

# COUNTRY PRESENTATION PAPER (PHILIPPINES)

Regional Roundtable of National Agriculture Machinery  
Associations in Asia and the Pacific

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Connecting for Growth and Cooperation

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# Agricultural Machinery Manufacturers and Distributor's Association (AMMDA)

- Established in 1964 to promote mechanization and adopt modern field practices
- Sole national association composed of major manufacturers, importers, and distributors of agricultural machinery such as gasoline and diesel engines; four-wheel tractors (standard and compact) and their implements; power tillers and their attachments; irrigation equipment; post-harvest equipment; processing equipment; crop maintenance and protection equipment
- Currently at 32 members, most of which supply world-renowned brands such as Landini, McCormick, John Deere, New Holland, Massey Ferguson, Kubota, Deutz, Yanmar, Robin, Honda, Mitsubishi, Suzuki, Yamaha, and others
- Monthly meeting to discuss plans and programs relevant to the industry
- Produced three cabinet ministers/secretaries, two of whom past presidents of the associations

# Agricultural Machinery Manufacturers and Distributor's Association (AMMDA)

## ROLE IN GOVERNMENT

- plays a big role in policy-making of the government for the country's agricultural mechanization program
- coordinates with various gov't agencies (DA, UPLB, IRRI, DOST, Philrice, PSAE) to unify efforts and set production goals
- represents the country in major trade shows internationally
- a lead agency, advising which machines are suitable for local conditions

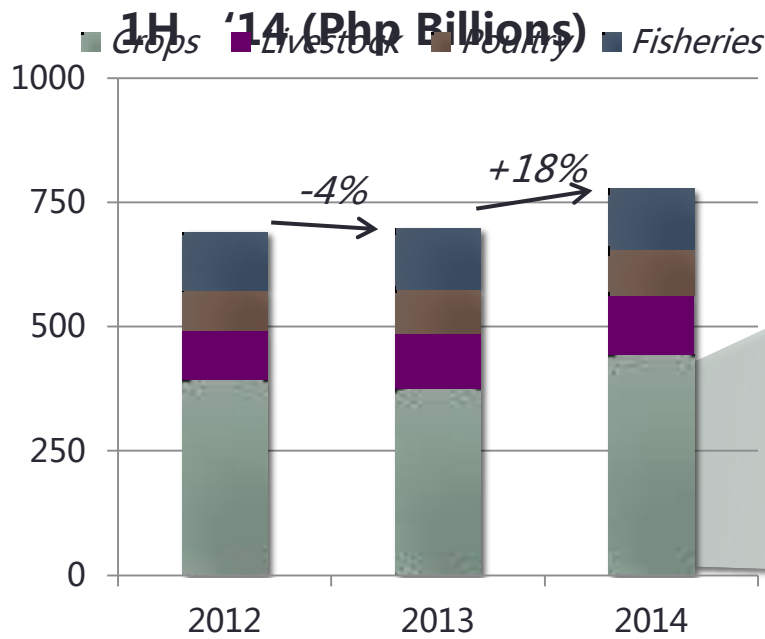
## ROLE IN PRIVATE SECTOR

- official voice for the industry
- members supply ~80% of the country's agricultural machinery
- promote development of local manufacturers of agri-machinery
- monitors warranty policies of importers/distributors/manufacturers
- share market information and statistics to members
- donate machineries to various state colleges and universities

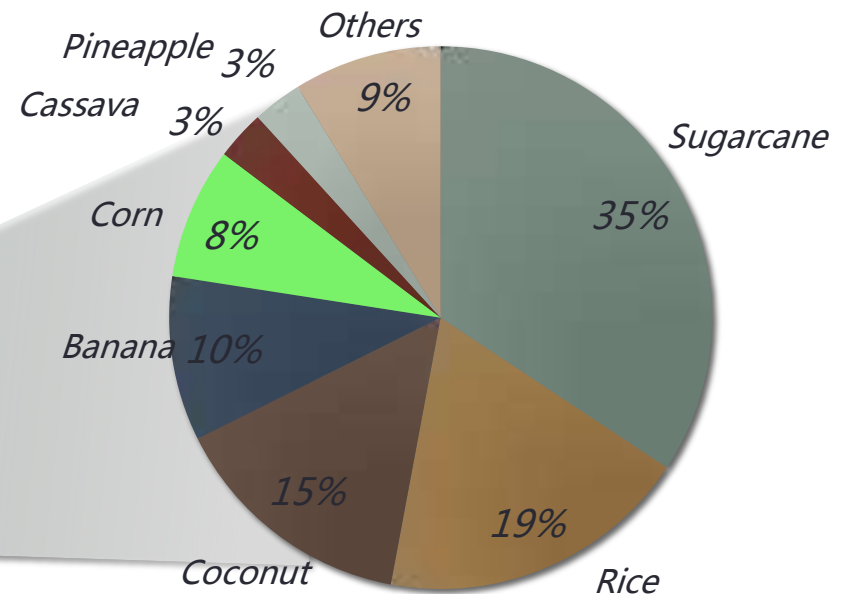
# Overview of Philippine Agriculture

- Agriculture grossed Php776.5b (U\$17.3b) for Jan-June 2014 at current prices (+11.3% higher than 2013 figure)
- Farm gate prices up by 9.3% during the 1<sup>st</sup> half of 2014

**Value of Agriculture Production**



**Volume of Crops Production 1H '14**



Total: 44.8 Million Metric Ton

# Overview of Mechanization Status

- Local manufacturing started in 1960s and reached nationwide proportion by 1975
  - The International Rice Research Institute (IRRI) made most contribution to local manufacturing by distributing basic designs of agricultural machinery; these designs were later improved by the manufacturers according to demand
- Slow improvement over the years
  - 2010 estimated level of mechanization for rice: 1.5hp / ha → 2012: 1.6hp/ha
  - 2014 overall mechanization level: 1.52 hp/ha
- Still behind most ASEAN neighbors

## ***Mechanization Spectrum for Major Philippine Crops\****



### **\*UPLB – Bureau of Agricultural Research Definition:**

*Low – operation done with man and animal*

*Medium – operation done with non-mechanical power in combination with mechanical power operated by man*

*High – operation done solely with use of mechanical power operated by man*

# Level of Mechanization Per Major Crop: Sugarcane

<u>Operation</u>	<u>Mechanization Level</u>	<u>Machinery Utilized</u>
Land Preparation	High	<ul style="list-style-type: none"><li>• 90 -165 hp 4WD tractors</li></ul>
Planting	Medium to High	<ul style="list-style-type: none"><li>• 4WD tractors with billet transplanter using manual labor</li></ul>
Cultivation	Medium to High	<ul style="list-style-type: none"><li>• 4WD tractors with cultivators</li><li>• Manual weeding operation</li></ul>
Harvesting	Low	<ul style="list-style-type: none"><li>• Manual cutting, loading, and hauling<ul style="list-style-type: none"><li>➢ <i>Harvesters very limited in number; Department of Agriculture to start buying by 2015</i></li></ul></li></ul>







# Level of Mechanization Per Major Crop:

## Rice

<u>Operation</u>	<u>Mechanization Level</u>	<u>Machinery Utilized</u>
Land Preparation	Medium to High	<ul style="list-style-type: none"><li>• Walk-behind 7-8hp hand tractor with cage wheel, rake, disc plow and leveler</li><li>• 18-35 hp Japanese surplus tractors</li><li>• 22 hp – 90 hp brand new tractors</li></ul>
Planting	Low to Medium	<ul style="list-style-type: none"><li>• Rice transplanter (Kioti and Kubota)</li><li>• Majority still manual</li></ul>
Crop Care	Low to Medium	<ul style="list-style-type: none"><li>• Manual weeding and fertilizing operation</li><li>• Manual and power sprayers</li></ul>
Harvesting	Low to Medium	<ul style="list-style-type: none"><li>• Rice reaper (Taro)</li><li>• Rice combine harvesters (Kubota, JD)</li><li>• Majority manual harvesting</li></ul>
Threshing	High	<ul style="list-style-type: none"><li>• Rice thresher: mini 8-9hp (1T/h), medium 10 hp (1.5 – 2T/h), standard (2.5T/h)</li></ul>
Drying	Low to Medium	<ul style="list-style-type: none"><li>• Flat bed / recirculating dryers</li><li>• Multi-pass dryers</li><li>• Majority is still sun drying</li></ul>
Milling	Medium to High	<ul style="list-style-type: none"><li>• Single pass and multi-pass rice mills</li></ul>

# Level of Mechanization Per Major Crop:

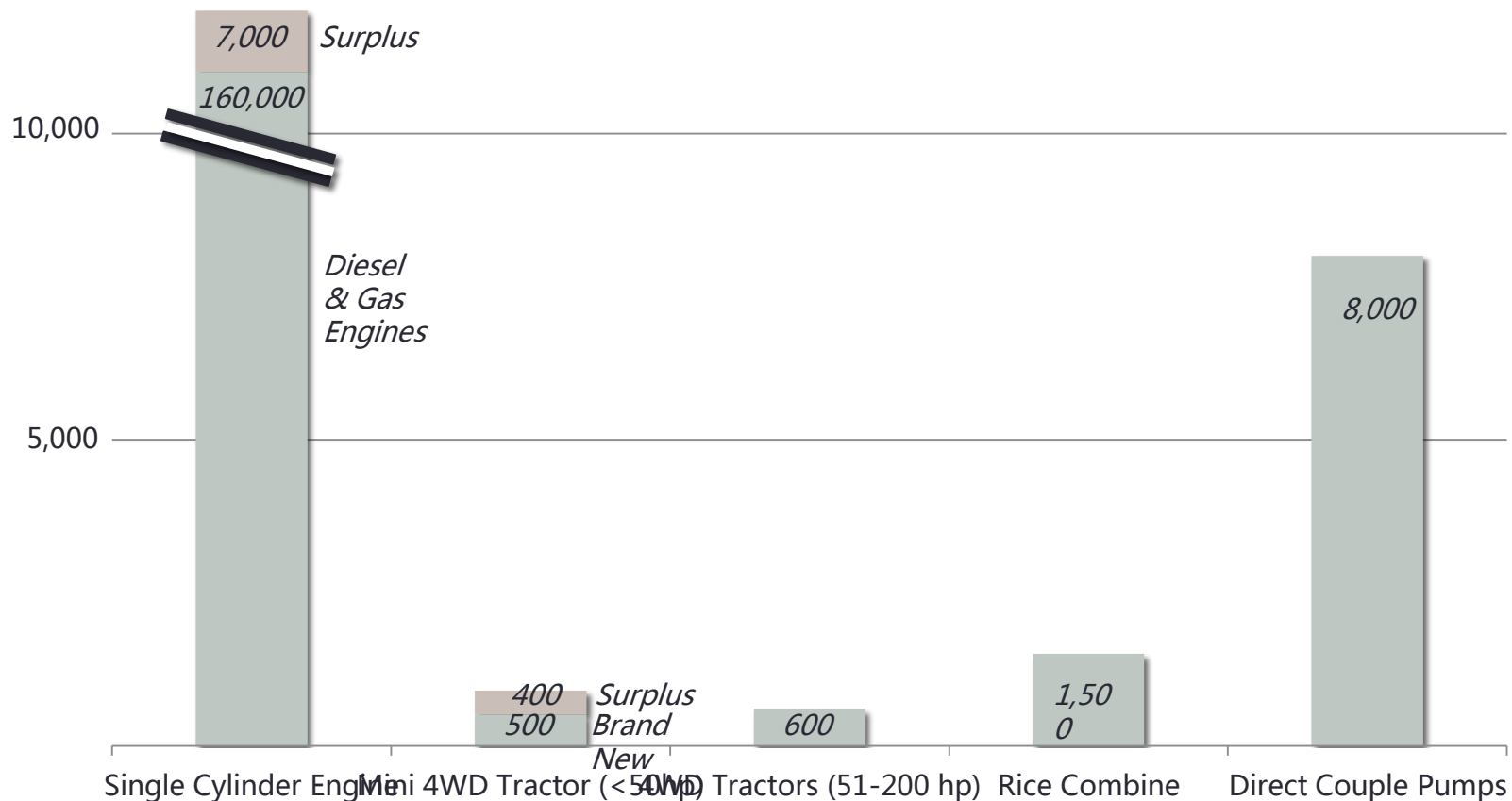
## Corn

<u>Operation</u>	<u>Mechanization Level</u>	<u>Machinery Utilized</u>
Land Preparation	Low to Medium 	<ul style="list-style-type: none"><li>• Animal plowing</li><li>• Mini tractors</li><li>• 90 hp tractors becoming more common</li></ul>
Planting	Low to Medium 	<ul style="list-style-type: none"><li>• Manual</li><li>• Corn direct seeder</li><li>• Corn vacuum transplanter very limited number</li></ul>
Harvesting	Low to Medium 	<ul style="list-style-type: none"><li>• Manual</li><li>• Single row harvester</li></ul>
Shelling	Medium to High 	<ul style="list-style-type: none"><li>• Mobile shellers</li></ul>
Drying	Low to Medium 	<ul style="list-style-type: none"><li>• Sun drying</li><li>• Flatbed / recirculating type dryers</li></ul>
Milling	Medium to High 	<ul style="list-style-type: none"><li>• Corn mills</li></ul>

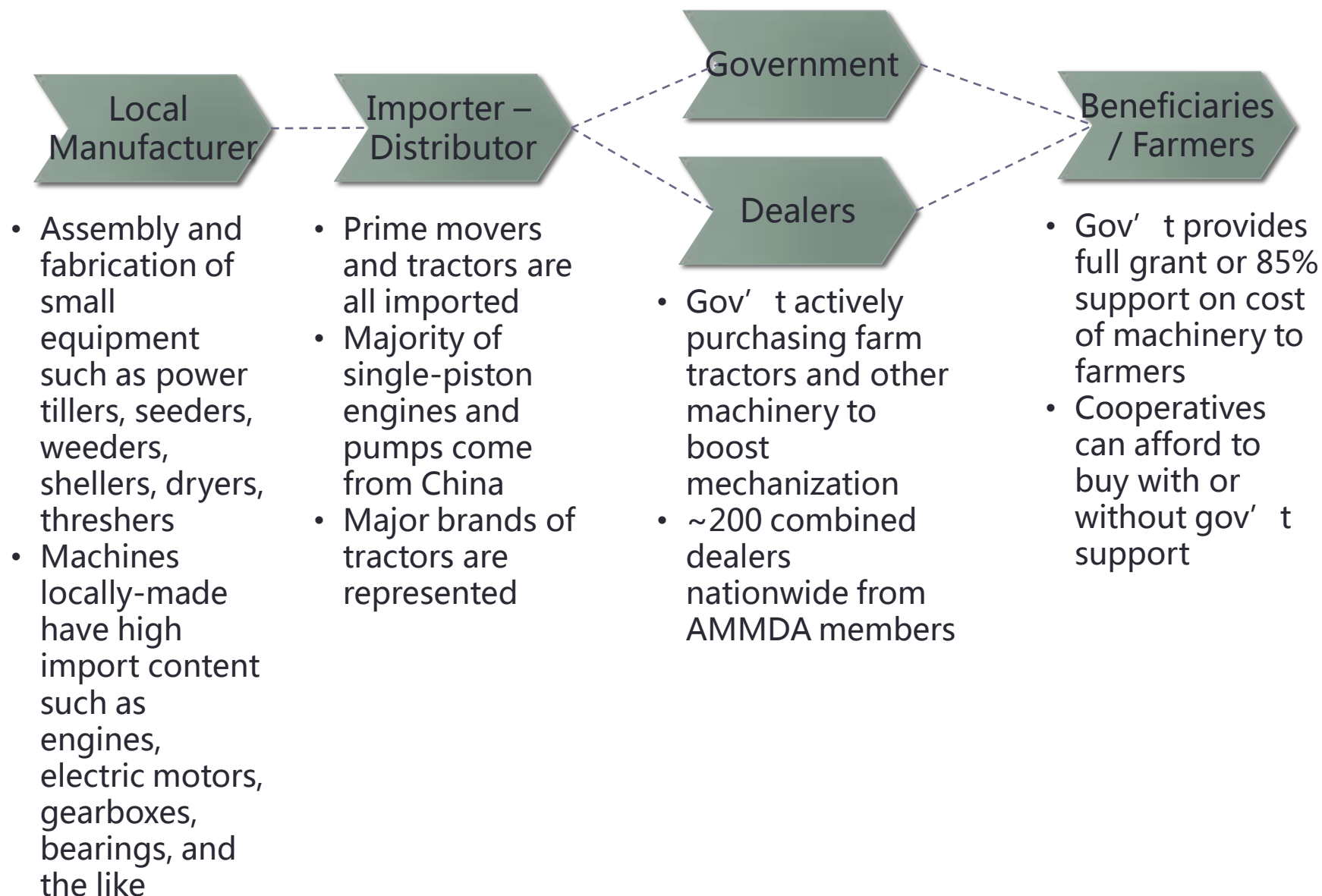


# Status of Philippine Agricultural Machinery

## Volume of Machineries Sold in 2013



# Supply Chain of Agricultural Machinery



# Agricultural Machinery Policies, including Trade and Investment Policies

- Agricultural Machinery Testing and Evaluation Center (AMTEC)
  - Established in 1977 to be the testing center for imported and locally-made machinery and equipment
- AFTA Signatory (1992): ASEAN Free Trade Agreement
  - Zero tariff program among ASEAN members
- Republic Act 8435 (1997): Agriculture and Fisheries Modernization Act (AFMA) Law
  - Promote modernization of the Philippine agriculture
- Republic Act 8669 (1998): Philippine Agricultural Engineering Act
  - Promote and upgrade the practice of agricultural engineering profession to guarantee the delivery of basic and technical services to accelerate agricultural modernization
- Republic Act 10601 (2013): Agricultural and Fisheries Mechanization (AFMech) Law
  - Enable agricultural mechanization development in the country by promoting conducive environment for local manufacturers, registration of ownership of machinery, and standardized testing and evaluation of equipment

# Challenges/Constraints for Sustainable Agricultural Machinery Sector

## DEMAND CHALLENGES

- Farmer' s lack of capital to purchase and maintain big agricultural machinery
- Insufficient knowledge, training, and know-how of farmers
- Small-sized farms cannot reap economies of scale for large equipment, unless farms are consolidated
- Labor displacement causing resistance to mechanization
- Poor access to credit and financing

## SUPPLY CONSTRAINTS

### *Financial Capital:*

- High cost of energy (Philippines ranked top 7<sup>th</sup> in the world)
- Prohibitive cost of logistics (cost to ship from Manila to Davao > cost to ship from China to Manila)
- Poor access to financing for SME

### *Human Capital:*

- Skilled engineers fleeing the country
- Low level of R&D due to lack of resources and funding

### *Technological Capital:*

- Substandard machinery

# Potential Bigger Roles for Associations

- Help formulate standards in farm machinery in the country
- Enforce accreditation of Philippine agri-machinery distributors and manufacturers to comply with national farm equipment standards
- Lobby for zero tariff for raw materials used in local manufacturing
- Lobby for 0% VAT for agri-machinery and other inputs
- Lobby for friendly manufacturing environment to help local manufacturers
- Share information and knowledge with other foreign associations engaged in agricultural machinery industry for cross-country learning
- Forge synergy with other foreign associations in creating a regional database of farm equipment standards
- Explore potential business opportunities with foreign companies for trade or joint venture

# ANNEX

# Farm Tractor Small HP





# Farm Tractor High HP





# Farm Tractor with Mounted Harrow



# Farm Tractor with Ditcher





# Farm Tractor with Trailing Harrow



# Cultivator





# Rice Transplanter





# Rice Reaper

