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PROMOTION OF AGRICULTURAL
MECHANIZATION IN P.R.CHINA

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1. Basic Information About China (2004)

Population: 1.3 billion
GDP: US $ 1.648 trillion;
US $ 1268 / capita
Cereal Sown areas: 101.6 million ha
Total grain output: 469.47 million tons
Per capita output of meat: 56 kg
Per capita output of aquatic products: 37.4 kg
China has to use 9 % of global cultivated land to feed 21 % populations in the world

2. The New Strategy for Agriculture & Rural Development

◆ Giving top priority to solve problems relating to agriculture, rural areas and farmers and balance development of urban and rural areas; more efforts to build a harmonious society
◆ Speeding up strategic re-adjustment of agriculture and rural economy
◆ Focusing on pursuing a combination of high yield, good quality, high competition & efficiency with ecology improvement instead of simply seeking high yields;
◆ Keeping sustainability based on conservation of energy, water, land, material consumption and recycle resources utilization become prior policy

Three key approaches for Rural Development:

◆ Enhancing agricultural infrastructure construction
◆ Speeding up advances of agricultural science and technology
◆ Increasing capability of agricultural comprehensive Production
3. Adopting a series measures to improving farmers’ income:

2004: Reducing farmer’s tax: $36 bil. US
Subsidies for grain producers, seeds and farm machinery: $18 bil. US

2005: 28 provinces fully exempted agricultural tax, other 3 reduced the tax into 2%
Farmers’ income turned over from many years’ low;
Annual increase of farmers income in 2004: 6.8%

4. A TURNING PERIOD FOR PROMOTION AGRICULTURAL INDUSTRIALIZATION AND MECHANIZATION

1). The agricultural mechanization level (2004):
Mechanization level:
- Tillage: 48.9 %
- Sowing: 28.8 %
- Harvesting: 20.4 %

Mechanization level by crops (2004):
- Winter wheat: 82 %
- Paddy Rice: 5.08 %
- Corn: 48.2 %

2) A series of new policies to encourage Agri. Mechanization have been implemented and investigated

- Subsidies for buying farm machinery:
  - 2004: $8.4 mil./$49.4 mil./$360 mil. US$
  - 2005: $37 mil./$100 mil./$1.85 bil. US$
  (Central Gov./Local Gov./farmers' input)
- Publish catalogs on subsidizing farmers to purchase farm machinery
- Exemption of fee to passing through the public road for trans-regional harvesting and rice planting machinery services.
- Some other subsidies policies to promote agricultural mechanization are preparing, such as: farming used Diesel oil; preferential tax for agricultural manufacturers; R & D on advanced farm machinery; financial & credit policy, etc.
3). Some new machines were developed and fast extended in farming practice:
- Rice harvesting & transplanting machinery on paddy fields are matured and fast extended, appropriate rice nursery technology has been improved.
- Fast extension of conservation tillage technology and a series of machinery are available in use.
- Corn harvester development has got a good progress.
- Potato, peanut, sugar beet, sugarcane, forage harvesting and horticultural machinery have started use in practice.
- Machinery for straw incorporation into soil, treatment, correction, packing are popular in use, etc.
- Take more attention to value-added pre- & post harvest treatment & processing mechanization.

- 350 thousand of combine harvesters, 7600 services teams for trans-regional wheat harvesting.
- Extend the trans-regional services for rice to transplanting and other farming process.
- 32.14 million of organizations for mechanization services,
  38.36 mil. Farmers involved in trans-regional services
- 30 bil. US $ income from the services.

5. FOCUS POINTS OF AGRICULTURAL MECHANIZATION BETWEEN 2006/2010
1). Soil conservation in Northern arid farming areas
2). Achieving full mechanization for rice production in the south area.
3). A national high-quality grain project “Modern Agricultural Equipment Promotion” needs for Sustainable improvement of mechanization level for grain maize harvesting.
4). Removing the “Bottleneck” restricting rapeseed production.
5). Emergence of new manufacturing and processing machines for economically important crops.
6). Expanding agricultural mechanization services

- Mechanization to meet the requirement of agro-industry structure adjustment: Facility horticulture, forage production; vegetables; gardens, etc.
- New intelligent technologies & equipment need to be developed to meet the food safety & traceability
- ICT for improvement agricultural mechanization system management
- Enhance development strategic research on promotion of agricultural mechanization

China is starting a new period featured with industry supports agriculture and urban supports rural development!

The Agricultural Mechanization entered into a new favorable development circumstances.

6. The Trend of Agricultural Machinery Industry Development

- The large- & middle – scale tractors will meet increasing market demand
- The small-scale tractors will keep stable demand level
- The estimated market of large-scale tractors in 2005 will be: 10.5 – 11.0 thousand units
- The estimated market of small-scale tractors in 2005 will be: 1.60 – 1.70 Million units

1). The output of main agricultural machinery in 2004 & in 2005 (Jan-Aug)

<table>
<thead>
<tr>
<th>Product Name</th>
<th>The Output in 2004</th>
<th>The output in 2005 (Jan-Aug.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big-mid-size tractor (set)</td>
<td>98,268</td>
<td>102,217</td>
</tr>
<tr>
<td>Small-size tractor (set)</td>
<td>1,778,232</td>
<td>1,277,411</td>
</tr>
<tr>
<td>Diesel engine (Mil. kW)</td>
<td>434.00</td>
<td>184.42</td>
</tr>
<tr>
<td>Harvesting machinery (set)</td>
<td>236,577</td>
<td>128,895</td>
</tr>
<tr>
<td>Farm transportation machinery (set)</td>
<td>2,202,633</td>
<td>1,160,085</td>
</tr>
<tr>
<td>Grain processing machinery (set)</td>
<td>984,280</td>
<td>594,475</td>
</tr>
<tr>
<td>Feed processing machinery (set)</td>
<td>123,099</td>
<td>83,106</td>
</tr>
<tr>
<td>Pump (set)</td>
<td>28,984,178</td>
<td>17,839,907</td>
</tr>
</tbody>
</table>

Source: China Association of Ag. Mac. Manufacturers
2). Recent ownership of farm machinery enterprises

<table>
<thead>
<tr>
<th>Enterprise type</th>
<th>Units</th>
<th>Total assets</th>
<th>Sale income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Assets value (100 Mil. Yuan)</td>
<td>Ratio (%)</td>
</tr>
<tr>
<td>Scale enterprises</td>
<td>1,466</td>
<td>701</td>
<td>100</td>
</tr>
<tr>
<td>State-owned or state-owned holding enterprises</td>
<td>340</td>
<td>320</td>
<td>45.7</td>
</tr>
<tr>
<td>Nongovernmental enterprises</td>
<td>1,040</td>
<td>341</td>
<td>48.6</td>
</tr>
<tr>
<td>Joint venture, cooperative business &amp; exclusively foreign-owned enterprises</td>
<td>86</td>
<td>40</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Source: China Association of Ag. Mac. manufacturers

3). The trend of production, sale & profit for the scale-agri. machinery enterprises in recent years

<table>
<thead>
<tr>
<th>Year</th>
<th>The total output value of industry</th>
<th>Sale income</th>
<th>The total profit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Output value (100 mil. Yuan)</td>
<td>Increase rate (%)</td>
<td>Income value (100 mil. Yuan)</td>
</tr>
<tr>
<td>2002</td>
<td>634.8</td>
<td>18</td>
<td>551.8</td>
</tr>
<tr>
<td>2003</td>
<td>753.4</td>
<td>22</td>
<td>695.9</td>
</tr>
<tr>
<td>2004</td>
<td>896</td>
<td>22.7</td>
<td>858.6</td>
</tr>
<tr>
<td>2005 (Jan-Aug)</td>
<td>687.5</td>
<td>28.27</td>
<td>658.7</td>
</tr>
</tbody>
</table>

Source: China Association of Ag. Mac. Manufacturers

4). The importation & exportation of farm machinery in recent years

<table>
<thead>
<tr>
<th>Year</th>
<th>Year</th>
<th>Export value (100 mil. USD)</th>
<th>Import value (100 mil. US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td></td>
<td>15.21</td>
<td>19.55</td>
</tr>
<tr>
<td>2003</td>
<td></td>
<td>21.31</td>
<td>42.19</td>
</tr>
<tr>
<td>2004</td>
<td></td>
<td>33.44</td>
<td>61.92</td>
</tr>
<tr>
<td>2005 (Jan-Aug)</td>
<td></td>
<td>33.29</td>
<td>37.86</td>
</tr>
</tbody>
</table>

Source: China Association of Ag. Mac. Manufacturers

5). The forecast of average annual demand for the agri. Machinery in 2006-2010

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Average demand ( X 10,000 units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big-mid-size tractor</td>
<td>12 – 15</td>
</tr>
<tr>
<td>Small-size tractor</td>
<td>170</td>
</tr>
<tr>
<td>Diesel engine</td>
<td>30,000 – 40,000</td>
</tr>
<tr>
<td>Big-mid-size cultivating machinery</td>
<td>25 – 30</td>
</tr>
<tr>
<td>Small-size cultivating machinery</td>
<td>170 – 200</td>
</tr>
<tr>
<td>Motorized plant protection machinery</td>
<td>30</td>
</tr>
<tr>
<td>Self-propelled grain combine</td>
<td>5</td>
</tr>
<tr>
<td>Animal husbandry machinery</td>
<td>105</td>
</tr>
<tr>
<td>Processing machinery for agro-product &amp; by-products</td>
<td>60</td>
</tr>
<tr>
<td>Irrigation &amp; Drainage machinery (water pump &amp; sprinklers)</td>
<td>230</td>
</tr>
<tr>
<td>Farm vehicles</td>
<td>150</td>
</tr>
</tbody>
</table>

Source: China Association of Ag. Mac. Manufacturers
### 7. Enhanced International Joint Venture And Cooperation

More than 70 AM sub-companies or joint-venture enterprises were established in China:

- John-Deere,
- New Holland,
- Yammar,
- Kubota,
- Tong Yang,
- Jinzi,
- Valtra,
- Claas, etc

*Products from these Famous manufacturer started to be accepted by Chinese customers.*
Sub-projects

Agricultural mechanization -
North region
South Region
North-east region and state agricultural reclamation areas
Northwest Grassland and pasturing region

- Agricultural manufacturing industry development
- Mechanization promotion in other agro-industries
- Ensuring measures for promotion of agricultural mechanization

Summary

The first two decades of this century is of great importance in China's development, and the period from 2006 to 2010 is especially crucial. Promotion of Agricultural mechanization will much faster than before in realizing its new development strategy. Balancing domestic development and opening wider to the outside world is of great important policy. To promotion of mutually beneficial cooperation of the Asia-pacific regional strategic partnership in agricultural engineers & machinery manufacturers will be full of vigour in the future!

Thank you!