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STUDY OF PHYSICAL HAZARD FACED BY THE WORKERS IN POWER-LOOM

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Abstract: *The power loom has play major role in Indian economics. The power loom worker plays major role in India as around 30 percentage power loom workers. Recent previous year power loom industry has faces crisis. The most affected factor in crisis is power loom worker which they suffer from many problems. This study has finding their problems with impacting on power loom industry. And also finding solution which help to power loom worker for improving their health. And also finding wealth condition of power loom worker. Power loom worker problems which most affecting factor of national development because 30 percent of people working in these sector. This study is about finding there physical hazard and providing some remedial measures for that.*

1. INTRODUCTION

The textile sector in India plays an important role in the country's economy and provides employment to many people in peri-urban and rural areas. Apart from providing one of the basic necessities of life, i.e. clothing, the textile industry contributes about 14% to the country's industrial output. The sector employs nearly 35 million people and after agriculture, is the second-highest employer in the country. This sector has wide spectrum of industries ranging from small-scale units that use traditional manufacturing process, to large integrated mills using modern machineries and equipment. It can be broadly classified into two categories, the organized mill and the unorganized decentralized sector. The organized sector of the textile industry having, the spinning, weaving and processing facilities are carried out in one roof. The yarn is mostly produced in the spinning mills, fabrics are produced in three major segments the power loom, handloom and hosiery., Out of three segments, the power loom plays a vital role in Indian textile industry and providing the employment opportunities to 4.86 million people of the country in 2009.

Operation of weaving in a textile mill is undertaken by a specially trained operator known as a weaver. Weavers are expected to uphold high industry standards and are tasked with monitoring anywhere from ten, to as many as thirty separate looms at any one time. During their operating shift, weavers will first utilize a wax pencil or crayon to sign their initials onto the cloth to mark a shift change, and then walk along the cloth side (front) of the looms they tend, gently touching the fabric as it comes from the reed. This is done to feel for any broken "picks" or filler thread. Should broken picks be detected, the weaver will disable the machine and undertake to correct the error, typically by replacing the bobbin of filler thread in as little time as possible. They are trained that, ideally, no machine should stop working for more than one minute, with faster turn around times being preferred.

The power loom industry is one of the important industries in India with massive raw material and textile manufacturing base. The structure of Indian textile sector is extremely complex with modern, sophisticated and highly mechanized sector on one hand and the Handloom industry on the other and in between falls the decentralized small scale power loom industry.

1.1 power loom

The power loom industry plays an important role in meeting the clothing needs of the country. There are approximately 13 lakhs power looms in different regions of Maharashtra like Solapur, Icha lKaranji, Malegaon etc., and they are also concentrated in Gujarat and Uttar Pradesh states. Unlike other major textile producing countries, Indian power loom industry is comprised mostly of small scale, non-integrated spinning, weaving, finishing and apparel making enterprises.

2. METHODOLOGY

The study of physical hazards faced by the workers in powerloom was taken in small scale sector in cheyyar town, thiruvannamalai district, Tamil Nadu.

The proposed work it is a analytical study of power loom worker. In this proposed work to interacting with power loom worker and collecting sample data which help for analytical study then understanding their impact on worker. And provide solution or suggestion for betterment their economically and socially.

2.1 LEG PAIN:

In power loom most of the works are standing there full working hours of 10 to 12 hours. So most of the workers in the powerloom as affect by the leg pain.

2.1 powerloom works as to stand

The most commonly reported symptoms from extended periods of standing are discomfort, fatigue and swelling in the legs. Workers required to spend too much time on their feet are at greatly increased risk of pain and discomfort affecting feet, shins and calves, knees, thighs, hips and lower back.

2.2 ILLUMINATION:

Improper illumination will cause eye problem to the most of the workers in the powerloom and it will also increase the sound by reflecting it back it will increase some health issues.

2.2 workers are directly exposed to the light

The sun and lamps emit visible light and invisible radiations, such as ultraviolet (UV) and infrared (IR). The wavelength of visible light determines its colour, from violet (shorter wavelength) through to red (longer wavelength). UV and IR can be subdivided according to their wavelength into narrower bands (UVA/UVB/UVC for ultraviolet, with UVA being the closest to visible light, and IRA/IRB/IRC for infrared, with IRA being the closest to visible light.). The sun emits radiation over the full range of wavelengths, but the earth's atmosphere blocks a lot of UV and infrared radiations.

2.3 LUNG DISEASE:

In power looms cotton dust which produce is more and it affect lungs and cause disease like byssinosis.

2.3 workers as to explore in cotton dust

Byssinosis is a lung disease caused by job-related exposure to dust from cotton, hemp, or flax. These dusts cause lung disease by obstructing the small air tubes

(called bronchioles). Byssinosis can cause symptoms like asthma or more permanent lung damage similar to chronic obstructive pulmonary disease (COPD).

Other names for byssinosis include Monday fever, brown lung disease, mill fever, and cotton workers' lung..

To manage your symptoms, change how often you come into contact with textile products, like cotton. Your health care provider, a lung doctor (pulmonologist), and possibly an occupational medicine expert will help you create a treatment or management plan.

2.4 VENTILATION PROBLEM:

Inadequate ventilation will cause humidity and discomfort to workers in power looms. Inadequate ventilation inevitably generates excess humidity caused by showers, baths and cooking. Excess humidity inside the home can cause many problems such as condensation on the windows, the premature deterioration of the home and the proliferation of mold which is harmful to your health.

2.4 inadequate ventilation

Another aspect of inadequate or insufficient ventilation is the increased concentration of (chemical and biological) contaminants contained in the air. For example, carrying out extensive home projects, stripping furniture, using gas-fired equipment or engaging in any other similar activity quickly degrades indoor air quality when there is a lack of ventilation. Note that you can confront the problem of contaminated indoor air by limiting the source of indoor pollutants, such as refraining from storing large quantities of paints or cleaning products, which are easily avoidable sources of contamination.

2.5 NOISE PROBLEM

Power looms generate more noise due to continues move of machine tools and it will affect the ears of the workers in power loom.

2.5 powerloom produce more noise while working

Acoustic soundproof foam prevents soundwaves from reflecting off of hard surfaces, like ceilings and walls. Instead, it absorbs the waves. The result is a smooth, quiet and calm environment. Though not completely soundproof, noise-dampening foam allows you to enjoy many activities in residential and commercial spaces that wouldn't be possible otherwise. Compared to alternative methods for soundproofing, using sound absorbing foam is fast and easy to install. If the budget is tight this solution is for you.

You can also use acoustic soundproof foam to reduce noises from outside sources from seeping into your home. We will help design the best configuration to block control those sound waves and regain a peaceful environment. Likewise, you can use our products to prevent your teenager's new band from becoming a neighborhood nuisance.

Commercial installations are endless. Acoustic foams are easy to change depending on your needs. Use them to contain noise from a workshop or garage or to dampen interruptions caused by loud or rattling equipment.

Whether you are a contractor, architect or simply a homeowner looking for a handy solution to a noise problem, you can count on Soundproof Cow. We have all of the supplies needed to minimize noise in and around your property.

Noise has been associated with important cardiovascular health problems, particularly hypertension. Noise levels of 50 dB(A) or greater at night may increase the risk of myocardial infarction by chronically elevating cortisol production.

Traffic noise has several negative effects, including increased risk for coronary artery disease, with night-time

exposure to noise possibly more harmful than day-time exposure. It has also been shown to increase blood pressure in individuals within the surrounding residential areas, with railways causing the greatest cardiovascular effects. Roadway noise levels are sufficient to constrict arterial blood flow and lead to elevated blood pressure. Vasoconstriction can result from elevated adrenaline levels or through medical stress reactions. Long-term exposure to noise is correlated to increase in cortisol and angiotensin-II levels which are respectively associated with oxidative stress and vascular inflammation. Individuals subject to great than 80 dB(A) in the workplace are at increased risk of having increased blood pressure.

3. REMEDIAL MEASURES

3.1 SOUNDPROOFING:

Soundproofing is any means of reducing the sound pressure with respect to a specified sound source and receptor. There are several basic approaches to reducing sound: increasing the distance between source and receiver, using noise barriers to reflect or absorb the energy of the sound waves, using damping structures such as sound baffles, or using active antinoise sound generators.

3.1 Sound proofing

There are 5 elements in sound reduction (Absorption, Damping, Decoupling, Distance, and Adding Mass). The "Absorption" aspect in soundproofing should not be confused with Sound Absorbing Panels used in acoustic treatments. "Absorption" in this sense only refers to reducing a resonating frequency in a cavity by installing insulation between walls, ceilings or floors. Acoustic Panels can play a role in a treatment only after walls or ceilings have been soundproofed, reducing the amplified reflection in the source room.

Two distinct soundproofing problems may need to be considered when designing acoustic treatments—to improve the sound within a room (see reverberation), and reduce sound leakage to/from adjacent rooms or outdoors (see sound transmission class and sound reduction index). Acoustic quieting and noise control can be used to limit unwanted noise. Soundproofing can suppress unwanted indirect sound waves such as reflections that cause echoes and resonances that cause reverberation. Soundproofing can reduce the transmission of unwanted direct sound waves from the source to an involuntary listener through the use of distance and intervening objects in the sound path.

Sound absorbing material controls reverberant sound pressure levels within a cavity, enclosure or room. Synthetic Absorption materials are porous, referring to open cell foam (acoustic foam, soundproof foam). Fibrous absorption material such as cellulose, mineral wool, fiberglass, sheep's wool, are more commonly used to deaden resonant frequencies within a cavity (wall, floor, or ceiling insulation), serving a dual purpose for their thermal insulation properties. Both fibrous and porous absorption material are used to create acoustic panels, which absorb sound reflection in a room, improving speech intelligibility.

Acoustic foam is an open celled foam used for acoustic treatment. It attenuates air bone sound waves, reducing their amplitude, for the purposes of noise reduction or noise control. The energy is dissipated as heat. Aco Austic foam can be made in several different colors, sizes and thickness.

Acoustic foam can be attached to walls, ceilings, doors, and other features of a room to control noise levels, vibration, and echoes. Many acoustic foam products are treated with dyes and/or fire retardants.

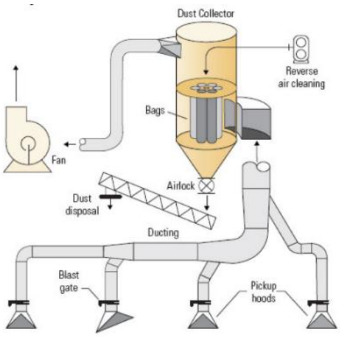
3.2 STOOL:

A stool is one of the earliest forms of seat furniture. It bears many similarities to a chair. It consists of a single seat, for one person, without back or armrests (in early stools), on a base of a stool there are either one , two, three or four legs. A stool is generally distinguished from chairs by their lack of arms and a back. Variants exist with one, two or five legs and these various stools are referred to by some people as "backless chairs". Some modern stools have backs. Folding stools can become flat, typically by rotating the seat to be parallel with fold-up legs.

Some stools are designed with three legs; because three points define a plane, these will not wobble, even if placed on an uneven floor.

3.3 DUST COLLECTOR:

A dust collector is a system used to enhance the quality of air released from industrial and commercial processes by collecting dust and other impurities from air or gas. Designed to handle high-volume dust loads, a dust collector system consists of a blower, dust filter, a filter-cleaning system, and a dust receptacle or dust removal system. It is distinguished from air purifiers, which use disposable filters to remove dust.



4.3 dust collector

4. RESULT

. This study were covered the sample survey of 540 power loom workers in selected industries in Solapur city and the results were showed that most of the workers have been impacted by the unhealthy and non-safety working conditions which resulted in to 84.28 % workers were affected by respiratory problems, 43.15 % have reported an increase in muscle tone, 12% complained of eye problems and 73 % have been found affected by musculoskeletal problem. Hence, there is an immediate need to reinforce their workplace safety and health policies and implement measures in accordance with the Indian Factories Act. This study was limited to Solapur city and we were assessed basic parameters to determine the health of the power-loom workers.

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