

Impact of drudgery reducing technologies on work efficiency and health security of farm women

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■ **ABSTRACT** : Rural women play a vital role in farm and home stead activities. Women's participation in agro-based activities is much more than what statistics reveal. They do the most tedious and back breaking tasks in the physical aspect of farming, live stock management, post-harvest management and allied activities. These tasks not only demand considerable time and energy but also are sources of drudgery for rural women which are not yet precisely been identified and quantified. Involvement in these drudgery prone activities also affect the health of farm women which adversely affect their working efficiency and family welfare. Hence, some drudgery reducing technologies such as envirofit chulha, groundnut decorticator, hand wheel hoe weeder, lemon harvester and cloth gloves for harvesting of chickpea were distributed to twenty farm women each for each tool in five villages of Bijapur taluk, Karnataka. These new technologies reduced the drudgery of farm women, increased their work efficiency, saved time, labour expenses and provided health security. These new technologies were found to be more efficient, labour saving, time saving, reduced drudgery and provided health security.

■ **KEY WORDS** : Drudgery reduction, Work efficiency, Health security

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Rural women play a vital role in farm and home stead activities. Women's participation in agro-based activities is much more than what statistics reveal. They form 50 per cent of population and constitute 60 per cent of work force but earn only 10 per cent of income. They do the most tedious and back breaking tasks in the physical aspect of farming, live stock management, post harvest management and allied activities. These tasks not only demand considerable time and energy but also are sources of drudgery for rural women which are not yet been precisely identified and quantified. Involvement in these drudgery prone activities also affect the health of farm women which adversely affect their working efficiency and family welfare. Hence, this study was carried out to study the impact of some of the drudgery reducing technologies on work efficiency and health security of farm women.

The study was carried out in five villages of Bijapur taluk, Karnataka. The drudgery reducing technologies were

groundnut decorticator, envirofit chulha, hand wheel hoe weeder with tynes, lemon harvester and cloth gloves for harvesting of chickpea. These improved tools were distributed to twenty farm women each for each tool and demonstration was given on how to use these tools. Thus, totally one hundred farm women were selected for the study. Improvement in work efficiency was calculated using the formula $\text{demo} - \text{check} : \text{check} \times 100$.

The results of Table 1 reveal the comparison made between traditional and improved tools. The farm women expressed that by using groundnut decorticator, they could decorticate 9.20 kg./hr of groundnut compared to the traditional method of decorticating groundnut by hand (4.69 kg./hr). It was found that 96.16 per cent of extra pods could be decorticated using the decorticator. Comparison between the chulhas revealed that by using envirofit chulha, 5.2 kg/day of fuel wood was utilized compared to traditional chulha where 7.5 kg./day of fuel wood was utilized. It was found that 30.66

Table 1 : Comparison between traditional tools and improved tools

| Name of the tool | | Percentage increase in efficiency |
|--|---|--|
| Traditional tool | Improved tool | |
| By hand (4.69 kg./hr) | By groundnut decorticator (9.20 kg./hr) | 96.16% of extra pods can be decorticated. |
| Traditional chulha (7.5 kg./day) | Envirofit chulha (5.2 kg./day) | 30.66% of fuel wood can be saved. |
| Cycle weeder (5.5 hrs/acre) | Hand wheel hoe weeder with tynes (5.0 hrs/acre) | 10.00% of extra area can be covered while weeding |
| Rod with hook (115 lemons/hr) | Lemon harvester (181 lemons/hr) | 57.39% of extra lemons can be harvested. |
| By bare hand/tie cloth to hands (6.5 hrs/acre) | Cloth gloves (5.0 hrs/acre) | 30% of extra area can be covered while harvesting chickpea |

per cent of fuel wood was saved using the improved chulha. Further, comparison between the weeders revealed that by using hand wheel hoe weeder with tynes, they could complete the weeding of one acre in 5 hours compared to the cycle weeder which took 5½ hours for weeding one acre. Thus, ten per cent of extra area could be covered using the improved weeder. Similar study was carried out by Singh *et al.* (2007) on weeder for drudgery reduction of women farm workers in India who assessed three types of weeders on ergonomic parameters with a view to promote health, efficiency and quality of work life. Results revealed that all these weeders proved efficient on ergonomic parameters, reduced average working heart rate and energy expenditure compared to traditional tool. The posture improved while working with weeders as the bending and squatting posture employed while weeding with traditional method was replaced by standing posture. Further, the use of lemon harvester revealed that nearly 181 lemons could be harvested per hour compared to 115 lemons per hour using the traditional method *i.e.* rod with hook. This showed that nearly 57.39 per cent of extra lemons could be harvested using the improved lemon harvester.

Lastly comparison between the cloth gloves and bare hand for harvesting of chickpea revealed that by using cloth gloves one acre of bengalgram area could be harvested in 5.0 hours whereas by bare hand one could harvest one acre in 6½ hours which showed that nearly 30 per cent of extra area could be covered while harvesting by using cloth gloves.

The above results are in line with the study conducted by Oberoi and Gupta (2007) wherein the muscular stress of

rural women while performing different household, allied and farm activities with the use of traditional as well as improved tools were assessed and the results revealed that all improved tools improved the working posture, reduced muscular stress of women for performing the selected activities, enhanced the work efficiency and health of farm women. Similar studies carried out by Badiger *et al.* (2006) and Singh *et al.* (2007) support the results of this study.

Conclusion:

It can thus be concluded that these new technologies reduce the drudgery of farm women, increase their work efficiency, save time, labour expenses and provide health security.

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