

Achivements and future plan for agricultural mechanization in Bangladesh

Presented By

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Agricultural Mechanization in Bangladesh- The Future



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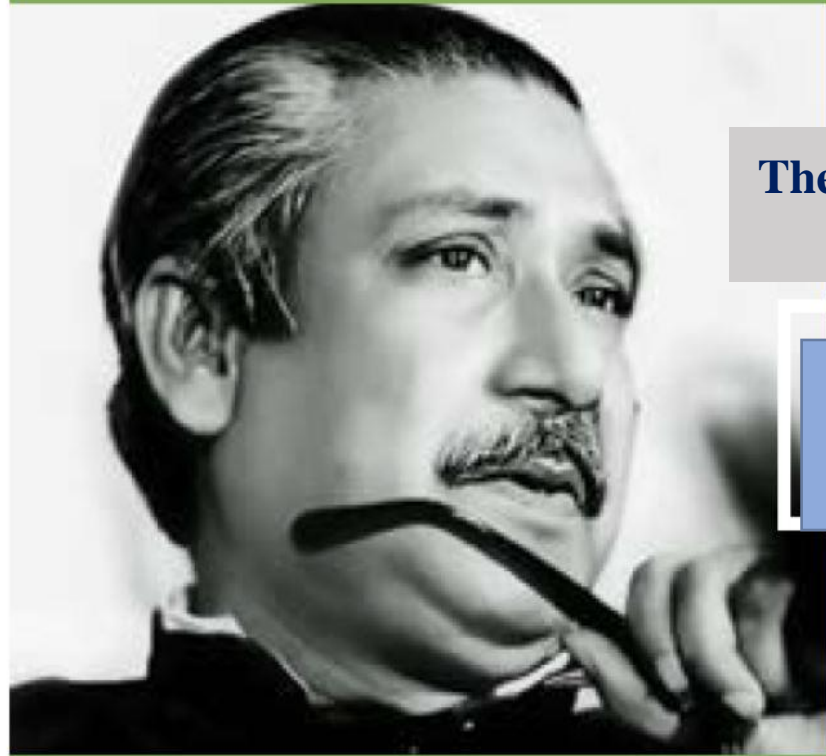
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Bangabandhu and Agriculture



There is no difference between
Man and Women

There is no Difference
Between Village and City

My Village
My City

-Bangabandhu Sheikh Mujibur Rahman

In an Independent Country aiming to continuously reduce the discrimination of village and city, our father of the nation Bangabandhu Sheikh Mujibur Rahman had clear guideline. He promised to make a drastic change of our rural area by Agricultural revolution, electrifying villages, widening small and large industry, development of education, communication and health in villages. He include it in our constitution also.



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THE CHANGING BANGLADESH



**“My Village will be my city”
- Priminister Sheikh Hasina**

Her philosophy and priority –

- Communication,
- Developed road,
- Pure Drinking water,
- Modern Medical facilities and Treatment,
- Quality education,
- Electricity and other energy supply,
- Computer and high speed internet facility,
- Developed sewerage and drainage system
- Overall modern commercial market facility in each and every village.

Which will make a villages more self sufficient, more sustainable.



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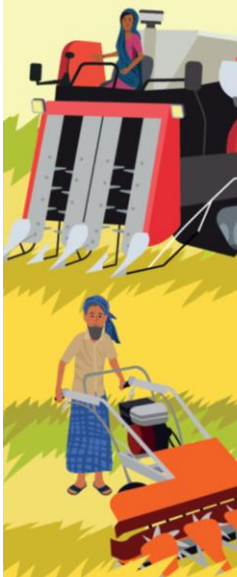
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Agriculture of Bangladesh

- Bangladesh is an agrarian economy and agriculture is the single largest producing sector of the economy since it comprises about 12.65% of the country's GDP (Statista, 2021) and employs around 38.3% (ILO Stat, 2021) of total labor force.
- The sector grew over 4 percent annually between 1996 and 2019
- The performance of this sector has an overwhelming impact on major macroeconomic objectives like employment generation, poverty alleviation, human resources development and food security.



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Agriculture of Bangladesh

- A large number of people earn their living from agriculture. Major Agricultural Crops are Rice, Jute, Hybrid Maize, Potato, Vegetables, Fruits (Mango, Jack fruits, Guava, Banana), Varieties of Spices and Flowers.
- Rice production more than double since the mid-1990s- from 17 million metric tones (MT) in 1994-95 to 36 million MT in 2017-18. Basically we introduce a large number of Hybrid Variety
- Though the cultivating area is reducing but the production of fruits, flowers, vegetables and pulses are increased more than 60 percent between 2008 and 2018.



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Present Government Initiatives in Agriculture Sector

- Capacity building of farmers in seed production and distribution through quality Rice, Wheat, Jute & Pulses, Oil seeds and Onion seed production, storage and distribution project.
- For strengthening agricultural mechanization government providing subsidies upto 70% in purchase of agricultural machineries.



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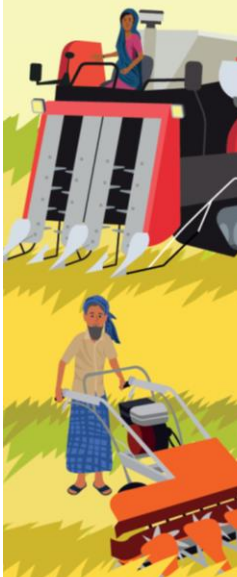
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Present Government Initiatives in Agriculture Sector

- Government has provide 20.54 million Agriculture Input Card among the farm families for easy access of agricultural inputs.
- Government Established 1621 numbers of Farmers Information & Advice Centre (FIAC) to ensure easy access of latest agricultural technologies.
- Government established Digital Agricultural Services- Online Pest Diagnostics, Safe Use of Pesticides, Online/Offline Fertilizer Recommendation Guides, Agril Call Centre, Agro-Meteorological Mobile App (BAMIS Portal) etc.



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AN IMPRESSIVE GROWTH STORY



	Agricultural products	Production in 2009-10	Production in 2018-19	Shortage or surplus
	Rice	3.38 crore tonnes	3.86 CRORE tonnes	Surplus
	Vegetables	1.25 crore tonnes	1.99 CRORE tonnes	Surplus

Food grains production in 2006
2.61 CRORE TONNES



Food grains production in 2018-19
4.32 CRORE TONNES



Success in Agriculture Sector, Bangladesh

- 3rd in Rice Production
- 2nd in Jute production
- 1st in Jute Export
- 3rd in Vegetable Production
- 3rd in Onion Production
- 4th in Tea Production
- 8th in Potato Production
- 7th in Mango Production
- 8th in Guava Production
- 28th in Fruit Production



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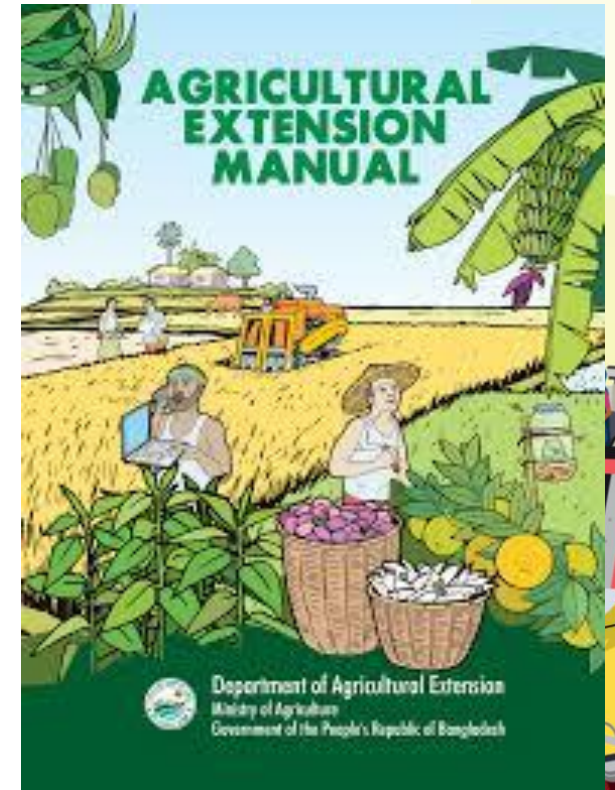
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What does DAE do?

- Vision: Sustainable and profitable production of crops.
- Mission: Developing the technological knowledge and skills of farmers
 - by providing
 - efficient,
 - effective,
 - decentralised,
 - location-specific,
 - need-based and
 - integrated agricultural extension services
 - to increase the production of sustainable and profitable crops.



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Main activities at a glance I

- Provides agricultural advice
- Advice on cultivation of horticultural crops and support for setting up nurseries
- Provides agricultural equipment through development assistance
- Mushroom cultivation advice and mother seed (spwan) supply



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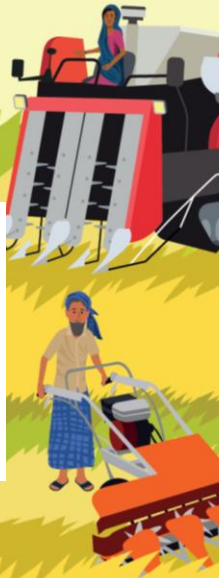


Main activities at a glance 2

- Cooperation in the establishment of garden on the roof of the house
- Import Permission for Plant and plant products (IP) and Provide Phytosanitary Certificates



How Can We Export Vegetables from Bangladesh?



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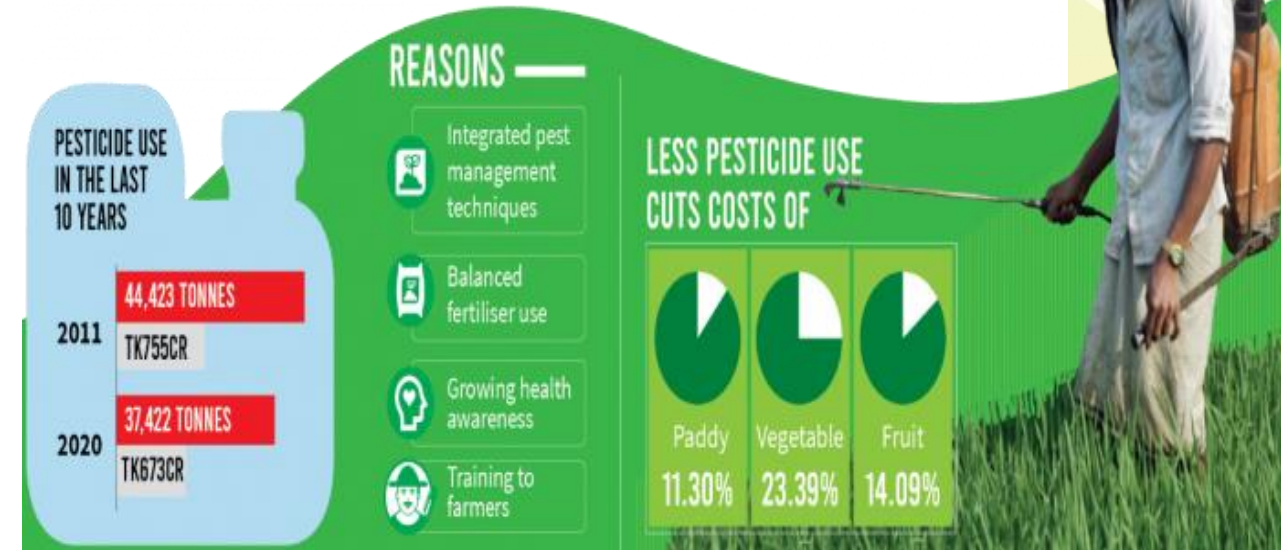


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Main activities at a glance 3

- Provide Product registration A. Chemical pesticide B. Bio-Pesticide C. Microbial pesticide
- Pesticide Formulation, Wholesale and Retail Licenses
- Paste Control License
- Provide license for Pesticide Import



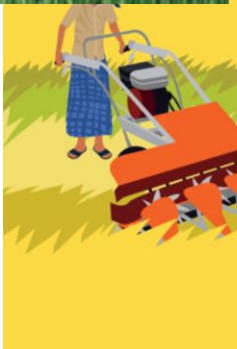
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Main activities at a glance 4

- Provides Agriculture Diploma Education
- Registration of fertilizer and fertilizer related products import
- Registration of production of fertilizer and fertilizer related products
- Registration of fertilizer and fertilizer related materials marketing

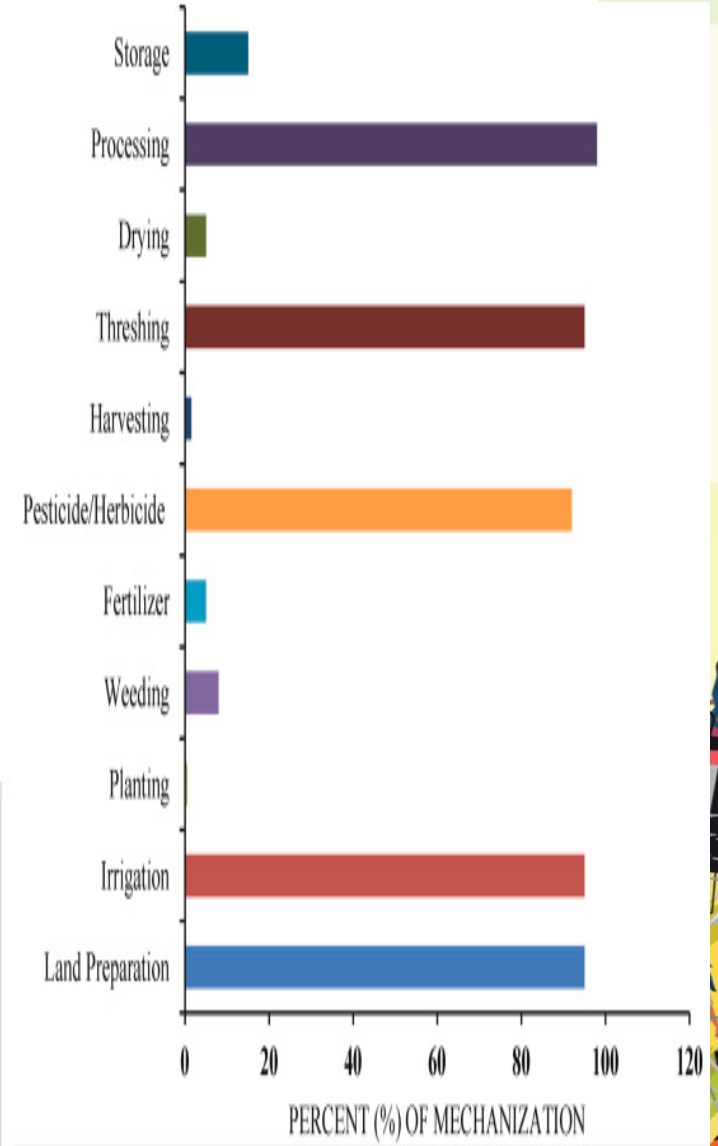
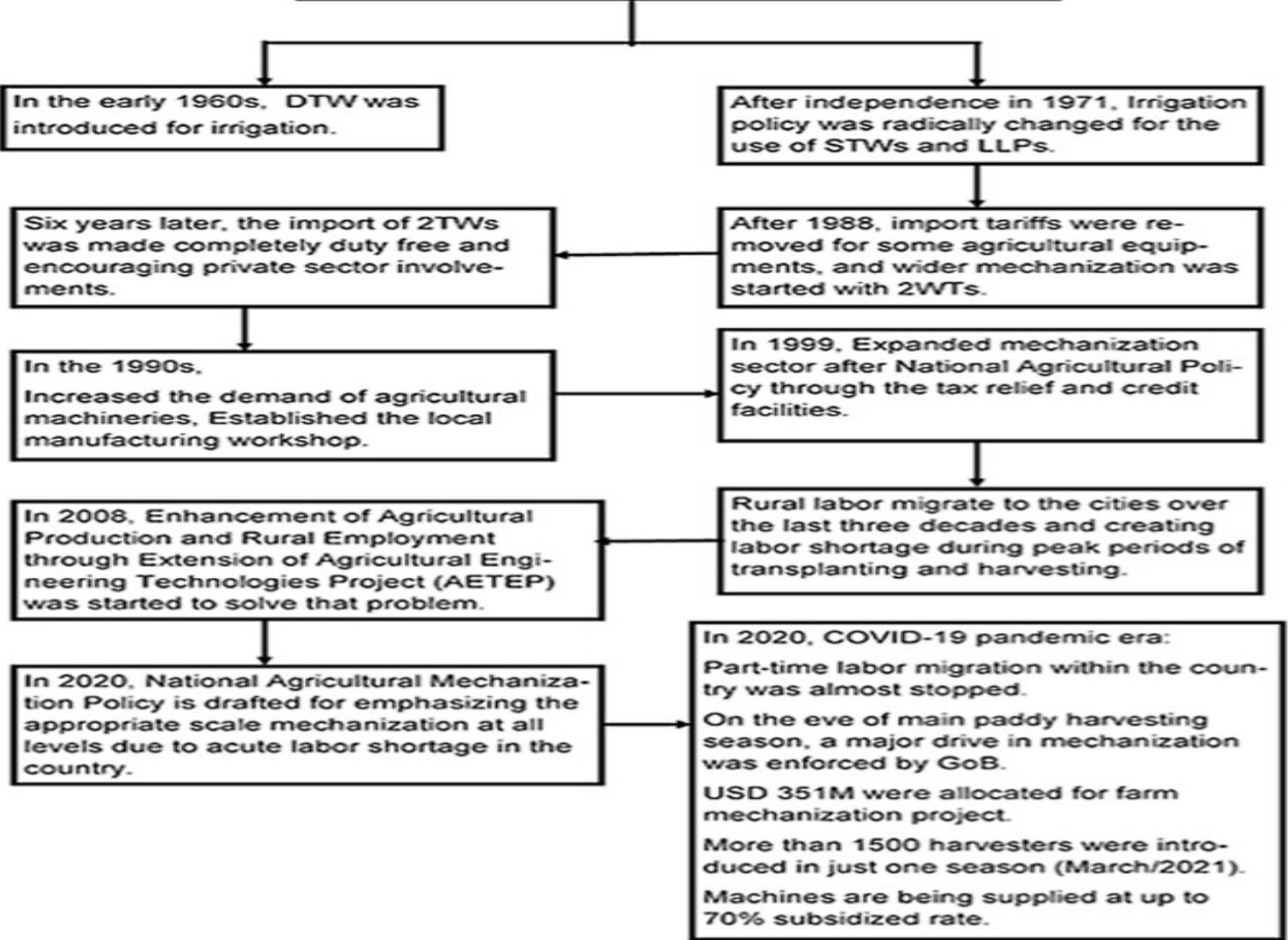


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Bangladesh Fertilizer Association (BFA)

Farm Mechanization in Bangladesh





Need Identification of Farm Mechanization

- * We know the existing labor shortage problem in agriculture sector. At the same time animal draft power also shortage.
- Labor is shifted to industrial sector due to drudgery of agricultural works.
- Next Generation is not willing to involve in agricultural field job.
- Also, daily agricultural wages & Per capita Income are getting higher.
- Farmer end output price has not escalated much.
- During the peak season time, agricultural daily wages increased by 3.5 times in last 10 years.
- Now a days agricultural labor near about 40% .



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Government Activities for Mechanization

- Above those condition Government take Mechanization activities in Agriculture sector through Department of Agricultural Extension (DAE) in 2010.
- In 2010-12 period 1st phase Mechanization Project Implemented at 25 Districts by Piloting through DAE.
- In 2013 – 19 period 2nd Phase Mechanization Project Implemented at 64 Districts through DAE.
- Now Government take a mega Mechanization Project Named “Farm Mechanization through integrated management Project”



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Farm Mechanization through integrated management Project

Goals:

By increasing crop production to make agriculture more commercially profitable and sustainable



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Project Objectives

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To Supply and use of modern agricultural machinery, Prevent 10-15%. Wastage of crop and save 50% time & 20% money in crop cultivation.

To increase the use efficiency of agricultural machinery 50% by synchronize and homogeneous crops cultivation system.

Reducing the cost of agricultural production and increasing crop productivity.

In mechanization system to increase the participation of women in post harvest management.

Poverty reduction through increased crop production.



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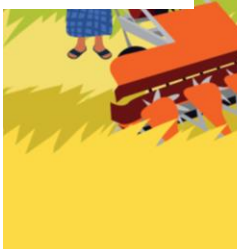
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Development Assistance activities from 2020 to 2025

(Up to 70% subsidy in haor and coastal areas and up to 50% subsidy in plain areas)

Name of Agricultural machinery	Amount
1. Combine Harvester	
A) Paddy and wheat	15000 nos
B) Maize Harvester	500 nos
2. Reaper machine	
A) Reaper	4000 nos
B) Reaper binder	2000 nos
3. Rice Transplanter machine	
A) Riding type	1000 nos
B) Walking type	2000 nos
4. Seeder	5000 nos



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Development Assistance activities from 2020 to 2025

(Up to 70% subsidy in haor and coastal areas and up to 50% subsidy in plain areas)

Name of Agricultural machinery	Amount
5. Power Thresher	5000 nos
6. Maze Sheller	5000 nos
7. Drayer	5000 nos
8. Power sprayer	2000 nos
9. Power Weeder	500 nos
10. Potato Digger	3000 nos
11. Potato chips making machine	1000 nos
12. Carrot Washer	3000 nos
Total number of machinery	51300 nos



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In this project flowing Machinery supply to the farmers

Machine Name	Quantity
Combine Harvester (Rice & Wheat)	2896 Nos
Reaper	664 Nos
Rice Transplanter	82 Nos
Power Thresher	741 Nos
Maize Sheller	169 Nos
Drayer	22 Nos



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Concepts of subsidy :

- Supply farmer`s demand based machine
- Machine Purchase & collection by farmer
- Supply machine as usual market value



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Other activities of the project

Training and Agricultural Machinery Fairs

A) Rural mechanic and Driver Training (28 days long)	300 batches
B) Training of Sub-Assistant Agriculture Officers	500 batches
C) Officer Training	40 batches
D) Training of farmers/entrepreneurs using joint land use	1000 batches
E) Mechanized Paddy Seedling Production Training (5 days)	50 batches
F) Meeting of farmers group using fertilizer application (synchronize cultivation)	1200 nos
G) Motivational tour	200 batches
H) Agricultural Machinery Fair	
I) National Agricultural machinery Fair	5 nos
2) Agricultural machinery Fair (District Level)	192 nos



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Workshops and seminars

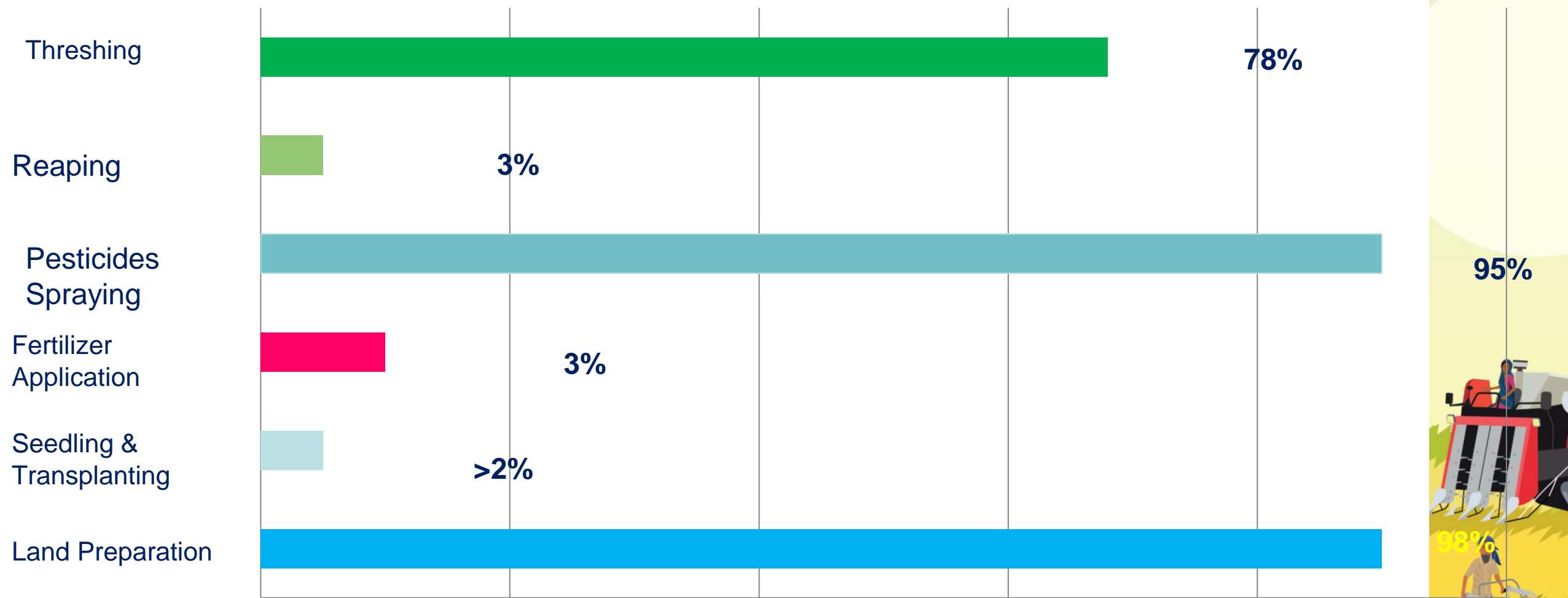
A) National Workshop	2 nos
B) Regional Workshop	28 nos
C) Policy making workshop	10 nos
D) Seminar (local/international)	3 nos

Synchronize Cultivation – 300 nos Upazilas

- i) Only seeds support two or three seasons (One year cropping pattern)**
 - ii) Tray bed Preparation Machine-500 nos
 - iii) Tray Supply for Rice Transplanting Machine
 - iv) To support Subsidy for making individual Machine entrepreneur.
 - v) 300 nos store house build in 300 upazilas for seed & Machine store.
- * To Strengthening present 18-ATI for Rural Mechanic Training Activities**
- * To Establish Testing and Training Center**



Present Status of Machinery Uses



0%

20%

40%

60%

80%

100%



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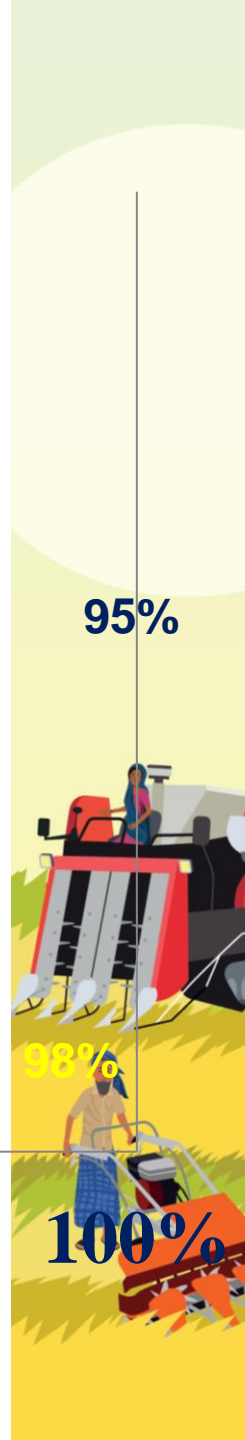
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Target

To sustain Harvesting & transplanting machine

Need

- Efficient Mechanic and Operator .
- Machinery standardization
- Modern manufacturing assembling center in our country



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Field Observation

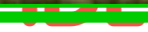


- Half Feed Combine harvester
- Farmer's choice and response is notable due to undisturbed straw.
- High price and beyond capacity.
- Suitable machine is needed for local land condition.





Demonstration : Combine Harvester (Medium)





Field Observation



- Whole feed Combine harvester.
- Low price.
- Straw Threshed i.e pieces
- Suitable machine for low land.



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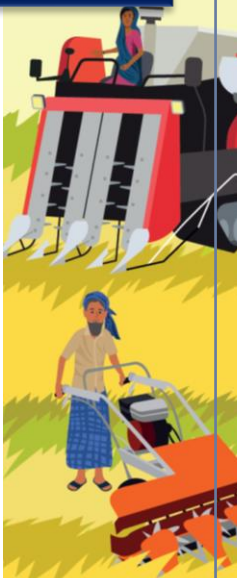
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Drayer For Seed, boil & per boil rice.



Working Capacity: 500kg/3-5 hour.

BAU STD Drayer



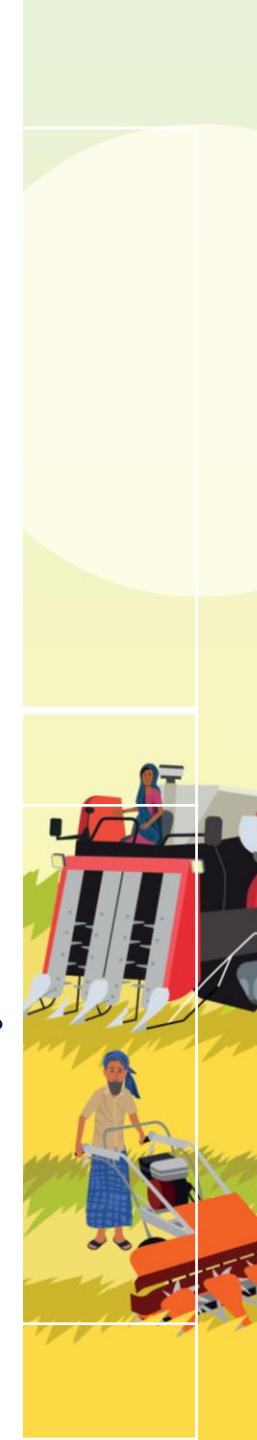
Working Capacity: 2 ton/4-5 hour.



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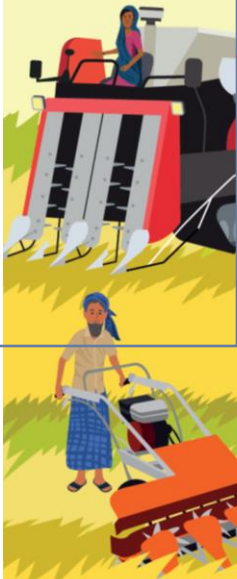
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Carrot Washer



- This machine Develop by BARI
- It is Easy use for carrot washing
- Labor save 67% Time save 40% & money save 67%
- Capacity 30 kg / 5 - 6 min.



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Reaper



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Maize Sheller





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পাওয়ার স্টোর





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Demonstration : Rice Transplanter



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সম্প্রদায়

পরিচালনা

INTERNATIONAL DEVELOPMENT

Field Observations

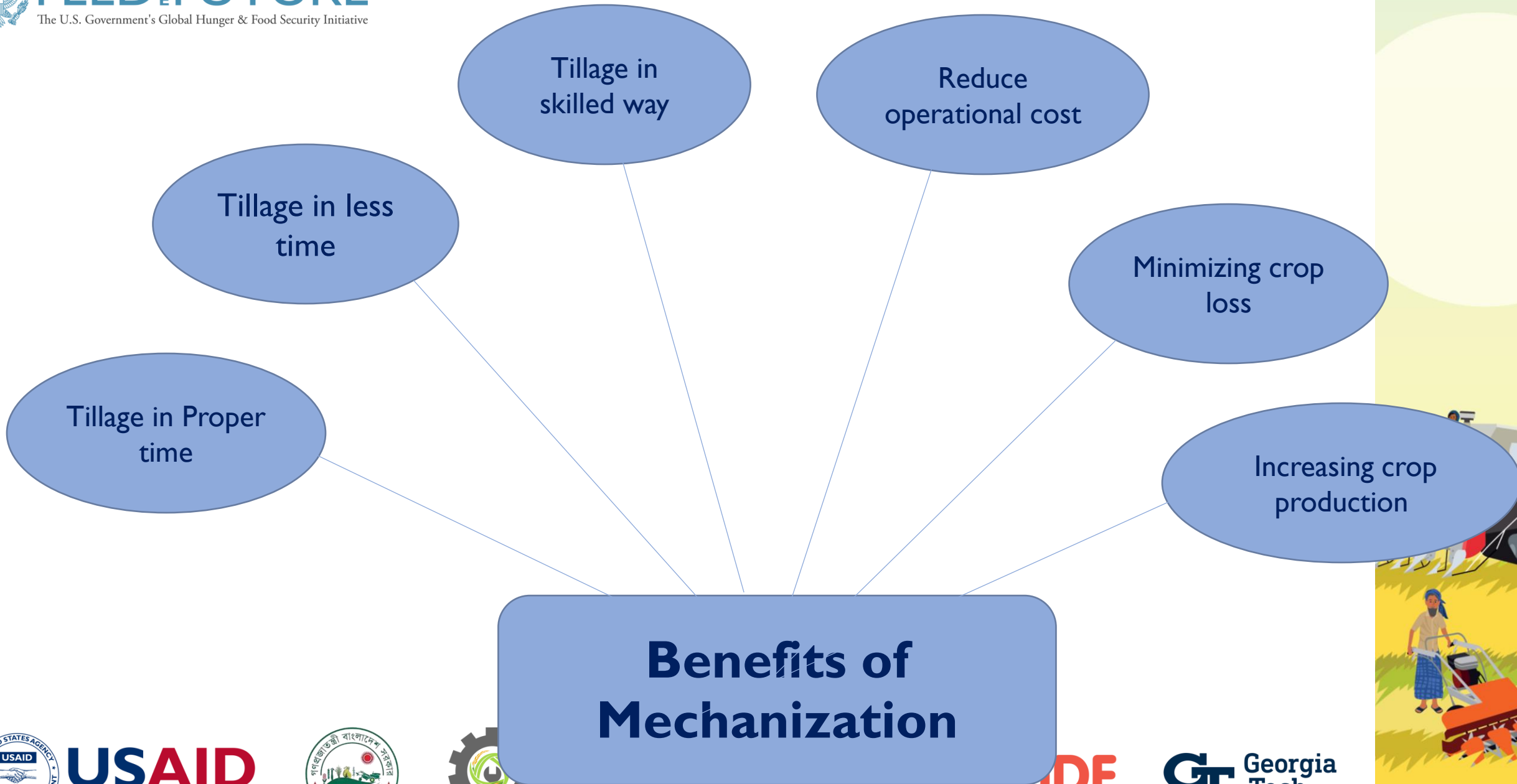


- ❖ **Transplanter Machine save seed, time, cost and increase yield.**
- ❖ **Farmer`s feel boring for seedling Preparation technology on the tray.**
- ❖ **Transplanter machine is Popular to the farmers by supporting supply seedling Preparation machine.**

Field Observations



- **Seeder machine save money, time and cost.**
- **Gradually popularized for sowing pulse, wheat and maize crops.**
- **Extension activities should be continued.**



Future Plan in Mechanization

- Agricultural Ministry approved Mechanization Policy- 2020 and Mechanization Road map.
- On the basis Mechanization road map we developed efficient local manufacturer for support modern Agricultural Machinery spare parts.
- For Modern Agricultural Machinery assemble center increased by Joint venture.
- Established central Mechanization training and R & D center
- For sustain Mechanization we motivated our farmers cultivation practice traditional to synchronize Cultivation.
- By Establishing standardization center for ensuring quality machine supply to farmers



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THANK YOU



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