AATCC Review

16 May 2024: Received
21 June 2024: Revised
18 July 2024: Accepted
05 September 2024: Available Online

https://aatcc.peerjournals.net/

Research Article Open Access

Mastering the Occupational role of Pit loom Handloom Weavers: An In-Depth Study

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ABSTRACT

The study aimed to understand and explore the occupational profile of pit loomhandloom weavers,involvement and details related to the weaving activity and occupational problems of weavers. A total number of 120Saree handloom weavers working on pit loom in the state of Andhra Pradesh are selected purposively as the sample.The major findings of the study include that fifty-two per cent of the weavers work for 9-11 hrs whereas 42.50% work for more than 12 hrs and above irrespective of their age and health condition.More than half of the study sample are independent weavers (54.17%), followed by 27.50 % as cooperative weavers and 16.67 % as middlemen weavers.The majority 90 per cent of the handloom weavers get a minimum pay of Rs.1000 –Rs.2999/- for each item whereas very few 7.5 % receive pay of minimum Rs.3000-Rs.3999/-.Nearly sixty per cent of the weavers perform the activity in hall followed by 21.67 per cent and 17.50 % in open shed and separate room in their own residences.It was reported that most of the weavers were always involved in activities such as spinning (35.83%),winding and warping (34.17%),lacing of cards (45.83%),setting the warp on loom (58.33%) ,preparing the loom for activity (67.50%) and all the weavers involved in weaving activity (100%).All the weavers of the study reported that they carry out the work at the same workplace in insufficient spaces, the work involves mainly repetitive tasks and experience difficulties in exerting force because of awkward postures and sitting in uncomfortable positions without the backrest. Nearly three fourth of the weavers always had the health problems such as eye strain (85.00%),shoulder pain (74.17%),leg pain (78.33%),foot pain (86.6%),hand pain (70.83%),wrist pain(73.33%),neckpain (70.00%),joint pain(73.33%),finger pain(73.33%),knee pain(73.33%),backpain (75.83%) and muscle pain (74.17%).The economic problems faced by weavers include low wages and less financial assistance from government schemes (100%), sometimes delay in payment (76.67%) and payment in installment (80.00%).

Keywords: *Occupation, Handloom, Weavers, Pit loom*

INTRODUCTION

The Handloom sector provides indirect employment to the people of India in various activities like winding, warping, weaving, and other associated operations which are gradually specialized, focused and diverse due to the high labor requirements of the Handloom industry. Consequently, it offers a supplementary source of income for farmers and families involved in other sectors. The primary raw materials used in handloom industry are yarn and silk which are the byproducts of the cotton and silk-making industries, which rely on the cultivation and production of cotton as well as the raising of silkworms. Thus, the handloom sector is a byproduct of the manufacturing sericulture and agriculture sectors.The handloom business is an age-old one that employs many people both in rural and urban areas. India's traditional occupation is handloom weaving. In India, the handloom industry is the largest industry after agriculture. The handloom industry is divided into three main categories of weavers: wage weavers, cooperative weavers and independent weavers.

The wage weaver's system is the most widely used and majority of them perform jobs from home.

A traditional handloom weaving technique used mostly in India, especially in the state of Andhra Pradesh is pit loom saree weaving. The hole or pit excavated into the ground where the weaver sits to run the loom is referred known as a "pit loom". This method is renowned for its exquisite craftsmanship, vivid colors and detailed designs(9,10).

The process of traditional Pit loom weaving includes:

(I) Setting up the loom: A pit is covered by the loom used for pit loom weaving and the weaver is seated below it. The shuttle, heddles, frame and other parts required for weaving make up the loom.

(ii) Yarn preparation: To weave sarees fine yarn typically cotton or silkis utilized. The yarn is colored in a variety of hues based on the specifications of the design.

(iii) Design: Whether drawn from nature, mythology or ancient art forms, pit loom sarees frequently have elaborate patterns and motifs. Usually, graph paper is used to make these designs which are then transferred to the loom's warp threads.

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DOI: https://doi.org/10.21276/AATCCReview.2024.12.03.196

(iv) Weaving: The weaver uses a manual loom while seated inside the pit. To form the shed through which the weft thread carried by the shuttle is passed back and forth to create the cloth, they use foot pedals to raise and lower the warp threads.

(v) Finishing: To improve the saree's look and texture, finishing techniques including washing, starching and ironing are applied after the weaving is finished.

Weaving pit loom sarees is a labor-intensive procedure that calls for patience, expertise, and meticulous attention to detail. The resultant sarees are highly valued for their aesthetic appeal, robustness and cultural importance. In addition to being worn frequently on festivals and other events, they are economically significant for the communities that produce them. Pit loom weaving is more than just a technique for making textiles; it's a living culture that supports communities' social, cultural and economic well-being while also encouraging sustainability and safeguarding cultural heritage(5).

In India, especially in the context of saree weaving especially in areas like Andhra Pradesh, the term "pit loom" primarily refers to a kind of traditional handloom used in weaving.

Here's some further information regarding what a pit loom comprises:

(I) Pit: A trench or depression excavated into the ground is referred to as a "pit" in pit loom. To run the loom, the weaver sits in this below-ground pit.

(ii) Loom: The actual loom is positioned above the pit. It includes a frame, shuttle, heddles, and more weaving-related parts.

(iii)Operation: To produce the shed through which the weft thread (carrying by the shuttle) is transferred back and forth to create the fabric, the weaver employs foot pedals to raise and lower the warp threads.

(iv) Design and Weaving: Detailed motifs and designs are a common aspect of pit loom sarees. Usually, these patterns are drawn on graph paper and then transferred to the loom's warp strands.

The saree is then woven by the weaver using this pattern. Pit loom weaving is recognized for its complexity, exquisite technique, and cultural importance. Although it's a labor-intensive procedure that takes time and care, the end result is exquisite textiles that are widely prized for their craftsmanship and quality.

Objectives of the study

- To gain insight on work profile of handloom weavers.
- To understand the involvement of weavers in various handloom activities.
- To know the occupational problems of weavers in handloom industry.

METHODOLOGY

An exploratory research design was adopted for the study. The study was conducted in the state of Andhra Pradesh.

A total number of 120 Handloom weavers who were using Pit loom to weave the saree are purposively selected for the study.The self - structured interview schedule was developed to collect the data from the weavers using survey method. Extent of involvement of handloom weavers is measured in terms of always, sometimes and never with scores of 3,2 and 1. Details related to weaving activity was measured with 4-point scale such as always often sometimes and never with scores 4,3,2 and 1 whereas occupational problems were measured in terms of always and sometimes with scores 2 and1. Frequency and percentage were calculated and tabulated in the study.

RESULTS AND DISCUSSION

Work profile of the handloom weavers

The work profile of the handloom weavers in the study (Table 1) were collected on various parameters such as years of experience, working hours per day, work shift, number of looms, type of employment, status of weaver in terms of skills acquired, pay for each item, work area, membership in handloom cooperative society, financial support from the government, type of loom, reason for choosing weaving profession and category of weaver.

Nearly half i.e.,50 per cent of the weavers had minimum experience of 21-30 years followed by 21.67 % and 17.50 % for 11-20 years and 1-10 years of experience in handloom weaving activity. Fifty-two per cent of the weavers work for 9-11 hrs. each day where as it was observed that weavers (42.50%) work for more than 12 hrs. and above irrespective of their age and health condition. Cent per cent of the weavers expressed that they won't perform the task in work shift pattern.The majority of the handloom weavers (87.50%) possess one loom whereas very few 12.50 per cent have 2 looms. Cent per cent of the weavers expressed that they considered the handloom weaving activity job as permanent and are not involved in any other employment. It was noticed that all the handloom weavers (100%) involved in the study are fully skilled in performing the handloom activity. Similar results were found in the study conducted by Aprajita and Kaur (2018) and Promila and Preeti(2018) (1,3).

The majority 90 per cent of the handloom weavers get a minimum pay of Rs.1000 –Rs.2999/- for each item whereas very few 7.5 % receives a pay of minimum Rs.3000-Rs.3999/-. Nearly sixty per cent of the weavers perform the activity in hall followed by 21.67 per cent and 17.50 % in open shed and separate room in the own residence.The majority 72.5 % of the handloom weavers does not have any membership in handloom cooperative society. It was reported that nearly three fourths of the handloom weavers received financial support from various government schemes.

More than One- fourth i.e., 34.17 per cent of the weavers work on throw shuttle pit loom, followed by Fly shuttle pit loom (29.17%), Jacquard fly shuttle pit loom (20%). Nearly half (46.67%) of handloom weavers expressed that reason for choosing weaving as a profession is because it is considered as hereditary occupation (46.67%), less capital investment (20%) and only occupational work known (40%). More than half of the study sample are independent weavers (54.17%), followed by weavers 27.50 % as cooperative weavers and 16.67 % as middlemen weavers.

Table 1. Work Profile of Handloom Weavers

N=120

S.No	Particulars	Frequency	Percentage
1	**Years of experience**		
	1-10 years	21	17.50
	11-20 years	26	21.67
	21-30 years	58	48.33
	31 years and above	15	12.50
2	**Working hours per day**		
	6-8 hrs	6	5.00
	9-11 hrs	63	52.50
	12 hrs and above	51	42.50
3	**Work shift**		
	No	120	100.00
4	**Number of looms**		
	One	105	87.50
	Two	15	12.50
5	**Type of employment**		
	Permanent	120	100
6	**Status of weaver in terms of skills acquired**		
	Skilled	120	100
7	**Pay for each item**		
	Below Rs.999/-	2	1.67
	Rs.1000-Rs.2999/-	108	90.00
	Rs.3000- Rs.3999/-	9	7.50
	Rs.4000/- above	1	0.83
8	**Work area**		
	Hall	73	60.83
	Open shed	26	21.67
	Separate room	21	17.50
9	**Membership in handloom cooperative society**		
	Yes	33	27.50
	No	87	72.50
10	**Financial support from the government**		
	Yes	94	78.33
	No	26	21.67
11	**Type of looms**		
	Throw-shuttle pit looms	41	34.17
	Fly-shuttle pit looms	35	29.17
	Jacquard throw shuttle loom	20	16.67
	Jacquard fly shuttle loom	24	20.00
12	**Reason for choosing weaving profession**		
	Hereditary Occupation	56	46.67
	Less capital investment	24	20.00
	The only work known	40	40.00
13	**Category of Weaver**		
	Independent weaver	65	54.17
	Middlemen weaver	20	16.67
	Master weaver	2	1.67
	Cooperative weaver	33	27.50

INVOLVEMENT OF WEAVERS IN VARIOUS HANDLOOM ACTIVITIES

The study(Table 2) observed the involvement of handloom weavers in terms of always, sometimes and never for various activities. It was reported that most of the weavers were always involved in activities such as spinning (35.83%),winding and warping (34.17%),lacing of cards (45.83%),setting the warp on loom (58.33%) ,preparing the loom for activity (67.50%) and all the weavers involved in weaving activity (100%).The weavers reported the activities which they involve sometimes include spinning(52.50%),winding and warping (53.33%),lacing of cards (43.33%) ,setting the warp on loom (41.67%) and preparing the loom or activity (32.50%) and weavers never involved in activities include spinning(11.67%),winding and warping(12.50%) and lacing of cards(10.83%).

Table 2. Involvement of Weavers in various Handloom activities

N=120

S.No	Activity	Extent of involvement		
		Always	Sometimes	Never
		f (%)	f(%)	f (%)
1	Spinning	43(35.83)	63(52.50)	14(11.67)
2	Winding and warping	41(34.17)	64(53.33)	15(12.50)
3	Lacing of cards	55(45.83)	52(43.33)	13(10.83)
4	Setting the warp on loom	70(58.33)	50(41.67)	-
5	Preparing the loom for activity	81(67.50)	39(32.50)	-
6	Weaving the fabric	120(100)	-	-

DETAILS RELATED TO THE WEAVING ACTIVITY

The weavers(Table 3) expressed that they almost always carry out the same work for the whole day (50.83%), nearly more than half (53.33%) reported that their work varies from day to day ,65.83 % of the sample expressed that their tasks never vary according to the season or time of the year. All the weavers of the study reported that they carry out the work at the same workplace in insufficient spaces, the work involves mainly repetitive tasks, and experience difficulties in exerting force because of awkward postures and sitting in uncomfortable positions without the backrest. The study reported that nearly three fourth i.e., 73.33 %reported that they never work in standing posture for long periods. Almost all the weavers expressed that their job requires exertion of arms/hands, sitting for long periods, working with vibrating tools in uncomfortable positions. Nearly half of the sample (53.33%) reported that they sometimes work in squatting /kneeling for long periods.

Table 3. Details related to the Weaving activity

N=120

S.No	Details related to the weaving activity	Almost always	Often	Sometimes	Never
		f (%)	f (%)	f (%)	f (%)
1	Do you carry out the same work almost the whole day	61(50.83)	41(34.17)	18(15.00)	-
2	Does your work vary from day to day	-	-	64(53.33)	56(46.67)
3	Do your tasks vary according to the season or time of the year	-	-	41(34.17)	79(65.83)
4	Do you carry out your work mostly at the same workplace	120(100.00)	-	-	-
5	Does your work involve mainly repetitive tasks	120(100.00)	-	-	-
6	Insufficient space to do your work properly	120(100.00)	-	-	-
7	Difficulties exerting force because of uncomfortable postures	120(100.00)	-	-	-
8	Sitting in uncomfortable position without backrest	120(100.00)	-	-	-
9	Standing for long periods	-	-	32(26.67)	88(73.33)
10	Sitting for long periods	120(100.00)	-	-	-
11	Squatting/Kneeling for long periods	-	56(46.67)	64(53.33)	-
12	Jobs require exertion of arms/hands	120(100.00)	-	-	-
13	Working with vibrating tools	120(100.00)	-	-	-
14	Working in uncomfortable postures	120(100.00)	-	-	-

OCCUPATIONAL PROBLEMS OF HANDLOOM WEAVERS

The occupational problems(Table 4) faced by weavers in this study were categorized into health problems and economic problems. It was reported that nearly three fourth of the weavers always had health problems such as eye strain (85.00%),shoulder pain (74.17%),leg pain (78.33%), foot pain (86.6%),hand pain (70.83%),wrist pain(73.33%),neckpain (70.00%),joint pain(73.33%), finger pain(73.33%),knee pain(73.33%), back pain (75.83%) and muscle pain (74.17%).The economic problems faced by weavers include low wages and less financial assistance from government schemes (100%),sometimes delay in payment (76.67%) and payment in installment (80.00%).

Table 4.Occupational problems of Handloom weavers

N=120

S.No	Occupational problems	Always	Sometimes
	Health problems	**f(%)**	**f(%)**
1	Eye strain	102(85.00)	18(15.00)
2	Shoulder pain	89(74.17)	31(25.83)
3	Leg pain	94(78.33)	26(21.67)
4	Foot pain	104(86.66)	16(13.33)
5	Hand pain	85(70.83)	35(29.17)
6	Wrist pain	88(73.33)	32(26.67)
7	Neck pain	84(70.00)	36(30.00)
8	Joint pain	88(73.33)	32(26.67)
9	Finger pain	88(73.33)	32(26.67)
10	Knee pain	88(73.33)	32(26.67)
11	Back pain	91(75.83)	29(24.17)
12	Muscle pain	89(74.17)	31(25.83)
	Economic problems		
1	Low wages	120(100.00)	-
2	Delay in payment	28(23.33)	92(76.67)
3	Payment in installment	24(20.00)	96(80.00)
4	Less financial assistance from government schemes	120(100.00)	-

Musculoskeletal problems of back pain, knee, and joint pain were observed among handloom weavers due to the long working hours in various harmful positions on traditional looms. Weavers complained of problems like back pain, neck pain, foot pain, and joint pain because of the poor ergonomically designed workplace.

Government has made a number of steps to help the handloom weavers, including providing institutional support and direct financial assistance, yet despite these efforts, the weavers continue to face numerous difficulties and hardships (4).

The weavers are ignorant of contemporary production, packaging, designing, and marketing procedures. Therefore, comprehensive study in this area is required for the growth and promotion of the handloom sector (2).

The results show that WMSDs were detected in nine different body regions, with the lower back being the most common (61.77%), followed by the neck (44.32%) , elbow (51.52%), upper back (38.78%), shoulder (35.46%), knee (34.90%), ankle (22.16%), and wrist (14.96%)(6,7).

Conclusion

Handloom weavers contribute to the textile industry in many ways, combining skill, heritage, sustainability and cultural preservation.Handloom products have been a major part of export basket of the country. The study discussed about the working pattern and profile of the weavers involved in handloom activities.It was concluded that handloom weavers engaged in repetitive hand and leg motions to move the shuttles and pedals adopting a forward-leaning head posture and no back support are necessary for these procedures when sitting. Occupational hazards noticed in the study include tightly packed loom arrangements with inadequate ventilation, prolonged noise exposure, awkward posture with limited range of motion. Therefore, Handloom weavers are more prone to various Occupational health problems and attention should be various government and non-government organizations for the betterment of the wellbeing of the weavers in handloom Industry.

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