

Status of Agricultural Mechanization in the Philippines

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The Philippines

Land area: 30 million hectares

Agricultural: 9.5 million hectares

Rice: 4.8 million hectares

Production: 18 million tons (2013)

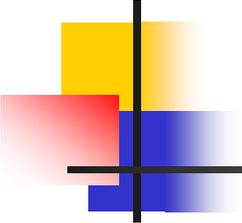
The Philippines is a rice importer country.

Corn: 2.6 million hectares

Production: 7.4 million tons (2013)

**Coconut, Sugar Cane, Banana, Pineapple,
Cassava, Rubber, Mango, Vegetables**





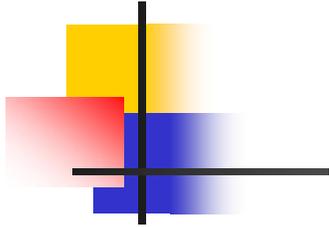
Agricultural Mechanization in the Philippines

■ Brief history of mechanization

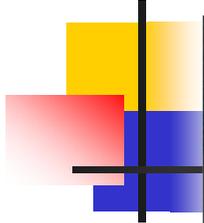
1890s: Agricultural machines from Spain and United States were introduced into the country. They found applications in large estates.

1940s: Preferential tax incentives were given to imported agricultural machines. Mechanization was heavily biased to large scale farming.

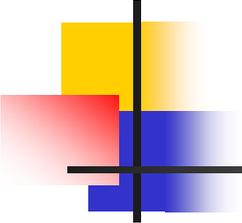
Mechanization was synonymous to tractorization.



Imported tractor,
four-wheel



Imported tractor,
power tiller



Agricultural Mechanization in the Philippines

- **Brief history (cont.)**

1966-1980: The CB-IBRD loan encouraged the acquisition of four-wheel tractors, and later, small power tillers.

1970s: **The Green Revolution saw the growth of local agricultural machinery manufacturing industry.**

Power tillers and threshers were locally designed and fabricated



Locally fabricated
power tiller





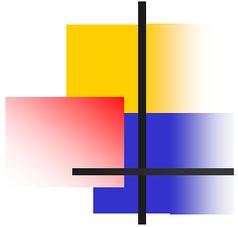
After farm work,
the power tiller is
used for transport.



After farm work,
the power tiller is
used for transport.



Locally developed
turtle tiller or
hydrotiller



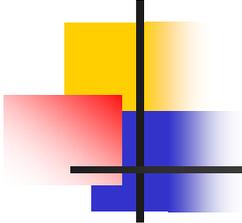
Locally developed threshers

Agricultural Mechanization in the Philippines

Brief history (cont.)

1970s:

- A shift of model of mechanization from large scale to small scale.



Agricultural Mechanization in the Philippines

- **Brief history (cont.)**

Laws affecting agricultural mechanization:

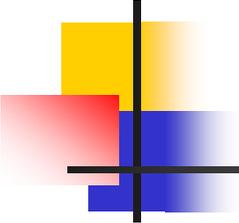
AFMA (Agriculture and Fishery Modernization Act) of 1998.

Agricultural Engineering Law 1998.

AFMech Law (Agricultural and Fishery Mechanization Law) of 2013.

Mechanization of various crops

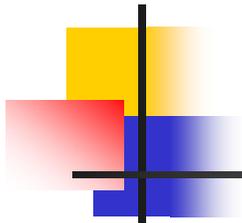
Operation	Rice/Corn	Vegetable, legumes & rootcrops	Coconut/Fruits /Fiber crops	Sugarcane, pineapple
Land preparation	Intermediate to high	Low		Intermediate to high
Planting/ transplanting	Low	Low	Low	Low to intermediate
Crop care/cultivation	Low	Low	Low	Low to high
Harvesting	Low	Low	Low	Low
Threshing/ shelling	Intermediate to high	Low (legumes)		
Cleaning		Low		
Drying	Low	Low (legumes)	Low	
Milling/ village level processing	High	Low	Low	



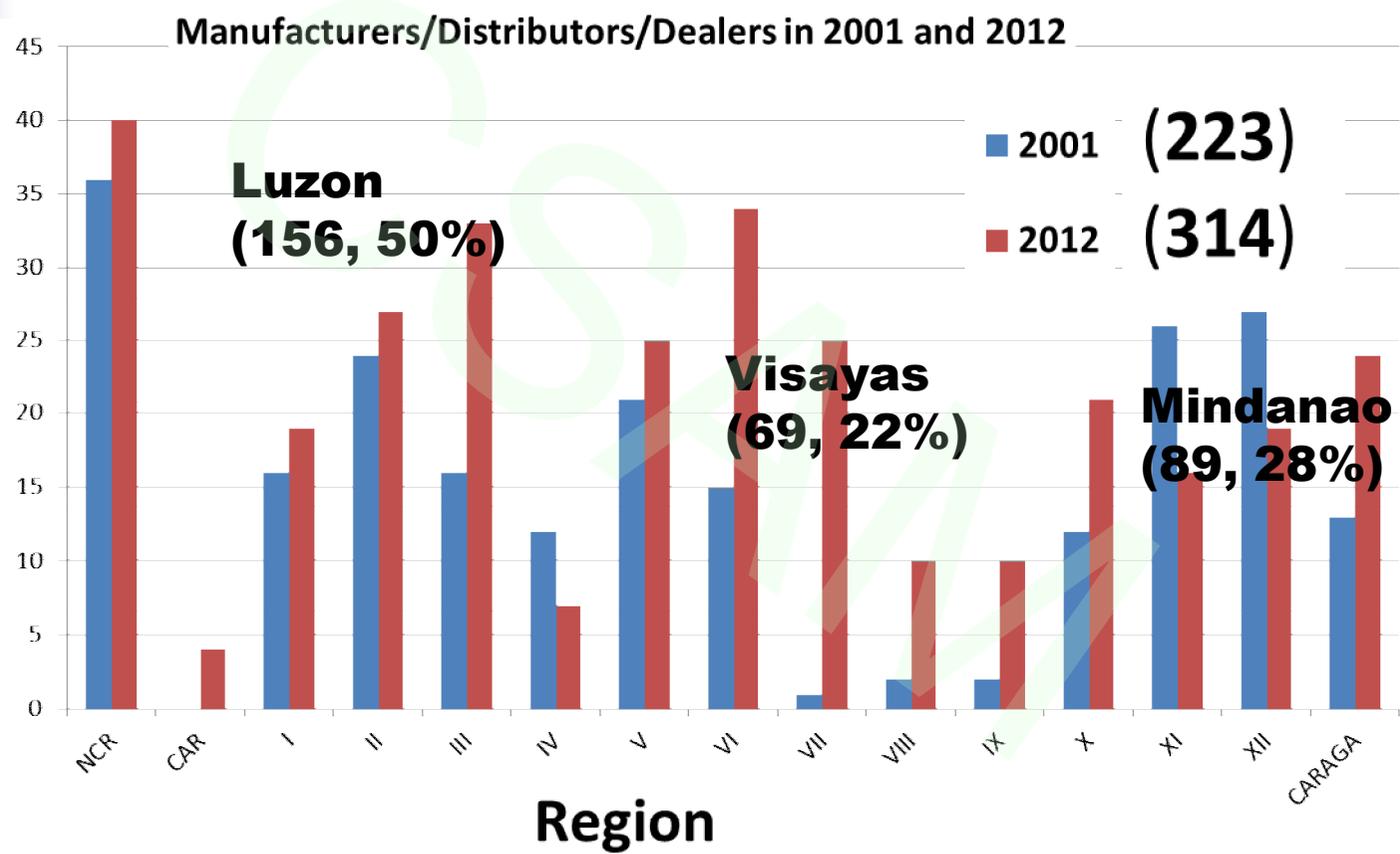
The agricultural machinery industry

...importation of heavy machines and prime movers, and local assembly and fabrication of small equipment.

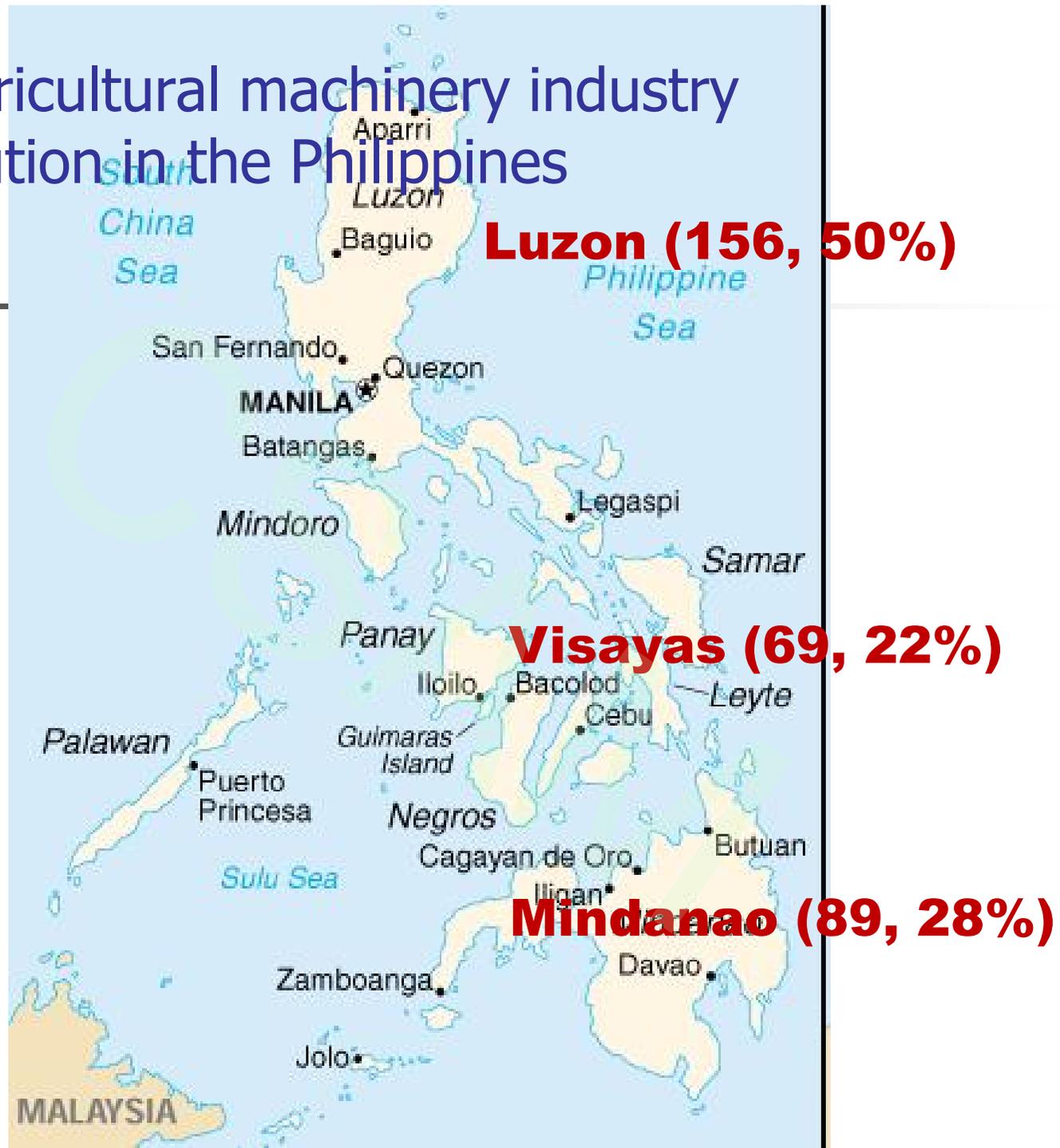
... locally manufactured machines have high import content sometimes constituting more than half of the total machinery cost.

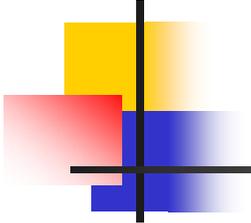


The agricultural machinery industry



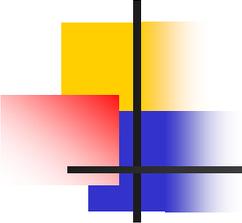
The agricultural machinery industry distribution in the Philippines





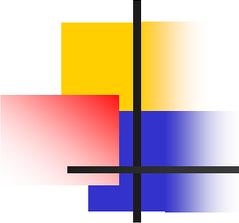
Research and Development Efforts

- power tillers and hydrotillers, irrigation pumps, rice transplanters, drum seeders, weeders, rice reapers, rice threshers, rice strippers, corn threshers and shellers, village rice mills, grain moisture meters, coconut husk decorticators, abaca extractor, and grain and copra dryers



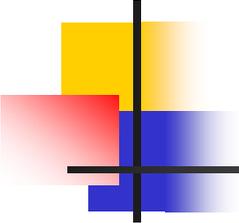
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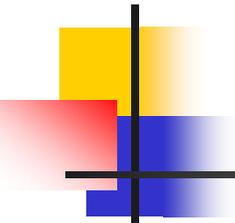
■ **Challenges in R, D & E**

- Machinery requirements
 - Rice: transplanter, harvester, drier
 - Corn, vegetables & upland crops
 - Coconut, Fruit crops
 - Livestock, poultry & aquaculture
- Structures and controlled-environment agriculture
- Precision agriculture/smart farming
- Energy resources, generation & utilization



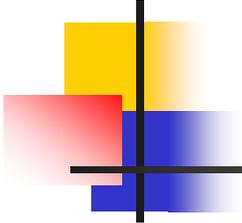
Conclusion

- **Problems affecting mechanization**
 - Low farm gate prices; Lack of alternative market outlets; Prices are dictated by middlemen.
 - High costs of farm inputs
 - Incidence of pests and diseases
 - Environmental problems
 - Lack or inadequate support structures (roads, irrigation)
 - Lack of access to current farming technologies



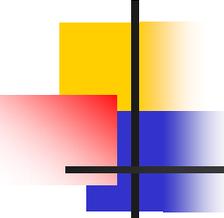
Conclusion

- **Policy recommendations**
 - Non-interference by government on price levels of commodities;
 - Increased availability of loans/less stringent requirements;
 - More cooperative buying stations;
 - More machinery centers (custom hiring, repairs);
 - Support to manufacturers;
 - More support infrastructures
 - Discourage land division



Conclusion

The newly enacted law on Agriculture and Fishery Mechanization (AFMech Law of 2013) is expected to promulgate plans for a sustainable mechanization of Philippine agriculture and help its modernization.



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homeimprovement-pro.com

Thank you!