

Farm Mechanization

Farm Mechanization has been identified as one of the critical inputs for the production of Agriculture.

It may be described as an appropriate package of technology to

- Ensure timely field operations to increase productivity, reduce crop losses and improve produce quality
- Increase land utilization and input use efficiency
- Increase labour productivity through labour saving and drudgery reducing mechanical devices

Farm power availability:

1. Mobile power: From Humans, draught animals, power tillers, tractors and self-propelled machines
2. Stationary power: From Engines & Electric motors

Over the years, the contribution of the human animate source of power has been steeply going down, and additional need of farm power is being met through mechanical and electrical sources of power.

Mechanization Index: It is expressed as the % of work of tractors in the total human work and that of machinery. The mechanization index of the state at present is 2.06 kW/ha

Objectives of Farm Mechanization:

The broad objectives and requirements of agricultural mechanization in the state may be described as

- Should contribute to sustainable increase in yields, productivity & cropping intensity
- Should be extended to all categories of farmers due consideration to SF, & MF and to all regions
- Should contribute to the conservation of land and water resources
- More efficient use of inputs such as seeds, chemicals, fertilizers & energy
- Loss of Agri production both in quantity and quality should be reduced through timely operations & improvement in equipment and techniques
- Should lead to reduction in the cost of production of different commodities
- To reduce turnaround time and increase cropping intensity in irrigated agriculture
- Average supply of farm power to agri should be increased to 2.50 kW/ha by 2025
- The benefits have to be extended to all cropping systems including horticultural crops
- Promoting package of technology for mechanization of hill agriculture
- The quality of life and work environment of farm workers need to be improved

- Proper ergonomic designs incorporating the latest safety measures and comfort features should be made available
- Matching equipment for tractors, power tillers, and other prime movers should be made available
- The losses due to weeds, insects, pests, and diseases during pre-harvest and due to mechanical damage during harvesting, threshing, and handling need to be minimized to improve the quality of produce
- Reducing post-harvest losses and promoting on-farm value addition to agril produce should be made within the reach of farmers
- Large-scale rural entrepreneurship for custom hiring operation of machinery
- Strengthening training programs at various levels for different categories of people on operation & maintenance of machinery and transfer of technology.

Types of farm machinery and equipment and subsidy details :

The details of farm machinery and equipment that can be given on subsidy are furnished in Annexure I.

Details of budget released and expenditure incurred

Details of budget released and expenditure incurred during the periods 2014-19 & 2018-19 (Rs. In lakhs)

| S. No. | Year | Scheme | Target | | Achievement | |
|--------|--------------|--------|---------------|-----------------|---------------|-----------------|
| | | | Physical | Financial | Physical | Financial |
| 1 | 2014-15 | NSP | 99697 | 13260.47 | 85225 | 11775.07 |
| | | SMAM | 10555 | 1382.92 | 7044 | 1206.77 |
| | | RKVY | 13768 | 2809.2 | 16220 | 2341.23 |
| | Total | | 124020 | 17452.59 | 108489 | 15323.07 |
| 2 | 2015-16 | NSP | 144146 | 14162.98 | 115897 | 13841.62 |
| | | SMAM | 4437 | 1448 | 5874 | 1125.86 |
| | | RKVY | 4827 | 3328 | 3758 | 3108.94 |
| | Total | | 153410 | 18938.98 | 125529 | 18076.42 |
| 3 | 2016-17 | SDP | 62839 | 14663.11 | 50887 | 13191.61 |
| | | SMAM | 37230 | 8204.51 | 30214 | 8114.70 |
| | | RKVY | 39555 | 6790 | 12482 | 5624.18 |
| | Total | | 139624 | 29657.62 | 93583 | 26930.49 |
| 4 | 2017-18 | SDP | 12736 | 20492.23 | 12217 | 20229.5 |
| | | SMAM | 52324 | 22155.5 | 60426 | 21100.00 |
| | | RKVY | 95663 | 4975.27 | 45289 | 4422.31 |
| | Total | | 160723 | 47623.00 | 117932 | 45751.81 |
| 5 | 2018-19 | SDP | 12121 | 25618.00 | 11071 | 16817.62 |
| | | SMAM | 44009 | 25000.00 | 41937 | 20475.03 |
| | | RKVY | 814 | 6052.00 | 783 | 5445.34 |
| | Total | | 56944 | 56670.00 | 53791 | 42737.99 |

Yantra Seva Padhakam (Farm Mechanisation)

- The Department of Agriculture is implementing Yantra Seva Padhakam from 2021-22 onwards to promote the Farm Mechanization scheme.
- Govt. is taking up promotion of farm mechanization to cover all the villages, by establishing community hiring centres by farmer groups and the hiring services of CHC, mechanization made available to SF & MF without any investment burden or maintenance burden.
- The community hiring centers are being established utilizing the budget available under Centrally sponsored schemes **CSS-SMAM & CSS-RKVY** to provide subsidies to the beneficiaries. Further, the scheme is implemented in convergence with **CSS-Agriculture Infrastructure Fund (AIF)** under the provisions of which, the beneficiaries are provided with 3% interest subvention for the Financial Assistance (Loan) taken for procurement of Farm Machinery.

Types of CHC being established under Yantra Seva Padhakam :

| Sl. No | CHC | Unit cost | Subsidy | Loan | Farmer initial investment | Machinery allowed to procure |
|--------|--|-------------|---------------|----------------|---------------------------|---|
| 1 | RBK (Village) level Community Hiring Centres | Rs.15 lakhs | Rs.6.00 lakhs | Rs.7.50 lakhs | Rs.1.50 lakhs | Any farm machinery required for the crops cultivated in the village & has demand for hiring |
| 2 | Cluster level CHC | Rs.25 lakhs | Rs.10.0 lakhs | Rs.12.50 lakhs | Rs.2.50 lakhs | Combined Harvester & Straw Baler |
| 3 | Kisan Drone CHCs | Rs.10 lakhs | Rs.4.0 lakhs | Rs.5.0 lakhs | Rs.1.0 lakh | Kisan Drone and its accessories |

Salient features of Farm Mechanization Implementation Strategy adopted:

- **Execution through Farmer Groups:** The projects establishment of Community Hiring Centres at RBK (Village level) and Cluster level are being taken up through Farmer Groups.
- **Empanelling the quality tested Machinery:** Dept of Agriculture will empanel machinery having test certificates as per SMAM guidelines and enter into agreement with manufacturers to the terms and conditions stipulated by Govt.
- **Machinery selection by Farmer Group:** Farmer Groups were given final right to select the machinery as per the cropping pattern and local demand

to procure for their CHCs. Farmer groups are allowed to procure only the empanelled machinery and from the authorized dealers

- **Credit through APCOB:** Since, the scheme is being implemented under DBT mode, the Farmer groups are required to procure machinery at full cost payment. Where as to reduce initial investment burden and to ensure transparency in scheme implementation, Bank loan for 50% of unit cost is made mandatory. Further, Dept arranged credit facility to Farmer Groups from APCOB/DCCB at lower interest rates for 50% of machinery/project cost.
- **Direct Benefit Transfer:** Subsidy is released directly to the beneficiary bank account by the Government.
- **Price Monitoring:** District Price Monitoring Committees constituted in districts under the chairmanship of Joint Collector RBK to have supervision on the prices of machinery and by defining upper threshold prices of the machinery.
- **Support & Coordination of RBK for functioning of the CHC:** The CHC machinery and equipment shall be utilized for serving the farmers of the village/cluster RBKs support and coordination ensured for achieving the effective functioning of the units by following measures.
 - ✓ A premises shall be maintained for CHC establishment where all the machinery will be kept
 - ✓ It shall fix the hiring charges reasonable as per the local rates with due approval of Mandal Advisory Committee
 - ✓ Display of CHC details viz., Machinery details, Hiring Charges, Contact details at at the CHCs premises and RBK.
 - ✓ Monitoring the CHC functioning to ensure hiring at approved hiring charges
 - ✓ Coordinating the hiring services to needy farmers
- **Registers to be maintained at CHCs :**
 - ✓ The following records at CHC level and monitor them for timely updation of records for effective functioning of CHCs .
 - ✧ CHC Asset Register
 - ✧ CHC Hiring Register
 - ✧ CHC bank loan remittance register
 - ✓ The formats for maintenance of above records mentioned in the Annexure II are communicated to all the districts.
 - ✓ The bank loan shall be paid as per the scheduled time lines to the bank and update in the register along with receipts.
 - ✓ The ADAs, MAOs and VAAs shall inspect the CHCs , monitor for timely updation of above records and upload the visit in the PM app.
- **Yantra Seva Padhakam – CHC Monitoring APP**

- ✓ Online booking of implements on hire by the farmers for all the implements available in all CHCs within Mandal through VAA and Web portal
- ✓ Monitoring of hiring charges collected by the CHC group fortnightly for all the implements of CHC
- ✓ Monitoring of release and remittance of bank loan taken by the CHC

Budget Releases and Expenditure particulars from 2019-20 to 2022-23 (Rs. In lakhs)

| Sl. No. | Year | Scheme | Target | | Achievement | |
|---------|--------------|--------|---|--------------------|------------------------|--------------|
| | | | Physical | Financial | Physical | Financial |
| 1 | 2019-20 | SMAM | | 23300 | Scheme not implemented | |
| 2 | 2020-21 | SMAM | | 21951 | | |
| 3 | 2021-22 | SMAM | 12365 | 23337 | 6919 | 24067 |
| 4 | 2022-23 | SMAM | | 7908 | 4020 | 12558 |
| 5 | 2023-24 | SMAM | 3.50 lakh farmers + 2000 groups | 53500 (Allocation) | under progress | |
| | Total | | 14365 groups + 3.50 lakh farmers | 76496 | 10939 | 36625 |

Yantra Seva Padhakam Achievement:

From 2021-22 till June'2023, the total RBK level CHCs are established in 10444 villages and 492 Cluster level CHCs are established with a total machinery value of Rs.1052.42 Cr and subsidy expenditure incurred Rs. 366.25 Cr.

| Component | upto 2022-23 | | | During 2023-24 | | | Total Achievement | | |
|-------------------------------------|--------------|---|---------------------------|----------------|---|---------------------------|-------------------|---|---------------------------|
| | No. of CHC | Value of Machinery procured by CHCs (Rs. in Cr) | Subsidy Value (Rs. in Cr) | No. of CHC | Value of Machinery procured by CHCs (Rs. in Cr) | Subsidy Value (Rs. in Cr) | No. of CHC | Value of Machinery procured by CHCs (Rs. in Cr) | Subsidy Value (Rs. in Cr) |
| Establishment of RBK level CHCs | 6525 | 587.64 | 206.17 | 3919 | 334.00 | 116.75 | 10444 | 921.64 | 322.92 |
| Establishment of Cluster level CHCs | 391 | 103.23 | 34.5 | 101 | 27.55 | 8.83 | 492 | 130.78 | 43.33 |
| Total | 6916 | 690.87 | 240.67 | 4019 | 361.54 | 125.58 | 10936 | 1052.42 | 366.25 |

Total Machinery Grounding

| Item | Upto 2022-23 | During 2023-24 | Total Achievement |
|--------------------|--------------|----------------|-------------------|
| Tractors | 3800 | 2562 | 6362 |
| Combine Harvesters | 391 | 101 | 492 |
| Other implements | 22260 | 9096 | 31356 |

ACTION PLAN (2023-24)

| Sl. No | Activity | Target | Project Outlay (Rs.in Cr) | Subsidy- Budget allocation (Rs. in Cr) |
|--------|--|----------|---------------------------|--|
| 1 | Establishment of Kisan Drone CHCs | 2000 | 200 | 80 |
| 2 | Supply of Implements to individual farmers | 3.5 lakh | 910 | 455 |
| | TOTAL | | 1110 | 535 |