PRIA INTERNATIONAL ACADEMY

Initiative in Education & Lifelong Learning

Certificate Programme

Occupational Health and Safety: Legal and Operational Guide

Unit 3

Socio-Economic and Gender Aspects of Occupational Health and Safety

©2014 PRIA International Academy

Units of Certificate in Occupational Health and Safety

Unit 1: Introduction to Occupational Health and Safety (OHS)
- Definition and Context of OHS
- Objectives and Principles of OHS
- Workplace and Health
- Occupational Health, Hygiene and Ergonomics

Unit 2: Sector Specific Occupational Health and Safety Issues
- Health and Safety Risks in Mining
- Health Hazards in Electronic Industry
- Health Hazards in Food Processing Industry
- Health Hazards in Other Industries

Unit 3: Socio-Economic Aspects of Occupational Health and Safety
- Women's occupational and health safety
- Child labour issues in occupational health and safety
- Health issues in the unorganised sector

Unit 4: Basics of Preventive Techniques
- What is an Accident?
- Accident Analysis
- Monitoring of Hazards
- Reporting and Investigation of Accidents

Unit 5: Health Screening Measures
- Stages of Medical Examination
- Occupational History
- Pulmonary Function Test (PFT)
- Noise Induced Hearing Loss (NIHL)

Unit 6: Legal Provisions on Occupational Health and Safety
- Overview of existing OHS Legislations in India
- The Factories Act
- The Mines Act
- The Workmen's Compensation Act
- The Employee's State Insurance Act

Unit 7: Participatory Research and Occupational Health
- Philosophy of Participatory Research (PR)
- Analysis based on PR Methodologies
- Conducting Participatory Research for OHS

©2014 PRIA International Academy

Table of Contents

S. No.	Contents	Page No.
	Introduction	4
	Learning Objectives	4
3.1	Women's Occupational Health and Safety	5
3.1.1	Occupational health and safety from a gender perspective	6
3.1.2	Health hazards to women	8
3.1.3	Women in the unorganised sector	16
3.2	Child Labour	22
3.2.1	Definition of child labour	22
3.2.2	Causes of child labour	27
3.2.3	Scenario in various sectors	29
3.2.4	Occupational health hazards	33
3.3	Health Issues in the Unorganised Sector	37
	Summary	42
	Glossary of Terms	42
	Recommended Readings	47
	References	48

©2014 PRIA International Academy

Introduction

There are a number of health and safety issues that are particularly relevant for women and child workers. This Unit provides students with basic information on some of the health and safety issues for these two special categories of workers. The topics discussed include some of the reproductive health issues for women workers, some of the occupational health hazards that child workers are exposed to and the health hazards workers in the unorganised sector are exposed to.

Learning Objectives

After completing this Unit, you should be familiar with the following concepts and issues.

- Occupational health hazards for women
- Sexual harassment at work
- Definition of child labour and its causes
- Hazards for child workers in various sectors
- Occupational health problems of workers in the unorganised sector

©2014 PRIA International Academy

3.1 Women's Occupational Health and Safety

Women perform the dual roles of production and reproduction. As home makers, they do a variety of jobs daily that do not fit into any specific 'occupation' and, therefore, these activities are not considered part of the paid economy. Although women work for longer hours and contribute substantially to the family income, they are not perceived as workers by either the women themselves or by data collecting agencies and the government. To understand the issue of women's occupational health problems, it is necessary to make a detailed study of women's work in terms of the actual activity undertaken, the hours of work and the amount of remuneration received.

The so-called housewife is already doing a single shift. If a woman also works outside the home, she is consistently working a double shift. When children or family members are ill, she does three shifts day after day. On an average, women work much longer hours than men. According to the International Labour Organisation (ILO), two-thirds of the working hours around the world are worked by women because of the combination of various roles in the workplace, in the family and in society.

NOTE BANK

Women as unpaid workers

An indicative list of household responsibilities taken on by a woman, which is a 24 hour, round-the-clock service (equivalent to three shifts in any industry) includes:

- Child care
- Care of sick and elderly
- Guest relations and hospitality
- Tuition and teaching of the children
- Manager of relations of extended family and friends' circle
- Manager of special events in the family like birthday parties, marriages, festivals
- Caretaker of the house (safety and security of the house)
- Cooking, stocking of provisions
- Cleaning of the house, clothes, utensils, dusting and other additional cleaning
- Coordination of the various services that are required in the house – plumber, gardener, laundry person, electrician, garbage collector, postman, and so on
- Banking, including the savings for the household.

In today's situation of a nuclear family, some of these activities are actually paid for in order to allow women workers to join the organised sector or even by middle class women staying at home.

©2014 PRIA International Academy

A joint study by International Labour Organisation and Asian Development Bank in 2011 highlights the fact that despite the economic boom in Asian countries between 2000 and 2007, there are gender gaps in the labour markets in terms of labour utilisation, and the sectors in which women work (International Labour Organisation and Asian Development Bank, 2011). It goes on to add that while Asian women have fared relatively better in many regions of the world, their full potential as productive workers still remains untapped, the quality of their employment leaves them vulnerable and more disadvantaged than men. Women continue to be concentrated in low-productivity agricultural employment and other vulnerable, low-paid informal jobs. These jobs tend to be of a routine nature, repetitive and monotonous, with low status.

In many developing countries, women are employed as unskilled or semi-skilled workers, or as seasonal employees, particularly in the food, clothing and textile industries and have little chance of promotion. In agriculture, women often have to accept piece wages as they are brought in as contract labour simply to supplement family wages. Sometimes their work is not even recognised as they may just be helping their husbands complete piece tasks. They lack employment contracts, are not covered by any protective legislation in terms of working conditions/environment and are not considered for employment or post-employment benefits, such as pensions. The 2008 financial crisis hit women, who were already structurally disempowered and marginalised before the crisis, hard. Due to their reproductive role, the crisis made them responsible for the household’s coping strategies. Due to the loss of jobs in export oriented industries and other informal employment their productive role took a hit (International Labour Organisation and Asian Development Bank, 2011).

3.1.1 Occupational health and safety from a gender perspective

In the past 15 years, women now make up almost 50 per cent of the workforce in many countries. While women are entering occupations previously closed to them, the labour force is still highly segregated on the basis of gender.

©2014 PRIA International Academy

A significant proportion of women are found in certain types of occupations in the services sector, in the informal sector and particularly in agriculture. In industry, they are predominant in microelectronics, food production, textile/garments and footwear, chemical and pharmaceutical industries and handicraft workshops. In the service sector, they are mainly engaged in teaching, office work, hospitals, banks, commerce, hotels, and domestic work.

In India, women workers constitute almost one-third of the total workforce. Shuffling in between the traditional concept of woman as homemaker and the modern concept of woman as bread earner, she has to do twice the amount of labour. Also, the social milieu teaches her to be docile, submissive and accept whatever is given to her. As a result, employers pay her less and make her work more.

Even in developed countries, women tend to earn less than the men. According to Catalyst, a non-profit organisation working on expanding opportunities for women and business, women earned 77 per cent as much as men in 2009 (Catalyst, 2011). The wage gap between younger women and men was less when compared to older women.

The biggest wage gap in the United States of America (USA) is in the financial activities industry, with women earning 70.5 cents for every dollar that men make.

Why is it necessary to pay special attention to women's health, rather than looking at labour in general and identifying the problems encountered by both men and women?

The need to take into account the specific features of the ‘female’ situation is amplified in the context of issues pertaining to occupational health. This is not only because of women's biological requirements as child bearers and nurturers, but also because of their distinctly different roles in the labour market. Physiological differences exist between men and women. Their vital capacity is 11 per cent less; their haemoglobin is approximately 20 per cent less; their skin area is larger as compared to circulating volume; they have larger body fat content; and they have lower heat tolerance and greater cold tolerance.

©2014 PRIA International Academy

Special planning for the unique problems of women's overall health is of utmost importance specially those pertaining to pregnancy, lactation, menstruation and menopause. Their health issues can be broadly classified into those which are related to fertility and those which are not.

3.1.2 Health Hazards to Women

Hazards posed by physical, chemical and biological agents in the work place are basically similar for male and female workers but the following factors need special attention for women workers.

Physical Hazards

Musculoskeletal disorders are injuries and disorders of the muscles, tendons, ligaments, joints and supporting structures of the body such as cartilage or spinal discs. They have been identified as among the most serious hazards facing working women. They can be caused by repeated injury to the same muscle or tendon and are common in women working in factories and offices. Carpal tunnel syndrome (numbness, pain and other symptoms of the wrist) for instance, has been associated with highly repetitive work. The workers involved in static effort like prolonged standing in one place such as in sales, hairdressing, and as tellers and cashiers, etc., may experience musculoskeletal and circulatory problems.

Sick building syndrome refers to a variety of complaints like headaches, fatigue and nausea. These symptoms can be attributed to too high or too low levels of temperature, humidity or lighting, exposure to chemicals, dusts, gases, vapours and odours, or to the lack of fresh air. Women far outnumber men among victims of the sick building syndrome. One study found that women who work in offices do more photocopying than men with consequent increased exposure to ozone, toners and electrostatic effects, and that they share offices more often, resulting in more exposure to second hand smoke and less ventilation per person.

©2014 PRIA International Academy

This means that exposure to indoor air pollution may be different, even when women and men work in the same building.

Fibromyalgia is a syndrome that involves generalised pain. The causes of fibromyalgia are unknown, but there are probably a number of factors involved. Many people associate the development of fibromyalgia with a physically or emotionally stressful or traumatic event, such as an automobile accident. Some connect it to repetitive injuries. Different studies have found that women are two to nine times more likely than men to be diagnosed with this illness. Although few studies have been done, some evidence shows a relation with physical effort in the workplace. Fibromyalgia is a disease that is hard to define and diagnose, since symptoms are generalised and not constant.

Occupational dust exposures (wood and agriculture based) have also been associated with adverse pregnancy outcomes. It is not definite whether it is due to the preservatives such as pesticides or other agents like pentachlorophenol, creosote, formaldehyde, chromium, arsenic, etc.

Chemical hazards

Skin disorders are one of the most common occupational health problems. Data for the USA reveals that skin disorders account for 12 per cent of all reported occupational illnesses. Irritant contact dermatitis, or inflammation of the skin, is the most common skin disorder, accounting for about 80 per cent of all occupational contact dermatitis. This disorder can develop after short but heavy exposure or repeated or prolonged low exposure to a substance (acids, solvents, etc.). Irritant contact dermatitis is found among cleaners, hairdressers, hospital workers and textile workers to name only a few, all of which are jobs commonly held by women. Skin disorders also include allergic contact dermatitis. Latex allergies, for example, are common among dental workers and nurses who may become sensitised to latex gloves.

©2014 PRIA International Academy

Multiple-chemical sensitivity (MCS) refers to gastrointestinal and nervous system disorders that result after exposure to even relatively low levels of chemicals. While slight emissions may not seem harmful, they can, in combination with others, have an effect on health. MCS is treated sceptically by many scientists because not a lot is known about the possible interactions among low doses of chemicals. Complex and continuous exposure is often found in jobs primarily held by women, like those of assembly line workers, hairdressers, agricultural workers, laboratory technicians and cleaners.

Exposure to solvents: There is sufficient evidence of association between exposure to toluene, methylene chloride, tetrachloroethylene, petroleum ether, xylene, formaldehyde, paint thinners and reproductive disorders. Women exposed to toluene have reported a greater frequency of menstrual dysfunction including dysmenorrhoea, irregular cycles and spontaneous abortions.

Biological hazards

Reproductive health hazards*:* Substances or agents that affect the reproductive health of women or men or the ability of couples to have healthy children are called reproductive hazards. Radiation, some chemicals, certain drugs (legal and illegal), cigarettes, some viruses, and alcohol are examples of reproductive hazards. The harmful effects of a few agents have been known for many years. For example, more than 100 years ago, lead was discovered to cause miscarriages, still births, and infertility in female pottery workers. Many chemicals pose hazards to the embryo especially during organogenesis. This has led to the employment of women being restricted, in various hazardous processes, under various legislations (e.g. Factories Act, 1948 of India). Exposure to volatile organic solvents, dusts, pesticides and video display terminal non-ionising radiation has been found to be associated with an increased risk of infertility. This could be due to interference with ovulation, fertilisation or implantation.

©2014 PRIA International Academy

Table 3.1: Chemical and physical agents that are reproductive hazards for women

Agent	Observed Effects	Potentially Exposed Workers
Cancer treatment drugs (e.g. methotrexate)	Infertility, miscarriage, birth defects, low birth weight	Health care workers, pharmacists
Ethylene glycol ethers such as 2-ethoxyethanol (2EE) and 2-methoxyethanol (2ME)	Miscarriages	Electronic and semiconductor workers
Carbon disulphide (CS_2)	Menstrual cycle changes	Viscose rayon workers
Lead	Infertility, miscarriage, low birth weight, developmental disorders	Battery makers, solderers, welders, radiators, repairers, bridge painters, firing range workers, home re-modellers
Ionising radiation (e.g. X-rays and gamma rays)	Infertility, miscarriage, low birth weight, developmental disorders, childhood cancers	Health care workers, dental personnel, atomic workers
Strenuous physical labour (e.g. prolonged standing, heavy lifting)	Miscarriage late in pregnancy, premature delivery	Many types of workers

(National Institute of Occupational Health and Safety, 1999)

Table 3.2: Disease-causing agents that are reproductive hazards for women

Agent	Observed effects	Potentially exposed workers	Preventive measures
Cytomegalo virus (CMV)	Birth defects, low birth weight, developmental disorders	Health care workers, workers in contact with infants and children	Good hygienic practices such as hand washing
Hepatitis B virus	Low birth weight	Health care workers	Vaccination
Human immuno-	Low birth weight, childhood cancer	Health care workers	Practice universal precautions

©2014 PRIA International Academy

deficiency virus (HIV)			
Human parvovirus B19	Miscarriage	Health care workers, workers in contact with infants and children	Good hygienic practices such as hand washing
Rubella (German measles)	Birth defects, low birth weight	Health care workers, workers in contact with infants and children	Vaccination before pregnancy if no prior immunity
Toxoplasmosis	Miscarriage, birth defects, developmental disorders	Animal care workers, veterinarians	Good hygiene practices such as hand washing
Varicella zoster virus (chicken pox)	Birth defects, low birth weight	Health care workers, workers in contact with infants and children	Vaccination before pregnancy if no prior immunity

(National Institute of Occupational Health and Safety, 1999)

NOTE BANK

Hazards to Male Reproductive System

Occupational hazards can also affect the male reproductive system. Some reproductive hazards can stop or slow the actual production of sperm. This means that there will be fewer sperm present to fertilise an egg; if no sperm are produced, the man is sterile. If the hazard prevents sperm from being made, sterility is permanent. Reproductive hazards may alter the shape of the sperm cells. These sperm often have trouble swimming or lack the ability to fertilise the egg. Hazardous chemicals may collect in the epididymis, seminal vesicles, or prostate. If a damaged sperm fertilises an egg, the egg might not develop properly, causing a miscarriage or a possible health problem in the baby. If a hazardous substance is carried in the semen, the foetus might be exposed to it within the uterus, possibly leading to problems with the pregnancy or with the baby's health. Little is known about the effects of workplace hazards on sexual performance or the structure of the chromosome.

To understand how reproductive hazards can affect a woman's reproductive health and her ability to have healthy children, it is helpful to understand how the female reproductive system works. Table 3.1 lists chemical and physical reproductive hazards for women in the workplace. The list is not complete and is constantly being revised. Therefore, do not assume that a substance is safe if it is missing from the list. Table 3.2 lists viruses and other disease-causing (infectious) agents that are found in some workplaces and have a harmful effect on pregnant women.

©2014 PRIA International Academy

Exposure to pesticides has been identified as a risk factor for still birth. Organochlorine pesticides, polyhalogenated biphenyls and chlorophenoxy herbicides such as 2, 4-D have been found to be teratogenic or the cause of malformations in an embryo or foetus. DDT has oestrogenic properties. Dioxins and polychlorinated biphenyls have been shown to have a variety of effects on reproductive health ranging from immune suppression, teratogenicity, hormonal disruptions and even endometriosis, which is the presence of tissue that normally grows inside the uterus (womb) in an abnormal anatomical location.

Due to the multiple roles that women play in society, they have special nutritional needs and health care requirements, but unfortunately, often these are not met. Nutritional anaemia was found to be the root cause of health problems in women workers at the NOIDA Export Processing Zone in India. The role of the climate is often underestimated in working conditions. This aspect is of particular importance in relation to agriculture where women perform physical work such as harvesting of crops or weeding, in hot conditions which raises their body temperature. This could result in heat stress, which places an extra load on the heart, especially if the worker is pregnant, with disastrous health consequences.

Some health problems are specific only to women. Menstrual problems such as irregular or painful periods are among the most common. Thought should be given to working conditions when investigating menstrual problems. Irregular menstrual cycles, for example, have been associated with schedule variability and exposure to cold temperatures. Painful menstruation has been associated with exposure to cold as well as to physical workload. Also, menopause may occur earlier among those exposed to tobacco smoke, carbon disulphide and possibly sulphur dioxide and working in shifts.

Psychological Hazards

Occupational stress: Studies from developed countries show that sources of stress in women's lives are more diverse and diffused than those experienced by men. Factors that cause stress among working women include:

©2014 PRIA International Academy

- Multiple overlapping roles as wives, mothers and workers, especially when such roles are physically and mentally demanding with little satisfaction, monetary gain or social rewards.
- Types of job – Repetitive and monotonous jobs with little control over work pace and methods, piece rate system and job insecurity all lead to stress.
- Women often face all kinds of sexual harassment in almost all types of occupations often even when they occupy top-level jobs. It is widely believed that employers show a preference for women only when they are prepared to accept lower wages, and women are expected to be more docile and submissive.
- Shift work – In certain occupations, such as that of telephone operators, business process outsourcing, women who work different shifts including night shifts, the interference in family responsibilities causes a lot of stress.

***Sexual Harassment*:** While occupational health and safety issues resulting in physical and biological harm can be measured and ascertained, the mental trauma suffered is rarely exposed. Sexual harassment is one such issue which many women workers face on a regular basis.

The term sexual harassment is said to have emerged in the mid-1970s in North America and subsequently, adopted in the United Kingdom in the 1980s. One origin of the term is attributed to the media use of the term in 1975 in the *New York Times* with the headline ‘Women begin to speak out against sexual harassment at work’ (Alison & Kitzinger, 1997). This was followed by another article on the topic in 1977 in the *Ladies Home Journal*. According to several sources the term was coined in the mid-1970s in Ithaca, New York by a group called Working Women United, formed under the leadership of the Human Affairs Programme at Cornell University (Backhouse, 1981; Kramarae & Treichler, 1985; Wise & Stanley, 1987).

Despite many international efforts, there is no single definition of what constitutes sexual harassment. Generally, international instruments define sexual harassment broadly as a form of violence against women and as discriminatory treatment.

©2014 PRIA International Academy

One thing is very clear that sexual harassment constitutes behaviour that is prohibited, unwanted and which causes harm to the recipient. At the international level, the United Nations General Recommendation 19 to the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW) defines sexual harassment as:

> *Such unwelcome sexually determined behaviour as physical contact and advances, sexually coloured remarks, showing pornography and sexual demands, whether by words or actions. Such conduct can be humiliating and may constitute a health and safety problem; it is discriminatory when the woman has reasonable ground to believe that her objection would disadvantage her in connection with her employment, including recruitment or promotion, or when it creates a hostile working environment.* (The Advocates for Human Rights, 2003)

For the International Labour Organisation (ILO), a specialised United Nations agency, sexual harassment is a prohibited form of sex discrimination under the Discrimination (Employment and Occupation) Convention (No. C111). The ILO has made clear that sexual harassment is more than a problem of safety and health, and unacceptable working conditions; it is also a form of violence (primarily against women). (The Advocates for Human Rights, 2003)

Some common elements are evident in the different definitions of sexual harassment. Generally speaking, behaviour that constitutes sexual harassment in the workplace must:

- Occur in the place of work or in a work related environment;
- Occur because of the person's sex and/or it is related to or about sex;
- Be unwelcome, unwanted, uninvited, not returned, not mutual; and
- Affect the terms or conditions of employment or the work environment itself (The Advocates for Human Rights, 2003).

©2014 PRIA International Academy

Sexual harassment can take the guise of harmless banter or unwelcome physical conduct. Women rarely speak out against the abuse they might have faced, or stand up to defend other women like themselves, out of fear, shame and threatening consequences at work. Sexual harassment takes a psychological toll on women, and moreover, in the context of the workplace, violates one's freedom and personal dignity. Women have a right to work in a healthy environment, free from discrimination. Sexual harassment at the workplace is unequal and discriminatory behaviour.

Sexual harassment has been described as the most common and least discussed occupational health hazard for women all over the world. It can cause depression, fatigue, headaches, sleeplessness, hostility, inability to concentrate and the deterioration of personal relationships. Studies have shown that an estimated 50 per cent of women will experience sexual harassment at some time during their working lives. Women are far more likely to experience sexual harassment than men, because of their status and role in the workplace which reflects the status and role of women in society. It thrives in an atmosphere where one individual has power or authority over another.

3.1.3 Women in the Unorganised Sector

Hazards in Agriculture

About 94 per cent of women are engaged in the unorganised sector of the Indian economy, of which 81.4 per cent are in agriculture (20.7 million women) and the rest in non-agricultural occupations. Agricultural workers are divided into two categories - cultivators and labourers. There has been a sharp decline in women cultivators and an increase in the ranks of agricultural labourers over the last few decades. A large proportion of women agricultural labourers are drawn from the socially deprived communities of the Scheduled Castes and Scheduled Tribes. More than half of the women who start working before the age of 15 are unpaid family workers.

©2014 PRIA International Academy

These women workers are often, exposed to high levels of pesticides and fertilisers, especially in the states of Maharashtra, Punjab, Tamil Nadu, Gujarat and Karnataka where the usage of such pesticides is high. Most of them are living below the poverty line, and get lower wages and there are no welfare laws which govern their terms of employment. In addition, most women in the rural areas of Northern India are also exposed to the smoke of cow-dung cakes used as fuel in their kitchens. This environmental exposure affects their lungs. A study done in experimental animals in Delhi showed that the smoke from burning cow-dung cakes precipitated pre-carcinogenic lesions in their lungs.

The main health hazards can be classified as:

- *Zoonotic diseases* (diseases which are transmitted from animals to humans) - Brucellosis, anthrax, leptospirosis, tetanus, bovine tuberculosis are known zoonotic diseases, but the extent of their occupational origin is not known.
- *Accidents* - Insect and snake bites as well as accidents due to farm tools and machines.
- *Toxic hazards* - Malnutrition and parasitic diseases may increase the susceptibility to poisoning even at low levels of exposure to fertilisers, insecticides and herbicides.
- *Physical hazards* – Extreme climatic conditions, heavy manual work, postural problems.
- *Respiratory diseases* - Exposure to dust from grains, rice, coconut fibres, tea, tobacco, cotton, hay and wool are common. Diseases like byssinosis, bagassosis, farmers' lung and occupational asthma are common.

Hazards in Non-Agricultural Occupations

The spectrum for non-agricultural occupations range from self-employed to petty

©2014 PRIA International Academy

trades and daily wage labourers. Most of their health problems arise from the unorganised nature of their job, malnutrition and poverty. Other specific hazards depend upon the job.

- *Tanning and Leather Manufacture*: Workers are exposed to chemical hazards of calcium hydroxide, dermatitis, chronic bronchitis, anthrax, infection and accidents. The Indian leather industry employs a workforce of about 2.5 million of which 30 per cent are women.
- *Coir Industry*: This industry is concentrated in Kerala. A large number of women are engaged both in the manufacturing industry and at home. Accidents, dermatitis, skin infections, exposure to sulphur dioxide fumes are commonly encountered.
- *Cashew Nut Industry*: A majority of workers in cashew processing are females. The roasting of the kernel produces acrid fumes; the oil causes allergy and dermatitis.
- *Cotton Pickers and Pod Openers:* Here women are the main employees wherein they have to work in the open, often in extreme heat and the continuous opening of pods causes the fingers to bleed.
- *Non-edible Oil Processing:* If we take the example of castor oil, the main hazard is due to highly allergic value of castor which causes asthma, hay fever and urticaria, a skin allergy.
- *Sweepers/Scavengers:* Infections, cuts due to sharp objects, accidents and environmental hazards are the main problems.
- *Tea Pickers (Tea industry): Tea on tea plantations is primarily picked by women.* They are exposed to accidents and falls due to steep slopes, and insect and snake bites. In Assam, allergies due to caterpillars have been noted.

©2014 PRIA International Academy

Pesticide hazards, diseases of malnutrition and poverty are abundant. In the tea industry, occupational asthma due to tea dust and irritation of bronchi has been described.

- *Bidi*[1] *Industry:* The *bidi* industry includes factories, small workshops, as well as home production. A large group of women are engaged in making bidis from their homes, and are called '*Ghar Khatas*'. Wages are on a piece rate basis. The bidi and cigarette industry largely employs women (77.3% in Andhra Pradesh, 60.9 % in Maharashtra, 47.5 % in Rajasthan). The main hazard is due to tobacco dust, causing burning of eyes, conjunctivitis, rhinitis and mucosal dryness including that of the genital tract, occupational dermatitis, bronchitis and emphysema. Tobacco harvesters are prone to nausea, giddiness and palpitations.

- *Match Industry:* Whereas men work in the factory, children as young as five years old and women work at home. No protection is available to these workers. Under the Khadi and Village Industries Commission, the maximum number of match cottage industry units is in Andhra Pradesh, Uttar Pradesh and Tamil Nadu, employing mostly women. The main hazards faced are fire and explosion, chemical toxicity, dermatitis, postural defects and backache.

- *Khadi Spinners and Weavers:* Most of the workers in this trade are women. There are a total of 711,340 spinners and 73,830 weavers in the country engaged in cotton, woollen or silk work. Exposure to cotton dust and postural problems are the commonly reported problems.

- *Brassware Industry:* This industry is located mainly in Moradabad with a population of 250,000. Of them 40,000 are engaged in metal ware processing, principally brass. It is in the nature of a cottage industry where one family generally confines itself to one process. It is not uncommon to see three generations of workers working in one room, their age ranging from 6 to 60 years. The environmental sanitation and working conditions are appalling and there is high morbidity related to respiratory diseases, accidents, foreign bodies in eyes, heat exhaustion, etc.

[1] *Bidi*s are South Asian cigarettes made of flakes stuffed in rolled *tendu*(East Indian Ebony) leaves

©2014 PRIA International Academy

- *Stone Crushing:* Women are employed in the breaking and crushing of stones for building roads, construction work, etc. The maximum number of women is deployed for such work in Bundelkhand in Uttar Pradesh and in Rajasthan. Exposure to stone dust is common.

- *Pottery:* Women employment in pottery is up to 25 per cent. The hazards of silicosis, silico-tuberculosis, high temperature and glazing chemicals are common.

- *Chikan (Embroidery) Industry:* The numbers of workers engaged in this craft in Uttar Pradesh is about 45,000. Two-thirds of them live and work within the precincts of the Lucknow Municipal Corporation, 97 per cent being women. A majority of the workers live below the poverty line. Many are widowed or have been deserted by their husbands and have to support their families. Most of the women have to wear spectacles by the time they reach the age of 30 because of the strain that the embroidery puts on their eyes, and have to stop work by the age of 50 because of failing eye sight. Spondylitis (backache) is common due to the stooping posture while at work.

- *Construction Industry:* India's construction labour force is estimated at 30 million people, of whom about half are women (WIEGO, 2014). They are almost all unskilled, casual, manual labourers carrying bricks, cement, sand and water, digging earth, mixing cement and breaking stones. Most of them belong to the Scheduled Castes and Scheduled Tribes. Being illiterate and migrants compounds their marginalisation. The government is the largest employer for public construction, dams, bridges, roads and public buildings. The nature of construction work makes heavy demands on physical strength, often with women working till the last day of their pregnancy or till the 8th or 9th month. The absence of minimum health protection during pregnancy as well as continuous malnutrition results in high infant mortality. Studies have also shown that most women continue to work even when they are ill and often go without food.

- *Domestic Workers:* Most domestic workers are women from the poor sections of society. They work in the homes of others for pay, providing a range of services

©2014 PRIA International Academy

from cooking, cleaning, child care, care of the sick, elderly and disabled, and so on. They provide services which allow members of a household to participate in the labour market. Such workers run the risk of greater isolation and more limited mobility, longer working hours, a larger share of payments in kind; greater vulnerability to physical and sexual abuse by their employers; and poorer living conditions including lack of privacy. Added to this could be all kinds of harassment for being migrant domestic workers or even trafficked domestic workers. Even within this category, child labour is a hidden issue as they are difficult to survey. It is a reality that throughout the world there are thousands of girls working in domestic service, especially in countries in the developing world (WIEGO, 2014).

- *Carpet Weaving:* The exact number of workers employed in the carpet industry in India is not available. Carpet weaving is largely seen as a home based activity, where women and children also contribute to the weaving of carpets. Postural defects and backaches are common. The use of chemical dyes to colour the silk and cotton can cause allergic skin rashes. Respiratory problems are also associated with this. (Jaiswal & Wani, 2011)

©2014 PRIA International Academy

3.2 Child Labour

3.2.1 Definition of Child Labour

According to the UN, a child means every human being below the age of 18 years unless, under the law applicable to the child, majority is attained earlier. In the majority of countries, the minimum age for employment is 14 or 15 years as specified by the ILO Minimum Age Convention 138 (Table 3.3), but there are about 30 countries where it is only 12 or 13 years. Higher minimum ages often apply to hazardous work (i.e. 18 years).

In order to put the issue in perspective, it is important to understand the meaning of the term child labour, which is different from economically active children, which refers to the fact if the *child* performs such work for at least one hour in a stipulated reference week during the regular school year (Fares & Raju, 2006). There is also a need to distinguish between children's work and child labour, as it cannot be assumed that all children's work is incompatible with child welfare and development. For example, not all economic activities by a child interfere with school attendance and school performance, since work performed during school vacations or work performed for a limited number of hours during school terms/semesters can be beneficial to the child's welfare as several empirical studies have attested (ILO/IPEC-SIMPOC, 2007).

NOTE BANK

International Programme on the Elimination of Child Labour

The ILO's International Programme on the Elimination of Child Labour (IPEC) was created in 1992 with the overall goal of the progressive elimination of child labour, which was to be achieved through strengthening the capacity of countries to deal with the problem and promoting a worldwide movement to combat child labour. IPEC currently has operations in 88 countries, with an annual expenditure on technical cooperation projects that reached over US$61 million in 2008. It is the largest programme of its kind globally and the biggest single operational programme of the ILO (ILO, 2014).

©2014 PRIA International Academy

Child labour as defined by the ILO comprises of

(i) All children between 5-11 years of age who are economically active,

(ii) Children between 12-14 years of age who work in an economic activity for 14 or more hours per week, and

(iii) Children between 12-17 years of age who work in an economic activity that is classified as belonging to the "worst forms of child labour."

The "worst forms of child labour" as established by ILO Convention No. 182 enacted in 1999, comprises of

(i) Slavery or economic activity in slave-like conditions,

(ii) Prostitution or pornography,

(iii) Illicit activities such as drug production and trafficking, and

(iv) Economic activities that is likely to harm the health, safety, or morals of the child.

The ILO classifies the first three types as "unconditional worst forms of child labour" (Fares & Raju, 2006).

Child labour is work often carried out to the detriment of the child in violation of international law and national legislation; work that result in the denial of childhood, education and life opportunities. It involves children working for long hours for low wages, often under conditions harmful to their health and physical and mental development. The ILO has defined child labour as that which includes "children prematurely leading adult lives, working long hours for low wages under conditions damaging to their health and to their physical and mental development, sometimes separated from their families, frequently deprived of meaningful education and training opportunities that could open up for them a better future."

©2014 PRIA International Academy

Table 3.3: Minimum Age for Different Types of Employment under ILO Convention 138

Employment Condition	General Minimum Age	Light Work	Hazardous Work
In normal circumstances	15 years (not less than age of completion of compulsory schooling)	13 years	18 years (16 years subject to health, safety and moral considerations)
Where economy and educational facilities are insufficiently developed, i. e., developing countries	14 years	12 years	18 years (16 years subject to health, safety and moral considerations)

(ILO, 1973)

Child labour is most prevalent in the developing regions of the world, but it also exists in industrialised countries. Child labour is more common in rural areas than in urban areas and is present in agriculture, domestic work, quarrying, fishing, construction, manufacturing, mining, artisanal work, rug weaving, waste disposal, street vending, begging, shoe shining and prostitution. In the military sector, an estimated 250,000 children under 18 years of age, some as young as seven, are currently serving in government armed forces or armed opposition groups as soldiers, spies, messengers, and porters. Often, the most dangerous missions are delegated to child soldiers, e.g. advance troops in mined areas.

©2014 PRIA International Academy

Table 3.4: Economically Active Children and Child Labour in Total Workforce in Countries of South Asia

Country	Percentage of Working/ Economically Active Children*	Child labour as percentage of total workers 1995	Child labour as percentage of total workers 2000"	Child labour as percentage of total workers 2010**
Bangladesh	19.1	9.17	7.15	4.08
India	5.4	3.68	2.95	1.51
Nepal	41.7	12.12	11.30	8.86
Pakistan	8.3	5.73	5.12	3.02
Sri Lanka	7.5	0.64	0.42	0.00

* Based on country-level ILO survey in the mid-1990s. The age group expect for Sri Lanka is 5-14 years. For Sri Lanka it is 5-17 years.

** ILO projections.

. (Castle, Chaudhary, & Nyland, 2000)

Special Concerns in Child Labour

Children are susceptible to all of the dangers faced by adults when placed in the same environment. However, children differ biologically from adults as they are at different stages of the growth and development process. They are often physically weaker, mentally more vulnerable and their immaturity may leave them incapable of assessing occupational risks or the need for protective measures. Also exposure to hazards that affect adults can affect children much more.

The impact of child labour on injuries has been studied largely in the United States. These studies show that children have a higher risk of injuries than adults. There is also evidence that the smaller the child, heavy loads for more dangerous for them.

©2014 PRIA International Academy

Work environment: The inappropriate structure of difficult work schedules (long hours, early/late hours with frequent changes) and the lack of supervision could increase the risk of work-related injuries and illnesses.

Ergonomic Factors: Childhood and adolescence are periods of rapid growth in a young person's life. Thus, they could be at particularly high risk of injuring ligaments and damaging bone-growth plates. In addition, children using machines, tools and work furniture (seats, workbenches, etc.) designed for adults may develop musculoskeletal disorders such as chronic repetitive-strain injuries, repetitive-motion trauma, back problems, tenosynovitis, vibration-induced disorders and white-finger syndrome. They could also be at higher risk for injuries due to fatigue. Moreover, personal protective equipment frequently does not fit children. Thus, they often have to work without it or use alternative devices that do not provide real protection.

Carcinogenic Exposures: Expert panels have hypothesised that children are particularly vulnerable to potential carcinogens due to their rapid cell growth.

Chemical Exposures: There are concerns that chemical exposures could have adverse effects on the normal hormonal development of adolescents, altering the delicate balance of hormones and their feedback loops. Chemical exposures could result in devastating effects, given the importance of the endocrine system during this life period.

Long Latency Period: Rapid cell growth could strengthen the exposure effects, thus shortening the latency period of some diseases. Precocious exposure might cause children to become ill in young adulthood instead of at an older age.

Inappropriate Exposure Limits: Since children respond differently than adults to physical and chemical exposures, the permissible exposure limits (PEL) established for adults might not provide sufficient protection for children. If children work in places where these types of exposures exist, permissible exposure limits should be evaluated according to the child's age.

©2014 PRIA International Academy

3.2.2 Causes of Child Labour

One of the major causes of child labour is poverty. Even though children are paid less than adults, whatever income they earn benefits their poor families. In addition to poverty, the lack of adequate and accessible sources of credit forces poor parents to engage their children in the harsher form of child labour – 'bonded child labour'. Moreover, in many cases employment is denied to the adults thereby enhancing the incidence of child labour.

There are some parents who feel that a formal education is of no help to their children. They also believe that children learn work skills at a young age and this helps them later in their life. These narrow views do not take into account the long term developmental benefits of education. Another deterrent to formal education is that it is not affordable and is found to be inadequate. With no other alternative left, children spend their time working. Other causes that contribute to child labour are:

- Children may be expected to act as unpaid domestic servants in their home, taking care of the family's needs while both parents work.
- Parents may effectively" sell" their children in order to repay debts or secure a loan.
- Parents may abandon their children in public places because of their poverty and these children become "street children" learning to fend for them by doing menial jobs.
- The prevalence of AIDS in many developing countries has resulted in an enormous number of orphans who are forced to become their own breadwinners.
- The demand for cheap labour by contractors leads to the demand for children, since they can be easily exploited and forced to work for much less than the minimum wages.
- The international sex trade places great value on child prostitutes. Children are kidnapped from their homes and sold in the overseas market.
- Young workers are unaware of their rights and are less likely to complain or revolt.

©2014 PRIA International Academy

According to the ILO, child labour can be explained at three levels: immediate causes, underlying causes and structural or root causes (Table 3.5). The dynamics and the mutual interplay of these factors play a role in determining the incidence of child labour.

Table 3.5: Levels of Causality for Child Labour

Immediate Causes	Underlying Causes	Structural or Root Causes
Limited or no cash or food stocks; increase in price of basic goods	Breakdown of extended family and informal social protection systems	Low/declining national income
Family indebtedness	Uneducated parents; high fertility rates	Inequalities between nations and regions; adverse terms of trade
Household shocks, e.g. death or illness of income earner, crop failure	Cultural expectations regarding children, work and education	Societal shocks, e.g. war, financial and economic crises, transition, HIV/AIDS
No schools; or schools of poor quality or irrelevant	Discriminatory attitudes based on gender, caste, ethnicity, national origin, etc.	Insufficient financial or political commitments for education, basic services and social protection; "bad" governance
Demand for cheap labour in informal enterprises	Perceived poverty; desire for consumer goods and better living standards	Social exclusion of marginal groups and/or lack of legislation and/or effective enforcement
Family business or farm cannot afford hired labour	Sense of obligation of children to their families, and of "rich" people to the "poor" people	Lack of decent work for adults

(ILO, 2002, p. 47)

©2014 PRIA International Academy

3.2.3 Scenario in Various Sectors

Many children work in very dangerous or hazardous occupations such as agriculture, manufacture, construction, retail and marginal activities.

Agriculture: Agriculture is the most common occupation of children worldwide, and employs more working children than any other sector. This activity is consistently ranked among the most hazardous industry for mortality and morbidity. Children generally start to work in agriculture at a very young age and usually work for long hours for little or no payment.

In agricultural work, children are exposed to dangerous farm machinery, which is a common cause of fatal and non-fatal injuries, whether they are operating it or working near these machines. Children are also exposed to strenuous labour, like carrying or lifting heavy loads and working in uncomfortable positions such as stooping in the same position or bending very frequently, which could affect their musculoskeletal development. Other hazards present in the fields are pesticides and the weather, especially the heat, which can be particularly dangerous for children. Poor field sanitation contains its own hazards facilitating the transmission of communicable diseases. Migrant workers can be particularly at risk since their housing conditions are frequently inappropriate.

©2014 PRIA International Academy

Manufacture: Use of child labour in manufacturing and industry vary widely from country to country. Most of these children are employed in small workshops or in home-based work. They seldom work in medium-size or large enterprises, but such establishments sometimes contribute indirectly to child labour by subcontracting certain production tasks to small workshops and home workers that make extensive use of child labour and are generally not covered by national child labour laws.

Each industry has specific hazards linked to each production process. There are also some general hazards that arise not from the production process, but from uncaring management. Examples are naked electric wires, lack of first aid facilities, poor ventilation, lack of sanitation, lack of sufficient light, heavy lifting, exposure to loud noise, proximity or operation of dangerous machines, and the lack of protective equipment. In some cases, there are frequent physical punishments.

Specific hazards vary according to the industry type. Thus, child workers will be exposed to high temperatures, high risk of accidents caused by cuts and burns in the brassware and glass bangle industry, to silica dust at the earthenware and porcelain factories, and to chemical hazards and risk of fire and explosion at the matches and fireworks workshops. It should be noted that according to the ILO Convention 182, the list of hazardous child work shall be determined by the national legislation in each country.

Child workers are also exposed to important hazards in the export sector. In the carpet industry in India, children are exposed to repetitive movements, chemical hazards, inhalation of wool dust contaminated with biological agents and uncomfortable working postures. In the production of soccer balls in Pakistan, children are exposed to uncomfortable working postures, and in the shoe industry in Portugal, Italy and Brazil, children are exposed to glue.

Construction: Even for adults, the construction sector is one of the most hazardous working environments. Despite this fact, this sector 4 four per cent of workers between the ages of 10 and 14 years and 8 per cent of those between 15 and 17

©2014 PRIA International Academy

years work in the construction sector. In USA, 2.5 per cent of teen workers are employed in construction although this sector is responsible for 22 per cent of the fatal work-related injuries in workers younger than 17 years. Apart from accident risk, there is exposure to noise, silica, harmful dust, heavy loads, etc.

Retail: Though not very prominent in India, the retail sector employs half of the working teens in the USA, mostly in restaurants. Retail is responsible for half of the non-fatal injuries and 20 per cent of the fatal injuries. Although this type of work seems to be safe, some tasks can be very hazardous and forbidden by law to be performed by teens such as working with hot grease and slicer machines.

Since job titles may not reflect the nature of the tasks performed, it is difficult to divide the activities that are according to the law and the ones that are in violation of the law. Also, these sectors often require long hours of work and changing schedules besides working late at night and difficulties in combining work and school.

Domestic Services*:* The informal and hidden nature of domestic work makes it difficult to estimate the number of domestic workers around the world, but it is one of the most common forms of urban child labour in developing countries and employs mainly girls. Far from their own families, they are very vulnerable and can receive harsh treatment from their employers, sometimes suffering physical, mental, and sexual abuse. In some cases, they lack an appropriate place to sleep and do not receive sufficient food. They usually receive low or no wages; bonded labour is very common in some places.

Child soldiers: Refers to children engaged in various activities related to armed conflict whether or not they are paid. These activities could include attending military training in the camps of rebel groups, food preparation and related activities for the benefit of the older members of the armed forces where the child is a member, being part of the group's elements as members of the foot patrol, sentry group, blocking force, armed escorts of older officials, etc., or participating as part of the paramedical

©2014 PRIA International Academy

team, propaganda unit or member of the urban hit squad of the armed group. This definition also includes the activities of children who are used as decoys, spies or couriers of older rebels (ILO/IPEC-SIMPOC, 2007)

Commercial Sex Workers*:* Commercial sexual exploitation frequently involves trafficking of children whether they are kidnapped or sold by their parents. The children are often, recruited under the false pretence of marriage or a good job in the city. While the main media's focus is on sex tourism, in which persons from developed countries travel to developing countries in search of sex with children, it is important to keep in mind that local persons also exploit these children. Children can also be exploited for the production of pornography or pornographic performances. The new face of exploitation is transnational, with criminal networks that are spread not only in neighbouring countries but across the globe. Child prostitutes suffer extreme physical and mental abuse, making this form of exploitation one of the most hazardous. They also risk drug addiction, early and unwanted pregnancies, and HIV and other sexually transmitted diseases.

Children's work in the street refers to the performance of unqualified and temporary work (in construction, agriculture, commerce). This includes children's involvement in begging, car-washing, selling merchandise, loading and unloading merchandise, and collection of waste products, stealing, and prostitution. It could also include street trading wherein children are involved in the selling of articles of food or drink, newspapers, matches, flowers and other articles, playing, singing or performing for profit, advertising, shoe-blacking and other similar occupations carried out in streets or public places. Also included are street vendor services such as shoe cleaning, unskilled cleaning staff in commercial establishments, unskilled street cleaners and garbage collectors, and child refuse collectors (ILO/IPEC-SIMPOC, 2007). These child workers are mainly exposed to street violence. Many are lured to drugs, prostitution and illegal work (thieving, trafficking drugs). They are also exposed to traffic accidents and extreme weather conditions and seldom attend school. Scavenging is one example of very hazardous street work. It adversely affects the child's self-esteem; moreover, it is very unhygienic.

©2014 PRIA International Academy

Children's performances of a dangerous nature would include all acrobatic performances and all performances as a contortionist (ILO/IPEC-SIMPOC, 2007).

Work for the Family: While working for their families, children can learn from a reasonable level of participation in household chores that can develop a sense of self-worth. Sometimes, working for the family is essential so that parents can go to work outside the home. This is a hidden form of exploitation that affects mainly girls and is often not even considered work. Work for the family can demand long hours, thus preventing children from going to school or doing well in school, perpetuating the poverty cycle. It also includes some heavy chores such as taking care of siblings and carrying loads of firewood and buckets of water. Therefore, there is much debate that a narrow definition of child labour, excluding household chores, underestimates the incidence of female child workers, as domestic chores constitute a large part of non-economic activities of the girl child, especially in low-income developing countries. (ILO/IPEC-SIMPOC, 2007)

THINK TANK

- Do you think child labour is still an issue in your country/region/locality?
- Which sectors are they employed the most?
- Do you know anybody who employs children?

3.2.4 Occupational Health Hazards

Concern about the health consequences of child labour derives primarily from the belief that work increases the child's exposure to health hazards that threaten to subject the child to illness or injury. The hazards may be obvious and threaten immediate damage to health, such as those risks arising in construction, manufacturing and mining from the use of dangerous tools and machinery and exposure to high temperatures and falling objects. Alternatively, the hazards may be less perceptible and hold longer term consequences for health such as risks from contact with dust, toxins, chemicals and pesticides, the lifting of heavy loads and the forced adoption of poor posture. Hazards may also threaten psychological health through exposure to abusive relationships with employers, supervisors or clients.

©2014 PRIA International Academy

In India, industries with a large proportion of child labourers also tend to have high rates of tuberculosis and silicosis; stonecutters and slate workers, for example, have silicosis rates of 35 per cent and 55 per cent respectively (Parker, 1997). Cancer risks are raised significantly through exposure to asbestos in mining and construction and to aniline dyes in carpet and garment manufacturing. Ergonomic factors such as heavy lifting and poor posture raise the chances of musculoskeletal problems developing in later life. Individuals who have worked as children are at particular risk of developing chronic health problems, not only because they are exposed to risk factors for longer periods, but because the biological process of rapid cell growth reduces the latency period of some diseases.

Negative manifestations of child labour on children's health status include:

• Delayed or stunted growth	• Bone malformation
• Hearing and/or sight loss	• Skin infections and allergies
• Malnutrition and eating disorders	• Respiratory infections, chemical poisoning
• Sexual abuse/harassment	• Sexually-transmitted diseases, e.g. AIDS
• Abortion/teenage child birth	• Drug dependence
• Inappropriate risk behaviour	• Difficulty creating social relationships
• Sleeping disorders	• Depression
• Cancer	• Infertility
• Chronic back pain	• IQ reduction

The hazards of child labour can be classified into three categories, namely

(i) Physical;

(ii) Cognitive; and,

(iii) Emotional, social and moral.

©2014 PRIA International Academy

Physical hazards

There are jobs that are hazardous and affect child labourers immediately. They affect the overall health, coordination, strength, vision and hearing of children. Hard physical labour over a period of years stunts a child's physical stature. Working in mines, quarries, construction sites, and carrying heavy loads are some of the activities that put children directly at physical risk. Jobs in the glass and brassware industry in India, where children are exposed to high temperatures while rotating the wheel in the furnace and the use of heavy and sharp tools, are clearly physically hazardous to them.

Cognitive hazards

Education helps a child to develop cognitively, emotionally and socially, and needless to say, education is gravely reduced by child labour. Cognitive development includes literacy, numeracy and the acquisition of knowledge necessary to lead a normal life. Work may take so much of a child’s time that it becomes impossible for them to attend school; and, even if they do attend, they may be too tired to be attentive and follow what is being taught.

Emotional, social and moral hazards

There are jobs that may jeopardise a child's psychological and social growth more than physical growth. For example, domestic jobs can involve relatively ‘light’ work. However, long hours of work, and the physical, psychological and sexual abuse to which the children are exposed, make the work hazardous. Studies have shown that several domestic servants in India on an average work for 20 hours a day with small intervals for rest. Moral hazards generally refer to dangers arising from illegal activities which they are forced to engage in, such as trafficking of drugs, the sex trade, and production of pornographic materials (Coonghe, 2000)).

©2014 PRIA International Academy

Occupation	Health Hazards
Carpet weaving	Asthma, eye strain, retarded growth, stomach cramps, spinal problems, loss of appetite, cuts, fatigue
Gem polishing	Eye strain, stiffness of limbs, stomach cramps
Zari (gold thread) embroidery	Eye strain, fatigue, spondylitis, lung diseases, lead poisoning
Stone and slate quarries	Silicosis, asthma, tuberculosis, injuries
Glass and bangle making	Burns and cuts, asthma, bronchitis, silicosis, tuberculosis, cataract
Bidi making	Chronic bronchitis and tuberculosis, anaemia
Match and fireworks making	Burns, breathing problems, dizziness, severe back and neck pain, stomach cramps
Rag-picking	Tetanus and skin diseases, cuts
Construction work	Physical injuries from falls and carrying heavy weights, stunted growth
Agriculture	Cuts and injuries from sharp farm implements, dizziness and asthma caused by fumes from pesticides and fertilisers
Domestic work	Accidents, cuts and burns, fatigue
Power loom weaving	Byssinosis leading to bronchitis and tuberculosis
Pottery workers	Asthmatic bronchitis, tuberculosis, pneumoconiosis
Lock making	Lung disorders, especially tuberculosis, asthma, potassium cyanide poisoning, electric shocks

©2014 PRIA International Academy

3.3 Health Issues in the Unorganised Sector

There are two major categories of employment in India – organised and unorganised. The organised sector comprises of mainly workers in the public sector, i.e. central government, state government, quasi government, local bodies, or the private sector, non-agricultural sectors and large establishments (employing 25 or more workers) and smaller establishments (employing 10 to 24 workers).

The unorganised sector includes agricultural workers and cottage industry workers, e.g. agate stone workers, *zari* embroidery workers, *chikan* embroidery workers, silver foil makers, etc. Besides, there are many different trades and occupations which are not included in the organised sector, e.g. silver jewellery makers, polishers, painters, electroplaters, metal ware workers, petrol pump workers, auto drivers/cleaners, dyers, rickshaw pullers, etc.

A good percentage of the population is forced to work in the unorganised sector (in fact only 8 % of the workers are in the organised sector) on account of socio-economic reasons. They may sometimes look healthy, but their nutritional status and immune defence mechanisms of the body may not be adequate enough to protect them from infections from their co-workers and the toxic effects of pollutants present in the work environments. Moreover, most of them work without protective devices, exposing them to a variety of toxic substances and air pollution in the workplace.

Workers of the unorganised sector belong mostly to the poor classes of society. They are often illiterate and have inadequate knowledge of personal health and basic dietary requirements. Malnutrition and lack of immunity makes them vulnerable to communicable diseases. In addition, many psychological factors operate at the workplace. Employees in the unorganised sector are likely to develop psychological disorders, since they have virtually no social or economic security and are subject to exploitation. The unorganised sector does not have any insurance schemes, has limited access to state health services and for the redress of their grievances.

©2014 PRIA International Academy

The Indian government in a bid to address these lacunae has passed the National Policy on Safety, Health and Environment at Workplace (2009).

Problems in the Agricultural Sector

The largest numbers of persons are employed in the unorganised agricultural sector, and are engaged in different types of jobs irrespective of their age, sex and occupational skills. Transportation, loading and unloading, spraying of pesticides, fungicides, herbicides, the use of fumigants in food grain storage, operation of agricultural equipment by unskilled workers are some hazardous jobs. A large number of fatal accidents are reported during threshing in the harvest season (April-June). The threshing machines are operated mostly by young workers. Due to the heavy workload and lack of skill, approximately 15 per cent of these workers are involved in accidents every year quite often losing a hand (mostly the right one). The figures from hospitals at the district level show that the number of such accidents is on the rise.

Besides this, the workers engaged in the transportation of agricultural chemicals are exposed in different ways and at different levels. This may be through inhalation, ingestion or dermal absorption. Organochlorine pesticide may cause nausea, vomiting and effects the Central Nervous System, which include hyper-irritability, tremor, tonic and colonic convulsions, coma and even death. The clinical symptoms of mild exposure to organophosphate pesticide are headache, fatigue, giddiness, and feeling of weakness, nervousness and nausea. A moderate exposure produces blurring of the vision, tightness of chest, abdominal cramps, diarrhoea, vomiting and muscular twitching. Severe exposure may result in the loss of reflexes, convulsions, coma and even death. The prevalence of lung cancer, neurological and ocular symptoms due to occupational exposure to pesticides has been reported.

THINK TANK

- What constitutes the unorganised sector in your country?
- What are the specific problems that they have to battle?

©2014 PRIA International Academy

A study of pesticide sprayers at Malihabad near Lucknow showed increased overall morbidity, respiratory morbidity, pulmonary tuberculosis, chronic bronchitis and complaints pertaining to the central nervous system.

Problems in Other Sectors

The current burden of occupational injuries has increased (estimated to be 18 million cases), and among them the major ones are musculoskeletal disorders, chronic respiratory disease, occupational dermatitis and noise-induced hearing loss (Current Science, 2003).

- *Agate stone workers* of Gujarat have a high prevalence of pneumoconiosis.
- *Zari and chikan embroidery workers* have been found to be suffering from backache, dizziness, loss of appetite and abdominal disorders.
- *Silver foil makers* were exposed to lead during the manufacturing process.
- *Silver jewellery workers* suffer from acute and chronic abdominal pain, constipation, anaemia, loss of appetite, muscular weakness, headache and blue lining on the gums and occasional bleeding because they are exposed to lead fumes during the purification of silver.
- *Electroplaters, case hardeners, polishers, paint and pigment industry workers* who are exposed to chromium, nickel and cyanide fumes suffer from giddiness, headache, nausea and fainting attacks.
- *Metal ware workers* at Moradabad are found to be exposed to heat stress and toxic metals. Respiratory morbidity, musculoskeletal and other ergonomic problems are reported.
- *Railway porters* carry an average of five to six quintals load on their heads per day and are prone to suffer from occupational backache. On radiological examination, bony changes like osteoarthritic ones in the lumbar vertebrae, sacrum, sacroiliac and hip joints were also found.

©2014 PRIA International Academy

- *Petrol pump workers* in Lucknow and Kanpur were found to have elevated alkaline phosphatase suggesting liver involvement. The benzene content in the work environment was eight times that in the ambient air and was responsible for clinical symptoms like headache, fatigue, and lacrimation.

- *Auto drivers, traffic policemen and rickshaw pullers* are exposed to high concentrations of motor vehicle exhaust fumes, which contain a significant amount of lead, which is added as an antiknock compound in petrol. Rickshaw seats have no support system to cushion the jerks and potholed roads. Also, the Indian rickshaw is heavy and badly designed, exacerbating their problems. Rickshaw pullers do not get proper nutrition either and hence are extremely susceptible to respiratory diseases, backache, osteoarthritis, extreme wear and tear of knee cartilage, etc. (Current Science, 2003).

- *Bidi workers*- The bidi making industry is one of the biggest industries in the unorganised sector of India employing nearly 40 lakh workers, including women and young children. A number of studies point to a wide range of health problems such as eye disorders, skin diseases, respiratory morbidity, ergonomic problems, postural strain and gynaecological disorders. In addition, the prevalence of pulmonary tuberculosis and other diseases related to malnutrition and squalid conditions are quite common among bidi workers.

- *Salt workers* have to work continuously in the scorching heat due to which they suffer from heat strokes, ulcers on the hands and feet, night blindness due to malnutrition, infectious boils, stomach pain and dermatitis. They also get backache with the use of *dantadas and pavadas* (equipment), pneumonia and swelling in liver while working in salt pans.

- *Gum collectors* suffer from insect and snake bites, sores and bleeding because of contact with the thorns of the *babool* plant and sunstroke, which causes fever and headache.

- *The head loaders* have to carry loads of about 35-40 kilograms on their head and walk for as much as two kilometres. Due to this they suffer from backache, pain in limbs, and headaches. They also suffer from respiratory problems due to dust,

©2014 PRIA International Academy

and from pain in chest and reproductive health problems. The *cart pullers* walk for 25 kilometres per day pulling the cart with weights of 35 kilograms. They report dizziness, stomach pain, respiratory problems, miscarriages and menstrual problems.

- *Workers in readymade garment units* face swelling in the feet due to the continuous peddling of sewing machines. Due to this repetitive motion they suffer from pain in the arms, and hands, body ache and pain in the lower back. They get injuries from the pricking of needles and irritation in the respiratory tract due to the dust from starched cotton fabrics.
- *Construction workers*, mostly women, have to carry up to 16 bricks each of 2.5 kilograms as one slab on their head and lift them to a height. Due to this weight on their head, they suffer from pain in the hands and legs, headache, neck pain, and back pain. They may even suffer from prolapsed uterus, menstrual disorders, miscarriages, asthma and other respiratory problems.
- *Tobacco workers* report itching as the dust from the dried leaves stick on the body, dizziness, nausea and vomiting (tobacco penetrates through the skin/fingers during processes like rolling of bidis etc.). They lose their appetite, become weak and get headaches. Their eyesight also gets affected. Breastfed and small children are also subjected to inhaled nicotine syndrome.
- *Cement bag dusters* suffer from stomach ache, back pain, dermatitis, cough, itchiness, eyesight problem and ulcers in eyes. Dust enters the lungs and nose, which can cause TB in later stage.
- *Beauticians and hairdressers* suffer from acute allergies, eczema of the hand due to hair dyes, chemicals in henna, styling gels and shampoo.

©2014 PRIA International Academy

Summary

In this unit, you have been exposed to the rationale for studying the occupational health hazards for women workers. Though they are also part of the labour force, they suffer different adverse health impacts. The same is the case with children who are employed as workers in various types of work. The unorganised sector has a large presence in developing countries like India. Given the situation, the workers in the unorganised sector face many occupational health hazards which have also been discussed in this unit.

Glossary of Terms

- **Bagassosis:** Alveolitis caused by inhaling bagasse (sugarcane dust).
- **Bovine tuberculosis:** Tuberculosis in cattle caused by infection from Mycobacterium bovis; it is transmissible to humans and other animals. Characteristics include tubercles or nodular lesions in lymph nodes and various organs, such as the udder, kidneys, uterus, and meninges. It is a highly contagious disease of cattle that causes severe economic losses, especially in dairy herds.
- **Dysmenorrhoea:** Dysmenorrhoea is painful menstrual cramps. Primary dysmenorrhoea is the pain, often incapacitating, that accompanies periods only when secondary dysmenorrhoea, due to underlying pathology, is excluded. Primary dysmenorrhoea is the direct result of the peak levels of prostaglandins at menses in an ovulatory cycle. This results in increased rhythmic uterine contractions from vasoconstriction of the small vessels in the uterine wall. Increased prostaglandins synthesis also may be responsible for the distressing gastrointestinal symptoms occasionally present. Secondary dysmenorrhoea may include the effects of excess prostaglandins, as well as excessive uterine contractions secondary to an underlying pathology such as endometriosis,

©2014 PRIA International Academy

adenomyosis, infection, or another underlying disease. Dysmenorrhoea is a leading cause of absenteeism for women younger than 30 years. The associated symptoms include headache, supra-pubic cramping, backache, pain radiating down to the anterior thigh, nausea and vomiting, diarrhoea and syncope.

- **Endometriosis**: A disease condition of women when the tissue that normally lines the uterus each month preparing for a baby (endometrium) leaks out of the uterus inside the body cavity and begins to grow (and menstruate) in locations such as the ovaries, fallopian tubes, bowel, bladder and abdominal cavity. This causes pain, inflammation, scar tissue, and autoimmunity response in the woman that may make it difficult for her to become pregnant. About 10 to 15 per cent of women of childbearing age have this condition.

- Farmer's lung: Also called thresher's lung. Alveolitis caused by an allergic reaction to fungal spores in the dust that is inhaled from mouldy hay.

- **Fibromyalgia:** A chronic disorder characterised by widespread musculoskeletal pain, fatigue, and multiple tender points that occurs in precise, localised areas, particularly in the neck, spine, shoulders, and hips; also may cause sleep disturbances, morning stiffness, irritable bowel syndrome, anxiety, and other symptoms. This condition affects the muscles and ligaments but does not damage the joints. It is a common condition and can be severe. In fibromyalgia the fibrous tissues (fibro-) and muscles (-my) are affected by pain (-algia) and tenderness. Fatigue is often the most severe aspect of fibromyalgia. Fibromyalgia is seen in 3-10 per cent of the general population, and is mostly found between the ages 20 and 50 years.

- **Hay fever:** Allergic rhinitis, also called pollinosis, hay fever or nasal allergies, is a collection of symptoms, predominantly in the nose and eyes that occur after exposure to airborne particles of dust, dander, or the pollens of certain seasonal plants in people who are allergic to these substances.

©2014 PRIA International Academy

- **Lacrimation:** Abnormal or excessive production of tears as a result of exposure of the eyes to an irritant.

- **Leptospirosis:** A bacterial infection that is transmitted through direct contact with water, food, or soil containing urine from an infected animal. Leptospira interrogans is a bacterium causing abortion in pregnant females and sickness in calves. The infection affects the skin, eyes, muscles, kidneys, and liver. Sometimes known as swamp fever and is characterised by jaundice and fever. It is also called Weil's disease.

- **Multiple chemical sensitivity (MCS):** Often results from prolonged exposure to chemicals. A person with MCS becomes increasingly sensitive to chemicals found in everyday environments. Reactions can be caused by cleaning products, pesticides, petroleum products, vehicle exhaust, tobacco smoke, room deodorisers, perfumes, and scented personal products. Though reactions vary, nausea, rashes, light-headedness, and respiratory distress are common to MCS. It is a diagnostic label for people who suffer multi-system illnesses as a result of contact with, or proximity to, a variety of airborne agents and other substances.

- **Prolapsed uterus:** Prolapsed refers to a collapse, descent, or other change in the position of the uterus in relation to surrounding structures in the pelvis. Uterine prolapse may occur when the pelvic support system, the muscles and ligaments that normally hold the uterus in place, become stretched or slack, most often due to a long or difficult childbirth or multiple childbirths. Prominent causes include increases in intra-abdominal pressure associated with obesity, abdominal or pelvic tumours, ascites; or repetitive downward thrusts of intra-abdominal pressure that may be due to coughing, constipation, or occupational stresses which can cause funnelling of a weakened pelvic diaphragm and pelvic organ prolapse. The major symptoms may be a feeling of heaviness, fullness or "falling out" in the vaginal area. The patient may also complain of backache or inability to control urination.

- **Sexual Harassment (SH):** Any repeated, unwanted behaviour of a sexual nature perpetrated upon one individual by another. Sexual harassment may be verbal,

©2014 PRIA International Academy

visual, written, or physical. It can occur between people of different genders or those of the same sex. Harassing behaviour may occur in a variety of relationships including those among peers, and those where there is an imbalance of power between two individuals. The law is primarily concerned with the impact of the behaviour, not the intent. In other words, the law is concerned with how the person on the receiving end is affected by the behaviour, not with what the other person means by the behaviour.

- **Sick building syndrome (SBS):** A term that refers to a set of symptoms that affect some number of building occupants during the time they spend in the building and are diminished or go away during periods when they leave the building. Alternatively, SBS refers to a set of symptoms associated with indoor exposure to chemicals or microorganisms characterised by headaches; eye, nose and throat irritations; fatigue; and skin disorders.

- **Spondylitis:** Inflammation in the joints of the spine; it comes from the Greek word for vertebrae (spondylos). Sometimes caused by infection and sometimes caused by medical diseases including certain types of arthritis. Characterised by pain and stiffness.

- **Stress:** An emotionally disruptive or upsetting condition occurring in response to adverse external influences and capable of affecting physical health which can be characterised by increased heart rate, a rise in blood pressure, muscular tension, irritability and depression.

- **Teratogenicity:** A teratogen is a substance which can cause birth defects and teratogenic means able to cause birth defects. Teratogenicity is the ability of a chemical to cause birth defects and results in a harmful effect to the embryo or the foetus.

- **Tetanus:** Commonly called lockjaw, is a bacterial disease that affects the nervous system. It is contracted through a cut or wound that becomes contaminated with tetanus bacteria. The bacteria can get in through even a tiny pinprick or scratch, but deep puncture wounds or cuts like those made by nails or knives are especially susceptible to tetanus infection. Tetanus bacteria are

©2014 PRIA International Academy

present worldwide and are commonly found in soil, dust and manure. Infection with tetanus causes severe muscle spasms, leading to "locking" of the jaw so the patient cannot open his/her mouth or swallow, and may even lead to death by suffocation. Tetanus is not transmitted from person to person. Vaccination is the best way to protect against tetanus. Common first signs of tetanus are a headache and muscular stiffness in the jaw (lockjaw) followed by stiffness of the neck, difficulty in swallowing, rigidity of abdominal muscles, spasms, sweating and fever.

- **Urticaria:** Also called hives. Itchy, swollen, red bumps or patches on the skin that appear suddenly as a result of the body's adverse reaction (state of hypersensitivity to foods or drugs, foci of infection, physical agents -heat, cold, light, friction or psychic stimuli) to certain allergens. They can appear anywhere on the body including the face, lips, tongue, throat or ears. Hives vary in size and can last for minutes or days.

©2014 PRIA International Academy

Recommended Readings

- List of Hazardous Occupations and Processes, National Child Labour Project, Ministry of Labour, Govt. of India.
- Census data on child labour National Child Labour Project, Ministry of Labour, Govt. of India.
- Ontario Federation of Labour,1982, Occupational Health and Safety: A Training Manual, Copp Clark Pitman, Toronto
- Latin American and Caribbean Women's Health Network, 1997, Work and Health: Women at Risk- Revealing the Hidden Health Burden of Women Workers, Women's Health Collection/2, Latin American and Caribbean Women's Health Network
- Pandey Rajesh, Kanhere Vijay, July 1993, Activists' Handbook of Occupational Health and Safety, PRIA, New Delhi
- Joshi Vidyut, 1990, Organising Unorganised Labour – A Study of NLI'S Rural Labour Camps, Gandhi Labour Institute
- UNICEF, March 1994, The Child and the Law, UNICEF, India Country Office, New Delhi
- Burra Neera, 1995, Born to Work: Child Labour in India, Oxford University Press, New Delhi
- Stellman, Jeanne Mager, 1977,Women's Work, Women's Health : Myths and Realities, Pantheon Books, New York

©2014 PRIA International Academy

References

- Alison, T., & Kitzinger, C. (1997). *Sexual Harassment: Contemporary Feminist Perspectives.* Buckingham: Open University Press.

- Backhouse, C. (1981). *Fighting sexual harassment.* Massachusetts: Alyson Publications and the Alliance Against Sexual Harassment.

- Castle, R., Chaudhary, D., & Nyland, C. (2000). *Castle, 'Child Labour in South Asia: Domestic and International Initiatives (Including ILO and WTO's)' in Proceedings of the National Seminar on Child Labour,: Realities and Policy Dimentions.* new delhi: Indian Society of Labour Economics and Institute for Human Development.

- Catalyst. (2011). *women"s earnings and income*. Retrieved January 27, 2014, from http://www.catalyst.org/file/521/qt_womens_earnings_and_income.pdf

- Coonghe, C. J. (2000, October). *Introducing child labour in India with special reference to hazards child labourers face*. Retrieved February 13, 2014, from Oikonomia: http://oikonomia.it/index.php/it/oikonomia-2000/ottobre-2000/54-2000/ottobre-2000/165-intrtoducing-child-labour-in-india-with-special-reference-to-the-hazards-child-labourers-face

- Current Science. (2003). *Report on International Conference on Health, Occupation and Environment in the Unorganized Sector – Problems and Road Maps organized at Industrial Toxicology Research Centre.* Lucknow.

- Fares, J., & Raju, D. (2006). *Child Labour across The Developing World: Patters, Correlations and Determinants*. Retrieved January 27, 2014, from http://siteresources.worldbank.org/INTKNOWLEDGEFORCHANGE/Resources/491519-1160669175725/TF055926_attachment_C.pdf

- Government of India. (2008). *The child labour (prohibition and regulation) act, 1986.* Retrieved February 12, 2014, from Child Labour, Government of Jharkhand: http://childlabourjharkhand.nic.in/pdf/acts/child_%20labour_prohibition.pdf

©2014 PRIA International Academy

- ILO. (1973). *ILO, Minimum Age Convention* . Retrieved January 27, 2014, from http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C138
- ILO. (2002). *A Future Without Child Labour.* Geneva: ILO.
- ILO. (2014). *About the international programme on the elimination of child labour (IPEC)*. Retrieved February 21, 2014, from International Labour Organization: http://ilo.org/ipec/programme/lang--en/index.htm
- ILO/IPEC-SIMPOC. (2007). *Towards an internationally accepted statistical definition of child labour: children's activities and their definitions,*. Retrieved January 27, 2014, from www.ilo.org/ipecinfo/product/download.do?type=document&id
- International Labour Organisation and Asian Development Bank. (2011). *Women and Labour markets in asia- rebalancing for gender equality .* International Labour Organisation.
- Jaiswal, Y., & Wani, K. A. (2011). *Occupational health risk factors in carper industry: a review*. Retrieved January 27, 2014, from Asian Journal of Experimental Biological Science: http://www.ajebs.com/vol5/23.pdf
- Kramarae, C., & Treichler, P. A. (1985). *A feminist dictionary.* London: Pandora Press.
- National Institute of Occupational Health and Safety. (1999). *The Effects of Workplace Hazard on Female Reproductive Health.* National Institute of Occupational Health and Safety.
- Parker, D. (1997). Health effects of child labour. *The Lancet, 350*(8), 1395-6.
- The Advocates for Human Rights. (2003). *What is Sexual Harassment*. Retrieved January 27, 2014, from University of Minnesota: http://www1.umn.edu/humanrts/svaw/harassment/explore/1whatis.htm

©2014 PRIA International Academy

- WIEGO. (2014). *Domestic workers*. Retrieved February 13, 2104, from Women in Informal Employment: Globalizing and Organizing: http://wiego.org/informal-economy/occupational-groups/domestic-workers
- WIEGO. (2014). *Women in India's construction industry*. Retrieved February 13, 2104, from Women in Informal Employment: GLobalizing and Organizing: http://wiego.org/informal-economy/women-india%E2%80%99s-construction-industry
- Wise, S., & Stanley, L. (1987). *Georgie poergie: sexual harassment in everyday life.* London: Pandora Press.

©2014 PRIA International Academy