

## EFFECTS OF INDUSTRIAL ENVIRONMENT ON HEALTH STATUS OF WORKERS. A CASE OF NOON SUGAR MILL BHALWAL

Rubina Asad<sup>1</sup>, Shariqa Jubeen<sup>2</sup>, Shahid Iqbal<sup>3</sup>

University of Sargodha,  
PAKISTAN.

<sup>1</sup> [binaleo84@yahoo.com.uk](mailto:binaleo84@yahoo.com.uk), <sup>2</sup> [shariqajabeen@yahoo.com](mailto:shariqajabeen@yahoo.com),  
<sup>3</sup> [shahidkhan.mumdani@gmail.com](mailto:shahidkhan.mumdani@gmail.com)

### ABSTRACT

*Industrialization is considered to be one of the most important tires of economic development in Pakistan. However, rapid unplanned industrialization without social and environment impact assessment is creating serious problems for human environment. Worse and directly affected in this process are the industrial workers, who are directly exposed to physical and social environment of the industry. This study “Effects of Industrial Environment on Health Status of Workers” was designed to examine the effects of industrial environment on health status of workers. Major objective of research project was to explore the impact of social and physical environment of the industry on the health status of the workers. This study was conducted at Noon Sugar Mill Bhalwal. Two hundred and fifty respondents were selected from various departments by using multistage simple random sampling. A well-structured questionnaire was used as a tool for data collection. The chi- square test was applied to test the relationship between variables of hypothesis. Results of this study clearly indicated that health status of the workers was affected by the industrial social and physical environment. Workers were found suffering from psychological problems like anxiety and depression and also reported problems due to night shift work, little salary and noisy environment. Majority of workers reports having a difficult relation with the boss. They also hold the opinion that the supervisor does not take care for the workers. The research recommends that facilities related to health, education etc. should be provided to all workers and physical work load should be decreased.*

**Keywords:** Industrialization, Social Environment, Physical Environment, Health Status.

### INTRODUCTION

Humans are complex beings who live multifaceted lives. We do not live in segregation from our settings, and even the most reluctant or shy among us must intermingle with our location and society. An individual's health is influenced through many different characteristics of life. The environment may be reflected in two aspects; the physical and the social. Estimations point out that the fraction of the global problem of disease linked with environmental pollution threats ranges from 23 percent to 30 percent (Smith et al., 1999).

Workers of any industry are essential capital of any country. But it is sad to say that they are facing a lot of problems in their workings condition, so it is important to study the workers industrial problems that affect their health. The purpose of study is to find out the physical and social environmental problems related to the health of workers in Noon Sugar Mill. The purpose of this study is also to investigate the impact of industrial social environment on labour force, physical and psychosocial work conditions as these are important determinants of health in workforces.

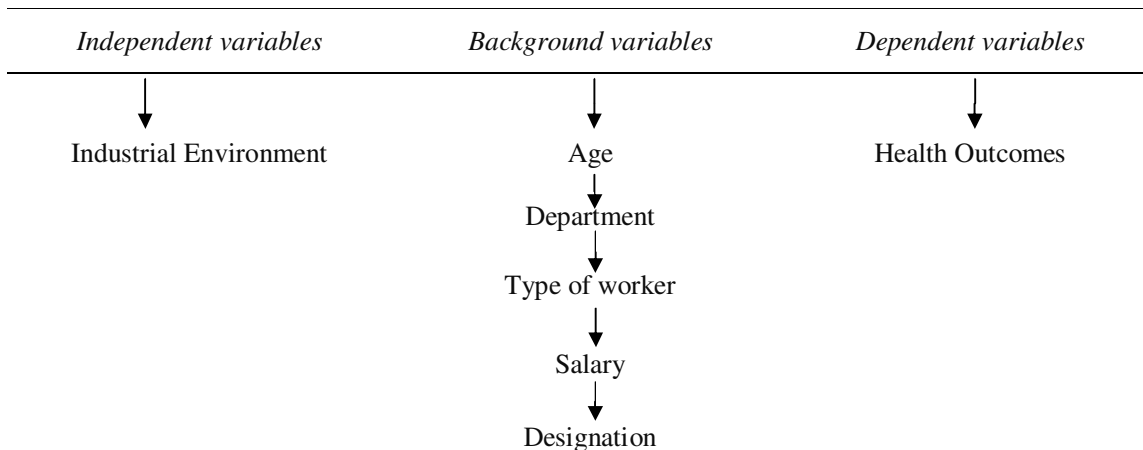
## BACKGROUND

The history of the industrialized countries displays that social and economic development is mutually supporting. To this day no nation has attained maintainable economic development by ignoring social programs, nor has any accomplished social happiness without standing on rigorous economic ground. The vital linkage between the social and economic segment is the working population. All capital is directly or indirectly acquired from the hard work of the working population (Reich & Okubo, 1992).

Workers in industries do face numerous occupational health problems. Such problems seriously affect their productivity and life span. Social and environmental health problems include increases in migration of both skilled and unskilled workers from rural to urban centers causing overcrowding and environmental pollution. The migration results in unemployment, poverty, lower standard of living delinquent behavior such as abuse of drugs and alcohol, prostitution, robbery, and psychological problems among others. These outcomes bring about stress, anxiety and their implications (Asogwa, 2007).

The health of workers and the surroundings of the workplace have been a central apprehension of activists since the time of Marx. Supporting to a neo- Marxist framework of industrial work, it is supposed that workers enjoy greater comfort and health when they govern the processes of work (Hodson & Sullivan, 2007).

## CONCEPTUAL FRAME WORK



## REVIEW OF LITERATURE

Sugar industry is playing an important role in the economic progress but the wastes released produce a high degree of organic pollution in both marine and earthly environments. Sugar factory sewage, when liquidated into the environment; possess a serious health danger to the rural and semi-urban inhabitants that use watercourse and river water for agriculture and home purposes, there are numerous reports of fish mortality and harm to the paddy crops in these areas due to wastewaters arriving agricultural land (Baruah, 1993).

A healthy worker is the key factor for maintainable social and economic growth. They add truly to the wealth of the industries. As workers became the back bone of industrialization, enormous and unselective employment of susceptible groups, children and women became the order. Poor and insecure working conditions, speedy introduction of new industries, creation and application of new tools for mass production and other processes brought about serious threat not expected to the employees (Reich & Okubo, 1992).

Occupation health diseases can be defined as any disorder arising from work place contacts which compromises worker's physical, mental and social welfare. Generally, the introduction of Occupational health in industries and other occupations can advantage everybody especially the management, the employers and the employees. When the employees are healthy physically, emotionally and mentally the atmosphere within the occupational setting becomes inspiring, calm and attractive. The efficiency increases, the company stands better chance of development (Achal, 2000).

The knowledge and understanding of the associations and contacts between work and health is important in the exercise of occupational health and safety. The working environment and the working conditions can positively or negatively affect the employees' health safety and health care. Also, the workers' health can affect his or her routine and output depending on environmental temperaments and the nature of industrial organization and strategies. Poor health decreases productivity and worker's productivity (Cooper & Phillips, 2004).

Four spheres of influence in the workplace social environment do touch the health status of the workers. The first sphere of the influence is concerned with health related manners of employees; the second sphere of influence on health status arises among groups of co-workers. The third sphere of influence is the management sphere such as approaches toward health and health-related strategies and the effects of the policies or their lack on employee's health status. For example, to value wellness and health sponsoring efforts they must recognize them to be valued by employers. The fourth sphere of influence involves legal, social and political action that impacts the health of employees (Clark, 1999).

The environment is sum of all physical and social circumstances that surround a person and can affect that person's health. The workers of industries suffer different kind of sicknesses due to poor working circumstances. They face an un-quantified rate of pain, strain, and injury due to poor working dealings and surroundings. In many industrial countries, accidents faced by workers due to hand tools and cutting gadgets were most common (Melville, 1999).

These industries create serious health problems which are often ignored. Problems from the noise comprise poor hearing, loss of attentiveness, frustration, fatigue, restlessness and in serious cases loss of hearing. Noise is a stress that not only harms hearing but also raises heart rate and disturbs other physiological limitations that decrease physical performance (Horino, 1977).

A healthy work organization has been defined as one where beliefs, surroundings and practices generate an environment that encourages worker well-being, health and security in the workplace, and cheers organizational efficiency. The key notion is that a healthy work environment and a healthy work organization deliver the employees with chances for safety, social interface and the ability to control and forecast features of their working situation, opportunities which in turn are thought to be useful to employee health and well-being in the organizational background (Seeman, 2000). The traditional view of industrial accidents states that accidents are produced by technological as well as individual human failures (Reason, 1990). Researchers have progressively documented that industrial accidents are caused by an active interaction between factors in the social and physical environments, that is, features of the individual and the organization as well as technical forces (Brown et al., 2000).

## METHODOLOGY

Noon Sugar Mill Bhalwal was selected as universe for data collection. There were seven departments in Noon Sugar Mill Bhalwal. Departments were Admin, Accountants, Chemical, Electrical, Mechanical, Cane, and Distillery. All departments were selected for data collection. There were 1260 workers in Noon Sugar Mill Bhalwal and there were five types

of workers such as: Permanent workers, Temporary workers, Daily wages workers, Seasonal workers, Apprentice workers. 500 permanent workers, 400 temporary, 200 workers on daily wages, 100 workers were seasonal and 60 workers were Apprentice workers. The sample was selected from Noon Sugar Mill Bhalwal, which consists of 250 workers. All the departments were selected and 250 workers were identified to participate in this research through multistage proportionate random sampling. The selected sample was 20% from all departments. The sample which has been taken for research was different type of workers with different designations and was from diverse backgrounds. Data was collected with the help of a self-administered questionnaire and SPSS software was used for data analysis and hypothesis testing.

## MAJOR FINDINGS OF THE STUDY

1. Research data shows that majority of the respondents i.e. 75.2 percent have low income 8000-12000, salary range of the 12.8 percent of the respondents was 12000-16000, salary range of the 6.0 percent of the respondents was 16000-20000, salary range of 3.6 percent of the respondents was 20000-24000 and salary range of 2.4 percent of the respondents was more than 24000 Rs.
2. Research data about the statement “industry supervisor cooperates with me in every problem” shows that 35.2 percent of the respondents were disagreed, 28.8 percent respondents were agreed, 16.4 respondents gave answer in somehow, 10.4 percent respondents were strongly agreed and 9.2 percent of the respondents were strongly disagreed with this statement.
3. Research data about the statement “I have a difficult relationship with my boss” reveals that about one third i.e. 30.8 percent respondents were agreed with this statement, 24.4 percent of the respondents were disagreed, 22.8 percent respondents answered in somehow, 14.8 percent respondents were strongly agreed and 7.2 percent of the respondent were strongly disagreed with this statement.
4. Research data about the statement “In my factory everyone can express their opinion without any fear” reveals that about one third i.e. 31.6 percent of the respondents were disagreed with this statement, 25.6 respondents gave answer in somehow, 23.2 percent respondents were agreed, 13.2 percent of the respondents were strongly disagreed and only 6.4 percent respondent were strongly agreed with this statement. So majority of the respondents could not express their opinion without any fear.
5. Research data about the Statement “My supervisor is willing to listen my work problems” shows that 30.8 percent respondents gave answer in somehow, 30.4 percent respondents were agreed, 21.2 percent of the respondents were disagreed, 11.2 percent respondents were strongly agreed and 6.4 percent of the respondents were strongly disagreed about this statement.
6. Research data about the statement “In my factory chance of promotional opportunity is fair and clear” reveals that about one third i.e. 32.8 percent of the respondents were strongly disagreed and 31.2 percent of the respondents were disagreed with this statement. So the chance of promotional opportunity is never fair and clear.
7. Research data about the statement “I feel comfortable with my surroundings during work” shows that more than one third i.e. 36.8 percent of the respondents were disagreed and 18.0 percent of the respondents were strongly disagreed with this statement. So the majority did not feel comfortable with their surroundings during work.

8. Research data about the statement “There is great deal of tension among people in industry” shows that more than one third i.e. 38.4 percent respondents were agreed and 14.8 percent respondents were strongly agreed with the statement. So the majority had the opinion that there is a great deal of tension among people in industry.
9. Research data about the statement “Industry supervisor really stands for their people” shows that 42.0 percent of the respondents were disagreed and 13.6 percent of the respondents were strongly disagreed with the statement. So the industry supervisor does not stand for their people.
10. Research data about the statement “The area where I work is totally clean” shows that 40.8 percent of the respondents were disagreed and 13.6 percent respondents were strongly agreed with the opinion. So the majority has the opinion that area where they work is not clean.
11. Research data about the statement “In industry all the garbage containers are covered” shows that 34.4 percent of the respondents were strongly disagreed and 32.4 percent of the respondents were disagreed with the statement. So the containers in the industry are not covered.
12. Research data about the statement “I have difficulty in hearing in noisy environment” shows that 36.4 percent respondents were strongly agreed and 31.2 percent respondents were agreed with the opinion. So the workers do face difficulty in hearing in noisy environment.
13. Research data about the statement “I am suffering from problem of physical workload” shows that 40.4 percent respondents were agreed, 18.8 percent respondents were strongly agreed with the statement. So the majority of workers are suffering from problem of physical workload.
14. Research data about the statement “Industry is pollutant to environment and humans” shows that 42.8 percent respondents were agreed and 21.6 percent respondents were strongly agreed with the statement. So the majority has the opinion that industry is pollutant to environment.
15. Research data about the statement “I find myself asking people to repeat themselves in industry” shows that 43.6 percent respondents were agreed and 19.6 percent respondents were strongly agreed with the opinion. So the majority had to ask people to repeat themselves in industry.
16. Research data about the statement “I am able to balance the needs of my job and personal life” shows that 40.0 percent of the respondents were disagreed and 26.4 percent of the respondents were strongly disagreed with the statement. So the majority of the respondents were not able to balance the needs of job and personal life.
17. Research data about the statement “I can easily perform my job at night time shift” shows that 38.8 percent of the respondents were disagreed and 26.4 percent of the respondents were strongly disagreed with the statement. So the majority of workers can't easily perform job at night time shift.
18. Research data about the statement “I can easily complete my sleep after night shift work” shows that 28.0 percent of the respondents were disagreed, 24.4 percent of the respondents were strongly disagreed, 18.0 respondents gave answer in somehow, 15.2 percent respondents were agreed and 14.4 percent respondents were strongly agreed with this statement. So the majority could not complete their sleep after night shift work.

19. Research data about the statement “Double shift of work negatively affects my health” shows that 35.2 percent respondents were agreed and 30.0 percent respondents were strongly agreed with this statement. So the double shift work negatively affected the health of workers.
20. Research data about the statement “In my factory system of pay is clear and fair” shows that 42.4 percent of the respondents were disagreed, 26.0 percent of the respondents were strongly disagreed, 8.0 percent respondents were strongly agreed, 18.4 percent respondents were agreed with this statement and 4.8 respondents gave answer in somehow. So the system of pay is not clear and fair according to majority of workers’ opinion.
21. Research data about the statement “I am satisfied with my wages including monthly salary, overtime and bonus” shows that 30.0 percent of the respondents were disagreed, 28.0 percent of the respondents were strongly disagreed, 16.4 respondents answered in somehow, and 14.0 percent respondents were agreed and 11.6 percent respondents were strongly agreed with this statement. So the majority of workers are not satisfied with their wages.
22. Research data about this statement “Physical workload causes disturbance in my sleeping” shows that 42.4 percent respondents were agreed and 20.8 percent respondents were strongly agreed with this statement. So the physical workload caused disturbance in sleeping of workers.
23. Research data about the statement “I enjoy all facilities related to health, education etc. in industry” shows that 40.8 percent of the respondents were disagreed, 19.6 percent of the respondents were strongly disagreed with the statement. So the majority did not enjoy facilities related to health and education.
24. Research data about the statement “Environment of industry has negative impact on my health” shows that 36.4 percent respondents were agreed, 23.2 percent respondents were strongly agreed with this statement. So the environment of industry has negative impact on the health of workers.
25. Research data about the statement “I have good protection from ill health and injury, in industry” shows that 35.2 percent of the respondents were disagreed and 26.0 percent of the respondents were strongly disagreed with the opinion. So the workers don’t have good protection from ill health and injury.
26. Research data about the statement “Extreme heat in industry badly affects my health” shows that 33.6 percent respondents were agreed, 25.6 percent respondents were strongly agreed, 17.2 percent of the respondents were strongly disagreed, 12.4 percent of the respondents were disagreed with this statement and 11.2 respondents answered in somehow. So extreme heat badly affects the health of workers.
27. Research data about the statement “I can easily handle my expenditures with my pay” shows that 44.0 percent of the respondents were strongly disagreed and 21.2 percent of the respondents were disagreed with this statement. So the workers can’t handle their expenditures with their pay easily.
28. Research data about the statement “I feel depression and anxiety in noisy environment” shows that 40.8 percent respondents were agreed with this statement and 25.2 percent respondents were strongly agreed with this statement. So the majority of workers feel depressed in noisy environment.
29. Research data about the statement “I feel depressed when I do not complete my work within given time” shows that 30.8 percent respondents were agreed and 20.4 percent of the respondents were strongly disagreed with the statement. So nearly

half of the respondents reported that they definitely feel depressed when they do not complete their work within given time.

30. Research data about the statement “As a worker of industry, I remain constantly under strain” shows that 29.6 percent respondents were agreed, 21.6 percent of the respondents were strongly disagreed, 18.8 percent respondents were strongly agreed, 15.6 respondents answered in somehow and 14.4 percent of the respondents were disagreed with this statement. So more than half of the respondents clearly report that they remain under constant strain as workers.
31. Research data about the statement “Recently I am feeling perfectly well and in good health in industry” shows that 45.2 percent of the respondents were disagreed, 18.4 percent of the respondents were strongly disagreed, 12.8 percent respondents were strongly agreed, 14.4 percent respondents were agreed with this statement and 9.2 respondents give answer in somehow. So the majority was not feeling perfectly well and in good health in industry.

## DISCUSSION

In Noon Sugar Mill workers are usually facing physical work load. The workers usually worked long hours in unsafe conditions without using any personal protective devices. Night shift work badly affects their health; sleep schedule and workers family relations. Night Shift workers’ are facing psychosocial, economical and labor management issues in industries (Ahasan, 2001). Physical factors like chemical pollution, noise pollution, air pollution, poor working conditions, extreme heat, and extended working hours are associated with health of workers that become cause of diseases and dampness. Workers are highly influenced by noise, chemical and dust pollution in industry.

The research shows that there is an association between salary and health status of workers. This study shows that workers cannot fulfill their basic needs because of low wages. Workers are facing problems of heat stress. Excessive heat in industry produces heat strains. It is also well known that exposure to excessively high temperature produce undesirable and debilitating effects on health of workers. Problems of heat stress are very common in some industries such as Iron and Steel Mills, Sugar mills, Bricks and Tiles Factories (Kjellstrom & Corvalan, 1995). The research hypotheses relating physical and social environment of industry to health status of workers are accepted. Industrial social and physical environment have negative impact on health of workers in Noon Sugar Mill Bhalwal. This study shows that relationship among workers, affects their health. Relationships and behavior of supervisor affect the health and performance of workers. Conflict or difference of opinion between management and workers affect their health (Papadakos & Marianna, 2012).

## CONCLUSION

This study recognized the following conclusion that industrial environment have negative impact on health of workers. Social environment of Noon Sugar Mill Bhalwal affects the health of workers and their work performance. Relationships among workers and supervisor are very important in terms of health. Majority of the workers were not satisfied with the behavior of supervisor. The research also concludes that physical environment of industry is badly affecting the health of workers. Physical factors like chemical pollution, noise pollution, air pollution, poor working condition, extreme heat, night shift work, extended working hours and physical work load are associated with the health of workers and are main causes of diseases. Result shows that excessive heat badly effect health of workers and become causes of diseases.

This study shows that excessive dust in industry becomes cause of dampness. Physical workload becomes cause of anxiety and tensions for workers. Low wages are also concerned with health of workers because workers don't fulfill their basic needs and have no access to health facilities. Result shows during the different stages of crop production workers are facing problems of accident and injury. Night shift work affects the sleep schedule, eating habit of workers and their family relation.

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