

DRUDGERY REDUCING HARVESTING TOOLS AND EQUIPMENT USED BY INDIAN FARM WOMEN

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ABSTRACT

Women in rural India play a major role in shaping the economy of the country. The women work force in agriculture and allied sectors is estimated to be around 97 million which amounts to about 37 % of the total agriculture workers in the country. By 2020, the population of agricultural workers in the country will be about 230 million of which 45% will be the female workers. Thus, there is going to be a significant role of farm women in country's agriculture and due attention needs to be given to their safety and occupational health issues so as to have higher productivity, less accidents, and minimum occupational health problems. Some improved tools/equipment for harvesting were used by Indian farm women for reducing drudgery was discussed in this article.

INTRODUCTION

Agriculture has important place in Indian economy and main work force in it is human power. The women work force in agriculture and allied sectors is estimated to be around 91 million which amounts to about 37% of the total rural workers in the country (Banthia, 2004; GOI, 2006; Anonymous, 2014). The tools/equipment available for different farming operation are earlier designed for men workers keeping in mind male dominance in Indian agriculture environment and same was given to women despite of their suitability to work. However, women face different technological difficulties in operating these tools, thereby causing serious occupational health problems and ultimately reducing work efficiency. Most of the activity where women are involved includes sowing, transplanting, weeding, harvesting, threshing, and winnowing which are very drudgery prone. The traditional tools used by women worker involves operating in bending or squatting posture which causes drudgery and leads to serious health issue such as back pain, knee pain and sometime also causes injury to women operating it.

Therefore, there is need to develop tools/ equipment considering women suitability to work. A number of farm-tools and implements have been designed and developed by research organisations and state agriculture universities for harvesting, some of which are listed below with brief description.

1. Improved Sickle: It is used for harvesting of wheat, rice, soybean, chickpea, grasses and thin

stalked crops. It consists of serrated blade, ferrule and wooden handle. The cutting of crop stalk is being done with the improved (serrated) sickle by sawing action as against by impact or pulling action in case of local (plain) sickle. The capacity of this machine is about 150 m²/hr.

2. Sugarcane Stripper: It is used for stripping of leaves and detopping of cane after harvest of sugarcane. The stripper works by separating and pushing the leaf sheaths away from stalk. A knife is welded on the stem of the stripper for detopping of canes and for cleaning roots. The capacity of this machine is about 46 kg/hr.

3. Tea Plucker (Scissor-type): It is used for plucking tea leaves. While plucking tea leaves skin of fingers and hands get injuries due to chemicals. In scissor type tea plucker hand/finger contact is avoided thereby eliminating skin problem. The capacity of this plucker is 8.6 kg/h.

4. Fruit Harvester: It is used for plucking of fruits from orchard trees. It consists of main body of PVC having cylindrical shape. The upper end of the body is closed and fixed with two fingers cut in V-shape and with sharp blades. An opening is provided on the body for entry of the fruits to be harvested. The length of the cutting blade was increased from 30 mm to 70 mm to increase the comfort of the worker. The capacity of this machine is about 420 fruits /hr.

5. Senna leaves stripper: It is used for stripping of senna leaves. It consists of an openable

metallic tube with a circular cutter mechanism at center. The device is easy to operate and protects hands of operator from Senna thorns.

6. Cotton Picker (Battery operated): It is a hand operated cotton picking machine and is operated by a light weight 12 V battery. Output capacity of cotton picker varied from 17.0-22.6 kg/day.



Fig. 1. Improved sickle

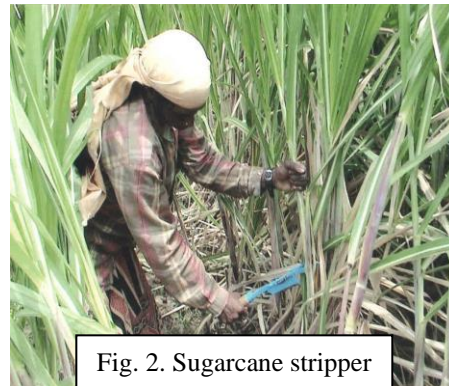


Fig. 2. Sugarcane stripper



Fig. 3. Tea plucker



Fig. 4. Senna leaf stripper



Fig. 5. Fruit harvester



Fig. 6. Cotton picker

CONCLUSION

These are some tools and equipment mostly used by women worker in India agriculture for harvesting of crops. Some of these tools are refined and modified as per the need of the women operator. By using these

tools drudgery can be reduced by avoiding bending and squatting postures during harvesting. Thus, issues of drudgery and health problems can be addressed by using these tools and also there would be improvement in their livelihood.

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