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Work profile and activity pattern of load carrying workers in grain market

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Abstract

The agricultural sector is a major contributor to the Indian economy. Load carriers in grain markets work long hours, frequently starting early in the morning and finishing late in the evening. The study was to investigate workers' work profiles as well as their load-carrying activity patterns. During the survey work phase, two blocks selected at random from two districts in Haryana state. Forty physically fit people were chosen at random from four grain markets, yielding a total sample of 160 workers. The workers' employment profiles revealed that they were predominantly middle-aged and performed manual labor. The majority of workers carried loads on their shoulders with the help of others, earning daily wages and working long hours. All workers were using *hook* for load carrying and were doing 20-30 shift/day. Cent percent of worker carried 50 kg grain per shift and spending 2-4 hr. Hence it can be summarized that a huge majority of respondents were involved in work of grain market from more than 9 years and drinking water facilities were provided in all grain market. Most commonly body parts involved during load carrying activity were the upper back, lower back and shoulder while lower arms and chest were the least used body parts. The muscles of the upper back are responsible for maintaining posture, balance and distributing the load evenly. It is concluded that taking steps to improve working conditions and provide proper support to load carrying workers, it can help to ensure that they can continue to carry out their essential work safely.

Keywords: Activity pattern, grain market, body parts, work and workers

Introduction

India's agriculture is a significant geographical issue. India has an agrarian economy, with more than 54% of its land classed as arable and 50% of the labour force employed in the agriculture sector (Annual report of 2020-21 of Department of Agriculture, Cooperation & Farmers' Welfare). One of the most significant industries in the Indian economy is the agricultural sector. There are three main harvesting seasons: Kharif, Rabi, and Zaid. Rice, jowar, bajra, maize, cotton, jute, sugarcane, sesame, and groundnuts are the main Kharif crops, which are grown in April and May and harvested in November. Wheat, tobacco, gramme, linseed, rapeseed, and mustard are the main Rabi crops; they are sown in late October or early November, and they are harvested in March. Zaid crops are summer season crops and they grow for a short time period between Kharif and Rabi crops like corn, cucumber, melon, pepper, tomato and some coarse cereals sown during the month of March and are generally harvested by June end.

Mandi labour, like agricultural labour in fields, plays an important and intensive role in agricultural regulated markets. Mandi labour is defined as labour that works in regulated agriculture markets or Mandis during the Mandi season, i.e. when crops arrive. The Mandi labour performs a variety of tasks in a regulated agricultural market for various crop arrivals. In both the Rabi and kharif seasons, various activities such as unloading, packing, cleaning, stitching, loading, and so on are carried out for various crops. Labor in

Mandi is only available during the marketing seasons of various crops, such as market arrivals of paddy and cotton in kharif and wheat crop in Rabi. The majority of Mandi labourers are unorganised. They are not guaranteed employment. There is no law that governs agricultural labourers' working conditions. They are completely denied of the benefits of medical facilities and social security. Less bargaining power results from a lack of trade unionism. Grain handlers suffer from musculoskeletal disorders as a result of working in an awkward posture with heavy loads and repetitive work at various locations throughout the workplace. The primary job component of Mandi workers is load handling, which entails lifting and carrying heavy loads of grain-filled sacs. Load carrying workers in grain markets work long hours, often starting early in the morning and working until late in the evening. They may work in all weather conditions, including extreme heat, cold, or rain. There are several methods for carrying a load manually. The mode of load carriage chosen is dictated by elements such as the number, volume, and distance to be carried, as well as terrain and the individual's physical qualities.

The work is physically deManding and can lead to injuries or health problems if appropriate safety measures are not in place. In conclusion, load carrying workers play a vital role in the transport of grain and other agricultural products in many markets around the world. So, the current study was planned to assess work profile and load carrying activity pattern of workers of grain market in different areas.

Methodology

To attain the planned objectives study was conducted on load carrying activity workers of grain market in two district of Haryana state. Hisar and Fatehabad district which were randomly selected. Four cities i.e. Hisar, Fatehabad, Ratia and Hansi were also selected randomly. Sample was comprised of workers, who were involved in load carrying activity in the grain market. A total of 160 workers (40 from each city) were selected purposively who were physically fit and willing to cooperate in the study. A schedule was developed and tested on 20 respondents before conducting the actual study to collect the data. An observation sheet was prepared to assess the work profile and load carrying activity pattern of workers of grain market. Personal interview schedule was used to collect the data and frequency, percentage, WMS and rank were calculated to analysis the data.

Socio-personal and economic variables

Variable	Measurement
Age (year)	Chronological age
Family type	Schedule was developed
Family size	
Main family occupation	
Family education status	
Total monthly family income	
Place of residence	

Work related variables

Posture at work: It is the position of vital body parts of the subject while working.

Amount of load (kg): It is the vertical pull of the earth to the load.

Size of load (cm): It is the length, width, height and/or radius of the load carried on the back/shoulder.

Work duration (hr): It is the amount of time for which subject perform any activity.

Rest duration (min): It is the amount of gap taken in between performing any work.

Distance travelled (mts): It is the length of path covered by respondents involved in carrying head load.

Tools/aids used: It is the type of mechanical assistance used by respondents to make their work easy.



Results and Discussion

Table 1: Socio-economic profile of respondents (N=160)

Sr. No	Variables	Hisar (N=40)	Hansi (N=40)	Fatehabad (N=40)	Ratia (N=40)	Total (N=160)
1.	Age					
	19-30 years	11(27.5)	9 (22.5)	13 (32.5)	11 (27.5)	44 (27.5)
	31-42years	20 (50.0)	22 (55.0)	16 (40.0)	22 (55.0)	80 (50.0)
	43-54 years	9 (22.5)	9 (22.5)	11 (27.5)	7 (17.5)	36 (22.5)
2.	Family occupation					
	Service	0 (0.0)	2(05.0)	2(05.0)	4 (10.0)	8 (05.0)
	Farming	18 (45.0)	7 (17.5)	9 (22.5)	4 (10.0)	38(23.7)
	Business	3 (7.50)	4 (10.0)	4 (10.0)	1 (2.50)	12 (7.5)
3.	Family education status					
	Low(1-4)	21(52.5)	27 (67.5)	19 (47.5)	26 (65.0)	93 (58.0)
	Medium (4-8)	12 (30.0)	13 (32.5)	16 (40.0)	11 (27.5)	52 (32.0)
	High (above 8)	07 (17.5)	00 (00.0)	05 (12.5)	03 (07.5)	15 (9.4)
4.	Family type					
	Nuclear	27 (67.5)	17 (42.5)	9 (22.5)	11 (27.5)	64 (40.0)
	Joint	13 (32.5)	21(52.5)	31 (77.5)	25 (62.5)	90 (56.3)
	Extended family	0	2 (05.0)	0	4 (10.0)	6 (3.75)
5.	Family size					
	Small (upto 4 members)	14(35.0)	15(37.5)	19(47.5)	13(32.5)	61(38.12)
	Medium (5-6 members)	18(45.0)	23(57.5)	19(47.5)	25(62.5)	85(53.12)
	Large (7 & above members)	8(20.0)	2(05.0)	2(05.0)	2(05.0)	14(8.75)
6.	Place of residence					
	Nearby grain market	22 (55.5)	14 (35.0)	10 (25.0)	17 (42.5)	63 (39.4)
	Within grain market	12 (30.0)	23 (57.5)	27 (67.5)	21 (52.5)	83 (51.9)
	Away from grain Market	6 (15.0)	3 (7.5)	3 (7.5)	2 (5.0)	14 (8.7)
7.	Native place					
	Bihar	18 (45.0)	21 (52.5)	11 (27.5)	10 (25.0)	60 (37.5)
	Chhattisgarh	5 (12.5)	2 (5.0)	5 (12.5)	19 (47.5)	31 (19.4)
	Madhya Pradesh	7 (17.5)	8 (20.0)	7 (17.5)	6 (15.0)	28 (17.5)

	Uttar Pradesh	10 (25.0)	9 (22.5)	17 (42.5)	5 (12.5)	41 (25.6)
8.	Total monthly family income					
	Rs.6,000-11,000	26 (65.0)	32 (80.0)	30 (75.0)	28 (70.0)	116 (72.5)
	Rs.12,000-17,000	11(27.5)	5 (12.5)	4 (10.0)	7 (17.5)	27 (16.9)
	Rs.17,000-22,000	3 (07.5)	3 (07.5)	6 (15.0)	5 (12.5)	17 (10.6)

Socio-Economic Profile of Workers in Grain Market

The table indicates that half of the workers (50.0%) in the overall sample belonged to the 31-42 age group, and a similar tendency was also noted in all four grain markets, i.e., the majority 50.0%, 55.0%, 40.0%, and 55.0% respectively were from the grain markets of Hisar, Hansi, Fatehabad, and Ratia. Family types included joint (56.3%), nuclear (40.0%), and extended family (3.75%). In the overall group, family sizes ranged from medium (53.1%) to tiny (38.1%) to large (8.80%). Workers lived within the grain market (51.9%), near the grain market (39.4%), or away from the grain market (8.70%).

The study also found that the majority of workers were from Bihar (37.5%), Uttar Pradesh (25.6%), Chhattisgarh (19.4%), and Madhya Pradesh (17.5%). The native location of workers is critical for understanding regional dynamics and the variables influencing labor mobility. In the entire samples, 72.5% of workers had total monthly incomes ranging from Rs. 6,001 to Rs. 11,001, Rs. 12,001 to Rs. 17,001-22,001, and Rs. 10,001-22,001. As a result, the socioeconomic profile suggests that the majority of workers were between the ages of 31 and 42, had joint families and had a total monthly family income of Rs. 6,000 to 11,000.

Table 2: Work profile of workers of grain market (N=160)

Sr. No.	Variables	Hisar (N=40)	Hansi (N=40)	Fatehabad (N=40)	Ratia (N=40)	Total (N=160)
1.	Types of workers					
	Permanent	2 (5.0)	0 (0.0)	4 (10.0)	3 (7.5)	9 (5.62)
	Temporary	12 (30.0)	13 (32.5)	9 (22.5)	9 (22.5)	43 (26.9)
	Daily labor	5 (12.5)	5(12.5)	6 (15.0)	5 (12.5)	21 (13.1)
	Contractual	21 (52.5)	22 (55.0)	21 (52.5)	23 (57.5)	87 (54.4)
2.	Type of grain carried					
	Rice	15 (37.5)	17 (42.5)	19 (47.5)	6 (15.0)	57 (35.6)
	Wheat	14 (35.0)	8 (20.0)	21 (52.5)	13 (32.5)	56 (35.0)
	Pearl Millet	5 (12.5)	0 (0.0)	0 (0.0)	9 (22.5)	14 (8.75)
	Mustard	5 (12.5)	0 (0.0)	0 (0.0)	0 (0.0)	5 (3.12)
	Green Gram	0 (0.0)	7 (17.5)	0 (0.0)	12 (30.0)	19 (11.9)
	Cluster Bean	1 (2.50)	8 (20.0)	0 (0.0)	0 (0.0)	9 (5.62)
3.	Dimension of load carried (Length*Width*Depth)	97.7*60.9*91.4cm				
4.	Mode of carrying load					
	Shift load	31 (77.5)	27 (67.5)	30 (75.0)	30 (75.0)	118 (73.7)
	Trolly	0 (0.0)	0 (0.0)	0 (0.0)	6 (15.0)	6 (3.75)
	Manually	9 (22.5)	13 (32.5)	10 (25.0)	4 (10.0)	36 (22.5)
5.	Body part involved in carrying load					
	Shoulder	23 (57.5)	21 (52.5)	23 (57.5)	34 (85.0)	101 (63.1)
	Back	17 (42.5)	19 (47.5)	17 (42.5)	6 (15.0)	59 (36.9)
6.	Help of other worker's required while carrying load					
	Yes	35 (87.5)	28 (70.0)	31 (77.5)	37 (92.5)	131 (81.9)
	No	5 (12.5)	12 (30.0)	9 (22.5)	3 (7.5)	29 (18.1)
7.	Number of persons	(N=35)	(N=28)	(N=31)	(N=37)	(N=131)
	1-2	2 (5.71)	4(14.3)	11 (35.5)	13 (35.1)	30 (22.9)
	3-4	27(77.1)	11 (39.3)	18 (58.0)	20 (54.1)	76 (58.0)
	More than 4	6 (17.1)	13 (46.4)	2 (6.50)	4 (10.8)	25 (19.1)
8.	Type of footwear used					
	Bare footed	3 (7.50)	4 (10.0)	4 (10.0)	5 (12.5)	16 (10.0)
	Rubber slipper	17 (42.5)	17 (42.5)	12 (30.0)	13 (32.5)	59 (36.9)
	Boots/Shoes	20 (50.0)	19 (47.5)	24 (60.0)	22 (55.0)	85 (53.1)
9.	Duration of work (hr) per day					
	1 hour	10 (25.0)	8 (20.0)	6 (15.0)	4 (10.0)	28 (17.5)
	1-2 hour	14 (35.0)	12 (30.0)	9 (22.5)	16 (40.0)	51 (31.9)
	More than 2 hour	16 (40.0)	20 (50.0)	25 (62.5)	20 (50.0)	81 (50.6)
10.	Rest pause per day					
	15-30 min	23 (57.5)	12 (30.0)	22 (55.0)	16 (40.0)	73 (45.6)
	30-45 min	17 (42.5)	28 (70.0)	18 (45.0)	24 (60.0)	87 (54.4)
11.	Daily activity pattern (hours)					
	Work	12 (30.0)	11 (27.5)	15 (37.5)	14 (35.0)	24 hours
	Rest	2 (05.0)	4 (10.0)	2 (05.0)	2 (05.0)	
	Leisure	2 (05.0)	2 (05.0)	1 (2.50)	2 (05.0)	
	Sleeping	8 (20.0)	7 (17.5)	6 (15.0)	6 (15.0)	

12.	Ratio of Daily Activity Pattern	12:2:2:4	11:4:2:7	15:2:1:6	14:2:2:3	
13	Method adopted					
	Direct dropping on ground	14 (35.0)	6 (15.0)	19 (47.5)	7 (17.5)	46 (28.7)
	With the help of someone	26 (65.0)	34 (85.0)	21 (52.5)	33 (82.5)	114 (71.3)
14.	Amount of earnings					
	101-200	11 (27.5)	25 (62.5)	19 (47.5)	26 (65.0)	81 (50.6)
	201-300	22 (55.0)	10 (25.0)	18 (45.0)	14 (35.0)	64 (40.0)
	301-400	7 (17.5)	5 (12.5)	3 (7.5)	0 (0.0)	15 (9.4)
15	Mode of payment					
	Daily	3 (7.50)	9 (22.5)	5 (12.5)	6 (15.0)	23 (14.4)
	Weekly	8 (20.0)	11 (27.5)	10 (25.0)	8 (20.0)	37 (23.1)
	Monthly	29 (45.0)	20 (50.0)	25 (62.5)	26 (70.0)	100(62.5)
16.	Average monthly savings					
	Rs.1000-2000	21 (52.5)	27 (67.5)	15 (37.5)	26 (65.0)	89 (55.6)
	Rs.2000-3000	15 (37.5)	10 (25.0)	6 (15.0)	4 (10.0)	35 (21.9)
	Rs.3000-4000	4 (10.0)	3 (7.50)	19 (47.5)	10 (25.0)	36 (22.5)

Work Profile of Workers of Grain Market

Large number of the workers 54.4% in total sample were employed on the contract basis, whereas 26.9% on temporary basis. In pooled sample wheat, rice, green gram, pearl millet, cluster bean and mustard was carried by 35.6%, 35.0%, 11.9%, 8.75%, 5.62% and 3.12% of the labour. Dimension of load carried by the workers was 97.7 cm in length, 60.9 cm in width and 91.4cm in depth. In pooled sample 73.7% were carrying load in shift and 22.5% workers carried manually. Only 3.75% workers carried load on trolley.

Majority of workers (63.1%) in total sample had carried load on shoulder followed by on back and were taking help of other workers i.e. 3-4 persons during load carrying activity. Majority of the workers, 53.1% of amassed sample were wearing rubber slipper while carrying load. Maximum time spent was more than 2 hour by 50.6% of respondents in

total sample and were taking rest for 30-45min. Further daily activity pattern was divided into work, rest, leisure and sleeping time i.e. based on 24 hours of the day of the workers. District wise ratio of daily activity pattern of the workers was 12:2:2:8 from Hisar, 11:4:2:7 from Hansi, 15:2:1:6 from Fatehabad and 14:2:2:6 from Ratia of grain market. Majority of the workers 71.3% in composite sample were taking help of other person during load carrying activity. In overall sample majority (50.6%) of workers earned Rs.101-200 rs/day followed by Rs. 201-300 rs/day (40.0%) and least 301-400 rs/day (9.4%).

Mode of payment of maximum number of the workers 62.5% in composite sample was monthly basis followed by those who were getting weekly. Conclusively majority of workers carried load on shoulder with help of others, taking rest period of 30-45 min, had earned Rs.101-200/day and were getting wages weekly.

Table 3: Activity pattern of workers in load carrying activity (N=160)

Variables	Hisar (N=40)	Hansi (N=40)	Fatehabad (N=40)	Ratia (N=40)	Total (N=160)
Posture					
Use of hand	10 (25.0)	22 (55.0)	16 (40.0)	21 (52.5)	69 (43.1)
Use of hands	18 (45.0)	14(35.0)	18 (45.0)	11 (27.5)	61 (38.1)
Hands free	12 (30.0)	4 (10.0)	6 (15.0)	8 (20.0)	30 (18.8)
Aid used					
Hook	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)
Wooden plate	32 (80.0)	38 (95.0)	40 (100)	40 (100)	150 (93.7)
No. of shift/day					
10-20	12(30.0)	09(22.5)	06(15.0)	11(27.5)	38(23.7)
20-30	19(47.5)	17(42.5)	27(67.5)	17(42.5)	80(50.0)
30-40	09(22.5)	14(35.0)	07(17.5)	12(30.0)	42(26.3)
Weight/shift (kg)	50kg				
Distance travelled/shift (m)					
<5 Meters	21(52.5)	27(67.5)	22(55.0)	29(72.5)	99(61.9)
5-10 Meters	13(32.5)	07(17.5)	11(27.5)	08(20.0)	39(24.4)
10-15 Meters	06(15.0)	06(15.0)	07(17.5)	03(07.5)	22(13.7)
Time spend/day					
2-4 Hours	25(62.5)	23(57.5)	27(67.5)	21(52.5)	96(60.0)
4-6 Hours	09(22.5)	13(32.5)	10(25.0)	15(37.5)	47(29.4)
6-8 Hours	06(15.0)	04(25.0)	03(07.5)	04(25.0)	17(10.6)

Activity Pattern of Workers in Load Carrying Activity

In total sample, majority (43.1%) of the respondents used one hand 38.1% used both hands and 18.8% were carrying the load without holding it. Hook was used by cent percent of whole respondents. Wooden plate was used by 93.7% of respondent in total sample.

In composite sample 50.0% of respondents were carrying

out 20-30 shift/day. The size of load carried by the workers was 97.7 cm in length, 60.9 cm in width and 91.4cm in depth. Cent percent of the workers carried 50kg weight of load per shift. Majority of workers 61.9% in totality covered distance of less than 5 meters while load carrying. Maximum time spent was 2-4 hour by 60.0% of respondents in total sample.

Table 4: Profile of grain market (N=160)

Sr. No.	Variables	Hisar (N=40)	Hansi (N=40)	Fatehabad (N=40)	Ratia (N=40)
1.	No of workers	90	150	110	180
2.	Types of activity carried out in grain market*				
	Cleaning	36 (40.0)	45 (30.0)	34 (30.9)	54 (30.0)
	Lifting	4 (04.4)	11 (7.33)	3 (2.72)	22 (12.2)
	Carrying	45(50.0)	78 (52.0)	64 (58.2)	91 (50.6)
	Packing/ weighting	05 (05.6)	16 (10.7)	09(8.2)	13 (7.22)
3.	Season of work				
	Winter	13 (32.5)	17 (42.5)	15 (37.5)	11 (27.5)
	Summer	27 (67.5)	23 (57.5)	25 (62.5)	29 (72.5)
4.	Working hours/day				
	4 hours	25 (62.5)	20 (50.0)	23 (57.5)	27 (67.5)
	6 hours	11 (27.5)	15 (37.5)	14 (35.0)	09 (22.5)
	8 hours	04 (10.0)	05 (12.5)	03 (07.5)	04 (10.0)
5.	Duration of involvement in load carrying (Year)				
	1-3 years	04 (10.0)	02 (05.0)	05 (12.5)	03 (07.5)
	3-6 years	07 (17.5)	04 (10.0)	06 (15.0)	05 (12.5)
	6-9 years	09 (22.5)	11 (27.5)	10 (25.0)	11 (27.5)
	Above 9 years	20 (50.0)	23 (57.5)	19 (47.5)	21 (52.5)
6.	Basic facilities available in grain market				
	Toilet	Yes	Yes	No	Yes
	Drinking water	Yes	Yes	Yes	Yes
	Medical facilities	No	No	No	No
	Canteen	Yes	Yes	No	Yes
	Resting area	No	No	Yes	Yes

Profile of grain market

Grain market workers were involved in four activities i.e. cleaning, lifting, carrying and packing/weighting. Workers involved in activities of grain market were 180, 150, 110 and 90 i.e. from Ratia, Hansi, Fatehabad and Hisar respectively. Majority of workers were involved in carrying activity. Majority of workers were doing load activity in summer season. Maximum time spent was 4 hour by 67.5% of respondents in Ratia, 62.5% of workers in Hisar, 57.5% of workers in Fatehabad and 50.0% in Hansi respectively.

Most of them were involved in work from above 9 years in grain market Hansi (57.5%), Ratia (52.5%), Hisar (50.0%) and Fatehabad (47.5%). The toilet facilities were available in all grain markets except in Fatehabad grain market. Drinking water facilities was provided in all grain market. They were not getting any medical facility from grain market. The canteen facility was provided in all grain market except Fatehabad grain market. Resting area of workers was available only in Fatehabad and Ratia grain market.

Table 5: Body part involved in load carrying activity (N=160)

Sr. No.	Body parts	Hisar (N=40) Mean score	Hansi (N=40) Mean score	Fatehabad (N=40) Mean score	Ratia (N=40) Mean score	Total (N=160) Mean score	Rank
1.	Neck	1.70	1.87	1.45	1.5	1.63	VIII
2.	Shoulders	1.82	1.82	1.9	1.92	1.86	III
3.	Upper arms	1.78	1.82	1.82	1.82	1.81	IV
4.	Elbow	1.17	1.25	1.22	1.15	1.19	XIII
5.	Lower arms	1.14	1.12	1.12	1.15	1.13	XV
6.	Wrists	1.17	1.15	1.15	1.17	1.16	XIV
7.	Hands	1.51	1.37	1.5	1.3	1.42	IX
8.	Chest	1.12	1.05	1.12	1.2	1.12	XVI
9.	Upper back	1.92	1.97	1.9	1.87	1.91	I
10.	Lower back	1.92	1.95	1.9	1.82	1.89	II
11.	Buttocks	1.26	1.17	1.22	1.22	1.21	XII
12.	Hips	1.17	1.23	1.23	1.23	1.21	XII
13.	Upper legs	1.70	1.85	1.75	1.75	1.76	VI
14.	Knees	1.70	1.65	1.72	1.62	1.67	VII
15.	Lower legs	1.80	1.8	1.8	1.77	1.79	V
16.	Ankles	1.24	1.27	1.22	1.17	1.22	XI
17.	Feet	1.78	1.8	1.82	1.85	1.81	IV
18.	Eye irritation	1.21	1.25	1.27	1.27	1.25	X

Body part involved in load carrying activity

Main body part involved during load carrying activity was upper back (rank I), lower back (rank II), shoulder (rank III), upper arms and feet (rank IV), lower legs (rank V)

followed by upper legs (rank VI), knees (rank VII), neck (rank VIII), hands (IX), eye irritation (rank X) and less body parts involved ankles (rank XI), buttocks and hips (rank XII), elbow (rank XIII), wrist (rank XIV), lower arms (rank XV)

XV) and chest (XVI) with rank base in total sample. The muscles of the upper back are responsible for maintaining posture, balance and distributing the load evenly.

Conclusion

It is concluded that half of respondents were in age group of above 31-42 years and main family occupation was labour (63.7%). Large numbers of the respondents were having joint family (56.3%), medium family size (53.1%) and were living within grain market (51.9%). Majority of respondents (37.5%) were from Bihar. The total monthly family income of majority of respondents (72.5%) was Rs.6, 000-11,000 and had contract basis of employment (54.4%).

Majority of workers carried load on shoulder with help of others. Majority of the respondents were taking rest period of 30-45 min. Half of the respondents earned Rs.101-200/day, they were getting wages weekly and had saved monthly Rs.1000-2000. All workers were using *hook* for load carrying and were doing 20-30 shift/day. Cent percent of worker carried 50 kg grain per shift and spending 2-4 hr. A huge majority of respondents were involved in work of grain market from more than 9 years and drinking water facilities were provided in all grain market. It is also concluded that most commonly affected body parts during load carrying were the upper back, lower back, and shoulders, followed by various other body parts, ranked from most to least affected.

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