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RESEARCH PAPER

Study on the problems of implementing farm mechanization process in rural areas of Vidarbha region in Maharashtra

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ABSTRACT

This paper mainly studies the concept of the farm mechanisation process in the suicidal prone areas of Vidarbha region. It includes the study on the policy of the agriculture instruments being innovated by the local agriculture universities. It also examines the problems of the farmers about their inability to implement the farm mechanization process (Acharya, 2009). It also focuses on the Govt. policy being implemented for the betterment of providing this instruments at a cheaper rate to the farmers. The demand for farm mechanics is a derived demand . A timely and adequate supply at fair prices of farm machinery are of great importance in the production of farm output. Most of the mechanical inputs have displaced human and bullock labour, which is socially unjustified. Suitable policies should be framed for the suicidal prone area of Vidarbha such as encouraging cooperative management of machinery, imparting training to the farmers regarding such investment, encouraging standard service inputs, devising machinery problem from small farmers and dry land cultivation.

Key words **:** Farm mechanization, Agriculture sector, Crops, Farmers

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The technological improvements in Indian agriculture since mid sixties have brought about revolutionary increase in agricultural production. Interestingly, the growth rate of food grain production particularly in case of wheat and rice was much higher than the growth rate of population. The country was facing acute food shortages till eighties has now become not only self-sufficient but also a net exporter of food grains. This has been made possible due to evolution of high yielding crop varieties, increased use of chemical fertilizers, development of irrigation facilities and plant protection measures accompanied by effective price support programmes of farm products. The increased use of purchased inputs in agriculture necessitated to raise their use efficiencies though mechanization. The increase in the use of human and bullock labour and rising wage rates and cost of up-keep of bullock further made the case of farm mechanization still stronger (Kumar, 2011).

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In the context of increasing commercialization of agriculture, mechanization is very important. The agricultural engineering inputs have played appreciable role in increasing production and productivity through appropriate mechanization inputs for production and post production agriculture enabling timely field operations, conservation and judicious application of water, appropriate post harvest operations to reduce losses, value addition to the product and by-products for enhanced economic returns and employment generation. Though, India has abundant labour force in agriculture, non-availability of manpower during peak crop season is a growing problem. The infrastructure needed for agricultural diversification like rural roads, drying yards, storage structures, transportation facilities, packaging and branding system is further strengthening (Kumar, 2011).

It is possible for farmers to take yields of crops two times every single years by using the innovative machines, which increases the productivity of the land by around 12 – 34 per cent and the profit by around 29-49 per cent.Currently in India around 10 lakh technician are being employed in the repairing of the farm instruments. Around 126 lakh

tractors,9650 power tiller, 38.8 lakh thresher and 168 lakh irrigated pumps are being used in the agriculture sector.

Problems in implementing the farm mechanization process in Vidarbha:

Following problems have been faced by the farmers while implementing the farm mechanization process in the Vidarbha region :

Size of land:

Small size and scattered holdings of the farmers stand in the way of mechanization. As a result of this, farm machinery generally remains underutilized.

Poverty :

Majority of small cultivators are poor who are not in a position to purchase the costly machinery like tractors, combine harvesters etc.

Information :

Lack of proper knowledge of farmer to purchase farm machinery, operate and maintain it properly leads to wrong choice, makes it uneconomical and risky too.

Repair facilities:

The lack of repair and replacement facilities especially in the remote rural areas is another hindrance in efficient small farm mechanization.

Idle machinery :

Due to the seasonal nature of the agriculture, the farm machinery remains idle for much of the time. Thus, idle machinery means unnecessary high costs unless proper alternate use of such machinery in the off-season is made.

Agriculture credit:

The govt. has focussed very less with respect to make the credit facility available for the farmers , due to which they get switched to the traditional farming.

Poor training facility:

There were no such training facility or workshops being organized by the agriculture research centre or universities.

Research objectives :

- To examine the problems faced by the farmers.
- To examine the working of Agriculture University in Vidarbha.
- To examine the schemes implemented by the State Govt.

METHODOLOGY

Based on the above problems discussed, the survey was carried out in three villages *i.e.* Ghavahan , Vadaner and Kakada in Vidarbha region of Maharashtra. The survey was based on those farmers having both dry and drip irrigation land. This survey covered the agricultural village with 400 households, nearly 1800 people. The data were collected through in depth personal interviews with the respondents. The final sample consisted of 100 farmers.

ANALYSIS AND DISCUSSION

The findings of the present study as well as relevant discussion have been summarized under following heads:

Focus on working of agriculture university in Vidarbha :

The agriculture university and research centres in Vidarbha had failed to performed with the growing demand of the agriculture sector. From last 40 years, the university had just invented 13 instruments while the farmers had innovated doubled the number of instruments. Thus, the university found to be on the back foot in terms of innovation in comparison with the farmers (Table 1). Also the instrument which were invented by the university were nothing but the remoulding of the old instrument. Moreover, the implementation and the use of the instrument was also found to be less encouraging.

Though there was a problem of cotton picking in the Vidarbha but still the university failed to solve these problem. From many years, Dr. PKV, Akola and Central Cotton Research Centre, Nagpur were jointly working to find out the cotton picking instruments but still there was no success. At last, the cotton picking machine was imported. But now many private companies had come forward and invented the duplicate instrument on the line of the imported instrument so as to make it easily available for the farmers.

Table 1 : Working on farm mechanization by university

University	Working years	Instruments invented	Tenure of invention
Dr. Panjabrao Deshmukh Agriculture University (PKV), Akola	42	13	1 Instrument every 3 year

Focus on schemes implemented by the State Govt.:

In order to provide various agricultural instruments like tractors, power tiller etc. on a grant basis to farmers, the Govt. had started the 'Agricultural Technology Scheme'. Area wise given in Table 2.

The three villages where the survey was conducted the analysis of farmers has been presented in Table 3.

Suggestions:

An approach that provides incentives and rewards to

Table 2 : Area wise distribution of grant in Vidarbha

Area	Beneficiary	Amount granted (lakhs)
Buldhana	240	57
Akola	268	37
Washim	76	28
Amravati	232	51
Yavatmal	116	33
Wardha	171	17
Nagpur	180	21
Bhandara	133	13
Gondia	188	22
Chandrapur	187	20
Ghadchiroli	114	9
Total	1905	3 crores 8 lakhs

Table 3 : Analysis of farmers

Problems	Ghavahan(%)	Vadaner(%)	Kakada(%)
Size of land	34	22	26
Poverty	36	27	32
Information	12	15	10
Repair facilities	2	8	6
Idle machinery	2	6	8
Agriculture credit	8	14	11
Poor training facility	6	8	7

farmers is required. The knowledge that makes the transformation possible is a form of capital, which entails investment. Investment not only in material inputs in which a part of this knowledge is embedded but importantly also investment in farm people. In order to attract private firms, distribution of modern inputs has got to made profitable. Non private agencies can play a role in supplying these modern inputs. A network of agricultural extension services has to set up. Search for new factors, learning how to use them and costs and returns need to be stressed while implementing various schemes. A committee or research centre for testing of machinery should be set up, where the farmers and scientists of the universities can work together towards the development of agriculture technology. More important of all is to stress the use of machines among the small and marginal farmers. Those farmers cannot purchase the expensive instruments due to which it was necessary to promote the traders who can provide these instruments on rent basis. The rural bank should favour the credit policy for this purpose .

Conclusion :

Mechanization in Indian agriculture is the need of the time but its use has to be viewed from various angles of problems being faced by the farmers. To rationalize the existing farm machinery is important as seen from the high variability in inter-regional distribution. Supply of investment may not be a serious problem but to determine the forms of this investment in agriculture is the real problem. Traditional agriculture can improve only when farm people learn the economic virtue of 'work and thrift'. The differences in land are least important, differences in the quality of material capital are of great importance and differences in the capabilities of farm people are most important in explaining the differences in the amount and rate of increase of a farm production. So ,in order to minimize the number of suicidal conditions, it is very necessary to modernize the farm mechanization process so as to make the agricultural sector more profitable to them.

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