

Drudgery perceived by the perishable goods sellers in West Garo Hills, Meghalaya

■ RANIMA SAIKIA

Received: 24.04.2017; Revised: 22.10.2017; Accepted: 07.11.2017

■ **ABSTRACT :** The research was carried out to study the drudgery index of the various activities carried out by the perishable good sellers while doing the job of selling fish, poultry and mutton/pork. A total of 75 sellers were considered from three daily markets under Tura Municipal Board, West Garo Hills, Meghalaya. The findings show that among the fish sellers cutting of descaled fishes into pieces is the most drudgery prone activity. Cutting the dressed poultry into pieces and slaughtering of animals are the maximum drudgery prone activities among the poultry and mutton/pork sellers, respectively. Therefore, there is the need for such research studies which will further help the researchers who are dealing with designing of work stations and ergonomic tools to reduce the workload of the workers involved in drudgery prone activities.

■ **KEY WORDS:** Drudgery, Drudgery index, Time spent, Frequency score, Difficulty score

Author for Correspondence :

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RANIMA SAIKIA
College of Home Science, Central
Agricultural University, TURA
(MEGHALAYA) INDIA

■ **HOW TO CITE THIS PAPER :** Saikia, Ranima (2017). Drudgery perceived by the perishable goods sellers in West Garo Hills, Meghalaya. *Asian J. Home Sci.*, 12 (2) : 535-539, DOI: 10.15740/HAS/AJHS/12.2/535-539.

A major group of population is engaged in activities related to sale of perishable goods such as meat, fish etc. The population involved in selling of perishable goods performs a broad range of activities such as collection goods, arrangement of goods for selling, cleaning, cutting, chopping of meat etc. They play a key role in the entire system of supply of perishable items to consumers at door step. The workers involved in selling of perishable goods while doing their tasks area exposed to considerable hazards carrying a health risks such as carrying heavy load, repetitive work, manual handling, awkward postures, twisting of hands, sitting, squatting, standing, bending for longer duration and repeated movement of hands and trunk etc. Yet, there

are often poor occupational service provisions particularly for these workers. Working conditions and the nature of employment is the major health of a workman. The concept of 'Occupational health' has evolved from work related ailments. Occupational health mainly includes injury, impairment or disease affecting a worker or employee during his course of work.

So, it is the need of the hour to know the work related musculoskeletal disorders of the workers involved in selling of easily perishable goods, like meat, fish and eggs. Hence, decided to carry out a study considering the perishable goods sellers in Tura, the headquarter of West Garo Hills, Meghalaya which is located at hilly terrain. The study was carried to find out the drudgery

perceived by the sellers while performing the activities.

■ RESEARCH METHODS

Considering the research problem the present study was carried out in the West Garo Hills district of Meghalaya, bounded by Goalpara district of Assam in the North, Dhuburi district of Assam in the West, East Garo Hills in the East and Bangladesh in the South. Tura Municipal Board is considered for the study. Tura municipal Board comprises of only three daily markets. All these three daily markets were considered for the present study. 25 mutton sellers, 25 fish sellers, 25 chicken sellers were considered for the present study. Thus, a total of 75 sellers comprise the sample of the study.

Identification of drudgery prone activities:

For identification of drudgery prone activities related to selling process was identified as per the procedure followed by Anonymous (1998-99) considering three parameters.

Time spent:

Time spent (hrs/year) = Time in min/day x total number of days performed in a year. The time in min/day was converted into man-days. The number of man-days taken to perform each activity in a year was calculated for each activity. The man-days spent for each activity was calculated at the rate of 8 hours per day.

Performance of frequency score:

Performance frequency score was calculated on the basis of following score weightage:

Daily – 5, Alternate days – 4, Weekly – 3, Fortnightly – 2, Seasonally – 1.

The total scores thus, obtained was divided by the total respondents involved in each activity.

Difficulty Score (DS):

Difficulty score was calculated on the basis of the following weightage:

Most difficult – 5, Difficult – 4, Neutral – 3, Easy – 2 and Very easy – 1.

The total scores thus, obtained was divided by the total respondent for each activity.

Finally, Drudgery index (DI) was calculated with the following formula:

$$\text{Drudgery index} = \frac{\{x + y + z\}}{3} \times 100$$

where,

X = Co-efficient of time spent

Y = Co-efficient of performance frequency score

Z = Co-efficient of difficulty score.

■ RESEARCH FINDINGS AND DISCUSSION

The findings of the present study as well as relevant discussion have been presented under following heads :

Drudgery perceived by the fish sellers :

It is evident from the data presented in Table 1 that among all the activities performed by the respondents involved in fish selling, the maximum drudgery prone activity is cutting the descaled fishes into pieces (DI=77%) followed by the other activities performed by the respondents *viz.*, descaling of fish scale (DI=74%), carrying of fish boxes to the point of sale and weighing of the fish to be sold (DI=68%), loading the fish boxes in carrier vehicles (DI=62%), unloading of fish boxes and collection of water (DI=60%), cleaning of fish (DI=59%), repacking of the unsold fishes (DI=58%), adding of ice block to the packed fishes and storing of the fish boxes (DI=57%), collection of fishes, removal of ice block, handover the packed fishes to the buyer and reloading of the fish to boxes (DI=56%), cleaning of the area for sale (DI=53%), opening of boxes and arrangement of fish for sale (DI=50%), packing of cut pieces (DI=48%). Thus, from the investigation, it is evident that cutting descaled fishes into pieces is the most drudgery prone activity among the fish sellers. This may be due to repetitive movement of arms and the exerted force applied by the respondent to hold and cut the fish into pieces. The activity also consumes maximum time of the day.

Drudgery perceived by poultry sellers :

Data presented in Table 2 reveals that cutting the dressed poultry into pieces (DI=76%) is the maximum drudgery prone activity among the various activities performed by the respondents involved in poultry selling. Further, study of the table divulges that the activity of cutting the dressed poultry into pieces is followed by the activities *viz.*, dressing of poultry (DI=75%), unloading of the poultries from carrier vehicles (DI=70%), loading it to carrier vehicle (DI=66%), cleaning of storage area

(DI=63%), collection of water and weighing of poultry for sale (DI=61%), storage of the poultries and cleaning of the selling area at the end (DI=59%), collection of poultry and cleaning of the area for sale(DI=58%),

cleaning of the area where poultries are kept (DI=57%), handover the packed cut pieces to the buyer (DI=53%), packing of cut pieces(DI=49%), cleaning of the cutting and measuring equipment's (DI=47%) and providing feed

Table 1 : Drudgery index of the activities performed by fish sellers

Sr. No.	Activities	Time spent Mean ± SD	Frequency of performance Mean ± SD	Difficulty score Mean ± SD	Drudgery index	Ranking
1.	Collection of fishes	0.08±0.020	1±0	0.6±0.141	56	IX
2.	Loading the fish boxes in carrier vehicles	0.06±0.018	1±0	0.8±0.055	62	IV
3.	Unloading of fish boxes	0.05±0.017	1±0	0.76±0.15	60	V
4.	Carrying of fish boxes to the point of sale	0.06±0.017	.97±.063	1±0	68	III
5.	Cleaning of the area for sale	0.03±0.008	1±0	0.57±0.12	53	X
6.	Opening of boxes	0.02±0.005	1±0	0.50±0.101	50	XI
7.	Removal of ice block	0.02±0.005	1±0	0.66±0.111	56	IX
8.	Collection of water	0.05±0.017	1±0	0.76±0.197	60	V
9.	Cleaning of fish	0.05±0.010	1±0	0.74±0.147	59	VI
10.	Arrangement of fish for sale	0.04±0.011	1±0	0.46±0.125	50	XI
11.	Weighing of the fish to be sold	0.31±0.061	1±0	0.74±0.135	68	III
12.	Descaling of fish scale	0.29±0.044	1±0	0.95±0.128	74	II
13.	Cutting the descaled fishes into pieces	0.37±0.053	1±0	0.96±0.970	77	I
14.	Packing of cut pieces	0.06±0.019	1±0	0.40±0.070	48	XII
15.	Handover the packed fishes to the buyer	0.07±0.025	1±0	0.61±0.055	56	IX
16.	Reloading of the fish to boxes	0.04±0.012	1±0	0.66±0.125	56	IX
17.	Adding of ice block to the packed fishes	0.03±0.508	1±0	0.68±0.101	57	VIII
18.	Repacking of the fishes	0.03±0.010	1±0	0.73±0.095	58	VII
19.	Storing of the fish boxes	0.03±0.013	1±0	0.70±0.101	57	VIII
20.	Cleaning of the cutting and measuring equipment's	0.03±0.011	1±0	0.53±0.095	52	XI
21.	Cleaning of the area at the end of the sale	0.03±0.007	1±0	0.79±0.146	60	V

Table 2 : Drudgery index of the activities performed by poultry sellers

Sr. No.	Activities	Time spent Mean ± SD	Frequency of performance Mean ± SD	Difficulty score Mean ± SD	Drudgery index	Ranking
1.	Collection of poultry	0.05± 0.009	1 ± 0	0.71 ±0.105	58	VIII
2.	Loading it to carrier vehicles	0.04± 0.015	1±0	0.95±0.1	66	IV
3.	Unloading of the poultries from carrier vehicle	0.12±0.017	1±0	1±0	70	III
4.	Cleaning of storage area	0.05±0.022	0.97±0.072	0.88±0.15	63	V
5.	Storage of the poultries.	0.05 ±0.032	0.91±0.102	0.81±0.053	59	VII
6.	Providing feed to the poultry	0.02 ±0.006	1±0	0.34±0.093	45	XIII
7.	Cleaning of the area for sale	0.03 ±0.010	1±0	0.70±0.102	58	VIII
8.	Collection of water	0.04 ±0.051	1±0	0.79±0.157	61	VI
9.	Weighing of poultry for sale	0.06 ±0.018	1±0	0.79±0.122	61	VI
10.	Dressing of poultry	0.26 ±0.012	1±0	1±0	75	II
11.	Cutting the dressed poultry into pieces	0.30±0.028	1±0	1±0	76	I
12.	Packing of cut pieces	0.15±0.035	1±0	0.32±0.097	49	XI
13.	Handover the packed cut pieces to the buyer	0.05±0.014	1±0	0.56±0.081	53	X
14.	Cleaning of the area where poultries are kept	0.04±0.012	0.79±0.04	0.88±0.1	57	IX
15.	Cleaning of the cutting and measuring equipment's	0.03±0.007	1±0	0.4±0.141	47	XII
16.	Cleaning of the selling area at the end	0.04±0.015	1±0	0.73±0.095	59	VII

Table 3 : Drudgery index of the activities performed by mutton/pork sellers

Sr. No.	Activities	Time spent Mean \pm SD	Frequency of performance Mean \pm SD	Difficulty score Mean \pm SD	Drudgery index	Ranking
1.	Collection of livestock's for sale	0.093 \pm 0.01	1 \pm 0	0.6 \pm 0.08	56	IX
2.	Collection of water for cleaning purposes	0.050 \pm 0.01	1 \pm 0	0.61 \pm 0.05	55	X
3.	Slaughtering of animals	0.340 \pm 0.06	1 \pm 0	1 \pm 0	78	I
4.	Removing of skin	0.107 \pm 0.01	1 \pm 0	1 \pm 0	70	IV
5.	Putting into fire (pig)	0.266 \pm 0.10	1 \pm 0	1 \pm 0	75	III
6.	Cleaning of internal organs	0.086 \pm 0.02	1 \pm 0	1 \pm 0	69	V
7.	Carrying it to the point of sale	0.047 \pm 0.01	1 \pm 0	0.79 \pm 0.04	61	VI
8.	Cleaning of the area before arranging the items	0.056 \pm 0.01	1 \pm 0	0.61 \pm 0.05	55	X
9.	Arrangement of items for sale	0.068 \pm 0.02	1 \pm 0	0.71 \pm 0.10	59	VII
10.	Sprinkling of water	0.024 \pm 0.00	1 \pm 0	0.4 \pm 0.04	47	XII
11.	Weighing of the selected amount by the buyer	0.062 \pm 0.01	1 \pm 0	0.44 \pm 0.08	50	XI
12.	Cutting into pieces	0.309 \pm 0.05	1 \pm 0	1 \pm 0	76	II
13.	Packing of the cut pieces	0.057 \pm 0.01	1 \pm 0	0.272 \pm 0.09	44	XIII
14.	Handover the packed cut pieces to buyer	0.058 \pm 0.01	1 \pm 0	0.6 \pm 0.04	55	X
15.	Cleaning of the cutting and measuring equipment's	0.036 \pm 0.01	1 \pm 0	0.64 \pm 0.104	55	X
16.	Cleaning of the area at the end of the sale	0.036 \pm 0.00	1 \pm 0	0.68 \pm 0.1	57	VIII

to the poultry (DI=45%). Thus, it is evident from the finding that cutting of dressed poultry into pieces is found to be the maximum drudgery prone activity among other activities performed by the respondents involved in poultry selling. It may be due to exerted force, repeated movement of the arms holding the cutting knife, and uncomfortable postures like standing for longer period, bending at lower back and neck. Dressing of poultries got the second rank according to the drudgery index. This activity demands high force to de-feather the poultry and to remove the internal parts.

Drudgery perceived by the mutton/pork sellers :

Table 3 shows that in mutton/pork selling the maximum drudgery prone activity is slaughtering of animals (DI=78%) followed by cutting into pieces (DI=76%), putting into fire (pig sellers) (DI=75%), and removing of skin (mutton sellers) (DI=70%), cleaning of internal organs (DI=69%), carrying it to the point of sale (DI=61%), arrangement of items for sale (DI=59%), cleaning of the area at the end of the sale (DI=57%), collection of livestock's for sale (DI=56%), collection of water for cleaning purposes, cleaning of the area before arranging the items, handover the packed cut pieces to buyer and cleaning of the cutting and measuring equipment's (DI=55%), weighing of the selected amount by the buyer (DI=50%), sprinkling of water (DI=47%), and packing of the cut pieces (DI=44%).

Thus, it is evident from the data presented in Table 3 that slaughtering of animals got the highest rank followed by cutting into pieces as per the drudgery index calculated. This may be due to more time consumption, repetitive motions, force exerted to do the activity, awkward postures and the size and weight of the animal may also be the reasons of maximum drudgery index.

Conclusion:

From the findings of the study, it can be concluded that almost all the activities are drudgery prone activities. The sellers face different level of difficulty while carrying out the activities. The drudgery felt by the sellers are associated with the frequency of work, time spent to carry out the work and the difficulty felt while doing the activities. Among the fish sellers the Drudgery Index is found to be maximum in cutting of de-scaled fish into pieces. This may be due to exerted force, repetitive movement of arm at shoulder level, tight gripping of the fish during the time of cutting. Similarly, cutting the dressed poultry into pieces is the maximum drudgery prone activity among the other activities performed by the poultry sellers. The activity consumes maximum hours of the day. Repetitive arm movements, awkward working posture and force exerted to complete the task may be the reasons of the making the task more difficult. Among the mutton and pork sellers the activity of slaughtering of the animal is most drudgery prone activity. The activity

is performed on daily basis by the sellers and consumes workers time due to larger size. Further, the activity demands various awkward postures to complete the task. Thus, there is the need for ergonomic intervention to design better work station and tools to perform these activities so as to reduce the repetitive motion, exerted

force and the awkward postures in order to prevent musculoskeletal discomfort.

■ REFERENCES

Anonymous (1998-99). All India Coordinated Research Project on Home and Farm Management, Biannual Report, College of Rural Home Science, UAS. Dharwad, India

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