

## AGRICULTURAL MECHANIZATION STATUS & ISSUES – MALAYSIA

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### The Third National Agricultural Policy (NAP3)

- ▶ The overriding objective of NAP3 is the maximization of income through the optimal utilization of resources in the sector
- ▶ maximizing agriculture's contribution to national income and export earnings
- ▶ maximizing income of producers.
- ▶ Specifically, the objectives of the Policy are :
  - a) to enhance food security;
  - b) to increase productivity and competitiveness of the sector;
  - c) to deepen linkages with other sectors;
  - d) to create new sources of growth for the sector; and
  - e) to conserve and utilize natural resources on a sustainable basis.

### Mechanization

Covers value chains from land preparation to primary productions, handlings, packaging, processing and waste management of crop, livestock and fishery industries.

- Overcome certain operational constraint such as low and inefficient work rate, to stimulate agricultural growth within the globalized economy.
- Plays a leading role in the modernization of the agricultural sectors
- An important factor in the transformation of Malaysian agriculture to ensure continued competitiveness.

### Mechanization

The agricultural sector faces serious labor shortages.

- **short term measure**
  - immigrant workers
  - Labor productivity in agriculture is only 60 per cent of that in the manufacturing sector
- **long term solution**
  - mechanization and automation technology.
  - Increasing the mechanization inputs will reduce the labor requirement in this sector
  - while increasing its labor productivity.

### Targeted agricultural production situation in 2020

- ▶ Highly mechanized and operated like a business entity
- ▶ Professionally and skillfully managed
- ▶ Economics of scale that emphasizes on productivity and competitiveness.

### TECHNOLOGY STATUS

Most of the technologies for crop production are available.

- ranges from field water management, land preparation to harvesting of the produce.
- adoption depends on the local condition and the skill of the farmer or the contractor/operator.
- adoption of machine depend on farm and lot size , soil bearing capacity
- sophistication depend on the skill of the farmers or the service providers or operators.
- All sectors adopt the highest level in mechanization technology for land preparation
- In harvesting process, only paddy production adopted the highest level of mechanization.

### Technology Status : PADI

- ▶ Highly mechanized in field preparation, harvesting and irrigation
- ▶ Medium in terms of crop maintenance (fertilizer and pesticide application) and direct seeding (50-60%)
- ▶ Low in land leveling activities, straw cutting and lime application

### field preparation



Rotary Tilling

Half Track

### Technology Status : PADI

- ▶ **Irrigation**
  - static pump, transferable pump provided by government agency
  - portable pump is privately owned
- ▶ **Land Preparation is fully mechanized**
  - 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> ploughing use 4 and 2 wheels tractors
  - Land Leveling uses technology developed by MARDI

### Row Seeder



### LAND LEVELING



Spreader

2W Power Tiller & Seeder





