

## Impact study of Field Demonstration of Women Friendly Farm Implements in Chatra District of Jharkhand.

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**Abstract:** Demonstration play a very important role of disseminate the new technology among the farmers Demonstration of some women friendly farm implements/machines conducted in a village of five different families to find out the impact of demonstration. It was observed that the cost saving in self propelled paddy transplanter, drum seeder conoweeder, sprayer self propelled reaper, pedal type thresher, Winnower, Wheel hoe, Grubber, Grubber with wheel Twine wheel hoe were 67, 90, 71, 50, 63, 66, 50, 64, 69, 74 and 76% less than the traditional implements machines respectively.

**Keywords:** Cono weeder, Drum Seeder, Wheal hoe, Cost of cultivation, Cost of Saving.

### INTRODUCTION

India has 2.4% of the worlds geographical area and 4% water resource but has to support 17 and 15% of worlds humun and live stock population. Agriculture contribute 14% to the nations GDP. Productivity in agriculture depends greatly on availability and Judicious use of farm power sources and use of improved agricultural implements and machines Agricultural machines increase productivity of labour by meeting timeliness of farm operations and enables efficient utilization of inputs such as seeds and fertilizers. During 1960-61 major contribution in farm power was from animate power (92.30%) where as in 2009-10 major share 86.85% was from mechanical and electrical power during which mean farm power availability has increased at a CAGR of 4.58% from 0.2kw/ha to 1.73 kw/ha (B.Sanjeeva Ready et al June, 2015). However, the contribution from draft animal and agriculture labour source had gone down drastically in this period. Thus there is a need for mechanization of farm particularly small and marginal farms in dryland areas for enhancing efficiency of resources.

Jharkhand is predominantly agriculture based state and more than 80% of the state population is

directly and indirectly involved in agriculture. Rice is the main crop of our state in addition to rice vegetable, maize, pulses, groundnut Niger are grown by the farmers. Due to scarcity of labour in peak operating time, farmers are now a days depending more on agricultural implements and machines for their farm operations. Due to acute shortage of labour force, mechanization is being gaining popularity in the state through various schemes Kendriya Yojna Antargat Krishi Yantra/ Machines are demonstrated in district. In above scheme various types of agricultural implements/ machines are provided to farmers on subsidy by soil conservation department i.e. Tractor, Powertiller, Pump, Seed drill, Zero tillage, Power thresher, Conoweeder. Wheel hoe, Grubber hoe, Sprayer, Fertilizer broad caster Marker etc.

Krishi Vigyan Kendra, Chatra also play a most important role for demonstration of above machines/implements among the farmers of district because one set of each implements machines have been given to KVK. There has been a close nexus between farm power availability and increased productivity. The power productivity relationship shows that those states having higher farm power

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availability have higher productivity. The productivity of rice wheat in Punjab, Haryana, U.P. was more than other states namely Jharkhand, Orissa, W.B. Assam, Chatisgarh has farm power availability is less than 1.5 kw/ha.

The present farm power availability has to be scoled upto above 2.5 kw/ha by 2020 to achieve higher food grain production. Many research shows that production increased 10-15% and cost of cultivation decreased 50-60% by enhancing mechanical power input in agriculture and also used of improved farm implements humandrawn/ animal drawn (A. K. Goel *et al.* 2014). As a major portion of agricultural workers are women and they perform tedious job like, transplanting weeding harvesting should be provide then suitable implements/machines for reduction of their drudgery. There are many farm women wants to improved implements/machines for different operation of agriculture but unavailability of implements, repairs & maintenance facility and financial problem are also compelled them to continue traditional implements.

Demonstration of women friendly tools and implements are encouraged the farmers and farm women to use to improved tools/ machines and any

other new technology, Scientists are required to study the factors who contributing the increase of crop production, decrease cost of cultivation field constraints and generate field back information (Sen Gupta & Kumar 2011) In this experiment we want to study the feedback of demonstration.

## MATERIALS AND METHODS

The demonstration of implements/Machines were conducted in Gidhour village of Chatra district Jharkhand the five farm women were randomly selected from village and demonstration were conducted in their field. All the farm women were not use impenents/machines before So after a short time training all implements/machines are operated by farm women.

The implements/machines are demonstrated in this village are

1. Self propelled 8 row paddy transplanted
2. Drum Seeder
3. Cono weeder
4. Sprayer (Rocking)
5. Self propelled reaper
6. Pedal type paddy thresher

**Effect of demonstration of women friendly implements/machines**

Sl.No	Implements/Machines demonstrated	Crop	Cost of operation (Rs/ha/day)		
			Before use of implements/machines	Before use of implements/machines	Cost of Saving (Rs/ha/day)
01	Self propelled 8 row paddy transplanter	Rice	3800	1250	2550 (67%)
02	Drum Seeder	Rice	3800	300	3500 (90%)
03	Cono weeder	Rice	8500	2400	6100 (71%)
04	Sprayer (Rocking)	Any crop	600	300	300 (50%)
05	Self propelled reaper	Rice/wheat	3000	1100	1900 (63%)
06	Pedal type paddy thresher	Rice	450	150	300 (66%)
07	Winnower	Any crop	600	300	300 (50%)
08	Fertilizer broad caster	Rice/Wheat/ pulses Uniform Broadcasting			
09	Wheel hoe	Vegetable/maize	11700	4200	7500 (64%)
10	Grubber	Vegetable/maize	11700	3600	8100 (69%)
11	Grubber with wheel	Vegetable/maize	11700	300	8700 (74%)
12	Twine wheel hoe.	Vegetable/maize	11700	2700	9000 (76%)

Figures are given in parenthesize indicate the percentage (%)

7. Wheel hoe
8. Grubber
9. Twine wheel hoe
10. Grubber with wheel
11. Hand winnower
12. Fertilizer broad caster

The cost of operation Rs/ha and a cost of saving Rs/ha during demonstration are given bellows.

The result revealed that the cost of saving in transplanting operation through self propelled paddy transplanter is 67% more than manual transplanting. Similarly different field operation through different implements/machines i.e. drum seeder, Conoweeder, Sprayer, Self propelled reaper, Pedal type thresher, Winnower, Wheel hoe, Grubber, Grubber with wheel, Twine wheel hoe were save cost of operation less than the traditional operation were 90, 71, 50, 63, 66, 50, 69, 7 and, 76% respectively.

Therefore above technology is most suitable in biophysical and socio economic condition of Chatra district, Jharkhand for better crop production and less cost of cultivation.

## **CONCLUSIONS**

After demonstration of all implements/machines in village farmers specially farm women are very exited to accept these implements/machines because less weight, easy operate, less drudgery more cost of saving over the traditional implements. So Krishi Vigyan Kendra continuously demonstrate different farm implements/machines since 2006-07 to till continue and farmers are accepted these implements/machines and purchase also and increased our income and social status among other rice people of village.

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