Chapter 5

Working Conditions of Labour at Alang Ship Breaking Yard

5.1 Introduction

In the previous chapter the discussion focused on the determinants of migration and socio-economic conditions of various states and districts from which the respondents migrated to Alang ship breaking yard. The present chapter deals with the conditions under which workers perform their duties at Alang ship breaking yard. The working conditions of workers are affected by various factors such as hours of work, place of work, work environment etc. This chapter analyses these aspects in detail and evaluates the conditions under which labour perform their duties.

Man is created by environment, which constantly makes or mars human personality. One can't deny the fact that the sullen, dirty and unhealthy conditions affect the efficiency of workers and consequently the quality of work. Good working conditions have positive impact on the efficiency and industrial relations. Improvements in such conditions not only keep workers happy or satisfy labours but also provide opportunities to employers to gain more with increased efficiency. Working conditions in any established industry also show the humanitarian conditions of workers in that particular industry. In this chapter an attempt is made to trace the working conditions of labours in various industries in India. This is followed by the analysis of working conditions in Alang ship breaking yard.

The present chapter is divided into seven sections. Second section discusses the working conditions of workers employed in various industries in Indian based on work done by various scholars. Section third of the chapter focuses on the working conditions of labours employed at Alang ship breaking yard. This section analyses aspects pertaining to present occupation of the respondents, place of work, wages, hours of work, leave and holidays etc. This section also analyses the income of the respondents by using

regression technique. Section four is devoted to the safety aspects of the respondents while working and also the facilities provided by employers and authorities. This chapter analysis the occupational accidents and diseases faced by the respondents at workplace in section five and section six. Social security provided to workers is discussed in section seven.

5.2 Working Conditions of Labours Employed in Indian Industries: A Survey

At present, in India there are various labour laws which are fairly progressive and they guarantee protection of labour rights if implemented properly. Labour legislation applies to all factories and contrary to commonly held belief, differs very little with factory size and whether registered under the Factories Act or not. Registration under the Factories Act ensures that the following legislations are to be complied with:

- Payment of Wages Act, 1936
- Minimum Wages Act, 1948
- Worker's Compensation Act, 1946
- Employee's State Insurance Act, 1948
- Employee's Provident Pension Fund and Miscellaneous Provision Act, 1952
- Employee's Pension Scheme, 1971
- Maternity Benefit Act, 1961
- Payment of Gratuity Act, 1972
- Trade Union Act, 1926
- Industrial Employment (Standing order) Act, 1946
- Contract Labour (Regulation and Abolition Act, 1970)
- Equal Remuneration Act, 1976
- Inter-State Migrant Workmen (Regulation of Employment Conditions of Service) Act, 1979.

Brief discussions of these acts have been presented in chapter 3. The above laws are applicable to unorganized enterprises as well. Casual workers are included in most of

the legislations contrary to popular belief. Acts such as the labour laws exemption Act, Trade Unions Act, Equal Remuneration Act, Payment of Minimum Wages Act, Industrial Disputes Act, Inter-State Migrants Workmen Act and Payment of Bonus Act apply to all units and to all types of labour. The Factories Act 1948 itself applies to all workers, including contract and piece rate workers. Being registered under the Factories Act does not form a pre-requisite for coverage under the law.

Labour exploitation has been observed in many industrial and non-industrial activities. Various studies have come out with one common conclusion viz, "In India there is no shortage of laws, rules and regulations but their implementation is very weak". In the following paragraphs the results of studies covering industries such as Brick making, Beedi making, Bangle and Glass industry, Fish processing industries, Carpet weaving are presented. These studies also cover various aspects of the working conditions.

A study conducted by National Institute of Public Cooperation and Child Development found that children working in Bombay city were engaged in unorganized sector and laws enacted to protect child labour were unsatisfactory. Laws represent the positive and negative sanctions of the collectivity at a normative level. Central and State Governments in relation to working children enacted many laws such as the Factories Act, 1948, Employment of Children Act, 1938, the Children (Pledging of labour) Act,1933, the Contract (Regulation and Abolition) Act, 1970, Bidi and Cigar workers (Conditions of Employment) Act, 1966, the Minimum Wages Act, 1948, the Bombay Shops and Establishments Act, 1948 etc which regulate the conditions of employment of working children such as hours of work, minimum age of work, working condition and recreation facility etc. But the study found that in Bombay these working children are exploited due to unawareness and ignorance of laws among the employers (Gorky, 1980: 20:21).

A study conducted by J.John and Nasir Ateaq on "Migrant labour in the Brick Kilns of Punjab" comes to the conclusion that brick kiln industry is indispensable for

each and every activity of construction industry. It was also found that 50,000 brick kilns all over India employed on an average 100 workers (as per master rolls) per unit. According to a moderate estimate given by a trade union Lal Jhanda Punjab Bhatta Mazdoor Union (LJPBMU) which is Organising workers in the brick industry till 1998, there were around 1.3 lakh migrant workers working in 2,500 brick kilns in different districts of Punjab.

This study also found that in brick kiln the migrant workers are subjected to harassment by their employers as well as by contractors who recruit them. Most of the time, they do not get wages for the extra work they do and often face non-payment of regular wages. The government is apathetic and does not look into the problems involved in the implementation of laws such as the Inter-State Migrant Workmen's Act (1979), Payment of wages Act (1923), Minimum Wages Act (1948), Equal Remuneration Act (1976), Child Labour (Prohibition and Regulation) Act (1986), Bonded Labour System (Abolition) Act (1976), Factories Act (1948) etc the provisions of which could be invoked to safeguard the rights of migrant workers.

Organizational efforts among the migrant workers are sporadic, inconsistent and ineffective. The poor implementation of law leaves the migrants at the mercy of the contractors and the employers. Often these workers endure worst forms of social humiliation and economic exploitation. Physical torture and mental agony is regular feature of their life which shows non-humanitarian condition of workers in brick kiln industry (John and Nasir, 2003: 81-83).

According to Report of National Commissions on Labour (2002: 106-107), "Most of the workers employed in construction industry are migrants and employed on casual basis. Unstable employment/earning and shifting of workplaces are the basic characteristic of work for construction workers. In construction industry child labour is prohibited but children are engaged in unskilled jobs. Women engaged in construction work are the most exploited. Frequent changes in the work and instability deprive them and their children of primary facilities like health, water, sanitary facilities and education.

In construction industry the rate of accident is high and there is no protection for workers on the site. Temporary residential sheds put up for construction workers lack minimum facilities. Crèche facilities are not available at work sites and social security benefits are virtually non-existent because of various constraints such as lack of stable relationship between employer and employee, instability of employment, poor and uncertain earnings of workers, unreliable duration of work etc. There exit violation of laws on minimum wages, equal wages, child labour, contract labour and inter-state migrant workers. Construction workers remain invisible, vulnerable, voiceless and un-unionized and in most cases safety norms are violated (NCL, 2003: 108).

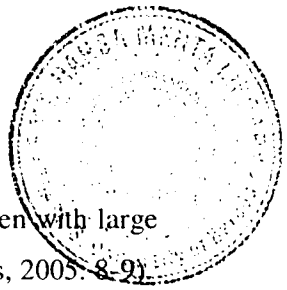
Plantations are covered under the plantation labour Act which stipulates the wage limit of Rs 750 per month. In Plantations a large number of casual and contract workers are employed on regular basis round the year. According to law, Plantation workers should be provided with gumboots to protect them from insect and snake bites. The workers employed for handling fertilizers and spraying of pesticides should be trained and provided with safety equipments. However more often than not these are violated and labour is in a vulnerable position. Plantation workers should be paid wages as per settlements or notified under Minimum wages Act and the middlemen should not be allowed to take away the part of wages of these workers. The facilities may be provided by a group of Plantations on cost sharing basis. It will involve efforts on the part of the state Governments to persuade employers to set up joint hospitals, schools, Crèche etc (NCL, 2003: 108-109).

Rag Picking and scrap collection have a bearing on the urban economy. Many production enterprises depend upon recycling of the wastes. National Commission on Labour estimates that there are about 50 lakh scrap collectors in the country. Illiterate, unskilled persons, illegal aliens and the poorest of the poor are pushed into this occupation as they are not able to find any other kind of employment. There is generally no employer-employee relationship in this trade and the waste collectors are therefore, categorized as self-employed (Aziz, 1984: 30-31).

A study conducted by Aziz show that about 92 percent of scrap collectors are women in the age group 19-50. The National Commission on Labour recognizes the useful role played by scrap collectors both in helping recycling activities as well as in maintaining civic hygiene. It is therefore, essential that they should be protected from insecurity of various forms by measures like providing identity cards, receipts for transaction, minimum wages if employed, health facilities, creation of welfare funds, and prohibition of child labour (Aziz, 1984: 30-31).

The migrant labours engaged in fish processing units are being exploited when evaluated on the terms and conditions laid down by the state authority. The National commission on Labour found that there is urgent need to ensure that fish processing units acknowledge their legal obligations on wages, overtime, maximum hours of work and amenities. The employers should maintain proper records of wages, overtime etc and the workers should be provided with protective equipment necessary for safety such as apron, gloves and gumboots, clean and hygienic quarters/dormitories and facilities of drinking water, toilets etc. It should be ensured that the movement of workers is not restricted after working hours and they are not restricting their movement to the premises of factory complex. In fish processing industry, labour laws such as Inter-State Migrant Workmen Act, Contract Labour Act and Minimum Wages Act are not implemented properly or strictly which cause them in vulnerable situation (NCL, 2003: 112-113).

The Glass Bangle industry of Ferozabad in U.P is one of the industries which are technically backward, employing obsolete technology. The working conditions in most of the units are inhuman. A large number of children are working in this industry. The estimates of which vary from 50,000 to over 1 lakh. The industry exploits the exemption of family labour from the provisions of the child labour Act and increasingly resorts to sub-contracting forms of production. The bangle industry is operating under serious health hazards to workers. Temperature inside the factories is very high and very often causes burn injuries. The environment in factories is highly polluted with emission of chemical fumes and coal dust leading to respiratory disorders and TB. No security and safety measures are available in this industry to the workers, especially in household and



unregistered factories. In each household the traditional furnaces may be seen with large number of children working on them (Bureau of International Labour Affairs, 2005: 8-9).

The Brassware industry of Moradabad employs about 1.5 lakh workers directly and many more indirectly. About 45 percent workers are children in the age group of 8-12 years and 50 percent of the workers engaged in modeling and finishing workshops are children below the age of 14 years. There is increasing practice of sub-contracting of jobs which gives scope for free use of cheap child labour. Many units are unregistered and the workers have no rights for entitlements like ESI, PF etc. According to one estimate women constitute about 50 percent of the total workforce in the brassware industry. Apart from respiratory disorders and TB the workers also suffer from eye injury and cases of burns (Bureau of International Labour Affairs, 2005: 7-8).

Nearly 75 percent of the carpet looms in the country are located in the Mizapur-Bhadoi area of U.P which holds a very important position in manufacturing and exporting of hand-knotted woolen carpets. Hand-knotted woolen carpet industry has a share of more than 15 percent in the handicraft exports. The carpet industry has high potential for generating employment and earns foreign exchange for the country.

The carpet industry is operated through middlemen who make fortunes for the cuts from wage of labour. These powerful intermediaries control loom-holder/weavers and use different methods to recover material if not supplied in time. There are reported instances of unlawful behaviour met out to poor loom-holders and weavers. Carpet weaving is not a full-time employment for everyone who is involved in weaving. There are categories of weavers having no other means of income and are involved as full-time weavers while those who do not entirely depend on weaving are engaged as part-time weavers. Being indebted to the middlemen because of advances taken, they do not have freedom to cross to other middlemen. Dyes and chemical used in the carpet industry for colour fastening are of high health hazards. The environmental pollution caused by the industry is becoming increasingly high in and around the location of carpet industry (Bureau of International Labour Affairs, 2005: 7-8).

Aghi (2001) focuses on the various problems faced by women and children in bidi industry. According to government estimates bidi rolling employs nearly 4.45 million people of whom 65 percent are women and they often face discrimination and are paid less than men. Children are even worse off with no wage structure and usually get paid the least. Most families working in bidi industry live below the poverty line. While children work at home, usually more girls stay home to roll bidi than boys, who are more likely to attend school. The principal employer work through contractors or sattedars, who employ workers in a village or cluster of villages. Sattedars remove or change names of bidi workers from their registers every two months, depriving workers of their legally stipulated benefits. Neither women nor children are mentioned in the employee's registers, but are considered as helping hands to a male worker who are registered.

After the enactment of the Beedi and Cigar Act, 1960, factory-based bidi rollers (all men) were thrown out of the factories and the work shifted to home-based women rollers. The Minimum wages Act is not strictly followed. Owing to the significant rise in the cost of tendu leaves after nationalization of their collection, improving the returns to the tendu leaf pickers, the bidi industrialists managed the increased costs by slashing the wages of the bidi rollers. Major problems faced by the bidi workers were perpetual poverty, very low wages, no wages bargaining system, no access to entitlements, benefits and gratuity, delayed payments, illiteracy and hidden child labour, constant exposure to tobacco dust, postural pains, indurations of the hands. Government of India enacted many industrial and labour laws to improve the conditions of bidi workers but the implementation of laws on the part of employers is weak which causes the exploitation of bidi workers.(Aghi. ,2001: 8-10).

These are some of the major studies done by the various scholars on the aspect of working conditions of labours in different industries which shows the vulnerable condition of labours. In the next section the working conditions at Alang ship breaking yard are analysed in detail. The section analyse the nature of work performed by the respondents. It also analyse the duration of work, place of work, leaves provided and payment to the labour at Alang ship breaking yard.

5.3 Working Conditions of Labour Employed at Alang Ship Breaking Yard

After discussing the working conditions of labour in various Indian industries, now attempt is made to analyze the working conditions of labour in Alang ship breaking yard. The ship breaking industries employ labour of various kinds on contract basis. There are no rules and regulations pertaining to terms and conditions of employment. Labour laws seem to be violated on a large scale at Alang ship breaking yard. In ship breaking yard labours are working on contract basis thereby meaning that a permanent employer-employee relationship is absent and so benefits under various legislations are not available to these labours.

National Commission report on Labour 2002 recognized Alang ship breaking industries as organized industry and also given stress on the applicability and concerned Industrial and labour Laws related to working conditions. In Alang ship breaking yard labours are engaged for different tasks which are supervised by labour contractors, for example cutters are supervised by specialized labour contractor in cutting process. All workers at Alang ship breaking yard are non permanent workers. Due to this nature of job they are unaware of their principal employer as there is a chain of contractors between principal employer and labours. Ship breaking industry of Alang has informal character after functioning for more than 20 years. The implementation of labour rights at the Alang ship breaking yard is lacking due to the ignorance of ship breaker and authorities. Workers are not free to form unions or to join the union which clearly violates various international and national laws.

In Alang ship breaking yard the atmosphere of fear and intimidation has been created thereby ensuring that workers remain obedient and submissive. There are wide variation among the working conditions and other facilities provided by different employers in Alang ship breaking yard. For instance, some employers provide safety devices to workers during the work while in majority of the cases labour is required to

purchase their own equipment. The facility of provident fund is made available to labour contractors only and not to all the labour employed at Alang.

5.3.1 Present Occupation

Availability of job opportunity at place of migration, whatsoever is the quality plays a very important role in the decision process of migration. Basically, pre-migration occupation helps to understand the causes i.e. push factors behind migration. In this section migrants profiles are discussed in terms of occupation opted at the place of destination. The distribution of migrants according to their skill level of occupation at Alang ship breaking yard are shown in table 5.1.

It was found that 34 percent of respondents are engaged in cutting process and 18 percent of respondents are engaged in loading and unloading category of work. However, it is also seen that most of the respondents are on contractual basis and usually after completion of the tenure they have to search for job in other yards. Table 5.1 lists out various occupations of the labour at Alang ship breaking yard. The respondents can be classified into 17 occupations of which 8 are categorized as skilled and highly skilled, the rest are either manual labour or semi-skilled labour. The classification of semi-skilled, skilled and highly skilled is subjective in the sense that a similar labour in some other industry could fall under another category. Among these some occupations are considered to be skilled. Cutters, Labour contractors, Fitters, Crane operator, Wiremen and Mistry are considered to be skilled or highly skilled occupations. Most of the skilled labours are from Uttar Pradesh i.e. out of 113 respondents, 66 respondents are involved in skilled work (Table 5.2). Beside this a vast majority of unskilled labours are from Orissa state accounting 66 percent (loaders and helpers). The reason behind is due to their low level education and experience regarding present occupation. The table clearly shows the distribution of labour in various processes of ship breaking by the state of origin. Out of the total respondents 46 percent are either skilled or highly skilled and the rest are working as manual labour or in semi-skilled occupations.

Table 5.1 Nature of work and occupations of the Respondents

Nature of Work	Occupation
Manual	Plate Washing
	Loader
	Helper
	Oil Remover
	Cable Cutting
Semi-Skilled	Bageri
	Jodiwala
	Watchman
	Malapani
Skilled	Fitter
	Crane Operator
	Wireman
	Mistry
	Engine Opener
Highly Skilled	Cutter (on the Ship)
	Cutter (on the Ground)
	Muqadam (Labour Contractor)

Source: Field Survey 2004

Note: Bageri: Workers who work carpentry work

Jodiwala: Workers who move the heavy iron plates from one place to another.

Muqadam: Contractors who function as leaders and place workers at appropriate stations.

Malpani: Extracts and grades precious metal.

Table.5.2 Present Occupation of the Respondents at Alang Ship Breaking Yard

Present Occupation	U.P.	Bihar	Orissa	Jharkhand	Other	Total
Cutter (on the Ship)	13.27 (15)	3.23 (1)	1.35 (1)	8.33 (6)	10.00 (1)	6.00 (24)
Cutter (on the Ground)	45.13 (51)	45.16(14)	6.76 (5)	11.11 (8)	60.00 (6)	28.00 (84)
Muqadam(Labour Contarctor)	6.19 (7)	3.23 (1)	4.05 (3)	6.94 (5)	--	5.33 (16)
Bageri	--	3.23 (1)	16.22 (12)	2.78 (2)	--	5.00 (15)
Jodiwala	12.39 (14)	6.45 (2)	2.70 (2)	29.17 (21)	10.00 (1)	13.33 (40)
Engine Opener	0.88 (1)	3.23 (1)	1.35 (1)	5.56 (4)	--	2.33 (7)
Fitter	6.19 (7)	--	4.05 (3)	1.39 (1)	10.00 (1)	4.00 (12)
Plate Washing	--	--	2.70 (2)	4.17 (3)	--	1.67 (5)
Loader	1.77 (2)	3.23 (1)	50.00 (37)	19.44 (14)	--	18.00 (54)
Helper	4.42 (5)	25.81 (8)	10.81 (8)	5.56 (4)	--	8.33 (25)
Oil Remover	0.88 (1)	--	--	1.39 (1)	--	0.67 (2)
Crane Operator	4.42 (5)	3.23 (1)	--	--	--	2.00 (6)
Wireman	0.88 (1)	3.23 (1)	--	--	--	0.67 (2)
Mistry(Carpenter)	1.77 (2)	--	--	--	--	0.67 (2)
Watchman	0.88 (1)	--	--	--	--	0.33(1)
Cable Cutting	0.88 (1)	--	--	--	--	0.33 (1)
Malapani	--	--	--	4.17 (3)	10.00 (1)	1.33(4)
Total	100.0(113)	100.00(31)	100.00(74)	100.0(72)	100.0(10)	100.0(300)

Source: Field Survey 2004.

Note: Figures in bracket are number of respondents.

5.3.2 Place of Work

The most important determinant of working condition is the facilities provided at the place of work where workers perform their duty. The work can be performed in factory or under open sky that affects the efficiency and health of the workers. Ship breaking activity is performed world wide in open yards. In Alang also ship breaking activity is done in open yards on the beach of the Gulf of Khambat. They are not scientifically or technically organized. The ship breaking yards look like temporary arrangements to conduct seasonal activities, though ship breaking activities continue for round the year. Workers in Alang ship breaking yard are not provided with sheds, thus compelled to work under open sky round the year in difficult working conditions exposed to various hazards. Due to poor conditions at the Alang ship breaking yard workers are exposed to several chemicals and toxic substances such as asbestos, lead paint etc which

cause numerous health problems. It is also observed that workers face accidents due to fall, explosion, fires etc.

Before discussing about the various problem faced by workers and the working conditions of labours in Alang ship breaking yard, first it is important to see the law which is applicable to workplace conditions. In India, ship breaking activity is carried out in open space and uses manual labour to a great extent. In Alang ship breaking yards limited amount of electricity is used for breaking activities. Breaking down of the ship is done by two sets of cutters. One set operating on the ship and other set of cutters operating on the ground. Cranes and lifting machinery are used while cutters operate on the ship. Their utility is minimum when cutters operate on the ground. Ship breaking industry in India is highly labour-intensive activity. The unskilled workers in yard carry steel plates on their shoulders and they do not know the weights of the sheets they carry. According to Factories Act 1948 no person in any factory should lift, carry or move any heavy load which causes injury. The state governments notify the maximum weight that a labour is allowed to lift. In addition to the place of work and heavy loads carried by workers, they reported to be taking numerous other problems.

5.3.3 Duration of Work

The efficiency of the workers and health of the workers are positively related to the hours of work. Working for long hours breeds tiresomeness and slackness at work which ultimately affects productivity adversely. Due to this situation employer faces the problem of incapable labour force keeping themselves away from their place of duty for sometimes (Mustafa, 1990: 148-149).

The working hours for male workers were considered for the first time in the Factories Act of 1911. The maximum hours of work were fixed under act for adult male workers at 12 per day with one hour rest. The Factories Act of 1922 reduced the maximum working hours for adult male workers from 11 per day or 60 per week. This act also fixed the hours of work for children between 12 and 15 years of age at 6 per day and prohibited the night work of women and children. The Factories Act of 1934 fixed

the working hours for adult at 11 per day and 60 per week in seasonal factories and at 10 per day and 54 per week in perennial factories. The working hours for children was fixed at 5 per day. For the first time it was introduced the principle of spread over and the number of consecutive hours was fixed at 13 for adult and 61/2 for children. The remuneration for over time work was fixed at 11/2 times of ordinary wage rate (See table 5.3). Table 5.3 shows how the maximum workers have been rationalized over time.

After independence, the Factories Act 1948 came into existence. It made changes in the working hours and spread over which was made in the Factories Act 1934. However, it removed the distinction between perennial and seasonal factories in regard to the working hours and spread over. It provided half an hour interval for adult workers after every 2 hours of work. It made provisions for weekly holidays and leave with wages. It prohibited women and children working between 7PM to 6AM. Workers are not allowed to work in more than one factory on the same day. Overtime work is to be paid twice the normal wages.

Table 5.3 Working Hours under Various Factories Acts

Factories Acts	Working Hours		
	Male	Female	Children
1881	Employer	Employer	9 hours
1891	Employer	11 hours	7 hours
1911	12 hours	11 hours	6 hours
1922	11 hours	10 hours	6 hours
1934	10 hours	9 hours	$6^{1/2}$ hours
1948	9 hours	8 hours	$6^{1/2}$ hours

At Alang ship breaking yard working day usually starts at 8am and finishes at 5pm with two hour compulsory overtime till 7pm everyday. Since there is no difference between overtime and regular hours and the working day is of 11 hours. One hour is allowed for lunch along with a 15 minute morning and afternoon tea break at around 10am and in afternoon at around 3pm. This shows that a labour works for 11 hours with $1^{1/2}$ hours of break and is not paid for extra work put in for two hours on daily basis. Some workers start work at 7am which depends upon the workload in the yard. This

means that workers on an average work for 2 extra hours in a day which violates the section 51 and 54 of the Factories Act, 1948 which provides for a maximum of 48 hours work a week and nine hours in a day respectively.

Table: 5.4 Nature of Work, Average Working hours, and working days in a week and month

Nature of Work	Total number of respondents	Average working hours per day	Working days in a Week	Working days in a month
Manual	86	10.67	6	26
Semi-Skilled	74	10.04	6	26
Skilled	106	8.85	6	26
Highly Skilled	34	8.03	6	26
Total	300	9.57	6	26

Source: Field Survey 2004.

From the table 5.4 it is found that the average number of working hours for all categories of labours is 9.57 hours. Manual workers are worked for 10.67 hours per day which comes to on an average 66 hours per week. It violates the section 51 & 52 of Factories Act, 1948. Similarly, semi-skilled workers also work for 10.04 hours per day counting almost equal number of working hours per week. But in case of skilled and highly skilled workers they work for on an average 8.85 and 8.03 hours per day and 48 to 49 hours per week respectively.

Night work is not usually practiced in Alang ship breaking yard but however it depends on the workload in the yard. Some activities such as loading and unloading at Alang ship breaking yard is taken up during night hours. Gas cutters working on the ground are also found to operating during night hours which is contrary to the provisions of section 57 of the Factories Act. Overtime is mandatory or compulsory for workers in Alang ship breaking yard and worker have to work due to fear of losing job. This practice should be considered as forced labour under international human rights law and is also violates the Factories Act, which provides that no worker can be required to work overtime.

There is no canteen facility in Alang ship breaking yard. This intact is contrary to section 41 of the Inter-State Migrant Workmen Act, 1979 and section 46 of the Factories Act. Every worker has to bring their own food. It means that the daily routine for Alang workers starts at 5am, when the workers get up to prepare their meals for the day. According to Section 59 of the Factories Act, any work more than nine hours a day or 48 hours a week shall be paid overtime at twice the ordinary rate. But the case is different in Alang ship breaking yard where no payment corresponding to overtime. They receive only wage fixed for 9 hours. Several workers lose there day's work if they are late even for 5 minutes. Such practice is contrary to section 14 of the Minimum Wages act, 1948 which provides for the payment of overtime hours or part of an hour.

5.3.4 Leave Facility and Holidays

Under the Factories Act, 1948 every worker who has worked for a period of 240 days or more in a factory or establishment during the year shall be allowed during the subsequent year a leave with wage for a number of days calculated at the rate of:

i. In case of an adult, one day leave for every twenty days of work performed during the previous calendar year.
ii. In case of a child, one day leave for every 15 days of work performed during the previous calendar year.

The next consideration regarding the provision of annual leave with wages (Privilege leave) is a type of leave which shall be exclusive of all holidays. Leave can be made available in not more than three installments in a year.

The provision further provides:

i. A worker whose service commences other than on the 1st January shall be entitled to leave with wages, if he has worked for two-third of the total number of days in the calendar year.
ii. In case, a worker is dismissed from service or quits his employment or is superannuated or dies while in service, during the calendar year, he or his

nominee as the case may be entitled to wages in lieu of the quantum of leave to which he was entitled immediately before his discharge, dismissal, quiting of employment, superannuation or death at the rate mentioned in the provision, even if he had not worked for the entire period as specified above.

iii. The proportion of the Privilege Leave not availed by him shall be accumulated up to 30 days in the case of adult and 40 days in the case of child.

Various provisions are made under Factories Act, 1948 regarding leave. But in Alang ship breaking yard there is no system of paid leave to workers. Many workers return to their native place once a year for several weeks during monsoon. Workers reported that they always went to their natives at their own expense and that they are not paid any wages or remuneration during the period of absence. This has been the experience of new recruiters as well as labour working for as many as 10-15 years at Alang ship breaking yard.

This violates article 24 of the Universal Declaration of Human Right (UDHR) which states that everyone is entitled to limited hours of work and periodic holidays with pay. This provision is equally found in article 7 of the International Convenant on Economic, Social and Cultural Rights (ICESCR), ratified by India. It also appears in case of Alang workers the ship breakers do not comply with section 14 and 15 of the Inter-State Migrant Workmen Act, 1979 which provide for displacement and a journey allowance.

Holiday with pay convention was held in 1936 by International Labour Conference but the Government of India did not extend the benefits to all establishments laid down in the charter of the convention. But under Factories Act, a weekly holiday was provided in all the factories coming within the purview of the act. The importance of holiday with pay has been realized in all industrial worlds but the system is not uniform as it is different from industry to industry and from region to region.

In Alang ship breaking yards one day i.e. Sunday is considered as holiday but that is without pay. Under Factories Act a weekly holiday have to be provided to workers with wage which is not followed at Alang ship breaking yard. It violates section 6 of Weekly Holiday act, 1942 which provides that there is no deduction or abatement of the wages of any person employed in an establishment to which this act applies shall be made on account of any day or part of a day which the establishment has remained closed. In case of Alang ship breaking yard the practice clearly violates provision of weekly holiday.

From the above discussion it is clear that workers at Alang ship breaking yard do not receive any compensation during their annual leave. Being migrants from various parts of the country they are to be covered under Inter-State Migrant Workmen Act, 1979. This act too is violated and even the weekly holiday they receive is unpaid for. These violates various provisions under the Factories Act by the ship breakers is against law and enforcing agent have turned a blind eye that too for a very long time.

5.3.5 Payments and Wage

Various occupations are covered by the Central Government and the State Government for the implementation of Minimum wages Act. For the payment of Minimum wages, labours are divided into three categories as per their skill however all labours are covered under skilled or unskilled category. The minimum wages paid to the labour constitutes the basic wage and special allowance. The special allowances is linked with the cost of living index and revised twice in a year. Hence, minimum wages of labours are revised at an interval of every six months. But the wages of the labours are fixed either on the basis of time or piece rate. According to contractors that piece rate is not revised with the revision of the special allowance of minimum wages at the interval of six months. It is found that in many industries that contractors do not pay wages according to the provision of Minimum Wages Act. Contractors seem to recognize only the basic wage component of minimum wages.

There are various studies conducted by researchers on the payments and wages to the labour in Indian industries. The researchers cover wide range of industries viz, Carpet weaving, Glassware, Beedi industry, Construction, Brassware wherein labour face exploitative conditions. These industries also cover length and breadth of India. Various studies on construction industry analysed the Minimum Wages legislation. The analysis of the Minimum Wages with respect to employment in the construction or building operation is on the basis of the recommendation of Labour Commissioner The average wage rate prevailing in construction industry in most cases far below the Minimum Wages fixed under the Act (Subrahmanian, Veena and Parikh 1982: 137-141). In Alang ship breaking yard wage rates especially for unskilled workers are found to be below the Minimum wages as mentioned in the Minimum Wages Act. According to data available on minimum wages by Gujarat Government, the minimum wage fixed in April 2002 for skilled workers at Rs.89 and for unskilled workers at Rs.79 per day. The results of the survey suggest that wages at Alang ship breaking yard are higher than those earned by workers at their native place, but labours are receiving wages less than the prescribed minimum wages. Such wages cannot be considered "Fair Wages" as provided in article 7 of ICESCR. In Alang, the industry employs less number of local labours due to their high demand for wages or non availability at the prevailing wage rate. Infact, section 13 of the Inter-State Migrant Workmen Act, 1979 provides that the wage rates of the inter-state migrant workmen should be same as those applicable to such other workmen and also the inter-state migrant workmen should not be paid less than the wages fixed under the Minimum Wages Act.

Workers in Alang ship breaking yard have reported to be facing the problem of delay in payment of wages and that they have to wait for several days to weeks to receive wages. According to labour contractors this delay was due to the problem of finalization of accounts. When payment is delayed contractors pay 50% of the wages to workers and for remaining amount of wages workers have to wait for several weeks. Such practice violates section 5 of Payment of Wages Act 1936 which provides that payment of wages should be paid by the expiry of the seventh day after the last day of the wage period (i.e. month).

Workers in Alang do not receive any written contract of employment. The employers decide the wage of the workers but the amount agreed at the beginning of the month can be modified by the employer due to various reasons known only to the employer. The large majority of workers interviewed by researcher found that they were not paid the original amount decided either by the owner or the labour contractors on various occasions. This practice appears to be extremely common in Alang ship breaking yard.

At Alang ship breaking yard many workers do not know even their wage rate because they never asked the muqadams or labour contractors due to fear of being fired from the job. Some workers reported to the researcher that they would not know their exact wage rate until they get the money in their hand. This practice violates the article 7 of the Payment of Wages Act, 1936 which states that there are no deductions from the wage except in very precise circumstances. Thus, such practices are contrary to article 21 of the Contract Labour Act which states that in case the contractor fails to make payment of wages within the prescribed time period or make short payment then the principal employer is responsible to make payment of wages in full or the unpaid balance.

In Alang ship breaking yard wages of the workers are paid on the basis of a daily rate but paid monthly. Each and every worker is handed with an attendance card at the start of the each month. Everyday Workers have to get the card filled with arrival and of departure details from the plot. The payment is either on the basis of task or piece rate. For instance, loaders whose work is to load and unload gas cylinders on the truck are paid between Rs.5 to 5.50 per cylinder. The wages ranges from Rs.60 to 70 a day for helpers and Rs.150 to 170 for experienced gas cutters. As compared to other labours, muqadams are paid approximately Rs 300 per day and pay slip is given to them but not to others.

Table 5.5 presents the average monthly incomes of the respondents in Alang ship breaking yard. Average present income of the respondents is Rs. 2888.88 which is three times higher than the average previous income of respondents (i.e. Rs 843.00). The previous income of the respondents in the present study refers to the income from the last

occupation. In all the categories of workers wages earned are three times or higher than the previous income with the exception of skilled workers. Previous income of the workers is significantly lower than the workers present earning in Alang. To test this hypothesis the study uses paired t-test. The average present income is significantly higher than previous income of the workers and is significant at 1 percent critical level.

Table: 5.5 Nature of Work and Income of the Respondent per month

Nature of Work	Average Previous Income	Average Present income	Paired t-test
Manual	760.47	2866.51	24.487*
Semi-Skilled	730.41	2566.62	22.284*
Skilled	916.98	2853.11	23.105*
Highly Skilled	1066.18	3758.35	17.985*

t-test is significant at 1% level

5.3.6 Present Income: Determinants

There can be many factors determining the income of the respondents. To understand their significance an income function would be great help. To estimate the income function regression technique is made use of. Various alternative models are fitted using both qualitative and quantitative variables. The present income of the respondents is determined by diverse factors such as skill of the individual, previous experience, age, education of the respondents. The present exercise uses the relevant variables to estimate the income function. Though, many variables are included in the model but it is found that some variables do not explain variations in income function significantly. Therefore, for the analysis of the income of the respondents bivariate and multivariate regression functions have been fitted. The following income function was considered for explaining variation in.income.

Present Income = f (Years of Experience, Previous Income, Skill, Work at Ship/Yard, Experience^2)

Out of the explanatory variables skill and work at ship/yard are qualitative dummy variables and other variables are quantitative in nature. To explain the relation three equations are fitted and the results are presented in table 5.6. The models are

Present Income = f (Years of Experience, Experience^2) ---------- (1)

Present Income = f (Years of Experience, Previous Income, Skill) ---------- (2)

Present Income= f (Years of Experience, Previous Income, Skill, Work at Ship/Yard, Experience^2) ---------- (3)

It was found that for the sample data the income function is best explained through the variables such as years of experience and skill. In Model-1 years of experience and years of experience square are the explanatory variable. This model explains 9 percent of variations in the dependent variable. To test a model for its explanatory R^2 is not a confirmation test. To test whether the independent variables explain the variations in the dependent variables significantly, F-test is made use of. The coefficients of years of experience and years of experience square have expected sign in the model. In view of the fact that there exists a tendency that the income of respondent increases with the increase in years of experience at a diminishing rate which is explained through negative sign of the years of experience square but the coefficient is not statistically significant. A study conducted by Banerjee on Delhi city found that the years of experience have significant positive but diminishing effect on earning (Banerjee, 1986: 198-199).

In Model-2, previous income, experience and skill, a dummy variable are the explanatory variables. From model 1 to model 2 the result improves marginally. All the three independent variables including one dummy variable show positive sign but two variables are statistically significant as indicated by their t-values. Years of experience explain variations in present income significantly and the skill of the respondent's leads to higher income and has a positive coefficient and is statistically significant. The model

is a good fit as the F-ratio is statistically significant at 5 level. A study done by Mehta found that earning function shows the importance of workers skill as income determinant (Mehta, 1990: 150-159). Therefore, it can be concluded that in the present study income is significantly higher for the respondents who have more years of experience and are skilled. In this model previous income of the respondents is not statistically significant, which show that the income of respondents are lower before opting present occupation at Alang ship breaking yard.

Model 3 includes five explanatory variables and it is found that four of them have positive coefficient and experience square has a negative coefficient but it is not statistically significant. Years of experience are the most significant explanatory variable as it is significant at 1 percent level. The skill of the respondent leads to higher income on an average and is statistically significant at 5 percent level. The respondent's work on ship leads to relatively higher income; however it is not significantly higher. The model explains the variation in present income significantly as the F-ratio is statistically significant at 5 percent level. Combining the three models it can be concluded that years of experience and skill level are the most important determinants of present income.

Table: 5.6 Regression Result of Respondents Income at Alang Ship Breaking Yard

Dependent Variable: Present Income

Variable	Model 1	Model 2	Model 3
Constant	2528.544	2432.513	2444.099
Years of Experience	41.8897 (5.461)**	35.0603 (4.479)**	34.7619 (4.398)***
Ship/Yard[a]			119.3687 (0.986)
Previous Income		0.03218 (0.405)	0.0357 (0.447)
Skill[b]		242.8937 (2.929)*	233.798 (2.792)**
Experience^2	-0.2194 (-0.466)		-0.2914 (-0.623)
N	300	300	300
R^2	0.091	0.119	0.122
F-Ratio	(14.917)**	(13.294)**	(8.206)**

* Significant at 10%
** Significant at 5%
*** Significant at 1%

Note: Figures in bracket are t-value

[a] Ship/Yard = 1 workers working inside ship otherwise 0 if workers working in yard.

[b]Skill = 1 for skilled workers otherwise 0

5.4 Safety of the Workers

Protection or safety of workers from injury which is arising out of their employment is considered by the ILO as one of the improvements in industrial conditions. Industrial accident not only affects the workers and their dependents but also represents a significant material loss to the society in general. Occupational accidents and diseases not only continue to make a heavy affect on individual but also represent a loss of production and a heavy charge on social service throughout the world. The adoption of new process, substances and equipment in the production process results in certain hazards that include the harmful and toxic effects. Another important feature is the absence of the application of principles of ergonomic as a significant means of adapting

to the working environment. Due to the use of increasing complex machinery and equipment to a large extent call for much closer coordination between engineers, industrial physician and psychologists, the public authorities and employers and workers to reduce the hazards at work place. These hazards could be of varied nature from accidents, exposure to various types of pollution viz, noise, chemical etc and unsafe working environment. With concentration of economic activity and increasing mechanization the nature of accidents have also changed. The accidents at modern and large scale production plants are more life threatening that at the work place in traditional activities. These observations have been made by a number of researchers. Hence over a period of time stringent norms for safety at work place have been developed. The safety norms are followed in the right earnest in the developed world but their implementation in the third world countries is questionable. A number of polluting and hazardous industries are shifting to developing world. The very fact that ship breaking industry has been shifted from high income countries to countries like India and Bangladesh gives a hint that the norms are less stringent in these countries.

In Alang ship breaking yard, accidents are common and workers have to handle various types of chemical and toxic substances. Therefore, the authority and the principal employers should provide safety equipment. Table 5.6 shows that the respondents in Alang ship breaking yard that use helmet, shoes and gloves while working are only 54.7 percent. Authority or employer is reported to have provided all safety equipments to only 15 percent of workers. Authority or employers only provide helmet, which is 80.3 percent, but do not provide all protective gear which are required by workers at the workplace. Due to lack of safety equipment and lack of safety laws in Alang workers face accidents and health problems. In Factories Act, 1948 which provides that employers or authorities should provide safety equipment to workers working in hazardous industries.

In Alang ship breaking yard the use of safety equipment other than helmets by workers is rarely seen because workers themselves have to purchase them. The employer and authorities are not providing the safety equipments regularly, if provided, then they deducted the amount from the workers wages. Most of the skilled workers are wearing or

using protective equipment but most of manual labours in Alang ship breaking yard are are using only helmet as the protective equipments.

Helmets, shoes and gloves are basic safety requirements that every industrial workers needs to use. From table 5.6 it is clear that only 55 percent of the respondents at Alang ship breaking yard use all the three. The authorities do not seem to take the responsibility of providing this equipment as most the respondents have reported to have purchased the equipment themselves but the authorities are not implementing the compulsory use of this equipment. With in Alang ship breaking yard there are workers involved in activities that are more risk prone. The implementations of safety norms have to greater in this activities/work, but the ground reality seems to be otherwise.

In the context of large scale growth of the ship scrapping industry, the awareness of safeguarding the health and safety of workers as well as the protection of the neighborhood population assumes all time importance. The hazardous and toxic substances found in Alang ship breaking yard are common to all ship breaking yards.

Most of the accidents occur at Alang due to the explosion of the gas cylinders when the ship is being opened for cutting. In 1997 there was an explosion in Alang causing almost 50 deaths. It opened the eyes of the authorities, then came in place measures to prevent such accidents. Thus authorities imposed gas free certificates for all vessels. Workers wear goggles and helmets, because a norm after this incident.

Table: 5.7 Type of Safety Equipment Used by Respondents and Provided by Authority

Type of Safety Equipment	Respondents Used	Authority Provided
Helmet	39.67 (119)	80.33 (241)
Helmet & Shoes	3.00 (9)	0.67 (2)
Helmet, Shoes & Gloves	54.67 (164)	15.00 (45)
Nothing	2.67 (8)	4.00 (12)
Total	100.00 (300)	100.00 (300)

Source: Field Survey 2004.

Note: Figures in bracket are number of respondents.

5.5 Occupational Related Accidents

Accidents are the result of both working environment and also the human factors. The working environment factors include outdated machinery and equipments, poor lighting, excessive noise and vibration, unsuitable walls, floors, roofs etc. They have a great impact on the rate of accident. The human factors include lack of knowledge of industrial mechanized environment, lack of training, incorrect methods of working and negligence at the workplace. In addition to these factors, the physical and physiological capacities of workers may not meet the requirements of the job. Apart from this, failures in implementing safety practices and improper use of mechanical safeguards and personal protective equipments account for many accidents. Most of the studies have pointed out that human factors are much more responsible for accidents than the environment hazards. A larger number of accidents could easily be avoided with due care and legal compliance.

Industrial workers face many economic insecurity in their life which have its source and origin in numerous occupational and non-occupational risks like ill health, accidents, injuries etc. The industrial worker as a wage-earner has to face almost total economic ruin if his earnings are affected by any of the risks (Singh, 1986: 12).

Injury at workplace is an occupational calamity that entails economic consequences for the affected workers and their dependents for two reasons. First, workers working in industry are facing the risk of employment or occupational accidents than other workers. Secondly, the risks like sickness and unemployment which may cause worker unemployed after even getting well. A permanent total disableness caused by employment or occupational accidents may cause worker not only to unemployed but also incapable for earning and self-care. Therefore, it is clear that occupational accidents involves double economic losses i.e. stoppage of wage earning and expenditure on medical treatment and care (Singh, 1986: 13).

According to one of the estimations provided by the International Labour Organisation, about 50 million work related accidents occur every year around the world,

a vast majority of them in developing countries which is about five times higher than in developed or industrialized states (International Labour Organisation, 1981).

In the primitive society, employment accidents were very well specified. However, such employment accidents create serious dimensions only in the new industrial age in terms of their numbers, frequency and severity. The industrial revolution brought a series of drastic changes in terms of social, economic and technological and also brought industrial accidents. Now hand tools are replaced by power machinery. In such a machine age, the increase in the employment related accidents are likely to increase if proper precautions are not taken. Various studies have tried to classify accidents but there exists no uniformity. ILO has put forward a classification which is broad based.

According to ILO Accident Prevention Manual, accidents are of various types that occurs everyday in industries. Thus a systematic classification is difficult. In fact classification of accidents is done on the basis of various view points (International Labour Organisation, 1961: 19-20).

1. On the basis of the type of accidents, some accidents are fatal and other are non-fatal accident. Thus, some accidents lead to death or total disablement whereas other do not cause any injury at all.
2. On the basis of nature of injury in medical terms. For example, fractures, sprains etc.
3. The third classification is based on the location of injury on human body. For instance, head, back etc.
4. Fourth classification is based on agency of employment accidents like machine accidents, lifting accidents etc.
5. Finally, the classification of accidents is based on the type of accidents such as fall of person, exposure to some harmful substance etc.

The above classification is only illustrative and not the exact or correct classification of industrial employment accidents because there are multiple classification which shows that accident is never due to a single factor but it is result of an aggregate of factors. However, these factors cannot be identified for the classification of employment accident. It is difficult because the working environment and nature of work differ by industry, type, size and location.

In Alang ship breaking yard, the frequency of accidents is high because of hazardous nature of activities. The labour is unskilled, uneducated and untrained. The various laws relating to labour safety applicable to factories and also to ship breaking units are rarely implemented in Alang ship breaking yard. Humid atmosphere is also harmful to health of the worker. During the ship breaking process gas torches are used to cut the iron body of the vessels, inhaling of various types of toxic fumes of lead paint and other gases cause various types of respiratory diseases to the workers.

The cuts and burns are common to workers in Alang ship breaking yard. These are treated as minor but hamper the efficiency of the labour. Workers are frequently found to be reporting to work with cuts and burns. Sometimes these cause serious difficulty but not enough to worry the workers in comparison with other types of accidents. Grave accidents occur due to falling objects or at times due to fall of persons themselves. Sometime workers fall down from the height of 50-70 feet while working that result in serious injury or even in death. The low rate of mechanization in Alang ship breaking yard is often the cause accidents. As such authorities have classified the yard area into restricted and unrestricted to prevent workers being in the wrong place. Sometimes workers reported slip, accidental fall from vertical stairs or injuried due to poor lighting. This practice violates the section 11 of Factories Act, 1948 which provides that the workplace should be clean, well light and ventilated.

Workers at Alang are facing various types of accidents which result in various types of temporary as well as permanent disablement. The frequency of accident is significantly high as the environment at place of work is not conducive and the regulation

of norms is not done in the right earnest. The second type of accidents are considered as the most dangerous and the least predictable, are related to fire, that could range from lesser fire to explosion. Explosions and fires are caused by using gas torches in confined spaces where toxic, flammable gases are kept or get accumulated. The workers are at greatest risk of serious burning or injury and most often to death due to injuries. In the following paragraphs the types of accidents faced by the respondents and their frequency is analysed.

From the table 5.8 it is clearly seen that workers in Alang ship breaking yard are facing various types of accidents which cause them temporary as well as permanent disablement. Burns and cuts are common in Alang ship breaking yard and they account for 43.6 percent of total accidents reported during previous month. Other types of accidents faced by the workers are head injury, leg injury and fracture which is 15.6 percent, 6.4 percent and 19.3 percent respectively. Therefore, it can be concluded that workers in Alang ship breaking yard are facing various types of accidents while working in yard. Out of 300 workers surveyed 218 have reported some type of accidents or other. Therefore more than 70 percent of the respondents have faced some type of accident or other. Many of these faced accidents on more than one occupation.

Table: 5.8 Nature of Work and Type of accident faced by Respondents

Type of Accident	Manual	Semi-Skilled	Skilled	Highly Skilled	Total
Burn	4.76 (2)	11.76 (6)	25.81 (24)	18.75 (6)	17.43 (38)
Cuts	23.81 (10)	29.41 (15)	27.96 (26)	18.75 (6)	26.15 (57)
Head Injury	19.05 (8)	15.67 (8)	13.98 (13)	15.63 (5)	15.60 (34)
Fracture	26.19 (11)	13.73 (7)	16.13 (15)	28.13 (9)	19.27 (42)
Leg Injury	7.14 (3)	7.84 (4)	3.23 (3)	12.50 (4)	6.42 (14)
Other Injury	19.05 (8)	20.57 (11)	12.90 (12)	6.25 (2)	15.14 (33)
Total	100 .00(42)	100.00 (51)	100.00(93)	100.00 (32)	100.00(218)

Note: Figures in bracket are number of respondents.

According to various studies (Vaid. K. N, 1966, pp. 21-25, John. J & Ateeq. N, 2003, pp. 85-90) construction and brick kilns industry is one of the accident prone

industries where the frequency of accident is high. It is also found by the present study that the frequency of accident is also very high in the Alang ship breaking yard. 218 respondents out of 300 i.e. 72.7 percent had faced accidents while working in yard (Table 5.9). Most of the workers faced accident more than one time while working in yard. Workers facing accident 2 and 3 times constitute 86.7 percent of the respondents which is very high for an industry operating in organized sector.

Table: 5.9 Frequency of Accident faced by Respondents

Number of accident in a month	Number of Respondents
Once	1.38 (3)
Twice	59.63 (130)
Three time	27.06 (59)
More than 3 times	11.93 (26)
Total	100.00 (218)

Note: Figures in bracket are number of respondents.

In ship breaking industry of Alang, manual workers who work for longer are highly prone to accidents ((Table 5.10). The correlation value is 0.355 and is significant at 5% level. In case of skilled workers the correlation is 0.212 and is significant at 1% level. Skilled workers are also prone to accidents because during cutting process they face numerous accidents. Many other studies have found that the hours of work and accidents are positively correlated (Mustafa, 1990: 148-149 and Singh. V, 1986: 12-13).

Table 5.10 Correlation between Hours of Work and Number of accident

Nature of Work	Average Working hours per day	Correlation (Hours of Work * Number of Accident)
Manual	10.67 (86)	0.355**
Semi-Skilled	10.04 (74)	-0.053
Skilled	8.85 (106)	0.212*
Highly Skilled	8.03 (34)	-0.077
Total	9.39 (300)	

* 1 percent significant level. ** 5 percent significant level.
Note: Figures in bracket are number of respondents.

According to Factories Act, 1948 when an accident occurs it is mandatory that company should file a report with the Ministry of Labour. But in Alang ship breaking yard, employers hardly inform voluntarily either to the authorities or to the media. It is only in case of serious accidents which employer can not neglect the owner of the yards design to speak. The information they provide then is fragmentary and generally falls short of the reality. After an occurrence of a major accident which results in death of workers, the work is stopped for sometime and the yard doors are closed for the outsiders as well as for workers. Work is said to resume in due course with new vigor.

Information regarding the number of accidents faced by the workers at Alang ship breaking yard in the month proceeding the data collection by the researcher have been collected from 300 respondents. They have reported either a minor or a major accident during work. Using this information the probability of an accident for each of the respondent groups as well as for the total labour at Alang has been estimated. The average number of accidents for the respondents as a whole is 3.26 in a month and this varies from one group to another but skilled labour face highest average number of accidents. Using this information an attempt is made to estimate the probability of an accident on a working day for each group. The method of estimation is as given below.

$$\text{Average number of Accidents per Day} = \frac{\text{Total number of Accidents per month}}{\text{Total number of Working Days in a month}}$$

$$\text{Probability of an Accident per day} = \frac{\text{Average number of Accidents per day}}{\text{Total Number of respondents}}$$

For example, for skilled worker the probability of accident is estimated as follows:

$$\text{Average Accidents per Day} = \frac{381}{26} = 14.67$$

$$\text{Probability of Accident per Day} = \frac{14.67}{106} = 0.13868$$

Therefore, the result shows that 14 out of 100 skilled labours are facing accident per day at Alang ship breaking yard while working. The accident could be a minor burn or an injury or a fracture or a major accident. However the probability of accident of 0.138 is high by any normal standards. The detailed results are presented in table 5.11

Table: 5.11 Nature of Work and Probability of Accidents per Day

Nature of Work	Average Number of accidents in a month	Number of respondents faced with Accident	Total number of respondents	Probability of Accident
Manual	2.95	42	86	0.05581
Semi-Skilled	2.71	51	74	0.07162
Skilled	4.10	93	106	0.13868
Highly Skilled	2.13	32	34	0.07647
Total	3.26	218	300	0.083

In Alang ship breaking yard the probability of accident faced by workers is very high than the average industrial accident in India. A study conducted on "Construction Industry of Ahemdabad" where author found that the construction work is marked by drudgery and hazards. In addition the trend towards multi-storyed construction makes the work is more prone to accidents. The authors found that 14 percent of workers met with accidents. Further they found that the probability of accident is higher for the skilled which is higher than other categories of workers (Subrahmanian, Veena and Parikh 1982:137-142).

In Alang, the frequency of accident is much higher than the industrial accidents in India. One of the important causes of high accident rate in ship breaking yard in Alang is due to poor mechanized process in recycling industry. It is found from the table 5.11 that the skilled workers are more prone to accident than other categories of works which is 14 out of 100 workers per day. Other categories of skilled labour face around 7 percent and around 5.6 percent for 100 manual workers. The accidents faced by the workers at the yard in general are explained by the safety equipment, conditions of work and the

implementation of rules and regulations. However these are common to all the workers. Does experience of a workers, the type of work done and the length of work duration have an effect on facing an accidents or not. Some individuals working in similar conditions face accidents and some don't. To explain these phenomena functions are fitted with the dependent variable taken as a dummy and the explanatory variables, are both qualitative and quantitative. The function form used to analyse is called logit model.

Logit Model

To analyze the qualitative variables such as accident faced and health problem faced logit model is made use of. Logit model is also known as logistic regression which is useful when dependent variable takes value only between 0 and 1. When dependent variable value is between 0 and 1 neither ordinary least square method nor weighted least square method is helpful. The dependent variable is 1, if a labour faces accident and 0, if the labour does not face accident during a given period of time. Therefore for all 300 respondents the dependent variable is 0 or 1. In logit model instead of t statistic to evaluate statistical significance of a coefficient, Z statistic is used. So inferences are based on normal table and if sample size is large, then t distribution converges to normal distribution. In logit model, the conventional measures of goodness of fit, R^2 is not meaningful. However, in binary regressand models, goodness of fit is of secondary importance. The important thing in logit model is expected sign of the regression coefficient and their statistical significance. Hence in logit model instead of using as F test as in linear regression model, likelihood ratio (LR) statistic is used. LR statistic follows the Chi square distribution with degree of freedom equal to number of explanatory variables.

For meaningful interpretation of logit result the odd ratio is used which is obtained by taking the antilog of various slope coefficients. Odd ratio shows the ratio of probability in the model.

In this section an attempt is made to examine the factors responsible for accidents in Alang ship breaking yard. There are various factors which contribute to the occupational accidents. The Binary logit model is used to examine the factors responsible for accidents. An attempt is also made to fit accident faced function. Many variables are included in the model and it was found that some of the variables could not explain any variation in the function significantly. The following function is considered:

Accident Faced (Y) = f (Years of Experience, Experience^2, Skill, Hours of Work, Cutters/Other)

Where, Y= 1 if worker faced accident and Y= 0 if worker does not face accident.

The logit model can be written as:

$L_i = (P_i / 1- P_i) = \beta_1 + \beta_2$ (Years of Experience) + β_3 (Experience^2) + β_4 (Skill) + β_5 (Hours of Work) + β_6 (Cutters/Other)

Where P_i = Probability of an accident and L_i is the odd ratio.

Three models are fitted with Accident faced as explanatory variable. The results are presented in table 5.12

It is found from the Table 5.12, that the accident faced function is best fitted for the variable such as experience square, hours of work and skill. In model-1 the years of experience, cutters/other and hours of work are the explanatory variables with one dummy variable i.e. cutter/other. In this model variation in dependent explained to the extent of variable is 9 percent. But in binary Logit model the R^2 is not meaningful thus in the present model McFadden R^2 is used.

Thus, the cutter/other coefficient is 1.1696 which means that other variable in the model being held constant, cutters are facing accidents which is 1.17 times more than the others category of workers, indicating a positive relationship between the two. Years of

experience have a positive effect whereas the hours of work have negative value and both are not statistically significant. It would lead to conclude that cutters are facing greater probability of accidents in Alang ship breaking yard. All three variables have significant effect on the accident faced function, as LR statistic is positive and statistically significant. As in case of linear regression F-test is used to test null hypothesis similarly Likelihood ratio (LR) statistic is used in logit model.

A more meaningful interpretation of the results is in terms of odd ratio, which can be obtained by taking antilog of the various slope coefficients. Thus, by taking antilog of the cutter/other coefficient of 1.1696 the antilog value is 3.22 ($\approx e^{1.1696}$). This suggests that cutters are facing 3.22 times more accidents than the other workers at Alang ship breaking yard.

In model-2, one dummy variable is introduced viz, skill (skilled/unskilled). From model-1 to model-2 the result improves. In the model skill, years of experience and hours of work are the explanatory variables. All the independent variables including one dummy variable show positive but only two variables are significant and the variable years of experience is positive but not significant which is indicated by the corresponding Z-value. Therefore, it can be concluded that the accident faced is significantly higher where skilled labour are employed and working for longer hours.

Therefore, the skill coefficient is 2.626 which means with the increase in skill on an average accidents increased by 2.6 times which suggest positive relationship between the two. All other variables in the model have positive effect, although statistically the effect of years of experience is not significant. However, all the three variables have a significant impact on the accidents faced as LR statistic is significant at 1% level. For better interpretation of the result the antilog of the coefficient is appropriate which explains the odd ratio. Thus, if skill coefficient is 2.626, the antilog value is 13.82 ($\approx e^{2.626}$) which explains that the skilled are 14 times more prone to accident than the unskilled labours. In Alang ship breaking yard skilled workers are facing more accidents. The reason is their nature of work, most of tem are cutters engaged in the cutting process

either inside the ship or outside ship. It causes various types of accidents either minor or major. Similarly, antilog of hours of work coefficient is 1.7 which suggests that those who are working long hours are more prone to accidents.

In model-3 five variables are considered as explanatory variable viz. cutters/other, years of experience, experience^2, hours of work and skill along with two of the dummy variables. Compared to model-1/model-2, in the model-3 the result improves. In the model-3 only three variables are statistically significant and other two variables are not significant. The variable skill coefficient is 2.644 which means that other variables held constant skilled are more likely to faced accident by 2.6 times than the other category of labours. Hours of work and years of experience square are statistically significant showing positive relationship with the dependent variable. All the variables in the model have significant impact on the dependent variable as LR statistic is positive and significant at 1% level. Taking antilog of the coefficient, skill coefficient is 14.06 suggests that skilled workers face accidents 14 times more than the other type of labours. The coefficient corresponding to experience square is negative indicating that the rate of accidents fall as workers gain more experience. Therefore, in Alang ship breaking yard skill, hours of work, years of experience and cutters/other explain the variation in the accidents faced. For these variables the coefficient is positive and significant and the LR statistic for all three models is high and significant.

Table 5.12 Accident Faced by Workers at Alang Ship Breaking Yard

Dependent Variable: Accident Faced[a]

Variable	Model 1	Model 2	Model 3
Constant	2.5745	-5.422	-5.1859
Cutters/Other [b]	1.1696 (2.702)***		0.0030 (0.0048)
Years of Experience	0.04535 (1.648)*	0.0362 (1.28)	0.0407 (1.421)
Experience^2			-0.0026 (-1.658)*
Hours of Work	-0.2357 (-1.280)	0.5277 (1.86)*	0.5205 (1.821)*
Skill [c]		2.6255 (4.397)***	2.6439 (3.412)***
N	300	300	300
Log-Likelihood	-160.806	-154.065	-152.697
LR Statistic	30.316***	43.798***	46.534***
McFadden R-square	0.086	0.124	0.132

* Significant at 10%; ** Significant at 5%; *** Significant at 1%

Note: Figures in bracket are Z-value

[a] If Work Faced Accident = 1 otherwise 0

[b] If worker is Cutter = 1 otherwise 0

[c] If worker is Skilled = 1 otherwise 0

5.6 Occupational related Diseases

Occupation related diseases are the result of in human physical conditions at the work place and the industrial environment which is exploitative. Occupational diseases develop due to continuous and long term exposure to hazards at workplace which consists of excessive heat, noise, vibration etc. Occupation disease might be the result of exposures to certain chemical used in the manufacturing process (Mani, 1996: 10).

Some occupational diseases are usually characterized by symptoms like nausea, vomiting, stomach pains, muscular and joint pains or in some extreme cases even cause death. Many chemicals also affect human being causing skin diseases, blisters, itching, discoloration of the skin and burns. Occupational diseases usually develop over a long

period of time rather than the short period. Various studies on migrant labour observed that seasonal migrants have less exposure to health hazardous than the permanent migrants (Breman, 1985 and John and Nasir, 2003: 91). Occupational diseases are slow and cumulative however their effects are irreversible.

There are various types of agents which affect the health of the workers in ship breaking industry as also in other industries. The occupational hazards are in plenty in manufacturing, agriculture, mining and other working environments. The major categories of stresses for the workers can be categorized as: chemical agents, physical agents and conditions, biological agents and conditions and psycho-socio factors. These factors act either in isolation or in combination. Occupational health problems arise as a result of the joint action of both environmental as well as human factors.

Workers at Alang ship breaking yard face various occupational hazards. In addition to long hours of work with inadequate equipment the labours are also exposed to various health hazards. These workers have strenuous work schedule live in unhealthy surroundings, do not have proper medical care and even lack adequate drinking water facilities. In addition to these adverse factors the workers are exposed to various types of chemicals which are categorized as highly hazardous. The workers are also exposed to various types of gases and fumes which over a long period of time take toll on their health. Practically every worker at Alang is exposed to chemicals, fumes, dust, lead and asbestos.

The hazardous and toxic substances found in Alang are common to all ship breaking yards. There are various dangerous materials and substances but workers are not trained and ill-equipped to handle them.

Dust

Dust which is generated by handling crushing, grinding and disintegrating organic and inorganic materials. The exposure to dust leads to wide variety of respiratory diseases, lung diseases and lung cancer. Toxic dust may produce poisoning after

inhalation or act as skin irritants to produce allergic reactions and cancer. In Alang ship breaking yard, the yard is full of toxic substances and dust is found everywhere in workplace. Workers are continuously exposed to dust inside the yards. Section 11 of Factories Act, 1948 provides that dust at workplace should be cleaned everyday which means the cleanliness of workplace. Due toxic substances in the yard the workers are facing health problem on regular basis.

Asbestos

Asbestos is a mixture of magnesium iron, silicates in fibrous form. It appears as dust in the form of fine particles in the air. Alang ship breaking yard breaks the old ships bearing Asbestos. Generally a ship contains about 6 to 10 tons of Asbestos. The workers deal without taking any protection to collect and store asbestos which enter in their lung through breathing. It may result in permanent breathing problems and also causes lung cancer (Upadhyay 2005: 19-23). Various studies on construction industries found that workers with continuous exposure to dust of asbestos face breathing problems (Subrahmanian, Veena and Parikh, 1982: 143).

Lead

Lead appears as dust or fumes in the air occurs mainly in mines but commonly in lead smelters where lead is produced from lead ore compounds. This may also be found in shipyards, car factories, glass and ceramic factories. In ship breaking activity, the process of cutting requires dozens of gas torches which create fumes of lead and its compounds. These fumes enter in lungs of workers and have potency to damages kidney.

In Alang ship breaking yards workers have constant exposures to various toxic substances, gases, dust and lead paint which affect their health conditions further affect their efficiency of work. Workers themselves are not aware of the dangerous consequences of the materials and chemicals they handle while cleaning the ship and while breaking down the ship. The amount of chemical, vapours and gases that labour are exposed to be totally unaccounted. The shore at Alang, the water, the soil and whole

ecosystem is devastated by the pollutants. It is hard to find natural soil, the vegetation in the surrounding area is effected and fish stock has vanished. These are the effects of constant and continuous release and exposure to chemicals. Can the workers employed at Alang ship breaking yard remain unaffected. The impact is visible on health of workers at Alang ship breaking yard.

There is lack of systematic information when it comes to diseases with disastrous consequences for the workers. The symptoms of diseases are less visible than accidents but diseases developed over the years by the workers in and around the yards ought to be a matter of serious concern. Though their immediate impact is less pronounced, future and ultimate impact is likely to be very serious. Yet there have been no studies to determine the health status of the 30,000-40,000 workers who handle the work or are in close contact with toxic substances in and around the yards.

The present study during the survey of 300 respondents from Alang ship breaking yard have collected information pertaining to the health ailments and long-term health problems faced. This information throws up certain disturbing facts about Alang ship breaking yard.

Out of 300 respondents, 211 have reported health ailment of some form or other. More than 70 percent of labours seem to have health problem either minor or major. 122 of the respondents have reported severe health problems. This amounts to 40 percent which is high by any standards. It is certainly a serious issue if 40 percent of labour of any firm or an organization report permanent health problems. A little probe also reveal that the problem is not only with working environment but also with their living environment as almost all of them line in the proximity of the ship breaking yard.

Table: 5.13 Nature of Work and Health problem faced by Respondents

Health Problem Faced	Manual	Semi-Skilled	Skilled	Highly Skilled	Total
Stomach Problem	15.25 (9)	7.27 (4)	22.92 (16)	16.67 (4)	15.64 (33)
Skin Problem	16.95 (10)	21.82 (12)	9.59 (7)	--	13.74 (29)
Breathing Problem	5.08 (3)	5.45 (3)	10.96 (8)	29.17 (7)	9.95 (21)
Malaria	55.93 (33)	58.18 (32)	47.95 (35)	33.33 (8)	51.18 (108)
Other Problems	6.78 (4)	7.27 (4)	9.59 (7)	20.83 (5)	9.49 (20)
Total	100.00 (59)	100.0 (55)	100.00(73)	100.00 (24)	100.00(211)

Source: Field Survey 2004.

Note: Figures in bracket are number of respondents.

Table: 5.14 Nature of Work and Permanent Health Problem Faced by Respondents

Permanent Health problem	Manual	Semi-Skilled	Skilled	Highly Skilled	Total
Skin Problem	47.37 (18)	35.00 (7)	25.45 (14)	11.11 (1)	32.29 (40)
Respiratory Problem	10.53 (4)	--	12.72 (7)	--	9.02 (11)
Malaria	42.10 (16)	55.00 (11)	58.18 (32)	88.89 (8)	54.92 (67)
Other Problems	--	10.00 (2)	3.64 (2)	--	3.28 (4)
Total	100.00(38)	100.00 (20)	100.00(55)	100.00 (9)	100.00(122)

Source: Field Survey 2004.

Note: Figures in bracket are number of respondents.

Table 5.13 shows that the workers in Alang faced various health problems like malaria, skin problem, stomach problem, breathing problem. Malaria is the one of common health problem faced by workers in Alang which is high in temporary as well as in permanent health problems reported (see Table 5.13 & 5.14). In both the tables it is found that the skilled labours are more exposed to health hazards. Manual labours are also facing relatively higher health problem accounting 28 percent in case of temporary health problems and 31 percent in case of permanent health problems (see Table 8b). Various studies (Vaid. K. N, 1966: 21-25, John and Nasir, 2003) on construction industries also found that skilled workers engaged in construction work are more exposed to various health hazards. Nevertheless in Alang ship breaking yard all types of workers

skilled as well as unskilled workers are exposed to health hazards causing various health problems.

It is found from the table 5.15 that workers at Alang ship breaking yard face various multiple diseases at the place of work which is a serious cause of concern. A vast majority of respondents (63 percent) reported that malaria and viral fever is the major disease in the place of work followed by respiratory and skin problems which is 14.8 percents. Workers also face other type diseases such as eye problem, various types of pains etc. These diseases are due to exposure to gases, fumes and chemicals at the workplace.

Table 5.15 Multiple ailments face by respondents

Nature of Diseases	Manual	Semi-Skilled	Skilled	Highly-Skilled	Total
Respiratory & Skin Problem	10.53 (4)	10.00 (2)	14.55 (8)	44.44 (4)	14.75 (18)
Viral Fever and Malaria	78.95 ()	50.00 (10)	58.18 (32)	55.56 (5)	63.11 (77)
Body Pain	10.53 (4)	10.00 (2)	14.55 (8)	--	11.48 (14)
Other Diseases	--	30.00 (6)	12.73 (7)	--	10.66 (13)
Total	100.00 (38)	100.00 (20)	100.00 (55)	100.00 (9)	100.00 (122)

Source: Field Survey 2004

Note: Figures in bracket are percentage of respondents.

From the above tables (5.13, 5.14 and 5.15) it can be concluded that health problems are quite severe, labour both the working as well as living conditions are responsible.

The respondents have reported various health problems faced by them they are aware of the work related problems. Many of them have reported that strenuous work and exposure to chemicals have taken toll of their health and both these are related to working conditions at Alang ship breaking yard. Many of the respondents have expressed high risk perception and have even expressed that these are the very reasons why very few

local (Gujarati) labour is seen at Alang ship breaking yard. The labours continue to work as they are devoid of any income earning opportunities at their native place. An attempt is made in the following paragraphs to analyse further the reasons for the health problems faced. A logit function is fitted to investigate the problem further.

In this section an attempt is also made to fit logit function to further analyse the health problems faced by workers in Alang ship breaking yard. Many variables are included in the model as explanatory variables.

Binary logit model is fitted:

Health Problem Faced (Y) = f (Exposure to chemical, Cutters/other, Risk Perception, Years of experience)

Where P_i is the probability that a labour has health problem.
$(1-P_i)$ is the probability that a labour doesn't have health problem.

The result of the regression function is presented in table 5.16

Where Y = 1 if worker faced health problem and Y = 0 if workers does not face health problem.

$$L_i = (P_i / 1-P_i) = \beta_1 + \beta_2 \text{ Exposure to chemical} + \beta_3 \text{ Cutters/other} + \beta_4 \text{ Risk Perception} + \beta_5 \text{ Year of experience)}$$

It is found from the analysis that (Table 5.16) the health problems faced function is best explained by the variables such as exposure to chemical, cutter/other and risk perception. In the model the years of experience, cutter/other, risk perception and exposure to chemical are the explanatory variables with three dummy variables. In the model variation in independent variable explains only 4 percent of variation in the

dependent variable. However the results are indicative and can be used to explain the problems faced by workers at Alang ship breaking yard.

The variable exposure to chemical has coefficient of 0.7297 when other variables in the model are held constant. Those workers that are exposed to chemicals are facing 0.7 times health problem. It suggests a positive relationship between the two. Similarly other two variables also show the positive relationship. However the years of experience variable is not significantly related to health problem faced by workers. All variables together have significant impact on the health problems faced by the workers as the LR statistic is 13.909, which is statistically significant.

The odd ratio is also used for better interpretation of the result. Thus, variable exposure to chemical coefficient is 0.7297, the antilog value is 2.08 ($\approx e^{0.7297}$). This suggests that workers exposed to chemicals are facing health problem more than 2 times than the worker who do not have exposure to chemical. Similarly, the antilog value of the coefficient of cutters/other and risk perception is 1.6 and 1.9 times which suggest that cutter face 1.6 times more health problems and those workers are working under risky condition are facing health problems 1.9 times more than others.

Table: 5.16 Health Problem Faced by Respondents at Alang Ship Breaking Yard

Binary Logit Output
Dependent Variable: Health Problem Faced

Variable	Model
Constant	0.1804
Exposure to Chemical	0.7297 (2.358)**
Cutters/Other	0.4778 (1.735)*
Risk Perception	0.6829 (2.47)**
Years of Experience	0.0011 (0.043)
N	300
Log Likelihood	-175.45
LR Statistic	13.909
McFadden R-square	0.038

* Significant at 10%; ** Significant at 5%; *** Significant at 1%

Note: Figures in bracket are Z-value
Cutters = 1 otherwise 0
Risk perception if Yes = 1 otherwise 0
Exposure to chemical if Yes = 1 otherwise 0

Alang ship breaking industry is one of the dangerous and hazardous industries. In ship breaking activity workers have to handle various types of toxic substances effects health over a period of time. The frequency of sickness is very high due to constant exposure to chemicals and toxic substances and strenuous work.

The researcher has collected data pertaining to number of sick days faced by the respondents which resulted in their leave and absence from work. Workers would prefer to report to duty and perform work if they are physically well. The concept of sick leave does not exist at Alang ship breaking yard. Therefore it is common to see labours with cuts, burns and fever working at Alang. Falling sick means loss of income therefore labours can not afford to fall sick.

Making use of the data pertaining to the sick days reported by the labours for all categories the probability of sickness is calculated. This in a way could be a good measure of health problem faced by workers at Alang. The probability of sickness per day in Alang ship breaking yard is estimated through following method.

$$\text{Average number of Sick days per Day} = \frac{\text{Total number of sick days per month}}{\text{Total number of Working day's in a month}}$$

$$\text{Probability of sickness per day} = \frac{\text{Average number of sick day's per month}}{\text{Total number of respondents}}$$

From table 5.17, it can be seen that the average number of day's workers falling sick is 3.09 for all categories of labour. The probability of sick per day is very high in all categories of workers. The probability of sickness per day is 9 out of 100 labours which is very high for an established industry. With this high probability of sickness, it can be concluded that workers in Alang have to spend more on their health. Due to lack of proper medical facility workers are in vulnerable situation. During sickness workers do not get sick leave. If workers take leave, then they have to lose a day's wage. Despite not payment of wages 7 to 10 percent of workers of various skill levels are on leave. This proportion is high for any organized industry.

Table: 5.17 Nature of Work and Probability of sickness per Day

Nature of Work	Average Number days sick in a month	Number of respondent falling sick	Total number of respondents	Probability of sickness per day
Manual	3.06	70	86	0.09535
Semi-Skilled	3.14	63	74	0.10270
Skilled	3.28	86	106	0.10283
Highly Skilled	2.38	26	34	0.07059
Total	3.09	245	300	0.0933

Sickness of the workers not only effects the employment but would also eat into the pockets of the workers as they have to spend on medicines. In addition the Alang ship breaking yard does not have any hospital or dispensary to deal with such cases. The workers depend on private doctors who are expensive or take to self medication. Some reported no medication for small ailments such as aches.

5.7 Social Security for Workers

The vast majority of people in India (more than 90%) work in unorganised sector. This sector contributes over 62% of the national income in the Indian economy. It is obvious that the potential growth of the economy and poverty reduction is possible only with the higher growth of informal sector. The public sector employment is shrinking; the growth in the private corporate sector is still narrow and focuses basically on the better-off sections. The productive capacities of the unorganised sector are meager but this sector is most potential to increase employment and thus reduce poverty (Justino, 2003: 5-9).

In India workers engaged in organized sector are entitled to social security to some extent but such benefits are hardly provided to workers employed in unorganised sector. There is an urgent need to focus on increasing productivity in the unorganised sector and on the social security. Social security laws and the need of social security in unorganised sector is discussed below.

The definition of social security in developing countries must address three fundamental issues. These are: (1) what is included within the objectives of the social security programme; (2) whom should social security policies target and (3) who should provide for social security in developing countries (Unni and Rani, 2002: 5-9).

Though various authors have defined social security in many ways they are primarily concerned with continuous economic supports to human being in the crisis years. International Labour Organisation defines social security as the security that society provides through appropriate organisations against certain risks which the

individual cannot effectively provide by his own ability or foresight alone, or even in private combination with his fellows, there risk being sickness, maternity, invalidity, old age and death. It is characteristic of contingencies that they imperil the ability of the working man to support himself and his dependents in health and decency (International Labour Organisation, 1942: 1-2).

According to Getubig social security for developing countries is any types of collective measures formed which ensure that member of the society meet their basic needs and also get protected from contingencies which enable them to maintain a standard of living consistent with social norms (Getubig and Schmidt, 1992: 1-4).

Friendlander defines social security as the protection provided by the society against various contingencies of modern life such as sickness, unemployment, old age, dependency, industrial accidents and invalidity against which individual cannot protect himself and his dependents by his own efforts or ability (Singh, 1988: 415).

According to W. A. Robson, social security is a way of ensuring freedom from want or poverty which is one of the main obstacles in the way of progress. Social security means insurance against those misfortunes to which an individual is exposed even when the condition of the society as a whole improves. It does not include the various measures for improving the condition of society and so forth (Gupta, 1986: 34).

The central and state Governments have formulated social security schemes for unorganised sector workers for the following reasons: A large proportion of workers in unorganised sector are poor, illiterate, vulnerable and isolated. A vast majority of them do not have any employer-employee relationship. The work in unorganised sector is usually temporary, seasonal and changing in nature and many occupations within the sector are home-based. Therefore it is desirable that the Government should provide social security to this sector in the form of pensions and other benefits. The coverage of the social security schemes in the unorganized sector is not well coordinated and the coverage is meager.

In India the medical treatment in the state run hospitals and primary health centers as well as in municipal hospitals are out of social security programs particularly for unorganised sector. Several state Governments are also running some old age pension schemes but the rigid criteria's for the selection of beneficiary with meager amount of benefit made them absolute. Some states have occupation based social security programs run by non-governmental agencies particularly in the state of Kerala and Gujarat. However, these programs are not sufficient answer to the question of sufficient security. The organized sector on the other hand has several attractive benefits.

The legislation for social security currently available in the country are as follows:

- Employees Provident Fund and the Miscellaneous Provision Act, 1952
- Employees State Insurance Act, 1948
- Maternity Benefit Act, 1971
- Workmen Compensation Act, 1923
- Payment of Gratuity Act, 1971

5.7.1 Social Security for Workers Employed at Alang

Alang ship breaking yard even after functioning for more than 20 years and despite its economic importance has retained its "informal" character. Moreover, it is grossly deficient in implementing numerous existing national laws particularly related to industry. The laws that are formed to regulate the industrial sector do not get implemented at the ship breaking yards. In Alang, there is no social security for workers and they are still the mercy of the employers. The medical facilities are practically non-existent. Insurance of life of the workers at Alang ship breaking yard does not exist as the workers are not covered for life nor they get cover under medical insurance.

Medical Treatments

In various legislations there are provisions to provide free medical treatment to industrial workers in case of occupational accidents and diseases. In Alang ship breaking yard, each yard employs more than 250-300 workers but none of the yards have doctor at site. There is not a simple doctor on staff for even one the yards. Thus workers are in a highly dangerous situation. Red Cross medical hospital exists at Alang ship breaking yard which provide only first-aid and it can not handle major accident cases. Medical treatment is provided at Bhavnagar in case of major accident. Some employer provides initial medical treatment for their workers in case of major accident. It is also an area where the discretionary powers of the employer exist.

In case of accidents the owners of site provide transportation of the worker to Red Cross hospital or if accident is serious then send them to hospital in Bhavnagar city. The general norms are that owners have to pay for treatment and bear the medical expenses. However in actuality the employer does not pay any expense. The employer refuses to recognize the link between such diseases and their work on the plot. The researcher interviewed doctors in Red Cross hospital as well as in private clinics in and around Alang. It is found that there exist direct link between most of the diseases the workers face and their occupation and the conditions of work.

In Alang ship breaking yard generally workers do not receive wages when they are absent on medical ground. Many a time employer gives option between the wages or medical expenses. There are many cases and disputes between employers and workers on medical treatment. As reported by the workers many ship breakers pay for food during a medical leave, but not wages or medical expenses. In Alang ship breaking yard for most of the injuried workers, medical treatment is therefore catastrophe and workers generally take loans from friends and relatives and occasionally from their employer for medical treatment. But the worst thing is that the workers have no guarantee that he will re-employed when he returns after medical treatment.

Insurance and Compensation

Workers at Alang ship breaking yard face high probability of occupation related accidents and health related problems. However workers are neither covered by life insurance or medical insurance. Workers report that they do not personally have any cover and many of them are not aware of such policies. The employer deals with cases of accidents and death as and when they face the situation. In case of severe accidents the employer pays partly for medication and treatment. In case of death the payments are done to the family members at the native place through labour contractors. However there appear to be no set norms through which these amounts are decided.

In Alang ship breaking yard, there is lack of a systematic insurance and compensation scheme. In addition to it is more surprising even when workers require a compulsory covering according to Factories Act. In most of the cases labour contractor does not maintain the register with the addresses of the workers and this is an excuse which is given by yard management to avoid to pay proper compensation in case of accidents and this practice violates the Factories Act, Contract Labour Act and Inter-State Migrants Workmen Acts. Such practices are the clear violation of the Workmen's Compensation Act, 1923, the Personal Injuried (Compensation Insurance) Act, 1963, the Gujarat Unprotected Manual Workers (Regulation of Employment and Welfare) Act, 1979 and the Employees State Insurance Act, 1948. These acts provide social security, financial assistance in case of injuries or fatal injury occurring during the period of service. In Alang, the Employees Provident Fund and Misc. Provision Act, 1952 is being violated. The act which is applicable to ship breaking yard provides that such a fund is created during the service of the workers with 10% deduction from the salary of the worker. It is added with an equal amount from the employer. The amount is then deposited in the provident fund account of the concerned worker, who gets access to the fund (with interest) at their retirement. The Act also provides for family pension scheme and an insurance scheme in case of death, which is to be paid to the family. Due to the lack of certification for the relatives of a decreased worker, most time the sole

breadwinner of the family face accident even death while working which also contravenes the fatal accidents Act, 1885.

The Workmen's Compensation Act, 1923 sets that the compensation should be paid when a worker meets fatal accident or death. The practices in Alang violate the article 22 of the UDHR and article 9 of the ICESCR. There is absence of coherent social security system and proper medical system. It is a serious concern because of the dangerous nature of the work and high frequency of occupational diseases and work-related accidents. Adequate and proper regulatory frameworks for ship breaking is an absolute necessity and should encompass not only health and safety issues but also create an effective social security system for the labours.

5.8 Conclusion

In Alang ship breaking yard workers employed in various occupations require different types of skills and many of these workers perform work in open space. Cutters, Labour contractors, Fitters, Crane operator, Wiremen and Mistry are categorized to be skilled as these occupations require special types of skill. Most of the skilled labours are from Uttar Pradesh and large numbers of unskilled labours are from Orissa state, who account for 66 percent. Due to the poor working conditions, workers are exposed to a variety of physical, chemical, biological and mechanical hazards thus causing them to suffer from a wide range of diseases. In Alang, the provisions of Factories Act and Occupational Safety measures with regard to door, windows, stairs etc of a factory premise are not taken into consideration. Workers in yard carry steel plates whose weight is above the limit prescribed by the Factories Act.

It is found in the present study that the average number of working hours for all categories of labours is 9.57 hours. Manual workers work for 10.67 hours per day which comes to on an average 66 hours per week. It violates the section 51 & 52 of Factories Act, 1948. Similarly, semi-skilled workers work for 10.04 hours per day counting almost equal number of working hours per week. But in case of skilled and highly skilled workers they work for on an average 8.85 and 8.03 hours per day and 48 to 49 hours per week respectively. Many studies found that there is correlation between hours of work and the rate of accidents. In Alang, manual workers are facing more accidents as compared to other categories of workers.

The study also found that in Alang there is no system of paid leave to workers. Workers are getting Sunday as rest day but that is without pay, which violates the section 6 of the Weekly Holiday Act 1942. Public holidays are not operational and workers even do not get sick leave for treatment except during severe accidents.

The study shows that the economic factors dominate the decision to migrate. The decision to migrate is also influenced by the difference in income at the place of origin

and place of destination. Individuals belonging to lower income have a greater propensity to migrate than others. The present study shows that the previous income of the respondents is significantly much lower as compared to present earnings at Alang, which is shown by Pair t-test. The overall average present income of the respondents is higher (i.e. Rs. 2888.88) as compared to their previous income (Rs. 843.00). The regression analysis shows that the skill and years of experience are the important variables determining the income level of the migrants at Alang ship breaking yard.

Ship breaking industry is one of the hazardous industries and workers face severe conditions at work. The risk of accident is high and accidents are common because of hazardous nature of activities and also due to unskilled, uneducated and untrained workforce. The logit analysis indicated that cutters face accident 2.7 times more than other category of workers. The analysis also shows that skilled are more prone to accident which is 2.6 times more than unskilled labourers. The overall probability of accident is 8 per 100 workers per day and the high probability of accidents is faced by skilled workers which is 13 per 100 workers per day. The analysis found that the rates of accidents at Alang are higher than the average industrial accident in India.

Workers in ship breaking activities have to handle a large number of chemicals and toxic substances which cause various diseases and health problems. The workers face diseases such skin problems, respiratory problems, breathing problems etc. It was found in the study that the rate of malaria is very high at Alang. The vast majority of respondents indicate that malaria is perennial health problem. The logit analysis indicates that those workers handling chemical are facing the high health problem. The analysis also shows that the cutters are facing more health problems as compared to other category of workers. Further, it is found that on an average 9 out of 100 workers fall sick per day which is very high for an organized industry. During sickness workers do not get paid leave or medical leave for treatment which violates various legislations such as Factories Act, Inter-state Migrant Workmen Act etc.

With regard to social security and medical treatment for workers at Alang the situation is bad. Therefore, workers are in vulnerable condition and have to face various types of insecurities. As already mentioned ship breaking activities is high-risk and health hazardous industry. But the medical treatment at Alang is expensive and not provided free of cost which violates the various legislation of Government where workers are getting free medical treatment in case of occupational accidents and diseases. In Alang, only one hospital exist i.e. Red Cross hospital run by Red Cross Society to provide medical treatment to workers. But this hospital is working with only 9 beds and 4 doctors. There are few private clinics but workers not prefer to go there for treatment because treatment charges are high.

In Alang ship breaking yard workers face high probability of occupation related accidents and health related problems. However workers are neither covered by life insurance or medical insurance. Workers report that they do not personally have any cover and many of them are not aware of such policies. It is also observed that there exists no systematic insurance and compensation scheme which covers both assets and workers.

The working conditions of workers at Alang are poor as compared to other industries. After functioning for 25 years, there is little improvement in the area of the occupational safety and health of the workers. The implementation of labour rights is only a dream for workers at Alang ship breaking yard.

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