



Ministry of Agriculture and Irrigation  
Agricultural Mechanization Department

## ***Agricultural Mechanization Status in Myanmar***

*presented*

*By*

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# Background

- Formed a pilot project as Tractors and Farm Machinery Board under the Ministry of Agriculture and Forests in 1949
- Recognized as an Agricultural Engineering Branch under the Dept: of Agriculture in 1951
- Recognized as the Agricultural Mechanization Project and transformed to the Agricultural and Rural Development Corporation(ARDC) in 1962
- Established Agricultural Mechanization Department by merging the Agricultural Mechanization Project and the Rural Water Supply in 16 , March , 1972.

## Objective

- From conventional farming to Mechanized Agriculture



# “ From Coventional Farming to Mechanized Agriculture ”

## Main Functions of Agricultural Mechanization Department

- Reforming farm land as systematic plot for mechanization.
- Distributing farm machineries to farmers by the installment payee.
- Servicing for tillage, planting and harvesting by the hiring system.
- Training to not only departmental staffs also farmers for farm machinery operation and maintenance in AMD training centers and stations.
- Researching for the farm mechanization development and farm machinery development in Myanmar.
- Reforming to terrace farming by substituting shifting cultivation in hilly regions

# AMD Organization & Activity

AMD is the governmental department based on the following organizations.

- Regional Level Office - 17 Nos
- District Level Office - 26 Nos
- Township Level office - 117 Nos
- (Agricultural Mechanization Stations)
- Internal audit office - 2 Nos
- Training center - 2Nos
- Workshop and depot store - 14 Nos
- Manufactory Factory - 1 Nos
- No. of Officer - 362 persons
- No. of Staff - 5863 persons

All of AMD organization's activity is always trying to help the farmers in agriculture sector and leading the farm mechanization in Myanmar

# Agricultural Mechanization Stations

Totally 117 stations under department were situated in Myanmar to help farmers for cultivation services with departmental owned tractors and farm machinery.



Sr	Region	No. of station	No. of Tractor	No of Combine Harvester
1	Kachin	9	72	3
2	Kayar	1	30	4
3	Kayin	2	31	6
4	Sagaing	16	219	71
5	Tanintharyi	2	18	1
6	Bago	20	522	99
7	Magway	8	155	31
8	Mandalay	17	180	67
9	Mon	4	85	13
10	Rakhine	3	57	3
11	Yangon	6	105	17
12	Shan	8	173	5
13	Irrawady	18	251	83
14	Naypyitaw Council	3	88	46
	<b>Total</b>	<b>117</b>	<b>1986</b>	<b>449</b>

# Training & Education

## ◆ Training Center



Training to not only departmental staffs also farmers for farm machinery operation and maintenance in AMD training centers at ***Meikhtila*** and ***Bago***.

**(1980~ October2015)**

<b>Departmental Staffs</b>	<b>- 17125</b>
<b>Farmers</b>	<b>- 9414</b>
<b>Total</b>	<b>- 26539 persons</b>

# Farm Mechanization Strategy

Agricultural Mechanization Department(AMD) is leading farm mechanization sector in Myanmar, undertaking the following strategy:

## **(1)Farm Land Reforming Strategy**

Developing in Myanmar agriculture sector by reforming the farm land as systematic plot size and design with farm road and appropriate irrigation and drainage system.

## **(2)Mechanized Farming Strategy**

Enhancing the farmer's economy and social livelihood by increasing qualified farm products and reducing losses due to the utilization of farm mechanization system. The first priority is to make complete provision of farm machinery and services on land preparation, harvesting and threshing.

# FARM LAND REFORMING IN MYANMAR

## Feature

- Rectangular plot shape
- Equal plot size (1 acre)
- Horizontal surface level
- Good irrigation and drainage
- Farm road



## Advantage

- More effective to utilize farm machinery
- Support to crop yield higher.
- Better quality in crop production.
- Uniform quality in crop production.
- Reduce the farm production cost.
- Improve the farmer's income.



**Land Reforming Finished – 56284 Acres**

# Land Reforming Process

**(1) Site Surveying**



**(3) Constructing farm road, Irrigation Canal & Drainage**



**(2) Removing the old bank**



**(4) Plowing**



# Land Reforming Process (continued)

**(5) Harrowing**



**(7) Rough Leveling**



**(6) Making the new bank**



**(8) Fine Leveling**



# The Progress of Land Consolidation(31.10.2015)

Sr.No	Location	Area(acre)
1	Kachin State	1255
2	Kayar State	419
3	Kayin State	1036
4	Sagaing Region	1101
5	Tanintharyi Region	170
6	Bago Region	7074
7	Magway Region	944
8	Mandalay Region	4188
9	Mon State	645
10	Rakhine State	505
11	Yangon Region	26710
12	Shan State	366
13	Ayeyarwaddy Region	2547
14	Naypyitaw Council Area	9324
Total		56284



# Farm Machinery Utilizing in Myanmar

## ◆ Land Preparation(Power Tiller)



**Power Tiller**  
16~22 Hp  
Myanmar,China,Thai



**Upland Tiller(Walking Type)**  
8~14 Hp- China,Thai

\* Mostly used in hill region



**Farmer Use 295,214 Nos**

# Farm Machinery Utilizing in Myanmar

## ◆ Land Preparation(Power Tiller)



Hydro Tiller(Boat Type)  
5~6 Hp - Myanmar, China

Farmer Use 7,424Nos



Mono Wheel  
5~6 Hp - Myanmar, China

Farmer Use 7,532Nos

**\* Mostly used in Ayarwaddy region**

# Farm Machinery Utilizing in Myanmar

## ◆ Land Preparation(Tractor)



**90Hp Tractor**  
Kubota(Japan),  
Sonalika, Indofarm (India)



**70~80 Hp Tractor**  
John Deere, Zetor (Europe)  
New Holland, Sonalika(India),  
TN800(China),Kubota(Japan)



**45~65 Hp Tractor**  
Zwe(Myanmar)  
SH50,SH654 (China)  
Zetor (Europe)  
Kubota (Thai)

<b>Departmental Hiring Service</b>	<b>1,986 Nos</b>
<b>Farmer use</b>	<b>17,518 Nos</b>

# Farm Machinery Utilizing in Myanmar

## ◆ Rice Transplanting



**4 rows walking type**  
5~6 Hp - Korea, China

**8 rows mono wheel riding type**  
5~6 Hp - Myanmar, China

**6 rows 4W riding type**  
11~12 Hp - China

**Farmer Use 173 Nos**

# Farm Machinery Utilizing in Myanmar

## ◆ Harvesting & Threshing



### Reaper

5~6 Hp - Korea,China,Vietnam

**Farmer Use 2494 Nos**



### Thresher

16~22 Hp- Myanmar, Thai

**Farmer Use 61565 Nos**

# Farm Machinery Utilizing in Myanmar

## ◆ Harvesting & Threshing



### Combine Harvester

Kubota (Japan), Kukje(Korea), TSY(Thai),  
Daedong(Korea)

**Departmental 449 Nos**



# Farm Machinery Utilizing in Myanmar

## ◆ Harvesting & Threshing



**Brand New Combine Harvester  
(Conventional type,China)**

**Used Combine Harvester (Japan)**  
Kubota ,Yanmar, ISEKI

**Farmer use 1816 Nos**

# Farm Machinery Utilizing in Myanmar

## ◆ Drying



**Vertical Dryer**

**\*Mostly used in rice mill**



**Low Batch Dryer**

**Farmer use 253 Nos**

# Farm Machinery Utilizing in Myanmar

( Number )

Type of Machinery	2013-14	2014-15
Tractor	11839	14625
Mini Tractor	1506	2113
Power Tiller	257971	286097
Cultivating Roller Boat	5403	6065
Paddy Thresher	55104	61793
Combine Harvester	668	1680
Transplanting machine	122	169

Source- 2015 Myanmar Agriculture in Brief

## IV. Utilization of farmers own farm machinery can be traced as follow.

(31.10.2015)

Sr.No.	Type of machinery	Utilization (Nos)	Sold by AMD (Nos)	Remark
1.	Tractor	17518	1959	
2.	Power tiller	295214	90970	
3.	Mono Wheel Tiller	7352	784	
4.	Roller Boat	7424	1162	
5.	Transplanter	173	47	
6.	Reaper	2494	506	
7.	Thresher	61565	2675	
8.	Combine Harvester (Paddy)	1816	2	
9.	Combine Harvester(Corn)	180	-	
10.	Dryer	253	39	

# Future Potential for Private Sector

## ➤ More Mechanized Farm reforming works in irrigated areas

Irrigated Area - 1606329 ac

Mechanized Farm Area - 56284 ac



## VI. Estimation on number of Agricultural Machinery required based on irrigated area

So many agricultural machinery are needed by estimating based on monsoon paddy sown area 15.31 million acres.

Thus, it is found as follows with estimation based on irrigated area in which both monsoon and summer paddy can be grown.

Estimated farm machinery required for land preparation and harvesting in irrigated Areas of respective state and regions.

Sr. No	No.of State and Region	Irrigated Area (Acre)	Tillage		Harvest
			Power Tiller (60% based)	Tractor (40% based)	Combine Harvester (40% based)
1.	12	1606329	32127	6425	3213
				Still Need	1407

**Remark-** One combine harvester is assumed as 200 acres done in one season.

# Future Potential for Private Sector

- Long-Term Installment Plan for expensive farm machinery
  - by using "Certificate of the Right to Use the Farmland" as collateral
  - on the basis of feasibility study to ensure financial soundness of the proposal
- Custom hiring services are still need to enhance in private sector for small-scale farmers who cannot effort to buy farm machinery.



# Future Potential for Private Sector

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The level of utilization of farm machinery at various stages of crop processing is still low compare to other rice producing and exporting countries. The range of the equipment is not wide enough to facilitate diversification of agriculture. There is also vast opportunity on the development of farm machinery for:

- \* precision and protected agriculture
- \* hill agriculture
- \* horticulture
- \* recovery and management of crop residues
- \* non-farm applications like efficient rural transport, etc.

# Thank You

