

*Farm Mechanization
&
Post Harvest Equipment*

Farm Mechanization

Farm Mechanization

- Farm mechanization refers to the development and use of machines that can take the place of human and animal power in agricultural processes.
- “Agricultural Farm Mechanization removes the drudgery associated with agricultural labour, overcomes time and labour bottlenecks to perform tasks within optimum time windows and can influence the environmental footprint of agriculture leading to sustainable outcomes.”

Agricultural mechanization implies the use of various power sources and improved farm tools and equipment, with a view to reduce the drudgery of the human beings and draught animals, enhance the cropping intensity, precision in metering and placement of inputs and timelines of efficiency of utilization of various crop inputs (seed, chemical, fertilizer, irrigation, water etc.) and reduce the losses at different stages of crop production. The end objective of farm mechanization is to enhance the overall productivity and production with the lowest cost of production.

It also helps in the conservation of the produce and byproducts from qualitative and quantitative damages, enables value addition and establishment of agro processing enterprises for additional income and employment generation from farm produce. It is one of the important inputs to user in around development in the rural India.

In Andhra Pradesh, though, there has been a considerable progress of mechanization in agriculture, its spread however, has been most uneven. Some of the initial problems in farm mechanization had been the small and scattered size of farm holdings, financially challenged farmers, lack of awareness among the marginal farmers, and the issue of dry land agriculture. Majority of these problems have been addressed in our State with sustained focus on farm mechanization by the successive governments by way of extending financial aid by providing subsidy to the farmers in procuring farm implements suitable to their needs.

The problems like small holdings and rain fed agriculture still remain, but there is a general air of concern regarding the further progress in this sector. What is really amiss is that we are still very much behind in respect of overall farm mechanization which calls for employment of contemporary highly mechanized farm machinery.

Status of Mechanization in the State

In Andhra Pradesh at present, the Farm power availability is below 2.00KW / Ha which is low and there is lot of scope for improvement. This can be improved by providing adequate subsidies to procure high cost machinery and by concentrating more on the financially challenged regions in addition to the developed regions which already have a sound farm mechanization infrastructure.

The farming system continues to utilize manual power, animal power and tractor power. In order to bring more land under cultivation and to improve productivity per unit area, it is necessary to introduce other sources of power like tractors, power tillers, oil engines, electric motors and renewable energy.

Agricultural mechanization has made significant contribution in enhancing cropping intensity. Further more, the percent gross cropped area irrigated is positively related to cropping intensity. The facilities of tubewell irrigation and mechanical power helped the farmers in raising the cropping intensity of their farms. Cropping intensity was mainly dependent on annual water availability and the farm power available.

Factors emphasizing the need for Farm Mechanization

- * Increased migration of rural workers to urban areas, increase in cost of farm labour.
- * Sustainable agricultural productivity.
- * Over dependence on monsoons.
- * Need for High Cost Machinery for better turnout in short time.
- * The use of tractors enhanced agricultural productivity due to better seed-bed preparation, timeliness of operations and precision in distribution and placement of seed and fertilizer owing to the use of the seed-cum-fertilizer drills.

Funding

*** State Development Plan (SDP)**

Aims in supply of individual implement / equipment to individual farmers. This equipment performs a single operation or part of various operations in a crop. This normally being funded by the State Government through SDP (State Development Plan). The budget allocation in BE 2018-19 is Rs.258.16 crores.

*** Rashtriya Krishi Vikas Yojana- RAFTAAR (RKVY- RAFTAAR)**

Central Sector Scheme with funding pattern of 60:40 (Central : State). Aims in supply of Crop based group (set) of machinery / equipment to a group (Rythu Mithra Groups / Joint Liability Groups etc.) of farmers. These set of equipment aims in performing all /majority of feasible farm operations of a particular crop. This is being funded by the Govt. of India through RKVY (Rastriya Krishi Vikas Yojana). The budget proposed in BE 2018-19 is Rs.60.52 crores.

*** Sub-Mission on Agriculture Mechanization (SMAM):**

Central Sector Scheme with funding pattern of 60:40 (Central : State) for supply of farm machinery. Training and demonstrations have 100 percent central funding. The budget proposed in BE 2018-19 is Rs.700.40 crores.

Transparency in implementation of the scheme is given utmost importance as huge amounts are involved. To ensure quick and transparent transaction right from receipt of application to the delivery of the equipment and payments to the firms. Online application system through DBT soft ware application is being implemented from the year 2018-19 onwards. (www.agrimachinery.nic.in)

Technology Support

The short listed applicant is expected to create appropriate facility for manual and automatic order booking, real time order status tracking, real time tractor location tracking, break down and delay management, driver management, implement management either by phone to a toll free call number or through a mobile app or through a website.

The equipment that is required and to be supplied under Farm Mechanization subsidy schemes 2018-19 were finalized in consultation with the scientists of Agricultural University, FMTTI (Farm Machinery Training & Testing Institute), farmers and mandal & district level officers from the Department of Agriculture.

The equipment finalized for supply under various Farm Mechanization subsidy schemes during 2018-19 useful to farmers right from land preparation to harvesting and post harvest are as follows:

Land Preparatory & Sowing - Planting Equipment:

1. Tractors (8- 15 PTO HP)
2. Tractors(15- 20 PTO HP)
3. Tractors(above 20- 40 PTO HP)
4. Power Tillers (8 BHP & above)
5. Rice Tranplanters
 - a) 4 rows
 - b) 4 - 8 rows
6. Self Propelled Machinery
 - a)Reaper
 - b) Reaper cum binder
7. Tractor (above 35 BHP) Driven Equipment
 - a) Disc plough
 - b) Cultivator
 - c) Cage Wheels
 - d) Rotovators
 - e)Rotopuddlers
 - f)Levelling Blade
 - g) Harrow
 - h) MB Plough
 - i) Bund Former (PTO operated)

j) Power Harrow (PTO Operated)

k) Subsoilers

B) Sowing Equipment

a) Seed cum fertilizer Drill (20- 35 BHP)

b) Seed cum fertilizer Drill (above 35 BHP)

C) Inter Cultivation Equipment

a) Power weeder (Engine Operated above 2 BHP)

b) Grass Weed slasher

D) Equipment for Residue Management

a) Stubble shaver

b) Balers (Round)

E) Harvesting & Threshing equipments

a) Multi Crop Threshers

b) Maize Sheller

c) Paddy Threshers

8 Plant Protection Equipments

a) Knapsack sprayer

b) Power operated Knapsack sprayer(12 - 16Lts)

c) Power operated Knapsack sprayer(above 16 Lts)

d) Tractor mounted sprayers

9. Post Harvest Technology

Establishment of PHT Units

10. Establishment of Custom Hiring Centers (component-4)

Others

CUSTOM HIRING CENTERS (CHC): These are packages of Crop Specific Machinery designed with machinery required for land preparation to harvesting.

During 2018-19 CHC's for Paddy (SMSRI, Mini SMSRI & Harvesting), Maize and Groundnut will be supplied to Group of farmers / RMG's / JLG's / SHG's with 40% subsidy on total cost of package.

1. SMSRI (Mechanized system of Rice Intensification)Package:



S.No	Machinery particulars	Quantity	Remarks
1	4 WD Tractor 20-40 PTO HP	1	Subsidy is limited to Rs 1 Lakh for others and Rs.1.25 lakhs for SC, ST, Women, Small and Marginal farmers
2	Rotavator- 36 Blades	1	Procurement subsidy for establishment of Custom Hiring Centre upto 25 lakh,40% assistance limited to Rs 10 Lakhs
3	Soil Pulveriser 5HP	1	
4	Nursery Raising Machine Manual / Automatic	1	
5	6 row self propelled Riding type Paddy Transplanter which can transplant 6 acres/day	1	
6	Alluminium Ramps, 12 Feet	1	
7	Nursery Trays	10000	
7	Fertilizer Broadcaster	1	
<p>Note: If the number of units are increased (except Tractor)then 40% assistance is allowed for equipment. All the machinery /equipments are to be purchased mandatorily.</p>			

2. Package of Mini MSRI machinery



Mini MSRI



4walker transplanter



Reaper



Mini Tractor with Rotovator

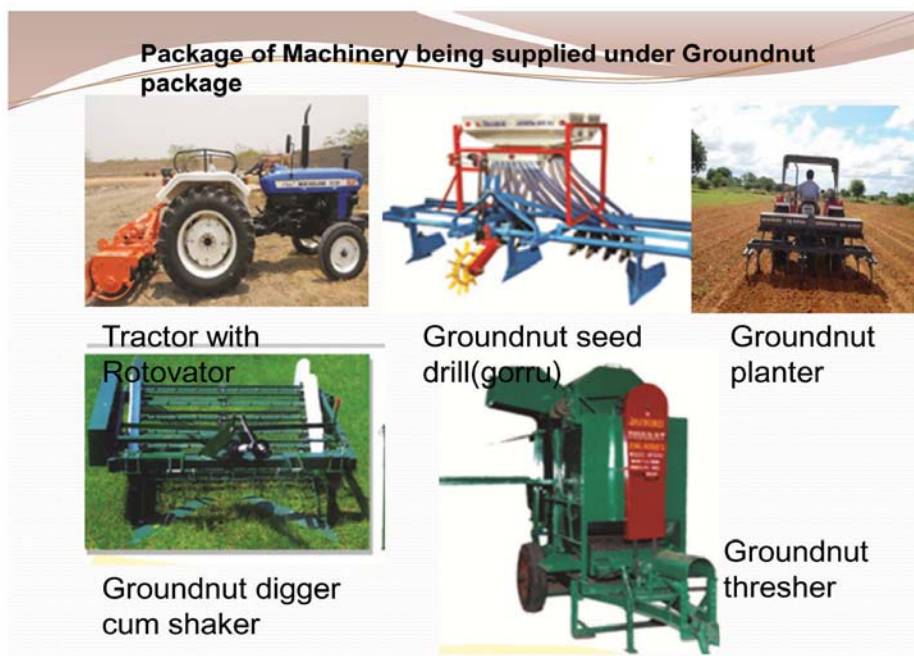
Power tiller



Paddy thresher

S.No	Machinery particulars	Quantity (in Nos)	Remarks
1	2 WD / 4 WD Tractor 20-40 PTO HP	1	Subsidy is limited to Rs 1 Lakh for others and Rs.1.25 lakhs for SC, ST, Women, Small and Marginal farmers
2	disc puddler /Rotavator -36 blades	1	Procurement subsidy for establishment of Community Hiring Centre upto 10 lakh Project is 40% limited to Rs 4 Lakhs
3	Manual seeding machine	1	
4	4 walker /6 walker paddy Transplanter	2	
5	Nursery Trays	5000	

3) Package of Machinery for Ground Nut & Pulse:



S.No	Machinery	Quantity	Remarks
1	2WD /4 WD Tractor 20-40 PTO HP		Subsidy is limited to Rs 1 Lakh for others and Rs.1.25 lakhs for SC, ST, Women, Small and Marginal farmers
2	Tractor drawn zero till seed cum ferti drill	1	Procurement subsidy for establishment of Custom Hiring Centre upto 10 lakh Project is 40% limited to RS 4 Lakhs. (Or)
3	Rotavator 36 Blades	1	
4	High Capacity Multi crop thresher / Multicrop thresher	1	Procurement subsidy for establishment of Custom Hiring Centre upto 25 lakh is 40% limited to Rs 10 Lakhs
5	Tractor Mounted Boom sprayer 1 No or High capacity knapsack sprayer (2 Nos)	1 or 2	

4. Harvesting cum residue management Package



S.no	Machinery	Quantity	Remarks
1	Combine Harvester for paddy and maize crop	1	Procurement subsidy for establishment of Custom Hiring Centre upto 40 lakh is 40 % limited to Rs 16 Lakhs
2	Alluminium Ramps, 13 Feet(for Track type combine only)	1	
3	Tractor Drawn Multicrop Shredder	1	
4	Hay Rake/ Baler(round/Rectangular)	1	

All the machinery /equipments are to be purchased mandatorily

5 . Custom Hiring Centres for Sugarcane :

S.No	Machinery particulars	Quantity	Recommendations of the Expert committee
1	Tractor above 55HP	2	Subsidy is limited to Rs 1 Lakh for others and Rs.1.25 lakhs for SC, ST, Women, Small and Marginal farmers per each tractor
2	Rotavator	1	Procurement subsidy for establishment of Custom Hiring Centre upto 100 lakh is 40% limited to Rs 40 Lakhs. Procurement subsidy for establishment of Custom Hiring Centre upto 150 lakh is 40% limited to RS 60 Lakhs
3	Infielder with attachments	2	
4	Rotary Mulcher	1	
5	Sugarcane Harvester (180-200 tons per day)	1	
6	Tractor 15-20PTO Hp	1	
7	Forward and reverse mini tiller	1	



