Enabling Environment for Custom Hiring of Agricultural Machinery: MALAYSIA

SARIF HASHIM BIN SARIF HASSAN
Research Engineer, MARDI
Agency Introduction:

MARDI

- Malaysia Agricultural Research and Development Institute

- Farm Mechanization and Automation Division

- Research, development and testing of farm machinery for rice, vegetable, fruit, livestock.
Agriculture in Malaysia

- Malaysia is an agricultural country.
- GDP is the third behind manufacturing and services.
- **Plantation crops**, oil palm, rubber and cocoa.
- **Food crops**, rice, vegetable and fruit.
Mechanization in Oil Palm Plantation

- Large tractor 80-100hp mainly for field transportation

- Smaller tractor 30-40hp for field maintenance and fruit collection

- Harvesting is the main challenge in mechanizing oil palm operation.
Mechanization in Rice Production

- **Rice** production in almost 100% mechanized
- **Large tractor** of 80hp is used for rotovation / land preparation
- **Large combine** of more than 100hp is used for harvesting
- Spraying, fertilizing, seeding mainly by **power blower**
- Transplanting in smaller scale by riding **transplanter**
- Large centrifugal **pump** at main pump house and smaller motorized pump at field
## Mechanization in Rice Production

<table>
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<tr>
<th>Operation</th>
<th>Machinery</th>
<th>% Machine Utilization</th>
</tr>
</thead>
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<tr>
<td>Land preparation</td>
<td>80hp tractor</td>
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<td>Seed broadcasting</td>
<td>Power blower</td>
<td>85</td>
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<td>Transplanting</td>
<td>Riding transplanter</td>
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<td>P&amp;D spraying</td>
<td>Power sprayer</td>
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<td>Fertilizer application</td>
<td>Power blower</td>
<td>85</td>
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<tr>
<td>Harvesting</td>
<td>Large combine</td>
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<tr>
<td>Bulk transportation</td>
<td>1 ton truck</td>
<td>97</td>
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</tbody>
</table>
Status of Custom Hiring
(in Rice Production)

- Tractors, combine harvesters and trucks are 100% hired from contractors
- Seeding, crop care, fertilizing operations 50% custom hired
- Machinery service provider, <10% Gov’t agency, >90% private contractors
Number of Machinery Custom Hiring (in Rice Production)

- 4 wheel tractor: Gov’t provides 250; private contractor 2,950 units

- Combine harvester: Gov’t provides 92 private contractors 1,116 units.
Supporting Policies

Â In the process of developing a master plan for national farm mechanization policy

Â Part of policy is to develop farm machinery testing and development center

Â Ensure the quality, suitability and safety of imported machinery.
Social and Economic Benefits

• The main beneficiary of custom machinery hiring is the small rice farming community.
• Without custom hiring services, rice production industry can’t operate.
• Custom hiring strengthening the economic and social life in rice farming villages.
Social and Economic Benefits

Â Custom hiring help in scheduling field operation.
Â Makes water delivery through irrigation canal more efficient.
Â Create economic and business opportunity for machinery service contractor.
Â At national scale, custom hiring help in ensuring high level of sufficiency in rice supply.
Challenges and Constraints

- Weather, harvesting in wet for off-season production.
- Combine got bogged down in soft field.
- Higher spare parts and maintenance cost, reduce profit.
Solution and Suggestion

- Alternative machinery suppliers with acceptable quality and price.
- Development of farm machinery testing center, ensuring only quality and safe machinery being imported.
THANK YOU