



## Research Article

# ASSESSMENT OF OCCUPATIONAL HEALTH AND WORKING ENVIRONMENT OF THE HANDLOOM WEAVERS

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**Abstract:** The workers involved in the Handloom Sector face a lot of problems like low socio-economic status; improper wages and profits; improper workstation and work environment design; health and safety issues; ergonomic and musculo-skeletal issues; mental, physical and psychological strain etc. This study was taken up to explore the occupational health issues and work environment of the handloom weavers. The results showed that the respondents had suffered from different occupational health issues like decrease in eye sight, dust allergies, lung problems and pain in knees, legs, hands and shoulders. Lack of proper lighting, space and ventilation in the work area caused extra stress on the respondents while working, but they were unable to identify that issue. Modification of the work environment and the loom design depending on the needs of the weavers may be helpful in reducing the health issues and work stress.

**Keywords:** Handloom, Weaver, Work environment, Occupational health issues, Fatigue relief measures

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## Introduction

The Handloom weaving is being practised by many people across India. Around 4.3 million people across India are involved in the production of handloom products. But the major disadvantage of the work is its unorganized nature. Due to this, there are no proper rules framed in the work environments and hence weavers face a lot of health issues. The work environment of the weavers includes the loom, the space available for movement and the space available to do other works related to weaving like dyeing, yarn winding, beaming and finishing the product. The stress or strain that is caused to weaver's due to their work differs from activity to activity. This strain and stress finally causes fatigue. Over a longer period of time, this causes musculo-skeletal disorders and other health issues. Some of the musculoskeletal pains/discomfort and visual strain symptoms among weavers includes the musculoskeletal discomfort in the neck and tired eyes. Weavers self-report that there is a high occurrence of musculoskeletal discomfort and visual strain symptoms [1]. These musculo-skeletal issues may sometimes be a result of improper work environment like lack of ventilation, lighting, temperature etc. or due to long working hours without having proper rest periods. Hence a systematic approach for reduce work related health issues in handloom weavers is important. Apart from the work involved in weaving, an ill-designed workstation/loom also plays a major role in contributing to health issues. Majority of ergonomics shortcomings originate from ill-designed weaving workstation [2]. Hence an integrated approach which deals with having a stress less work role, an ergonomic workstation/loom design and healthy work environment can reduce the occurrence of health issues in handloom weavers.

## Objectives of The Study

To observe the existing conditions in the work environment of the handloom weavers.

To enquire about the occupational health issues faced by the weavers.

To investigate about the fatigue relief measures used by the weavers.

## Methodology

The study was conducted using an exploratory research method. The location in which the study is conducted is Kamalapur Handloom cluster located in the Warangal (Urban) District of Telangana State, India. Around 30 randomly selected handloom weavers who were involved in working on Pit or Frame looms were interviewed as a part of the study. The information gathered about the observation of the work environment is presented using qualitative and quantitative data. The information related to the no. of working hours, work related work-related health problems faced and the remedies followed to relive themselves from the fatigue or strain experienced is presented using quantitative data. The quantitative data gathered is analysed using frequency and percentages.

## Results and Discussion

### Existing conditions in the Work Environment

This data is based on the researcher's views related to the surveyed work environments of the weavers (respondents). All the work environments had dust accumulation on the looms and in the entire work area. This is the main reason which triggered lung problems in the respondents. Apart from this, majority (83.33%) of the work environments did not have proper and sufficient lighting, ventilation (73.33%) and air circulation (73.33%). Apart from these, high temperature was observed in around 66.66 per cent of the work environments and cramped environments (60.00%), which means less space for movement and also between the looms of one weaver and another is also observed. Only few (6.66%) work environments had more amount of noise. A point to note is that the respondents expressed that they do not feel any discomfort in the working environment as they are used to working in the same conditions from many years. All the respondents had bad and improper work environments [Table-1]. This is causing additional burden on the respondents while working. Hence, some measures like installing a tube light and fan near the loom will help in meeting the lighting requirement and increasing the comfort levels of the respondents (and weavers in general) while carrying out the weaving work.

Table-1 Distribution of respondents based on the existing conditions in the work environment (n=30)

Conditions observed	Frequency	Percentage
Less lighting	25	83.33
Less ventilation	22	73.33
No proper air circulation	22	73.33
High Temperature	20	66.66
High Noise Levels	2	6.66
Yarn accumulation	30	100.00
Cramped Environment	18	60.00

**No. of working hours (per day)**

All the 30 respondents who were surveyed in the study were males. The results displayed in the [Table-2] showed that majority (43.33%) of the respondents did the weaving work for 6 – 8 hours per day. Around 33.33 per cent did weaving for around 8 – 10 hours, another 16.66 per cent did weaving for 4 - 6 hours, another 3.33 per cent did weaving for more than 10 hours and the remaining 3.33 per cent did weaving for around 2 – 4 hours per day. The daily wage/ money earned by the respondents always depended on the number of products woven per day. Hence, some of the respondents did the weaving work for more number of hours if they want to earn more money for their livelihood.

Table-2 Distribution of respondents based on the existing conditions in the work environment (n=30)

No. of Working hours (per day)	Frequency	Percentage
2 – 4 hours	1	3.33
4 – 6 hours	5	16.66
6 – 8 hours	13	43.33
8 – 10 hours	10	33.33
More than 10 hours	1	3.33

**Health Issues faced**

The results showed that the respondents face a lot a health issues due to the work done by them. The results displayed in the [Table-3] showed that around half of the respondents had knee pain due to the continuous movements and stress to be put on pedals in the loom. Apart from this, respondents also faced other health problems like Leg Pain (43.33%), Hand Pain (30.00%), Latent Tuberculosis (26.66%), Shoulder Pain (26.66%), Back Pain (20.00%), Decrease in Eye Sight (20.00%), Discomfort in Breathing (16.66%), Lung Problems (16.66%), Eye Pain (13.33%) and Dust allergies (13.33) due to the postures adopted, work process, work environment and repetitive motions involved in the work.

Table-3 Distribution of Respondents based on the Health Issues faced (n=30)

Health Issue faced	F	%	Health Issue faced	F	%
Knee Pain	15	50.00	Joint Pains	3	10.00
Leg Pain	13	43.33	Cough	3	10.00
Hand Pain	9	30.00	Head Ache	2	6.66
Latent Tuberculosis	8	26.66	Chest Pain	2	6.66
Shoulder Pain	8	26.66	Frequent Fevers	2	6.66
Back Pain	6	20.00	Nerve weakness	2	6.66
Decrease in Eye Sight	6	20.00	Cold	1	3.33
Discomfort in Breathing	5	16.66	Osteoporosis	1	3.33
Lung Problems	5	16.66	Kidney problems	1	3.33
Eye Pain	4	13.33	General weakness	1	3.33
Dust allergy	4	13.33			

**Fatigue Relief Measures used**

Due to the heavy work involved in weaving, the respondents experienced a lot of fatigue and stress. To combat the fatigue, majority of the respondents (60.00%) took a short nap during the day time as a relief measure, followed by having proper sleep during night time (43.33%), stop the work and take rest for some time (33.33%), take medicines (26.66%) etc. Few (3.33%) of the respondents also took injections in order to reduce the pain in different parts of the body. Jaggery is also eaten by few respondents (3.33%) in order to reduce the effect of Latent Tuberculosis on the body [Table-4].

Table-4 Distribution of Respondents based on the Fatigue Relief Measures used (n=30)

Fatigue Relief Measures used	Frequency	Percentage
Take a short nap (during day time)	18	60.00
Have proper sleep (during night time)	13	43.33
Stop the work and rest for some time	10	33.33
Take medicines	8	26.66
Consume Alcohol (90 ml)	5	16.66
Visit the doctor	4	13.33
Take Injections	1	3.33
Eat Jaggery	1	3.33

**Conclusion**

Weaving is one such occupation which involves lot of physical strain and stress. This causes a lot of fatigue, musculo skeletal issues, health problems which stay for a shorter period of time or throughout their life. As weaving is mostly unorganized in nature, the work environments are also not taken much into consideration. The results of the present study showcase that the respondents (weavers) face problems from all the above mentioned three issues i.e., physical strain and stress which causes fatigue, health issues and repercussions from the improper work environment. Though the number of weavers involved in the present study is only thirty, these results can be generalised to all the weavers as almost all the weavers do the similar type of work, at least in the state of Telangana in which the study is conducted. The study results indicate that there is a need for modifying the loom design, work process and work environments in order to provide a comfortable workplace for the weavers which in turn reduce their fatigue and health issues. All these factors if set up properly can increase the work interest and efficiency of the weavers.

**Application of research:** The study results can be used as a guide to develop guidelines for designing a healthy work environment for weavers. The study results can be used to develop some educational material for weavers on the topics like importance of rest during work and fatigue relief measures to be used during and after work.

**Research Category:** Handloom Weavers

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