Unrecognised Hazards

Another constraint in this sphere is that the existing protective legislations also do not reinforce any specific occupational health protections for women in the unorganised sector. The newly amended Factories Act, the Workers' Compensation Act, the Maternity Benefit Act and other similar legislations are only for the benefit of women in the organized, formal sector. Except for the Bidi and Cigar Act, women working in the informal sector are excluded from any legislation that takes cognisance of their occupational health problems.

In places where limited health facilities exist for this group of workers, mainly as a result of demands from unions or social welfare organisations, they are far from adequate. For example, dispensaries set up for bidi workers from funds collected as per the regulations of the Bidi and Cigar Act, continue to function merely as treatment centres and do not propagate any preventive measures.

With the advent of increased mechanisation the problem becomes more acute. More and more women are being pushed out from the organised sector into the unorganised sector, particularly in the area of unskilled manual labour. As a result, an increasing number of women are being exposed to the unrecognised hazards in this sector and if the present climate of apathy continues, then the problem will grow to massive proportions.

The irony of the situation is the fact that even if the women workers become aware of the hazards of the unorganised sector, they have no choice but to opt for work in this sector. In their own struggle for survival, economically, the dilemma of the ensuing health hazards get pushed into the background, resulting in a culture of silence and inability to protest. The choice for most of them is not between safe working conditions and hazardous working conditions, but between employment under any conditions and no employment at all. How long can this go on? Is there a way out?

One of the main hurdles in improving the situation is the absence of in-depth study and understanding of work-related health hazards faced by women. Very little documentation exists on health hazards faced by women workers in the country. A strategy for improving work place health and safety for women workers must start with such documentation and wider awareness—raising in the country.
Occupational Health Hazards of Women

According to many progressive occupational health specialists, workplace health and safety concerns should not be addressed as having a specific women's component. They have good reason for this argument. To emphasize the differences between men and women workers, one must strengthen the hand of employers who would otherwise employ women than make the workplace safe for all.

However, while men and women do have identical health concerns there are significant differences that need to be recognized, primarily for three reasons: one, because women are more sensitive to certain workplace hazards because of their physiological differences, two, because there are many sectors which predominantly employ women and preventive measures need to be taken in this sphere to avoid major calamities and three, because traditionally women are more susceptible due to low resistance as a result of malnutrition, frequent child births, pressures of domestic chores and cooking in poorly ventilated kitchens etc.

Identifying Hazards

What are the working conditions which create hazards at the workplace? Given below is a simple categorization of the possible hazards.

1. Stress

Stress is probably the most under-rated hazard of women's work today. It may be the most serious one. Stress cannot show up in many ways. Chronic stress may result in high blood pressure, heart disease or peptic ulcers. It may aggravate existing problems such as allergies or asthma. Reactions to stress may include headaches, problems with digestion, diarrhea or nausea. Emotional distress patterns with symptoms such as insomnia, fatigue, loss of appetite or depression.

Because stress is frequently accompanied by mental or emotional reactions, workers who suffer from it are often judged to be "inherently weak", over-emotional or mentally unbalanced. Since popular stereotypes already assign these roles to women, when stress-related illnesses strike, they are doubly prone to be ignored or overlooked.

2. Ergonomics

Another set of occupational health hazards to which little serious attention is paid is the field of ergonomics which is the biological interaction of tools, equipment and machinery with the bodies of workers. Most work processes, workplaces and equipment are designed with relatively little thought given to the demands they make on our bodies.

In most of the work that women do, like hand rolling, stitching, knitting, food processing or assembly line work, the discomfort and fatigue due to poor working conditions is cumulative over time.

Health Hazards in Agriculture and Industry

Agriculture:

About 25 million women are engaged in agricultural occupations. They are mainly employed as agricultural labourers. Most of them are living below the poverty line, and get lower wages and there are no welfare laws.

The main health hazards can be classified as:

(i) Accidents: Insect and snake bites as well as accidents due to agricultural tools and machines.

(ii) Toxic hazards: Poisoning are due to exposure to fertilizers, insecticides and pesticides.

(iii) Physical hazards: Repetitive heavy manual work, postural problems, hazardous work environment.

(iv) Respiratory diseases: Exposure to dusts of grains, rice, coconut fibres, tea, tobacco, cotton, hay and wool are common.

Non-agricultural Occupations:

About 2 million women are engaged in these occupations. The spectrum ranges from self-employed to petty traders to daily wage labourers. Most of the health hazards stem from the unorganised nature of their jobs. The specific hazards depend on the job.

Source: Occupational & Environmental Health Problems of Indian Women, State of the Art, Department of Science and Technology, Government of India, 1984.
demand the use of one particular set of muscles over and over again, while other parts of the body are very restricted in their movement and make extremely unhealthy and uncomfortable demands on the person. Repeated sitting, pushing and pulling, places unnatural wear and tear on the muscles and joints and can contribute to arthritis.

Women working on construction sites or in carpentry etc. where hand-tools are required, face problems in handling the tools. Part of the reason is that these are traditionally male jobs and the tools are made only with man in mind. As a result, the grips are too large, the balance is wrong for a smaller hand, or the trigger is too far away. Women's inability to handle these tools properly have had nothing to do with strength or ability.

Even in more time-honoured women's work such as garment making, women may be at a disadvantage working with scissors made for male tailors, with inappropriately sized grips and finger grooves. The strain on hand and wrist, particularly when cutting through several layers of fabric, or combined with a high working surface, may be unbearable painful.

Movement is essential for the healthy function of the body. Unless it occurs, the heart has little help in circulating blood and as a result, swollen ankles and varicose veins result from work that requires sitting or standing in one place for most of the day. Although many women might be aware of this fact, but because of the imperative need in terms of survival to complete a fixed target, particularly in piece rate work, they push themselves and their bodies and do not stop for breaks.

3. Reproductive Hazards

Chemicals at the workplace environment affecting the female reproductive system are listed in the table below. Various toxic substances like common insecticides cross the placental barrier and affect the unborn baby, causing malformation. Similarly, toxic residues are also passed through mother’s milk to the baby while breast feeding. Lead, for example, apart from causing anaemia, colic and neurosensory also causes premature delivery, abortion, sterility, infant mortality and mental retardation. Legally, in India, the concern about the reproductive hazards which women face are restricted only to the advanced stages of pregnancy, in the organised sector. But preventive measures are not taken into account. It would be worthwhile to work out a system wherein during pregnancy and early child development, women workers are transferred to jobs in the same establishment where there would be less physical and chemical hazards.

In the unorganised sector, especially, in agricultural and construction work, women also are engaged in physically strenuous jobs, besides being exposed to cement, pesticides etc. and sometimes, pregnant women undergo spontaneous abortions or even give birth to babies at the workplace.

4. Physical Hazards

Physical hazards at the workplace are those which arise from exposure to different kinds of energies heat, cold noises, vibrations, light, radiation etc. These factors affect the organs which are sensitive to each particular hazard, like noise damages the hearing capacity, vibrations from a hand-held tool can cause numbers in the hand etc.

<table>
<thead>
<tr>
<th>Examples of environmental agents that affect reproduction in the female</th>
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<tbody>
<tr>
<td><strong>Chemical</strong></td>
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<tr>
<td>Metals</td>
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<tr>
<td>Lead</td>
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<tr>
<td>Mercury</td>
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<tr>
<td>Cadmium</td>
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<tr>
<td>Selenium</td>
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<tr>
<td>Pesticides, herbicides, organic solvents etc.</td>
</tr>
<tr>
<td>Dyes</td>
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<tr>
<td>Polychlorinated biphenyls</td>
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<tr>
<td>Pesticides</td>
</tr>
<tr>
<td>Herbicides (2, 4-D &amp; 4, 5-T)</td>
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<tr>
<td>Benzene, toluene</td>
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<tr>
<td>Gases</td>
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<tr>
<td>Carbon monoxide</td>
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<tr>
<td>Oxone</td>
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<td>Anaesthetics</td>
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<td>Radiation</td>
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<tr>
<td>X-ray, gamma ray</td>
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<tr>
<td>Drugs and hormones</td>
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<tr>
<td>Thalidomide</td>
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<tr>
<td>Diethylstilbestrol</td>
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<tr>
<td>Alcohol</td>
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A new agreement to protect workers and the public from the danger of asbestos was launched in the U.K. in February this year. The agreement lays down strict standards for removing the deadly material from public and private buildings. It calls for (1) training for employees in the dangers of asbestos, (2) the use of respirators, protective clothing, and plastic bags to prevent dust from being released into the air, (3) adequate health and safety standards, (4) the establishment of a special advisory council on asbestos, and (5) the establishment of a central committee to review the use of asbestos.

The Government of India has planned an ambitious asbestos control programme for chemical industries, in cooperation with the International Labour Organisation (ILO). The Government has set out with a $1 million budget to implement the project. The Ministry of Labour and Employment is responsible for implementing the project. The project will be implemented through a newly established asbestos control advisory division in the Central Labour Institute (CLI), Bombay. The project will cover all asbestos-producing plants, with a view to identifying potential asbestos hazards, strengthening the capacity of safety inspectors and coordinate overall supervision.

Eighty thousand chemicals are still being sold in the U.S. which are potential hazards to health. These chemicals are in daily use and production in factories around the world. In 1983 the National Institute of Occupational Health (NIOSH) and SEWA conducted a study of the Occupational Health Problem of 75 Beedi workers in Ahmedabad, all of whom are women. Medical examination of the women revealed the occurrence of the following symptoms:

- Backache: 68%
- Headache: 39.6%
- Pain in Neck: 26.0%
- Burning of Eyes: 11.0%
- Jaundice: 8.0%
- Giddiness: 22.0%
- Loss of Appetite: 3.0%
- Nausea: 10.0%
- Pain in Hand and Leg: 38.0%

The medical report reveals high levels of nicotine and cotinine in the urine of the women workers. However, this level is less than that experienced by tobacco workers. Nicotine gets absorbed through the skin while handling tobacco in rolling beedees. Perhaps, it is possible that nicotine absorption has a negative effect on women's reproductive health. While more research is needed in this regard, the initial indications are disturbing.

A widely used pesticide, chloridometrine, can cause cancer, according to a report by the Pesticide Action Network of Europe (PAN). Based on the reports findings, PAN demands that all manufacturers, immediately stop the manufacture, formulation, distribution, and sale of all chloridometrine products.

An epidemiological study of workers at the Rare Earths Division of the Indian Rare Earths Limited, Allavay in Kerala examines the mortality profiles of workers for the last 15 years. Taking control groups from the workers outside of this unit, the study demonstrates a significant difference in the incidence of cancers and mortality due to heart diseases and other causes between Indian Rare Earths (IRE) workers and the control population. The incidence of sterility among the IRE workers and the genetic disorders among their children also appear to be high (Ref. Economic and Political Weekly, March 8-15).
Fifteen persons were hospitalised when they inhaled chlorine gas which leaked from a private factory in Rajpalayam in Tamil Nadu’s Kamarajar district. The factory using liquefied chlorine gas was producing bleaching water to bleach bandage cloth, when the mishap occurred.

Workers exposed to Dimethyl Formamide (DMF) are suffering from hepatitis—a chemical induced liver disease. The outbreak occurred in Connecticut, U.S.A., factory where fabrics are coated with a polyurethane polymer. Of 45 employees who agreed to liver screening tests after a colleague was taken ill, 30 were found to have suffered liver damage, 11 cases of which were serious.

More than 100 workers exposed to methylene chloride at levels below the US Occupational Safety and Health Administration’s exposure limit (500 FPM-8 hour time weighted average) have developed nervous system disorders and other severe health problems, according to data reported to the Environmental Protection Agency.

Twenty five people were affected when a tanker carrying ammonia overturned when hit by a bus on the Satara-Deola Road near Nasik. The tanker was carrying the gas from Sakharwadi to Udaipur. The passengers and the villagers nearby complained of pain in the chest, stomach and eyes.

There is a high pesticide level in the blood of Malaysians, reveals a University Pertanian Malaysia study. For the Cyclodiene group of pesticides the average Malaysian has 14 times more residues in his blood than the average American. The average Malaysian has about five times more DDT in his blood than the average American. For other pesticides, the average Malaysian has even higher residues. He has about 40 times more BHC, some 14 times more dieldrin, and 114 times more Hephtachlor Expoxide in his blood compared with average Americans. Such residue level is much higher among padi farmers and rubber estate workers.

As many as 74 people including 58 children were admitted to the hospital following a gas leak from a chemical unit in the Bhosari industrial area in Pune. The mishap occurred around noon when oleum gas leaked affecting about 420 residents of the area.
Occupational Health Problems of Tobacco Workers

In tobacco plantation and processing industry in India, majority of the workers are women. They work long hours and their difficult working conditions are made worse by health problems related to their occupation. For several years now, it has been observed that workers handling both cured and uncured tobacco leaves suffer from specific health problems commonly known as ‘green symptoms’. The green symptoms generally manifest in the following ways: (1) Neurological headache, giddiness, nausea and vomiting; (2) Respiratory cough with or without expectation and breathlessness; (3) Gastrointestinal indigestion, diarrhea and constipation.

An NIOH study (Annual Report NIOH, 1977 p. 43) states that 250 of 290 workers studied, or about 86%, reported ‘green symptoms’. These workers were all engaged in the cultivation and harvesting of tobacco. The study established that workers engaged in the cultivation and harvesting of tobacco suffer from one or more of these symptoms at any given time. Further, the complaints or symptoms are related to the particular stage of tobacco processing in which the workers are involved. For example, nausea and vomiting were common in workers involved in the tobacco curing process, while headache and giddiness were prevalent in those exposed to tobacco dust in curing processes. The respiratory function tests also show a significant reduction of breathing capacity which is technically known as ‘forced vital capacity’ (FVC) and Forced Vital Expiratory Volume (FVCV). It is also found that there is a greater reduction of lung function among exposed workers who experience ‘green symptoms’. All the above studies noted that among women tobacco workers all lung functional parameters show a downward trend (Annual Report NIOH, 1978, p. 40). The study noted that women seem to have greater reduction in lung function because they are associated with the processing of tobacco and thus inhale more tobacco dust. Male workers are less affected because they are mainly involved in manual labour carrying operations.

Experiences of working among women workers in tobacco field and processing shows that the workers suffer from such symptoms chronically. Many do not use any medication because they do not have the means to purchase this or because earlier experience showed that when used, medication did not alleviate their problems effectively and permanently. It has been found that workers are aware of the long-term health problems caused by tobacco, but unemployment and underemployment together with lack of opportunities force them to continue working.

Apart from ‘green symptoms’, various physiological abnormalities have also been detected among the workers involved in the tobacco industry. X-ray observations of workers handling tobacco leaves (Annual Report NIOH, 1977) showed that there is a significant increase in pulmonary function tests among tobacco workers. The respiratory function tests also show a significant reduction of lung function among exposed workers who experience ‘green symptoms’. All the above studies noted that among women tobacco workers all lung functional parameters show a downward trend (Annual Report NIOH, 1978, p. 40). The study noted that women seem to have greater reduction in lung function because they are associated with the processing of tobacco and thus inhale more tobacco dust. Male workers are less affected because they are mainly involved in manual labour carrying operations.

The NIOH studies also mention that workers in both the growing and processing of tobacco seem to be exposed to higher rates of nicotine and continue (a major metabolite of tobacco). The NIOH studies also show that workers involved in tobacco growing show high eosinophilia (white blood cells). It is perhaps due to pollen grains, fungal spores and tobacco dust. Some cases of hypertension also are observed among women workers in tobacco cultivation but none among the tobacco processing workers.

The NIOH studies have revealed the nature of work related problems in the tobacco industry. All the studies are prospective i.e. conducted at a given point in time. There is a need for longitudinal studies (between certain time intervals) on workers’ health to determine the long-term effects of such exposure. It is possible that problems that appear minor or almost non-existent may become more serious overtime.

Review by Mira Chatterjee, SEWA, Victoria Garden, Ahmedabad.

For details of the study report, contact: National Institute of Occupational Health, Meghani Nagar, Ahmedabad.
Consolidated List

Consolidated List of Products whose consumption and/or sale have been banned, withdrawn, severely restricted or not approved by Governments. Second Issue.

A United Nations Publication—Sales No. E.87 IV 1

Studies on Occupational Health Problems Among Tobacco Workers in India


The study ascertains the incidence of green symptoms among tobacco workers handling cured and uncured tobacco leaves. The frequency of symptoms found in the study is very high.


Symptoms including vomiting, indigestion, headache etc., are found among the workers. Taking various tests the study concludes that symptoms in tobacco processing workers might possibly result from nicotine toxicity.

Health Hazards of Nuclear Cycle

An article, emphasised the little known fact of the ghastly hazards of nuclear radiation. The article emphasises the effects of radiation, especially low levels of radiations.


Contact: Radical Journal of Health, C/o 19, June Blossom Society, 60A, Pal Road, Bandra (West) Bombay 400 050, India.

Occupational and Environmental Health Problems of Indian Women: State-of-the-Art

A booklet prepared by the Department of Science and Technology presents information on Occupation Health Problems faced by Women in female intensive Occupations.

Contact: Department of Science & Technology, Government of India, New Delhi.

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