



Country Presentation Paper

BANGLADESH

**The 10th Session of the Technical Committee of CSAM
&
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of Agricultural Mechanization in Asia and the Pacific
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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.



Selected Statistics on Bangladesh



Area of Bangladesh	1,47,570 sq.km
Total population	144.05 million
GDP	US \$ 118.42 billion
GDP Growth rate*	6.03%
Per capita Income	US \$ 1044
Manufacturing Sector contribution to GDP	18%
Manufacturing Sector Growth rate	5.73%
Small and Cottage Industries	6.3%
Medium and Large Industries	5.5%
Agriculture contribute to GDP	18.70%
Agricultural Growth rate	2.17%
No. of Farm Household	15.18 million
No. of Non-Farm Household	13.51 million
Cultivated Area	8.52 million ha
Cultivated Area per Household	0.51ha
Cropping Intensity	190%
Irrigated area	62.96%

Source: Statistical Year Book of Bangladesh (BBS, 2013; *Global Finance, 2012, www.gfmag.com)



Farm Machinery Statistics in Bangladesh



Sl. No.	Farm Machinery	Number of unit
1	Power tiller	About 7,00,000
2	Tractor	> 60,000
3	High speed rotary tiller	> 4,000
4	Weeder	> 2,50,000
5	Seeder Transplanter	➤ 1000 ➤ 150
6	Sprayer	12,50,000
7	Combine harvester	130
8	Reaper	500
11	Open drum thresher	> 2,80,000
10	Closed drum thresher	> 50,000
11	Winnower	> 3,000
12	USG Applicator	> 16,000
13	Hand maize sheller	12,000
14	Power maize sheller	30,000



Agricultural Mechanization Status in Bangladesh



✓ Land preparation	: >90% mechanical power
✓ Seeding ✓ planting ✓ Transplanting ✓ Fertilizer application ✓ Insecticide application	: Started by machine (Showing encouraging)
✓ Irrigation	: >95% by power operated STW/DTW /LLP pump
✓ Harvesting	: Mostly manually
✓ Threshing	: Rice-wheat >75%
✓ Shelling ✓ Cleanning ✓ Dryer ✓ Storage	: maize >95% by sheller Started by machine (Showing encouraging)



I. Overview of the statistics system for agricultural mechanization in Bangladesh



a) Responsible agency

- Bangladesh Bureau of Statistics (BBS)** is the only national statistical institution responsible for collecting, compiling and
- Disseminating statistical data of all the sectors of the Bangladesh economy to meet and provide the data-needs of the users and other stakeholders like national level planners and other agencies of the Govt.
- The role of the BBS in providing necessary statistics for preparing the various **national plans and policies** for the overall development of the country is very significant.
- BBS has a decentralized network for implementation of its activities with its head office in Dhaka.
- At present, there are 7 Divisional Statistical Offices
- Under 7 Divisions 64 District Statistical Offices and
- under 64 Districts 489 Upazilla/Thana offices in Bangladesh.



I. Overview of the statistics system for agricultural mechanization in Bangladesh (a cont)



- ❑ Statistical Year Book of Bangladesh –2012, by Statistical Division of BBS.
- ❑ Project base survey conducted by Agricultural engineers serving in Agricultural research Institutes and Universities.
- ❑ Proceeding of The Workshop on Agricultural Mechanization- Its present Status and Future Strategy in Bangladesh, Dhaka, Bangladesh. February 25-27 1992, BARC.
- ❑ Alam, M. M. 2005. Identification of SMEs and BDS Providers and Analysis of Supply and Value Chain in Agri-machinery Sub-sector of Bangladesh. Sponsored by South Asia Enterprise Development Facility (SEDF), United House, 10 Gulshan Avenue, Dhaka 1212, Bangladesh.



Overview of the statistics system for agricultural mechanization in Bangladesh (a cont)



- ❑ Proceedings of the National Workshop on Strengthening Agricultural Mechanization: Policies and Implementation Strategies in Bangladesh 2007. Bangladesh Agricultural Research Council, Framgate, Dhaka, Bangladesh.
- ❑ Minor Irrigation Survey Report 2013, Bangladesh Agricultural Development Corporation (BADC), Dhaka, Bangladesh
- ❑ Bangladesh Agricultural Machinery Manufacturers Association (BAMMA), Foundry Owners' Association of Bangladesh (FOAB) and Bangladesh Shilpa Malik Samity (BSMS) participated policy workshop at Rural Development Academy (RDA), Bogra, Bangladesh 2011.



Overview of the statistics system for agricultural mechanization in Bangladesh (a cont)



- ❑ Modification and Adoption of Power Tiller Mounted and Self-Propelled Cereal Reaper in Two Selected Upazillas. A final report, submitted to the Research and Extension in Farm Power Issues (REFPI) project, Department of Farm Power and Machinery, Bangladesh Agricultural University, Mymensingh, Bangladesh 2002.
- ❑ Training Manual 2014: Use Farm Machinery and Efficient Irrigation System Management in Bangladesh/ Present Status, Prospects and Challenges of mechanization in Bangladesh, Dhaka, Bangladesh. April 2014, BARI/page 1-8.



b) Channels, ways and frequency to collect, report and disseminate the agricultural mechanization statistic



- Bangladesh Bureau of Statistics (BBS) done this annually but reporting are delay.
- BBS-2012, Web-site :[www.bbs.gov.bd/agricultural inputs/ chapter 6/import](http://www.bbs.gov.bd/agricultural%20inputs/chapter%206/import)
- SAARC Agricultural Centre web-site:[www.saarcagri.org/saarc agricultural centre archive/publication archive/directory/farm-machiney](http://www.saarcagri.org/saarc%20agricultural%20centre%20archive/publication%20archive/directory/farm-machiney)
- SAARC Agricultural Centre web-site:[www.saarcagri.org/saarc agricultural centre archive/annual report 2012/1.6 farm mechanization/page 35-37](http://www.saarcagri.org/saarc%20agricultural%20centre%20archive/annual%20report%202012/1.6%20farm%20mechanization/page%2035-37)
- Rural Development Academy(RDA) Web-site :[www.rda.gov.bd/2nd International agroTech Bangladesh 2012/13-16 December 2012](http://www.rda.gov.bd/2nd%20International%20agroTech%20Bangladesh%202012/13-16%20December%202012)
- Lirma Trade Fairs and Exhibitions Pvt. Ltd., Dhaka, Bangladesh Web-site:
[www. Lirmatradefairs.com](http://www.Lirmatradefairs.com) /2nd International agroTech Bangladesh 2012/13-16 December 2012/Manufacturing of Agricultural Machinery in Bangladesh: Opportunities and constrains.



C) Quantity and quality of agricultural mechanization statistics

❖ Not satisfactory or not upto the mark done by BBS.

d) Does agricultural census cover component of agricultural mechanization?

❖ No, It covers partially by BBS



II Gaps and Needs



- a) What are the challenges and constraints for the statistics collection and management?
- Trained Manpower
 - Are not given due importance by the BBS
- b) What are the minimum data and statistics requirements of agricultural mechanization in your country?
- Numbers of machinery used by the farmers presently
 - Present demand
 - Future demand forecast



III. Solutions and Suggestions

(Both State and Regional Perspective)



a) How to improve the current statistics collection and management?

- **Trained manpower should be assigned**
- **Govt. should given due importance and directives to BBS**

b) Needs and feasibility of establishing a regional database of agricultural mechanization in Asia and the Pacific

- **To establishing a regional database network of agricultural mechanization in Asia and the Pacific**
- **Technical assistance, international census procedures and trained the manpower is needed.**
- **Project based activity is needed to conduct quantity and quality work.**

c) How you could contribute to the proposed regional database of agricultural mechanization?

- **Provide existing/available information could contribute to the proposed regional database of agricultural mechanization.**



Status of machinery manufacturing and or machine acquisition



Issues:

- ❑ Almost centrifugal pumps are being used in all Shallow Tube Wells (STW) and Low Lift Pumps (LLP) are manufacturing in the country.
- ❑ Paddy and Wheat threshers, Maize shellers, hand and foot-pump sprayers, weeders, of spare parts engine and machine are also being manufactured locally
- ❑ There are about 70 foundries, 800 agri-machinery manufacturing workshops, 1,500 spare parts manufacturing industries and workshops and about 20,000 repair and maintenance workshops are engaged in agri-machinery sub-sector of the country.
- ❑ RI's & Extension Department are trying to help farmers to choice appropriate machinery.
- ❑ Farmers directly purchase machine through bargaining from nearby local market.
- ❑ Recently government is giving 25% subsidy to the farmers in purchasing machinery.

Challenges: No government policy support remains for the manufacturer.

- More linkage should develop between researchers & manufacturers.



Status of Institutional support



- ❑ **Public R&D institutes are:** BRRI, BARI, BSRI, BINA, BAU, BCSIR & DAE.
- ❑ **Private workshops/manufacturers/importers are:** Alim Industries, Sylhet; Janata Machine, Jessore; Mahbub Engg, Jamalpur; ACI Motors Ltd., Dhaka; Corona Industries Ltd., Dhaka; The metal Pvt.ltd., Dhaka and others .
- ❑ Farm machinery dept. of BARI, BRRI, BJRI are contributing in R&D as Bangladesh condition.
- ❑ DAE, RDA and few NGOs are providing extension services on agricultural machinery to the farmers & popularizing the newly introduced machinery.

Challenges:

Research & extension dept.'s are needed to be more dynamic with time demanding.



Status of farm infrastructure



Major crops: Paddy ,Wheat, Maize, Potato, Pulses, Oil seeds and Vegetables

Soil type: Small and land fragmented. Marshy land and hilly areas.

Usage of water pump

LLP – Engine(diesel/petrol) 1.00-2.00 Cusec
Motor

Nos. 1,70,569

STW- Engine(diesel/petrol) 0.50-0.75 Cusec
Motor

Nos. 15,23,609

DTW- Engine(diesel/petrol) 2.00 Cusec
Motor

Nos. 35,322

Diesel engine : 4–30 HP; Motor : 0.5–10 HP



Status of farm infrastructure

Operational scale (% area irrigated and irrigation service unit, ha)

LLP – 17.40 %	[Command area 6(28) ha]
STW- 60.30 %	[Command area 2.50 (5) ha]
DTW- 19.30 %	[Command area 23.00 (40) ha]
Manual and others -3.00%	
Over all irrigated area 62 %	

Challenges:

- ❑ Small & fragmented land is a great obstacle for mechanization .
- ❑ Farm owners are involving alternate business rather than agricultural work.



Policy matters



Promotional activity and after sale service to be strengthen for extension of locally proven machinery

Capacity of local manufacturers be strengthened with technical assistance, skill training for quality production

Fund for R&D and extension of machines have to be increased to support innovation and interventions needs in this sector.

Enabling environment for the local traders, manufacturers, workshops be created for the growth of agro-machinery sector in the country



Policy matters(cont.)



Modernization of local Foundries through collaboration and experience sharing with CSAM and industrialized countries.

Strengthening capacity of Agri-machinery entrepreneurs through transfer of proto-type machines and technologies among SAARC countries through CSAM.

To maintain equal standard of machinery and safety measures for the Asia-pacific region, the testing and standardization stations should have uniform testing facility, CSAM can help to establishing the facilities.

In recent years government is giving special emphasise on mechanization & identifying policy issuse for testing machinery and other relevant issues.



**Thank You Very
Much.....**

