Plant Archives Vol. 17 No. 1, 2017 pp. 561-563 *ISSN 0972-5210*

STUDY THE CURRENT STATUS OF MECHANIZATION AND MAJOR CROPS PRODUCTION LEVEL OF SELECTED BLOCKS IN ETAWAH DISTRICT, UTTAR PRADESH, INDIA

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Abstract

A study was conducted in Etawah district during 2014 were selected considering the owning improved implements of bullock, tractor and power operated categories were surveyed this study. The number of tractor harrow, which is one of the most important secondary tillage implements was also owned by 89.5% of tractor owner farmers. The major crop production in this area was potato based on sample survey, 250 q/ha 240 q/ha and 180 q/ha in Barhpura, Jaswantnagar and Basrehar blocks.

Key words : Mechanization, major crop, production level.

Introduction

Tools, implements and powered machinery are essential and major inputs to agriculture; it can be argued that they are one of the most important. The term "Mechanization" is generally used as an overall description of the application of these inputs. There are three sources of farm power utilized for these tools, machines and equipment, manual (human) and animal draft, and motorized power. In many developing countries up to 80% of farm power is provided by human beings. In most developed countries human beings are used less and less as a source of power and more for machine operation and control.

The level, appropriate choice and subsequent proper use of mechanized inputs into agriculture has a direct and significant effect on achievable levels of land productivity, labour productivity, the profitability of farming, the environment and last but not least, on the quality of life of people engaged in agriculture (Clarke, 2000).

Agricultural mechanization is the application of mechanical technology and increased power to agriculture, largely as a means to enhance the productivity of human labour and often to achieve results well beyond the capacity of human labour. This includes the use of tractors of various types as well as animal-powered and human-powered implements and tools and internal combustion engines, electric motors, solar power and other methods of energy conversion. Mechanization also includes irrigation systems, food processing and related technologies and equipment. Levels and types of improved mechanical technologies need to be appropriate, that is, compatible with local, agronomic, socio-economic, environmental and industrial conditions (Rijk, 1989).

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Materials and Methods

The study was aimed at assessing the status of agricultural mechanization and production level of major crops in Etawah district were selected three blocks (higher, medium and lower mechanization index group) *viz.,* Jaswantnagar, Barhpura and Basrehar. A set of interview schedule was used for data collection. The interview schedule was prepared to collect relevant data related to farm implements. The statical method stratified multi-stage random sampling design was used for data collection. The data were collected from statical bulleting of Etawah district during January 2014 - May, 2014. The selection procedure of three blocks in Etawah district is given in table 1.

Results and Discussion

The survey status of Agricultural Implements use in Uttar Pradesh included the one representative district of different climate zone of U.P. The survey showed that

average farm power availability was 1.879 hp/ha in U.P and only 1.646 hp/ha was utilize in agriculture. The total power utilize in agriculture excluding irrigation was only 0.914 hp/ha (NDUAT, 1988).

The block wise use of manually operated tools and equipments on the basis of numbers per 1000 ha of cultivated area. In Etawah district, manually operated equipments are serrated sickle, Punjab sickle type used by 90-95% sickle. The number of bullock drawn 3-tyne cultivator (locally called Tifara) was found in considerable numbers about 65% farmers owned this implements.

Ram (1997) was observed that the tractor drawn cultivator is the only equipment which is available with almost every tractor owners. The harrow, which is one of the most important secondary tillage implements was also owned by 89.5% of tractor owner farmers.

The information regarding average yields of major crops grown in selected blocks based on sample survey of nine villages, three blocks is table 2. The average productivity of major crops in respect of Etawah district has also been given in table 3. Information in respect of percentage irrigated area and average land holding size based on sample survey. The average yields in sample survey were, in general, slightly higher than reported district average. This may be due to smaller sample size which may not be truly representing the whole district.

The major crops of Kharif season of selected blocks were Paddy, Millet and Maize. The productivity of paddy

Table 1 : List of selected blocks and villages surveyed in Etawah district.

S. no.	Name of selected blocks	Mechanization index of block	Name of Villages
1.	Jaswantnagar	783.05	i) Sishat ii) Kaist iii) Pathakpura
2.	Basrehar	519.6	i) Pachawali ii) Itgaon iii) Nagla Hiralal
3.	Barhpura	273.85	i) Butar ii) Sarai Aser iii) Alampura

Table 2 : Production level of major crops in selected blocks of Etawah district (Based on Sample Survey).

S. no.	Particulars	Selected Blocks			
		Jaswantnagar	**Basrehar**	**Barhpura**	**District Average**
1.	Average actual land holding size (ha)	0.77	0.825	0.624	0.74
2.	Irrigated area (%)	95.2	98.27	96.1	96.5
3.	Cropping intensity (%)	170	165	141.4	158.8
4.	Average yields of main crops (q/ha)				
	Kharif				
i)	Paddy	21.0	22.8	25.0	22.9
ii)	Millet	18.1	19.3	20.3	19.2
iii)	Maize	24.0	24.1	25.7	24.6
	Rabi				
i)	Wheat	29.5	30.2	30.8	30.2
ii)	Pea	18.25	17.5	19.3	18.4
iii)	Potato	240.0	180.0	250.0	223.3
iv)	Mustered	13.5	11.2	12.25	12.32
	Jayad				
i)	Moong	5.1	4.8	4.8	4.9
ii)	Urd	6.3	6.9	7.1	6.8

Table 3 : Major Crops Production Level of Selected Blocks in Etawah District.

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was higher in Barhpura block (25 q/ha) followed by Basrehar block (22.82 q/ha) and Jaswantnagar block (21.0 q/ha). The productivity of second major crop millet was also found highest 20 q/ha in Barhpura block of sample surveyed blocks, followed by 19.3 q/ha and 18.1 q/ha in Basrehar and Jaswantnagar blocks, respectively.

The major crops of *Rabi* season were wheat and potato of the surveyed blocks, which were same as the whole Eatawah district cropping pattern. The productivity of wheat in surveyed blocks was found highest as 30.8 q/ha in Barhpura block followed by 30.2 q/ha and 29.5 q/ha in Basrehar and Jaswantnagar blocks, respectively. The productivity of potato based on sample survey was 250 q/ha 240 q/ha and 180 q/ha in Barhpura, Jaswantnagar and Basrehar blocks, respectively.

The major crop of Jayad of selected blocks was Urd within average district productivity of 6.8 q/ha where in surveyed blocks, it was found 7.1 q/ha, 6.9 q/ha and 6 3 q/ha in Barhpura, Basrehar and Jaswantnagar blocks, respectively. During survey, it was found that cultivated area under crop in Jayad was less because farmers of these blocks preferred to grow different vegetable crops (Singh and Chaudhary, 1998).

References

Clarke, L. J. (2000). The roles of the private sector and the government, Agricultural Engineering Branch, Agricultural Support Systems Division, FAO, Rome, Italy, pp4.

NDUAT (1988). Status of Agricultural Implements use in Uttar Pradesh, Department of Agricultural Engineering, NarendraDev University and Technology. Faizabad.

Ram, R. B. (1997). Trends of farm mechanization in south Bihar alluvia! plain zone. Paper presented in the XXXII Annual convention of ISAE held at PAU Ludhiana, April.

Rijk, A. G. (1989). Agricultural mechanization policy and strategy. *Asian Productivity Organization*, Tokyo, Japan.

Singh, V. V. and D. Chaudhary (1998). Study of cropping system ana agricultural practices for identification of farm mechanization gaps and suitable farm machines. Progress report, CIAE, Bhopal.