

B.Sc (Ag) IIIrd Semester

Course Name- Farm Power and Machinery

Course Code- BSCAG-215

Mechanization at a Glance: Limiting Factors and Suggestion

MECHANIZATION AT A GLANCE:

Farm mechanization is the application of various types of machines and other agricultural implements during the production, transportation and processing of agricultural products. Intensive agriculture requires application of diverse machinery that saves time and labor in field operation. Mechanization gives higher cropping intensity, economical uses of irrigation facilities, timely sowing, harvesting, and transportation of inputs to the fields.

Agricultural mechanization involves judicious application of inputs by using agricultural machinery / equipment i.e. hand tools, bullock drawn implements, and power driven machines. Machines also play an important role in water conservation through land levelling, and soil compaction. Mechanization ensures reduction of drudgery with various farm operations. Mechanization does not necessarily displace labor but labor employment is enhanced by way of increase in cropped area, handling of more produce, expansion of marketing infrastructure etc. Mechanization is necessary to increase productivity and conservation of energy required for various operations involved in crop production, threshing, processing, transportation, storage etc. Shelters, potato planter cane crusher, sugarcane cutter planter, strip - till drill, zero-till drill and rotavator. Several measures have been accomplished in India such as:

- Identification of prototype under ICAR schemes, State Agricultural Universities and State Governments.
- Demonstration of newly developed equipment.
- Provision of facilities for repair and maintenance of farm machinery at appropriate levels.
- Financial assistance in the form of subsidy to farmers for purchase of equipments.
- Provision of credit facilities to the farmers for purchase of agricultural implements.
- Exemption of excise duty on agricultural implements.

The Farm Machinery Training and Testing Institutes at Budni (MP), Hissar (Haryana) Garladinne (AP) and Bishwanath Chariali (Assam) established by the Government of India play a vital role in organized tests for performance evaluation of agricultural machinery to assess their functional suitability.

LIMITING FACTORS IN FARM MECHANIZATION:

The following are the limiting factors in farm mechanization in India.

- Small land holdings.
- Less investment capacity of farmers.
- Agricultural labor is easily available.
- Adequate draft animals are available in the country.
- Lack of suitable farm machine for different operation.
- Lack of repair and servicing facilities for machines.
- Lack of trained man power.
- Lack of coordination between research organization and manufacturer.
- High cost of machines.
- Inadequate quality control of machine.

SUGGESTION FOR FARM MECHANIZATION:

- To develop a national policy on farm mechanization.
- To establish an apex body to implement the national policy on farm mechanization. This may provide basis for industries to plan their capacities, sale and servicing of equipment.
- To open adequate training centers for imparting training to engineers, mechanics, technicians, operators, and users on the farm power and machinery regarding proper selection, operation, maintenance and repair of machines.
- To start testing and evaluating centers for farm power and machinery on regional basis.
- To establish adequate centers for repairs and spare parts of machines.
- To reinforce tractor testing station on the lines of international testing stations.
- To improve the industrial policy for maintaining better quality of implements and machines.
- Agricultural Engineering Extension Education is required to be established on sound footing to keep the farmers up to date on various aspects of application of engineering to agriculture.
- The landless workers need financial assistance to own hand tools to improve their earnings.
- Post harvest technology deserves special attention.
- Custom hiring system is required to be encouraged in rural areas.

STATUS OF FARM MECHANIZATION IN INDIA:

Present status of farm mechanization in India can be viewed under the following general categories:

- Improved manual tools.
- Improved animal drawn implements.
- Tractor operated implements.
- Custom hiring units on the farm.
- Other stationary equipments like thresher, irrigation pumps, sprayers, duster etc.

REFERENCES:

1.	Agricultural Engineering	Dr. Jagdishwar Sahay
2.	Farm Machinery	S.C. Jain and Er. Grace Philip

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