

Assessment of Drudgery of Women Farmers in Groundnut Cultivation



Home Science

KEYWORDS : Load factors, Drudgery Index, MSDs, Posture load

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ABSTRACT

India has the largest area under groundnut cultivation in the world and it is a major oilseed crop in the country. Rajasthan is one of the major groundnut producing states of the country. Most drudgery prone tasks performed by women in agriculture are cutting, uprooting, transplanting, weeding and sowing and post-harvest. Even for groundnut after the harvesting, removal of nuts and cleaning of groundnut seeds are performed manually. Thus, the present study was taken up with the objectives to assess drudgery in women dominated activities in groundnut cultivation. The study was conducted in selected villages of Bichiwada tehsil of Dungarpur district in Rajasthan. A sample of 30 women farmers engaged in groundnut cultivation from last 5 years were selected purposively to elicit information on drudgery involved in women dominated activities in cultivating this crop. It was found that the Physical load (17.77) was maximum in groundnut cultivation. The overall average Drudgery load for groundnut cultivation was 70.03/150, while Drudgery Index was 44.45 depicting Moderate to Heavy drudgery in cultivating groundnut crop.

INTRODUCTION

India has the largest area under groundnut cultivation in the world and it is a major oilseed crop in the country. Rajasthan is one of the major groundnut producing states of the country.

Most of the drudgery prone tasks for women in agriculture are cutting, uprooting, transplanting, weeding and sowing and post harvest tasks like manual threshing of maize millet and pulses, sieving and cleaning. Traditionally shelling of maize are done either by threshing cobs or removal of seeds by hand. Even for groundnut after the harvesting removal of nuts and cleaning of groundnut seeds are also performed manually (Badiger, et.al. 2006).

METHODOLOGY

The present study was conducted in selected villages of Bichiwada tehsil of Dungarpur district of Rajasthan state. A total of 30 women farmers engaged in groundnut cultivation from last 5 years were selected purposively. Interview schedule was used for collecting general background information, to elicit information on drudgery involved in women dominated activities in cultivating this crop.

Drudgery in groundnut cultivation was calculated as per the following six parameters:

- 1. Physical load:** Physical load was calculated by studying the weight of the load, distance carried, height lifted and load rating. Load rating was done on the basis of 5 point continuum scale i.e. very heavy to very low.
- 2. Posture:** Posture was observed by studying the posture adopted for maximum time and scoring of the posture was done, Body parts involved and discomfort rating on the basis of 5 point continuum scale from very severe to very mild.
- 3. Repetitive strain:** Repetitive strain included nature of repetition i.e. cyclic or repetitive and rating of repetition on the basis of 5 point continuum scale i.e. from very exhausted to comfortable.
- 4. Physiological load:** Physiological load was measured on the basis of physiological load rating based on the 5 point continuum scale ranging from very light to very heavy.
- 5. Musculoskeletal disorder (MSDs):** Body pain and disorder was studied for all the body parts. Each body part involved

in any activity was studied on the basis of body disorder symptoms, body pain rating and frequency. Body disorder symptoms included various MSDs and scoring was done. Body pain rating was based on 5 point continuum scale ranging from very painful to no pain and frequency was based on 5 point continuum scale i.e. from never to always.

6. Duration/Time: It included number of hours/day spent on any activity along with duration of that activity and man days involved. It also included number of labors employed and workload as per time based on 5 point continuum scale ranging from very high duration to very less duration.

Load factor: Load factor was calculated by Matrix Ranking i.e., by making combination of all the drudgery causing variables. There were 15 combinations, from each combination, one factor had to be selected responsible for drudgery in the particular activity. Like this, for each activity all the combinations needed were assessed. Factor with the highest score was considered responsible for the drudgery for that particular activity. This process was done for all the activities.

RESULTS

Background information of the respondents:

Majority of the respondents were in the age group of 31-50 years. All belonged to schedule tribe and had nuclear families. The majority (76percent) had medium size family with 5-8 members. The majority (72percent) were engaged in farming since last 6-10 years. 26 percent respondents were illiterate while majority i.e., 58 percent were educated up to middle school, 12 percent received education up to high school while only 4 percent were graduate. The main occupation of 90 percent of respondents was agriculture while 10 percent of them were also involved in subsidiary occupations in addition to agriculture. Majority, 76 percent of respondents were marginal farmers, 16 percent were small farmers while only 8 percent possessed large landholding. All of them had irrigated land but 42 percent also had irrigated land.

Major crop of Rabi was wheat. Major crop grown in Kharif was maize. Groundnut was grown by 100 percent the respondents as summer crop. Groundnut was grown by 100 percent the respondents as summer crop.

Assessment of drudgery in women dominated activities:

Table 1

Table 1 presents data on which type of load contributed majorly to the total drudgery in each activity of groundnut cultivation. A close observation of data depicts that Physical load (18.9) and MSD load (15.36) were the major loads in Removing stalks and stubbles activity which contributed to the total drudgery load (65.24/150) in this activity, other type of loads were comparatively low. The high physical load may be attributed to handling weight, manual carrying involved in this activity. The Drudgery Index for this activity was 43.49, depicting a **Moderate to Heavy** drudgery load.

In total drudgery load in Preparation of channels for irrigation was (67.14/150), major loads were that of MSD (18) and Repetitive load (16.65) which may be because this activity is done in a posture involving bending at waist causing MSDs and involving repetitive motion of hands in making channels. The Drudgery index of this activity was 44.76, depicting **Moderate to Heavy** drudgery.

In Manuring activity particularly in transportation of manure, Physical load (18.9) and MSD load (14.88) were the major loads which contributed to the total drudgery load of (65.46/150) of this activity. Manuring also involved manual carrying of weight and walking long distance either on head or on shoulders which also caused MSD. The Drudgery Index for this activity was 43.64, depicting a **Moderate to Heavy** drudgery load.

Similarly, Physical load (16.76) and MSD load (16.92) were the major loads which contributed to the total drudgery load of (64.81/150) of Sowing activity, with a Drudgery Index of 42.20 depicting a **Moderate to Heavy** drudgery load. While in Weeding activity, the three major loads were MSD load (17.12), Physical load (15.2) and Repetitive load (11.55) contributing to total drudgery of (68.65/150) and Drudgery index of 45.76 depicting a Heavy drudgery load.

All the three sub activities of Harvesting viz; Digging, Gathering & Heaping, Bundling / Baggage and transport, the major loads which contributed to the total drudgery load were Physical load and MSD load. The drudgery index of Digging (43.65), Gathering & Heaping (45.26), Bundling / Baggage and transport (48.3) which indicated Moderate to Heavy and Heavy drudgery.

In Stripping and Decortiations activity no Physical load was involved as no weight was handled in these activities and it was performed in comfortable sitting posture. The major loads contributing to total drudgery of Stripping (65.43/150) and Decortiations (58.94/150) were Repetitive load (19.8, 20) and MSD load (16.85, 14.92) respectively for these two activities. The Drudgery Index for Stripping was 43.62, while Drudgery Index for Decortiations was 39.29, depicting a Moderate to Heavy load.

In Storage activity Physical load was quite high 23.8, may be because it involved manual lifting and carrying of heavy loads for storage on high shelves in the house. The other major load was

MSD load 16.64. The Drudgery Index for Storage was 49.02, depicting a Very Heavy drudgery load.

The total drudgery load and Drudgery Index of various activities performed in groundnut cultivation.

The overall average of various loads for groundnut cultivation depicted that Physical load (17.77) was maximum followed by MSD load (16.70), Repetitive load (11.19), Physiological load (8.17), Time load (8.17) and the least load was that of Postural load (7.89). The overall average Drudgery load for groundnut cultivation was 70.03/150, while Drudgery Index was 44.45 depicting Moderate to Heavy drudgery in cultivating groundnut crop.

CONCLUSION

Thus it can be concluded that in all the activities of groundnut cultivation women participate actively and almost all the activities were performed manually. Manual stripping and decortiations of groundnut resulted in 'severe' and 'very severe' discomfort in neck, arms, back and legs. Though various modern agriculture technologies are available for groundnut cultivation but farmers are not using them because of resource constraints.

Exposure and awareness of safety and health at work will improve the health of the workforce engaged in agriculture. Ergonomic intervention related to drudgery reduction will improve health and well being and consequently improve quality of life of the women farmers.

Table -1 Summary of various types of Loads, Total Drudgery Load, and Drudgery Index of various activities performed in groundnut cultivation.

N = 30

S. No.	Farm activity	Physical load	Postural load	Repetitive load	Physiological load	Time load	MSD load	Total drudgery load	Drudgery index	Drudgery load category
1	Land preparation									
A	Removing of stalks and stubbles	18.9	7.83	7.7	7.65	7.8	15.36	65.24	43.49	Moderate to Heavy
B	Preparation of channels for irrigation	8.3	7.89	16.65	8.3	8	18.0	67.14	44.76	Moderate to Heavy
2	Manuring(Transportation of manure)	18.9	8.39	8.1	7.65	7.54	14.88	65.46	43.64	Moderate to Heavy
3	Sowing (Seed dropping)	16.76	7.7	7.65	7.65	8.13	16.92	64.81	42.20	Moderate to Heavy
4	Weeding (plant to plant)	15.2	8.28	11.55	8.6	7.9	17.12	68.65	45.76	Heavy
5	Harvesting									
A	Digging	17.12	7.52	7.65	7.70	8.2	17.29	65.48	43.65	Moderate to Heavy
B	Gathering & Heaping	17.96	7.59	7.8	8	8	18.54	67.89	45.26	Heavy
C	Bundling / Baggage and transport	23.03	8.34	8.2	7.75	7.9	17.28	72.45	48.3	Heavy
6	Stripping(By hand)	-	7.58	19.8	12.4	8.8	16.85	65.43	43.62	Moderate to Heavy
7	Decortiations(By hand)	-	7.72	20	7.8	8.5	14.92	58.94	39.29	Moderate to Heavy
8	Storage	23.8	7.96	8	7.98	9.15	16.64	73.53	49.02	Heavy
	Overall Average	17.77	7.89	11.19	8.31	8.17	16.70	70.03	44.45	Moderate to Heavy

REFERENCE

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