Farmers

- Post harvest, sorting, grading, packing, pre-cooling, cooling, storage, trading, transport
  - Farmers
  - Farmers
  - Farmers

- Consolidation, quality control, branding, marketing
  - Farmers Group

- Consolidation, quality control, marketing
  - Rural Logistics

- Domestic market
  - Modern Retail
  - Traditional Market

- International market
  - Importer (Buyer)

- Transportation, administration
  - Logistics Services

- The Triple Helix Facilitation
Agro logistics management in the rural area
Agro logistics management in the rural area

- Push System
- Pull System
- Fee based Income
- Market Growth
- Value Added

Performance Management
Agro logistics services in the rural area
The Triple Helix Model in facilitating trade and developing appropriate logistics of small farmers
The Role of Each Actor in Facilitating Small Farmers and Developing Appropriate Logistics of Small Farmers

- **University**
  - Gives services in technical, managerial, institutional, access to technology, financing, and market.
  - Reduce risks such as cancelled order, delayed payment, climate change

- **Other Parties** (Banks, Syngenta Foundation, Supermarket, food industry)

- **Ministry of Agriculture**
  - Giving the supporting facilities such as packing house with cold chain system, irrigation etc.

- **Food Crops and Agricultural Services of West Java**

- **Central Bank, Supporting Agencies**
  - Funding trainings and building some demonstration plots

- **Market**
  - Market guarantee

- **Farmers Group**
  - Supplying consistency

- **Farmer**
  - Supplying consistency
Facilitating Trade of Small Farmers in Modern Agricultural Supply Chain
Developing appropriate Logistics for Small Farmers: from farm to market
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Thank You

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