**Farm Mechanization: A boon for farmers**

**Rajeshwari Desai\*, Geeta Channal\*\* and Bhavini Patil\*\*\***

***\*Senior Scientist, AICRP-WIA (FRM), \*\* Senior Scientist, AICRP-WIA (Extn), Young professional\*\*\****

**University of Agricultural Sciences, Dharwad, Karnataka**

**Authors**

***Dr. Rajeshwari Desai***

Senior Scientist

AICRP on Women in Agriculture (FRM)

University of Agricultural Sciences

Dharwad - 580 005

Karnataka

Ph No.: 9448914999

Email: [rajeshwarimanohardesai@gmail.com](mailto:rajeshwarimanohardesai@gmail.com)

***Dr. Geeta Channal***

Senior Scientist

AICRP on Women in Agriculture (Extn)

University of Agricultural Sciences

Dharwad - 580 005

Karnataka

**Farm Mechanization: A boon for farmers**

Agriculture, being the mainstay of India’s rural economy, contributes to employment and livelihood creation. The sector remains crucial for the economy, to meet food and nutritional requirements of population. Despite its vital role, the sector suffers from major hindrances and roadblocks in production, intermediaries and water scarcity, which have restrained growth. The rapidly growing population is leading to increased food demand. Hence, the food security for the Nation has to be achieved. Hence, it is imperative to focus on increase in production, productivity and profitability in agriculture by improving the intensity of farm mechanization in the country.

Farm mechanization refers to the development and use of machines, which replace human and animal power in agriculture. In other words Farm Mechanization is the operation of using Agricultural Machinery to in agriculture to increase productivity and reduce the drudgery.

The farm mechanization aids in increasing production, productivity and profitability in agriculture by achieving timeliness in farm operations, bringing precision in placement of inputs, increasing utilization of costly inputs (seed, chemical, fertilizer, irrigation, water etc.) and by reducing labour cost and drudgery of farmers/farm women.

**Advantages of mechanization**

* increase the land productivity by facilitating timeliness and precision/quality of farm cultivation
* meet the labour shortages and manages the increasing demand for labour
* decrease the environmental footprint of agriculture when combined with adequate conservation agriculture practices
* reduces the drudgery and musculo- skeletal disorders of farm women caused by performing the farm activities continuously
* the amount of farm women/farmers work is significantly decreased as mechanization takes less man power to complete operations
* need of lesser man power with the inception the mechanization results in decreased labour costs, as well as increased profits
* production is completed in a shorter amount of time with the introduction of mechanization thus saves the time
* boosts crop output and farm income

**Limiting factors in farm mechanization:** Mechanical power is largely consumed in large land holdings. It is still beyond the reach of small/marginal holdings which constitutes around 80% of the total land holdings. This is due to the fact that the small/marginal farmers, by virtue of their economic condition are unable to own farm machinery on their own or through institutional credit. Apart from these there are various limitations in adopting farm mechanization:

* Small and fragmented land holdings leads to lack of access to farm power
* Low investment capacity of farmers to efficiently own such equipment
* Unchallenging agricultural labour in India
* Availability of adequate draught animals
* Lack of availability of appropriate farm machines for different farm operations.
* Difficulty in maintenance machines because of
* Lack of trained and skilled man power in rural areas
* Lack of co-ordination between University/Agriculture department/ Research organization and Manufacturers.
* Expensive machines, hence difficult to for the farmers to purchase
* The after-sale service is a major concern due to the inadequacy of proper maintenance of machines in remote regions of rural areas
* The unwillingness of commercial banks to finance the famers to purchase farm equipment

Therefore in order to bring farm machinery available within the reach of small/marginal holdings, collective ownership or Custom Hiring Centres needs to promoted in a big way.

**Custom Hiring Centers**

Custom Hiring Centre (CHC) is a unit composing a set of farm machinery, implements and equipment meant for hiring to farmers. The main objective of CHC is to supply of farm implements to small, marginal and poor farmers at subsidized rates on hire. Though certain implements and equipment are crop specific, the traction units like tractors, power tillers etc., and self-propelled machinery like combine harvesters etc., are used in common. The CHCs identify the farm machinery to be kept based on the local cropping pattern and demand from the farming community.

**Potential for Custom Hiring Centers :**

The availability farm machines for small/marginal land holdings is the lowest. The small/marginal holdings constitutes around 80 per cent of total land holdings, the potential for CHC is quite huge. The Government of India, after acknowledging potential of Custom Hiring Centre has envisaged increase of farm power availability from the present level (0.93 kw/ha) to 2kw/ha during the 12th plan period. The initiative towards this objective is The Sub Mission on Agricultural Machinery (SMAM).

The subsidy schemes are also being formulated to encourage entrepreneurs and agri graduates to set up custom hiring centres. Therefore, keeping in view the emphasis of agricultural farm machinery and the need for taking the of farm machinery within the reach of small/marginal farmers, institutional credit needs to be made available for CHCs.

**Location of the CHCs**

One CHC is anticipated to cater to the demands of four to five villages and therefore a common place equidistant from the villages is preferable. The CHCs are maintained by the Department of Agriculture.

**Income and Expenditure**

The investment on made for purchase of the identified equipments/implements/ farm machines. While the major recurring cost involved includes fuel / lubricant cost for the machinery, driver charges, repair maintenance charges, salary of employees, interest on bank loan and insurance. Later the income is generated by the CHCs by hiring the farm machinery to the farming community. The hiring charges are hourly based and bigger the machines, higher the chargers will be.

**Conclusion**

Thus, the expanding needs of the agricultural mechanization in the country can only be accomplished by taking definite policy measures and the strategic planning. Keeping abreast with the recent advances & development in agricultural mechanization, up gradation of technology is needed to be a continuous process.

However the Agricultural Universities especially, All India Co-ordinated Research Project on Women in Agriculture (Family Resource Management) at national level are working on development and medication of drudgery reducing farm tools. These tools are gender friendly, portable, reduces drudgery of farm women and labour cost. The farm tools are developed based on the needs and demands of the farming community. Later they are ergonomically tested, filed validated. Further, after conducting the studies in farmers acceptability, they are popularized among the farming community. The research on aforementioned has to be encouraged and supported for the benefit of the farming community.