

Country Paper

BANGLADESH



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BANGLADESH

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CSAM





Bangladesh with Regional Countries



Bangladesh is a South Asian country lies between $23^{\circ}34'$ and $26^{\circ}38'$ N latitude and between $88^{\circ}41'$ and $92^{\circ}41'$ E longitude. The country is bounded by India on the west, north, and northeast; Myanmar on the southeast; and the Bay of Bengal on the south.



Agricultural Mechanization Country Profile



- Bangladesh has made a remarkable progress in producing cereal grains by introducing farm mechanization
- Among many agricultural inputs, agricultural machinery plays an important role
- In recent past, significant improvements have been made in the production and marketing of locally made agricultural machinery
- this sub-sector is still recognized as non-formal sector and very limited effort has been made(market demand and supply, domestic demand and potential for export)
- The machinery needs for production and post-harvest processing of crops has increased significantly in recent time
- This sub-sector remains unexplored and there is a huge potential for growth and employment generation.



Selected Statistics on Bangladesh



Area of Bangladesh	1,47,570 sq.km
Total population	158.90 million (1.37%)
GDP	*US \$ 118.42 billion
GDP Growth rate*	7.05%
Per capita Income	US \$ 1416
Manufacturing Sector contribution to GDP	18%
Manufacturing Sector Growth rate	5.73%
Small and Cottage Industries	6.3%
Medium and Large Industries	5.5%

Source: Statistical Year Book of Bangladesh (BBS, 2016)



Selected Statistics on Bangladesh (Cont.)



Agriculture contribute to GDP	14.75%
Agricultural Growth rate	2.60%
Total Farm Holding	15.18 million
No. of Non-Farm Household	* 10.48 million
Cultivated Area	7.95 million ha
Cultivated Area per Household	* 0.51ha
Cropping Intensity	194%
Irrigated area	* 62.96%

Source: Statistical Year Book of Bangladesh (BBS, 2016)



Farm Machinery Statistics in Bangladesh



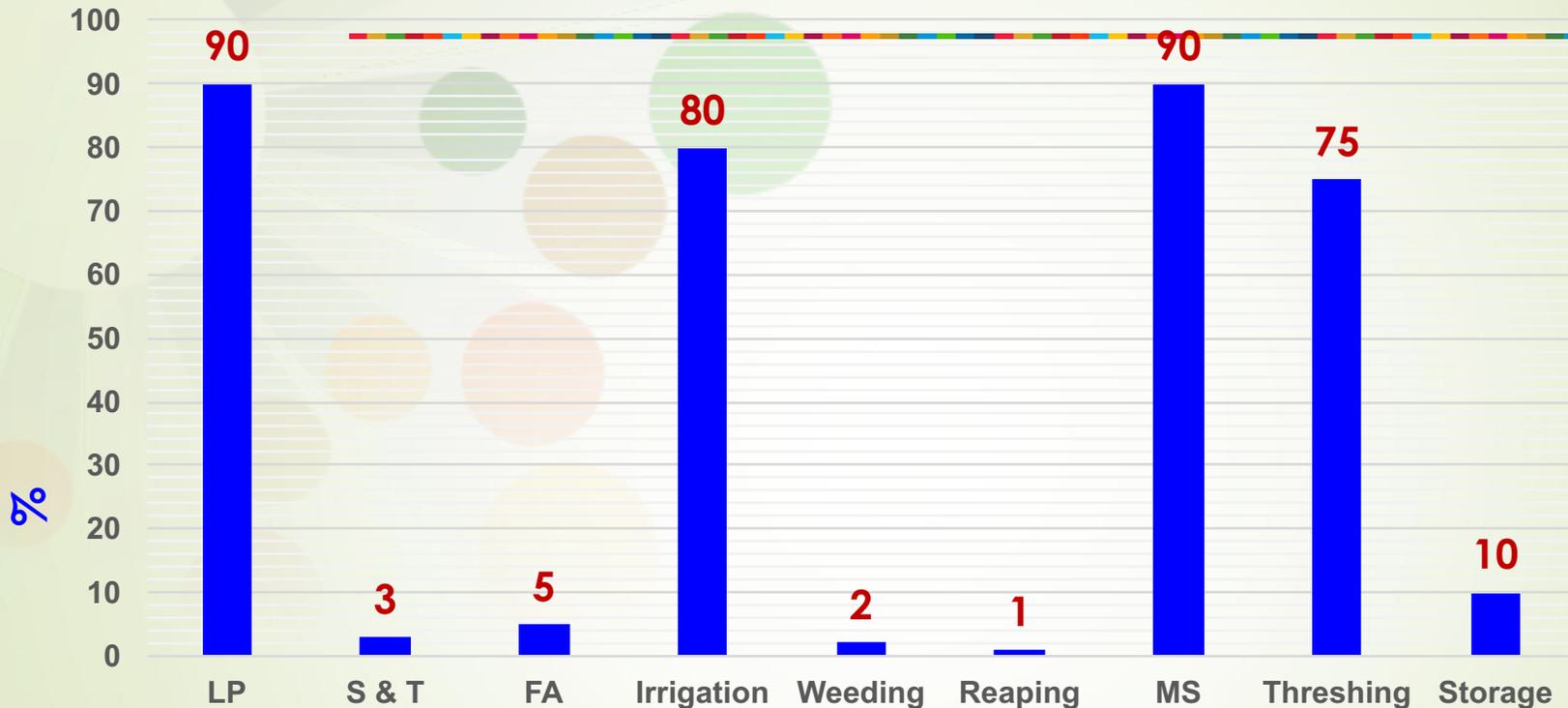
Sl. No.	Farm Machinery	Number of unit
1.	Engine (Agriculture)	25,00,000
2.	Power Tiller	7,00,000
3.	Tractor	60,000
4.	Rice Transplanter	About 1000
5.	BRRI Granular Urea Applicator	800
6.	USG Applicator	18,000
7.	Sprayer	13,00,000
8.	Irrigation pump	16,27,166 DTW: 36,979, STW: 14,17,008 & LLP: 1,73,179
9.	Solar Pump	320
10.	Combine Harvester	About 300





Sl. No.	Farm Machinery	Number of unit
11.	Weeder	2,50,000
12.	Reaper	About 600
13.	Jute Ribbonar	30,000
14.	Open drum thresher	1,50,000
15.	Closed drum thresher	2,20,000
16.	Hand Maize Sheller	15,000
17.	Power Maize Sheller	30,000
18.	Sugarcane Crusher	50,000
19.	Winnower	2000
20.	Dryer	500
21.	Rice Miller	15,000
22.	BRRI improve parboiling tank	70

Agricultural Machinery Adaption Status in Bangladesh



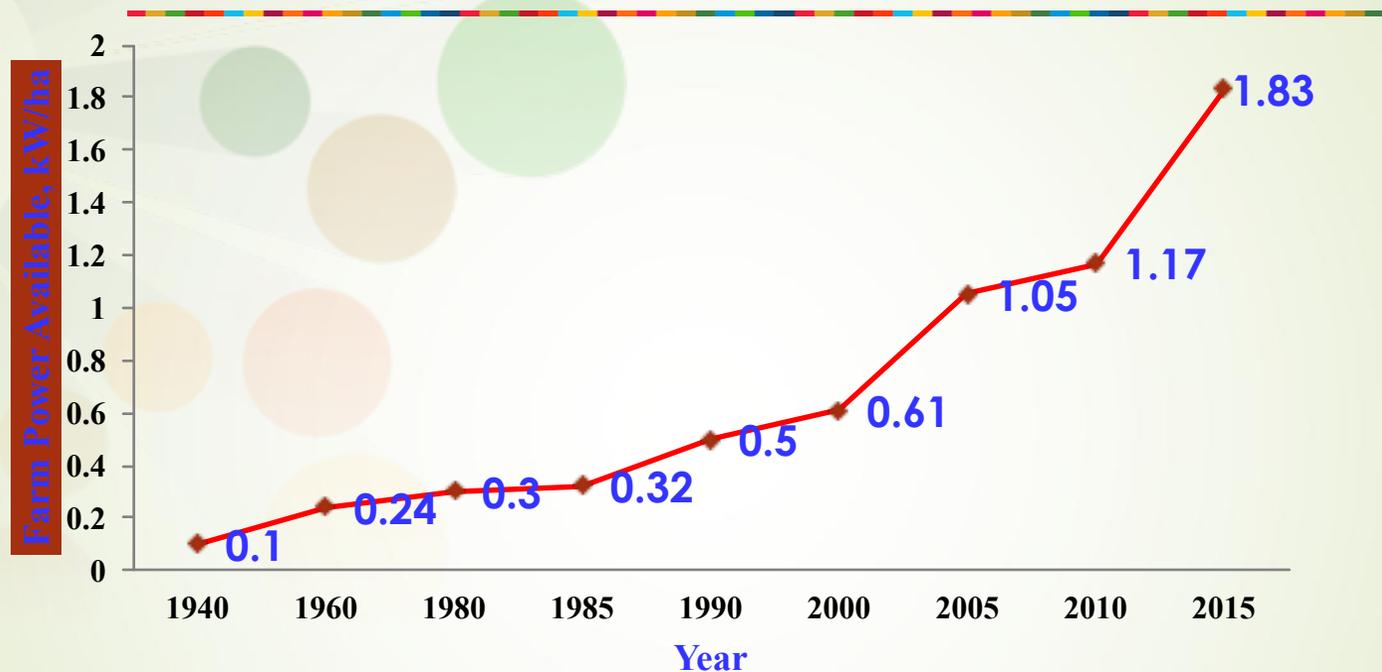
Operation

LP: Land Preparation, S & T: Seedling & Transplanting, FA: Fertilizer

Application, MS: Maize Shelling

Source: Agric. Mechanization road map, MoA, 2015

Agricultural Power in Bangladesh



Bangladesh 0.24/60, 0.32/84, From 89 Increasing gradually 1.17 kW/ha/07, After 2007 increased sharply 1.83 kW/ha in 2015

Farm power availability in major industrialized countries are:

India = 2.02 kW/ha ; Japan = 8.75 kW/ha; Italy = 3.01 kW/ha; China = 5.70 kW/ha; Pakistan = 1.10 kW/ha; Russia = 1.48 kW/ha; Vietnam= 1.70 kW/ha; France = 2.65 kW/ha; U.K = 2.50 kW/ha; Germany= 2.35 kW/ha;

Source: Agric. Mechanization road map, MoA, 2015

National Agricultural Machinery Strategy/Long-Term Plan



➤ Summary of related policies, strategy/long-term plan

- The Government has already attributed due importance to agricultural mechanization and machinery research.
- Government invested up to 70% in the price of Agricultural machineries in terms of **Development Assistance as incentive** and distributed 60,172 different types of agricultural machinery among the farmers.
- Programs like modern machinery distribution, capacity building of village mechanics & operators, quality control measures and policy support activities for the agricultural machinery manufacturers & assemblers are working successfully.
- The Agricultural Mechanization Road map 2021, 2031 & 2041 is a great milestone for agricultural mechanization in Bangladesh that has recently approved by the Government and it is prepared by Government organizations leaded by BARC.





National Agricultural Machinery Strategy/Long-Term Plan

- **(a) Summary of related policies, strategy/long-term plan**
 - This roadmap includes challenges, activities, implementation strategies, sources of fund and approximate fund for implementation etc.
 - In order to achieve the vision 2021 & 2041 within the preview of national development plan, the said Roadmap will render effective and long term contribution in materializing modern, economic and profitable agricultural.
 - National Agricultural Policy (NAP)–2013, Published by Ministry of Agriculture, Government of the People's Republic of Bangladesh and it's new version as NAP- 2017 is at the final stage.



National Agricultural Machinery Strategy/Long-Term Plan



- **Summary of related policies, strategy/long-term plan**
 - Agricultural Mechanization Policy (AMP) formulation has started recently and documents drafting under process under the supervision of Ministry of Agriculture, Government of the People's Republic of Bangladesh.

- **(b) Results from implementation**
 - The Agricultural Mechanization Road map 2021, 2031 & 2041 implementation is already started by the NARS institutes, DAE and other related institutes.



Agricultural Mechanization Road Map Targets



Sl No.	Agricultural Operation	Present coverage (%)	Short term 2021 (%)	Medium term 2031 (%)	Long term 2041 (%)
1	Crop Planting	<1	20	40	80
2	Seed Sowing	3	25	50	80
3	Crop Harvesting	2	30	60	80
4	Irrigation efficiency	33	40	50	70
5	Fertilizer applicator	1	10	30	80
6	Weeding	2	5	15	30
7	Potato planting	0.1	10	30	80
8	Power Spraying	0	5	10	30
9	Maize Harvesting	0	5	10	60
10	Jute harvesting / Processing	0	10	30	80

Agricultural Mechanization Road Map Targets (Cont.)



SI No.	Agricultural Operation	Present coverage (%)	Short term 2021 (%)	Medium term 2031 (%)	Long term 2041 (%)
11	Sugarcrop Planter and Harvester	0	10	30	60
12	Post harvesting processing of crop	0	10	30	80
13	Storage of crop	10	20	40	80
14	Renewable energy	1	10	30	50
15	Precession agricultural technology	0	5	20	50
16	Fruit harvesting	0	10	30	80
17	Conservation agricultural	0.1	5	20	40



Lessons Learned and Good Practices



- Research and development on agricultural machinery and equipment in Bangladesh is progressing at a pace slower than expected.
- Farmers want affordable and appropriate machines and implements to enhance production and productivity.
- Both ownership and custom hiring of farm machines are increasing in Bangladesh.
- Small size of farm holdings, high intensity of cultivation and need of soil conservation, reduction of harvesting and post harvest losses and value addition to the produces demand accelerated R&D activities.
- The above mentioned suggestions are expected to invigorate needed R&D activities to meet the expectation of the agricultural sector development of Bangladesh.



Suggestions for Regional Cooperation amongst Countries



- Establishment of a 'Central Institute of Agricultural Engineering (CIAE)' for continuation of innovation through R&D with government organizations, non-government organizations & development partners initiatives, along with a well equipped fabrication workshop and adequate funds for running a core program;
- Modernization of local foundries and workshops through collaboration and experience sharing activities among the Asia-pacific region and industrialized countries;
- Provide on-job training for the mechanics and technicians to develop their skill, efficiency as well as production of quality machinery and



Suggestions for Regional Cooperation amongst Countries (Cont.)



- Strengthening capacity of agri-machinery entrepreneurs through transfer of proto-type machines and technologies and
- visiting and training of proper personnel in countries which have achieved success in developing and producing farm machinery.
- CSAM may continue organizing regional meeting and seminar for coordination and cooperation among the member countries.





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Thank You Very Much.....



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