Technical Empowerment of Agricultural Cooperatives in Malaysia

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Enhancing Agricultural Cooperatives’ Roles in Response to Changes in Food Consumption Trend
Seminar
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INTRODUCTION
• Food, socio-economic development and its interlinked relationship with the environment
• Food security and changing trends

BRIDGING THE GAP
• Role of cooperatives
• Role of Technology

CASE STUDY - PPK
• Structure & roles
• Achievements

– IPCC 2014
INTRODUCTION
Agriculture and food sector at large contribute one-fifth of greenhouse emissions
• Synergistic and collaborative partnership between all countries and stakeholders towards shifting the world on to a sustainable and resilient path.
SDG #2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Second Green Revolution

- **Sustainably** provide abundant and healthy food, while requiring less resources, reducing encroachment on natural ecosystems and conservative utilization of ecosystem services and biodiversity (FAO 2016)
What's on the world's menu

Daily calories per person by type of food

- Cereals, roots and pulses
- Sugar
- Vegetable oils
- Meat
- Dairy
- Other

(Source: FAO)
<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Structural path</th>
<th>Std. Regress weight</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P.</th>
<th>Hypothesis testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₁</td>
<td>Time factor of food  →  convenient food consumption</td>
<td>0.943</td>
<td>0.131</td>
<td>7.224</td>
<td>***</td>
<td>supported</td>
</tr>
<tr>
<td>H₂</td>
<td>Family influence has a positive relationship with convenient food consumption</td>
<td>0.067</td>
<td>0.066</td>
<td>1.007</td>
<td>0.314</td>
<td>Not supported</td>
</tr>
<tr>
<td>H₃</td>
<td>Halal awareness  →  convenient food consumption</td>
<td>0.67</td>
<td>0.128</td>
<td>0.523</td>
<td>0.601</td>
<td>Not supported</td>
</tr>
<tr>
<td>H₄</td>
<td>Health consciousness  →  convenient food consumption</td>
<td>-0.124</td>
<td>0.095</td>
<td>-1.297</td>
<td>0.195</td>
<td>Not supported</td>
</tr>
<tr>
<td>H₅</td>
<td>Price consideration  →  convenient food consumption</td>
<td>0.018</td>
<td>0.061</td>
<td>0.290</td>
<td>0.772</td>
<td>Not supported</td>
</tr>
<tr>
<td>H₆</td>
<td>Budget allocation  →  convenient food consumption</td>
<td>0.079</td>
<td>0.154</td>
<td>0.509</td>
<td>0.611</td>
<td>Not supported</td>
</tr>
</tbody>
</table>

More importantly, the results in Table 1 also show that time factor is positively related to convenient food consumption with beta values $\beta = 0.82$, p<0.01. However, the results show that all of the other hypotheses are not supported (p-value > 0.001).

(Source: Osman et, al. 2014)
Future food policies

System that provides a **sustainable** and **diversified** staples and macronutrient-rich foods, at the same time excessive consumption energy-dense, nutrient-poor (Kearney 2010).
Malaysia - Socio-economic policies

- 5-year Malaysian Plan (11\textsuperscript{th} iteration; 2016-2020)
- National Agrofood Policy (NAP) 2011-2020
“Malaysia has long held to a **people-centered development agenda** that runs parallel with what the UN aspires in its bid to end poverty, protect the planet and ensure **prosperity for all**”

- Deputy Prime Minister Datuk Seri Ahmad Zahid Hamidi, 71st UN General Assembly, 2016
Achieve inclusiveness and ensure sustainable socio-economic development, empowerment and transformation of the Agrofood sector
Food trade balance continues to see increasing deficits at an average of 8.9% from 2011-2014.
Empowering “Change Agents” can be done with effective transfer of technologies
Issues to be addressed

• Low productivity
• High post-harvest loss
• Non-optimal land use
• Unorganized marketing
• Ineffective institutional support
• Inadequate and low-skilled workers (EPU 2015a).
Cooperative

Autonomous alliance or “association of people, united voluntarily to meet their common economic, social and needs and aspirations through jointly-owned and controlled enterprises” (ILO 2002)
Co-operative Societies Enactment 1922

• Alleviating capitalistic marginalization and oppression
• Administer and promote greater collaboration and sharing among its members
As of 2015, there are more than 12,700 cooperatives registered under the Malaysian Cooperatives Societies Commission (SKM).

• 7.49 million members
• RM13.8 Billion (USD $3.3 Billion) in share capital
• RM123.3 Billion (USD $29.4 Billion) in assets (SKM 2015).
2,746 (21.5%) are agriculture-based cooperatives

- 40% or 1,107 of these cooperatives were profitable
- RM1.39 Billion (USD $0.33 Billion) in acquisition
- RM3.99 Billion (USD $0.81 Billion) in assets (SKM 2015)
As the **third engine** of **national economic development**:

- Must be enhanced with not only improving management
- Evolve with demands of changes in its surrounding environment
Tacit knowledge and firm capabilities are key factors for technology transfer and technology diffusion (Bell and Figueiredo, 2012)
“Re-engineering economic growth for greater prosperity” - strategic thrust
Modernising agriculture

- Improving productivity and income of farmers, fishermen and smallholders
- Promoting training and youth agropreneur development
- Strengthening institutional support and extension services
- Building capacity of agricultural cooperatives and associations along the supply chain
- Improving market access and logistics support
- Scaling up access to agricultural financing
- Intensifying performance-based incentive and certification programmes
MARDI

In its role as the focal point of churning R&D&C initiatives, modernization of the Agrofood sector will achieved through efforts in development and knowledge and training for quality seeds, breeds, animal feed, as well as integrated pest and disease management.
Transfer of technology **activities:**

- Publications
- Commercialization of R&D technologies
- Exhibitions, seminars, technical training
- Consultancies/troubleshooting/technical visits
  - Technology Testbeds and Incubators
  - Entrepreneur development
  - Pilot projects
- Upscaling projects
MODERNIZATION - Dynamic relationship between agencies and cooperative

- Paddy industry
- Certification (MyGap, HACCP, GMP, Halal)
- Unconventional farming
- Ruminant industry (Breeding, feed, management, RFID)
Area Farmers Organization (PPK) Kuala Langat

(Source: Sinar Harian; fertigasihijau.blogspot.my)
SHAKRAN (Sharing Knowledge Replicate Approach Networking) initiative

- Polybag capacity is at 650,000 – 1,000,000
- 213 members in five states.
- Since its inception, it has produced more than 104 tons (as of 2016)
- Members have seen a 10-15% increase in farm gate price
THANK YOU
Terima Kasih
### Table 1.1: Exports and imports of food (RM million), 2000-2005

<table>
<thead>
<tr>
<th>Commodity</th>
<th>2000</th>
<th>%</th>
<th>RM million</th>
<th>2005</th>
<th>%</th>
<th>2010</th>
<th>%</th>
<th>Average Annual Growth Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Export</strong></td>
<td>5,268.6</td>
<td>100.0</td>
<td>7,986.80</td>
<td>100.0</td>
<td>15,501.0</td>
<td>100.0</td>
<td>8.7</td>
<td>14.2</td>
</tr>
<tr>
<td>Live Animals</td>
<td>357.4</td>
<td>6.8</td>
<td>425.1</td>
<td>5.3</td>
<td>467.0</td>
<td>3.0</td>
<td>3.5</td>
<td>1.9</td>
</tr>
<tr>
<td>Meat &amp; Meat Preparations</td>
<td>64.6</td>
<td>1.2</td>
<td>85.9</td>
<td>1.1</td>
<td>2,895.0</td>
<td>18.7</td>
<td>5.9</td>
<td>102.1</td>
</tr>
<tr>
<td>Dairy Products</td>
<td>410.2</td>
<td>7.8</td>
<td>413.2</td>
<td>5.2</td>
<td>520.0</td>
<td>3.4</td>
<td>0.1</td>
<td>4.7</td>
</tr>
<tr>
<td>Vegetables</td>
<td>278.4</td>
<td>5.3</td>
<td>491.6</td>
<td>6.2</td>
<td>614.0</td>
<td>4.0</td>
<td>12.0</td>
<td>4.5</td>
</tr>
<tr>
<td>Fruits</td>
<td>512.4</td>
<td>9.7</td>
<td>471.9</td>
<td>5.9</td>
<td>2,153.2</td>
<td>13.9</td>
<td>-1.6</td>
<td>35.5</td>
</tr>
<tr>
<td>Sugar, Sugar Preparations &amp; Honey</td>
<td>353.7</td>
<td>6.7</td>
<td>492.2</td>
<td>6.0</td>
<td>474.6</td>
<td>3.1</td>
<td>6.3</td>
<td>-0.2</td>
</tr>
<tr>
<td>Cereal &amp; Cereal Preparations</td>
<td>610.8</td>
<td>11.6</td>
<td>916.6</td>
<td>11.5</td>
<td>576.5</td>
<td>3.7</td>
<td>8.5</td>
<td>-8.9</td>
</tr>
<tr>
<td>Fish, Crustaceans, Molluscs &amp; Preparations thereof</td>
<td>1,263.30</td>
<td>24.0</td>
<td>2,265.9</td>
<td>28.4</td>
<td>4,624.7</td>
<td>29.8</td>
<td>12.4</td>
<td>15.3</td>
</tr>
<tr>
<td>Feeding Stuff for Animals</td>
<td>375.3</td>
<td>7.1</td>
<td>547.1</td>
<td>6.9</td>
<td>531.0</td>
<td>3.4</td>
<td>7.8</td>
<td>-0.6</td>
</tr>
<tr>
<td>Others</td>
<td>1,042.50</td>
<td>19.8</td>
<td>1,890.3</td>
<td>23.7</td>
<td>2,645.0</td>
<td>17.1</td>
<td>12.6</td>
<td>6.9</td>
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<tr>
<td><strong>Imports</strong></td>
<td>10,543.5</td>
<td>100.0</td>
<td>15,435.0</td>
<td>100.0</td>
<td>14,276.9</td>
<td>100.0</td>
<td>7.9</td>
<td>-1.5</td>
</tr>
<tr>
<td>Live Animals</td>
<td>154.6</td>
<td>1.5</td>
<td>177.4</td>
<td>1.1</td>
<td>127.0</td>
<td>0.9</td>
<td>2.8</td>
<td>-6.5</td>
</tr>
<tr>
<td>Meat &amp; Meat Preparations</td>
<td>771.4</td>
<td>7.3</td>
<td>1,054.6</td>
<td>6.8</td>
<td>1,262.0</td>
<td>8.84</td>
<td>6.5</td>
<td>3.7</td>
</tr>
<tr>
<td>Dairy Products</td>
<td>1,176.50</td>
<td>11.2</td>
<td>1,745.1</td>
<td>11.3</td>
<td>1,533.0</td>
<td>10.74</td>
<td>8.2</td>
<td>-2.6</td>
</tr>
<tr>
<td>Vegetables</td>
<td>1,023.60</td>
<td>9.7</td>
<td>1,620.2</td>
<td>10.5</td>
<td>670.0</td>
<td>4.69</td>
<td>9.6</td>
<td>-16.2</td>
</tr>
<tr>
<td>Fruits</td>
<td>561.6</td>
<td>5.3</td>
<td>694.9</td>
<td>4.5</td>
<td>812.1</td>
<td>5.69</td>
<td>4.4</td>
<td>3.2</td>
</tr>
<tr>
<td>Sugar, Sugar Preparations &amp; Honey</td>
<td>1,085.20</td>
<td>10.3</td>
<td>1,406.0</td>
<td>9.1</td>
<td>1,216.0</td>
<td>8.52</td>
<td>5.3</td>
<td>-2.9</td>
</tr>
<tr>
<td>Cereal &amp; Cereal Preparations</td>
<td>1,839.1</td>
<td>17.4</td>
<td>2,267.1</td>
<td>14.7</td>
<td>1,464.8</td>
<td>10.26</td>
<td>4.3</td>
<td>-8.4</td>
</tr>
<tr>
<td>Fish, Crustaceans, Molluscs &amp; Preparations thereof</td>
<td>1,085.80</td>
<td>10.3</td>
<td>1,851.9</td>
<td>12.0</td>
<td>841.0</td>
<td>5.89</td>
<td>11.3</td>
<td>-14.6</td>
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<tr>
<td>Feeding Stuff for Animals</td>
<td>1,928.4</td>
<td>18.3</td>
<td>2,838.2</td>
<td>18.4</td>
<td>4,303.0</td>
<td>30.14</td>
<td>8.0</td>
<td>8.7</td>
</tr>
<tr>
<td>Others</td>
<td>917.3</td>
<td>8.7</td>
<td>1,779.6</td>
<td>11.5</td>
<td>2,048.0</td>
<td>14.34</td>
<td>14.2</td>
<td>2.8</td>
</tr>
</tbody>
</table>

*Source: Ninth Malaysia Plan, 2006 - 2010.*
3 categories of transfer of technology (Bell, 1990; Ockwell et al., 2010):

- Capital goods
- Know-how and skills related to operation of new technology
- Skills and knowledge for adaptation and further development