A safe and healthy work environment is a basic right of every labourer in business. But globally this right has not been ensured everywhere. The International Labour Organization estimated recently that more than 125 million workers are victims of occupational diseases and accidents every year. The situation is grim in the Third World where about 75 per cent of the world labour force live and work. With world population increasing, the above figures are expected to be increasing from year to year.

The whole matter of output generation in an economy can be put in the form of an equation as shown below.

\[
\text{Output} = f (\text{Resources, Culture, Technology})
\]

Resources can be detailed as follows:
Now, what is crucial is that the way physical resources would be used is determined by human resources. The quantity and quality of output (that is, economic growth) thus depend very much on labour, a component of human resources.

Labour productivity (output per worker) depends on two vital factors: the workers' will to work and their capacity to work. Both these factors are considerably influenced by the physical conditions in which they work. The demand for improved work conditions, such as reduced working hours, better safety measures in the plant, canteen facilities, leave facilities, etc. has been responsible for many industrial disputes and consequent work stoppages in industry in our country. Hazardous work conditions have resulted in labour unrest and agitation in many cases. For example, in a spinning mill at Uluberia (West Bengal), several workers were hurt by the sudden collapse of a portion of the factory roof, and the workers struck for a considerable number of days since January 17, 2002. This has happened even after the enactment of the Indian Factories Act in 1948, more than a half century ago.

There are several economic reasons as to why good work conditions should be maintained at work places. (1) Hazardous and unhealthy work places result in costs for the employer. Apart from treatment of the injured / sick workers and indemnification for the injured / dead workers, damages to workshops have to be
properly mended and repaired. Work conditions have impact upon labour productivity and hence upon labour cost. Work conditions can be related to competitiveness of manufacturing. In a regime of globalization this competitiveness has acquired a special significance. (2) Customers in developed countries often attach a high value to the conditions under which the products they consume are manufactured. Therefore, hazardous workplaces might result in a loss of image, and finally, of sales. (3) Occupational safety and health measures, by reducing accidents and resultant damages, are likely to increase labour productivity, which would more than offset the direct cost of introducing and maintaining such measures.

Logically the question arises: what are the good work conditions? As our study is related to work conditions of factories of different manufacturing industries, we have considered good work conditions as the standard work conditions as described in the Indian Factories Act of 1948 and its subsequent amendments. In our study we have examined to what extent the factories surveyed by us have followed the provisions of that Act, although we have felt that even these standard work conditions are not ideal when compared with those prevailing in industrially advanced rich countries.
Existing Literature Review


We have some other books and papers related to work conditions which we mention below:

Singh V. B. (Ed.), Role of Labour in Economic Development (1970), Popular Prakashan, Bombay. The role of labour depends much on work conditions at work places. But work conditions have not been discussed by the author.

Sonarikar S.S., Implementation of Labour Enactments (1976), Popular Prakashan, Bombay. The above book refers, amongst others, to work conditions. But its focus is all India.
Chatterjee M, Occupational Health Issues of Home-based Piece Rate Workers: three studies of readymade garments, bidi and chikan workers, Ahmedabad (November, 1987). This paper is of course concern with work conditions as emphasized in the Factories Act. But it covers a very small area of production.

Kogi K, Improving Working Conditions in small enterprises in developing Asia, ILO, Geneva (1985). This paper focuses on work conditions in details, but only in small enterprises in Asian countries including India. But it does not highlight work conditions in large manufacturing industries.

Kogi K, Phhon W, Thurman J, Low Cost Ways of Improving Working Conditions; 100 examples from Asia, ILO, Geneva (1989). This Article is important for policy makers, particularly employers, who should know how to minimize the cost of improving work conditions. But the work is very theoretical, having little connection with actual work conditions prevailing in West Bengal.

We think that in our literature review we should give special attention to the Report of the Second National Labour Commission (2002), which focused very much on work conditions at work places. The Commission recommended a general law related to hours of work, leave and work conditions in work places. For ensuring safety in different activities, one omnibus law might be enacted, providing for different rules and regulations on safety applicable to different
activities. The Commission was not in favor of any exemptions for establishments in export promotion zones or special economic zones from labour laws. The Commission suggested a new law on child labour. It also recommended much in respect of bonus.

The publications mentioned above reveal that many of the legal requirements in respect of work conditions, e.g. work hours, workers' safety, health and hygiene inside factory premises, etc, are not being fulfilled in the majority of work places in India. But they do not give any special insight into the conditions prevailing in West Bengal. West Bengal is larger than many States of Europe and hence deserves separate study in its own right.

**Objective of the Study**

Health is wealth for employees as well as for managers. Realizing this health protection is a legal requirement as per the Factories Act. The Act requires notification of occupational diseases to the government, but they are hardly reported, allowing official statistics to compare well with industrialized countries. However, independent studies report the existence of many occupational diseases, most notably respiratory diseases due to dust. Workers are exposed to a wide variety of dust in factories. The most common diseases are asthma, allergies and bysinosis caused by cotton dust in the textile industry. Chronic lung diseases such as silicosis and pneumoconiosis are due to mineral dust. Heavy metal poisoning
especially lead, chromium, pesticide and other chemical poisoning are quite common. Deafness is largely undiagnosed and unreported in industries like engineering, heavy machinery and textile. Mainly due to poverty workers continue to work even when sick or injured.

Industrial accidents are the end-products of unsafe acts and unsafe conditions of work. There were 31738 accidents (63 fatal) occurred during the year 2004 in West Bengal. (Source: Government of West Bengal, "Labour in West Bengal"). They usually occur as a result of the combination of a number of factors of which major ones are technical equipment, work environment and the worker. Most of the industrial accidents were caused by either unsafe actions or by unsafe physical work conditions or both and they could be prevented by correction of the unsafe acts and conditions. Proper steps always prevent or decrease the frequency of accidents. The safety design, installation, maintenance and operation of equipment and processes play a key role in maintaining a safe work environment. The Factories Act has much provision to maintain safe conditions of work to a certain level. Strong trade unions can force unwilling management to undertake occupational health and safety measures.

Workers join unions to protect themselves against exploitation by the management. Hire and fire policies, inhuman work conditions, low wages, long hours of work, etc. were common in the past and workers joined unions to seek
protection from such. Today unions differ in their objectives but few goals are prominent that includes wage rate, life and health insurance, job security, bonus, empowerment etc. Unions are becoming increasingly matured, responsive and realistic in their thinking and action. But unions are gradually losing their grounds and their membership is declining.

The objective of this study is, therefore, to assess the actual work conditions prevailing in the manufacturing industries of West Bengal in the organized sector in the background of the Factories Act. In attaining our objective we particularly wanted to know:

1. How far workers are satisfied with their present work conditions?
2. To what extent management has implemented the provisions of the Factories Act 1948 governing work conditions?
3. Role of trade unions concerning work conditions.

We have taken up select factories in and around Kolkata (formerly Calcutta), one of the oldest industrial belts of West Bengal as well as India. Our survey area covered the districts of Kolkata, Howrah, Hooghly, 24 Parganas (North) and 24 Parganas (South), which contain the major portion of factory industry of the State of West Bengal. Hence our findings are expected to be of great help to policy makers concerned with labour welfare of this State.
Research Methodology

For preparing our thesis we collected a sample of 50 units from the industries, selected by us from different manufacturing sectors, on the basis of their importance in the industrial economy of West Bengal.

We chose only the factory having at least 50 workers from the large industrial sectors. We prepared questionnaires related to work conditions and collected answers from the concerned parties. Our period of survey was from January 2004 to December 2005.

Before preparing the final questionnaire we prepared a draft questionnaire. Then we made a pilot study by visiting 2 factories where we interacted with 20 workers. With the help of the answer trend, received on our visits, we re-arranged all the questions, giving the workers the opportunity of giving multiple-choice answers. The answers for all the questions were close ended. The final questionnaire for workers comprised seventy-three (73) questions with a few questions related to personal data of the respondent worker (e.g. sex, age, education, salary etc.). For each question there were two to five probable answers. We also interacted with management with the help of another questionnaire. The format of each questionnaire has been shown at the end of the thesis.
Table 1.1

Summary of 50 Surveyed Factories of different Manufacturing Industries

<table>
<thead>
<tr>
<th>Group</th>
<th>Type of Manufacturing Industries</th>
<th>No. of Registered Factories in West Bengal</th>
<th>Factories in Covered Districts</th>
<th>Average Daily No. of Workers</th>
<th>Workers in Covered Districts</th>
<th>No. of Factories Surveyed</th>
<th>No. of Respondent Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Food Products, Beverages, Tobacco &amp; Related</td>
<td>1817</td>
<td>703</td>
<td>78909</td>
<td>28600</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>B</td>
<td>Jute, Cotton Textiles</td>
<td>831</td>
<td>748</td>
<td>28443</td>
<td>268565</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>C</td>
<td>Leather &amp; Leather Products</td>
<td>436</td>
<td>435</td>
<td>14751</td>
<td>14740</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>D</td>
<td>Wood &amp; Wood Products including Furniture, Paper, &amp; Allied</td>
<td>1345</td>
<td>1050</td>
<td>46853</td>
<td>37779</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>E</td>
<td>Chemicals &amp; Allied</td>
<td>910</td>
<td>733</td>
<td>47283</td>
<td>31302</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>F</td>
<td>Rubber, Plastic &amp; Other Non-metallic Mineral Products</td>
<td>1753</td>
<td>1526</td>
<td>51191</td>
<td>39524</td>
<td>8</td>
<td>80</td>
</tr>
<tr>
<td>G</td>
<td>Basic Metals &amp; Fabricated Metal Products</td>
<td>2329</td>
<td>2120</td>
<td>13442</td>
<td>91813</td>
<td>11</td>
<td>110</td>
</tr>
<tr>
<td>H</td>
<td>Machinery</td>
<td>1697</td>
<td>1604</td>
<td>99377</td>
<td>81112</td>
<td>8</td>
<td>80</td>
</tr>
<tr>
<td>I</td>
<td>Motor Vehicles, Trailers and other Transport Equipment</td>
<td>512</td>
<td>454</td>
<td>45757</td>
<td>31556</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>J</td>
<td>Electricity</td>
<td>115</td>
<td>54</td>
<td>22284</td>
<td>9050</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>11745</td>
<td>9427</td>
<td>825090</td>
<td>634041</td>
<td>50</td>
<td>500</td>
</tr>
</tbody>
</table>

After identifying the important manufacturing industries of the survey region, we divided them into 10 groups, in the manner of the Report on Annual Survey of Industries, Government of India. If we examine the above table it will be evident that not only the majority of the factories are situated in these 5 districts (survey
region) of West Bengal, but also these districts represent majority of factory working force. Considering the total number of factories of each group in our 5 districts we divided the number 50 proportionately. As in the above table we followed the cluster sampling method to find out the number of factories to be surveyed in each group of industries. In each group there are different types of industries also. Here we did not follow any sampling technique. At least 1 factory was covered for each type. Finally, for selecting the target factory we followed the convenient method because our easy access to the factory and free conversation with workers was of utmost importance. 24 factories visited by us were ISO factories. Every group of industry covered by us had both ISO and non-ISO units. After entering a factory for survey we identified 5 different departments / processes / parts of the factory and chose 2 workers from each. Priority for a meet was given to the worker associated with a hazardous job.

We interviewed 10 workers from each factory. Thus, the total number of respondent workers was 500. The age groups and number of interviewed workers were as follows:

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 25 Yrs</td>
<td>100</td>
</tr>
<tr>
<td>26-35 Yrs</td>
<td>100</td>
</tr>
<tr>
<td>36-45 Yrs</td>
<td>100</td>
</tr>
<tr>
<td>46-55 Yrs</td>
<td>100</td>
</tr>
<tr>
<td>Above 55 Yrs</td>
<td>100</td>
</tr>
</tbody>
</table>

We interviewed some management personnel also in every factory surveyed by us.
As already mentioned, some of the factories we visited were ISO 14000 certified units. When things go well, for example, when systems, machinery and devices work well and safely, it is because they conform to standards. And the organization responsible for many thousands of the standards which benefit society worldwide is ISO. ISO is a network of the national standards institutes of 156 countries, on the basis of one member per country, with a Central Secretariat in Geneva, Switzerland, that coordinates the system. Between 1947 and 2005 ISO published more than 15000 international standards, ranging from standards for traditional activities like agriculture and construction, through mechanical engineering to the newest information technology. ISO safety requirement of diverse equipment makes sure that users’ needs are met while allowing individual manufacturer the freedom to design their own solution on how to meet those needs. More than half a million organization in more than 150 countries are implementing ISO 9000 which provides a framework for quality management and ISO 14000 is concerned with environment management. The vast majority of ISO standards are highly specific to a particular product, material, or process. ISO standards are developed by technical committees of experts from industrial, technical, business sectors which have asked for the standards and which subsequently put them to use. The occupational safety and health management systems (OSHMS) being applied in Asian countries are strikingly similar because they have been formulated generally in line with the OSHMS models based on ISO 14000 series and similar management system.
As our questionnaire contained a few sensitive issues (e.g. role of his/her union in the factory) we reached the worker through a close friend/relative/trade union leader/departmental manager. In most of the cases we talked with a worker at his/her residence/union office/factory canteen/a spot outside the factory premises. We interviewed each worker individually. Before placing the questions we always tried to make the respondent free from any type of fear or bias by assuring that we were neither government officials nor secret management representative, that this was a purely research work, and that indirectly it might help the worker community in future. We assured him/her that nobody would know his/her response in future under any circumstances and that this data would be kept in our secret custody.

Some of the questions, whose answers, because of their technical nature; could not be available from the workers, were included in the questionnaire for reply from the management. The questionnaire issued to management contained forty-six (46) questions.

Where we found that the reply from workers contradicted the reply from management, we personally visited the concerned workplace to get an idea of the real state of things prevailing there. Thus, the survey findings have been derived from three sources: workers’ statements made before us, management response to our questionnaire, and our personal visit and observation.
Our period of survey covered two years, 2004 and 2005. After completion of our survey we inserted all the primary data collected by us into the frame of our study in the Excel sheet of the computer. Then by using Pivot Table and Chart of Excel Program we arrived at the average response of workers and management.