CEC Working Paper

ELECTRONICS SWEATSHOP IN INDIA

Krishna Shekhar Lal Das
Sanjiv Pandita
R. Madhavan

2003

Centre for Education and Communication
173 A, Khirki Village, Malviya Nagar
New Delhi – 110017

And

Asia Monitor Resource Center
444 Nathan Road, 8-B
Kowloon, Hong Kong SAR, China

September 2003

Published by
Centre for Education and Communication
173-A, Khirki Village, Malviya Nagar, New Delhi – 110017
Ph: +91 11 2954 1858/ 1841/ 3084/ 2473
Fax: +91 11 2954 5442/ 2464
Email: cec@cec-india.org; Web: www.cec-india.org

Table of Contents

CHAPTER I: INTRODUCTION

'Sweatshop'[1] is 'a shop or factory in which workers are employed for long hours at low wages and under unhealthy conditions'. Such sweatshops will increasingly come into focus as globalising tendencies unfold and take into its sweep the industries in developing countries and their labour force. The present study is a preliminary survey of the working conditions in 'electronics sweatshops' in India. The study derives its need from two important factors. First, the proponents of the economic liberalisation regime that is underway in India since the 1990s not only promise deliverance of the economic variety, but also tout the same as a panacea for all the ills that have afflicted the Indian people including the working class. Second, the electronics industry is supposed to be one of the success stories of India's liberalisation programme. While acknowledging that the quantum of production[2] and exports[3] of the electronics industry has sharply gone up in the post-liberalisation phase, our specific interest has been to map the working conditions in the Indian electronics industry. The recent debates on the impact of liberalisation of India's economy including the electronics industry is conspicuously silent on labour welfare, where the working conditions are arguably poor (especially for the smaller units and the non-permanent workers – temporary, contract, and trainee workers); job security is non-existent; and a vast pool of workers remain out of the social-security net. As the increasing economic integration has brought new pressures upon the domestic industries to face international competition, and as large MNCs find it convenient to offload part of its production requirements upon the developing countries' poor, cheap and vast labour force, the race is on to cut production costs and compete for contracts and markets. How does it impact upon labour welfare and employment conditions?

Methodology

Scope and Objectives of the Study

The transformation that is taking place in the Indian electronics industry in the context of liberalisation forms the broad background of the study. Liberalisation has paved the way for the entry of large transnational corporations in the manufacturing sector in India. The entry of big consumer electronics players like LG and Samsung, and computer manufacturers like IBM and Wipro, has intensified the competition in the Indian electronics market. The competition has also reflected upon the working conditions and management practices in the Indian electronics industry. The understanding of the widespread use of contract and casual labour and its implications for labour welfare as well as rights and occupational health and safety aspects of workers form the core areas of the study.

The main objectives of the study are:

---

[1] Merriam-Webster online dictionary

[2] The electronics production in India has risen from Rs 109,500 million in 1991-92 to Rs 320,700 million in 1997-98. See *Guide to Electronics Industry in India 1999*, Department of Electronics, Government of India, p. 1.4. The figure rose to Rs 969,500 million in the year 2002-03. See *Annual Report 2002-03*, Department of Information and Technology, Ministry of Communications & Information Technology, Government of India, p. 103. The report is available online at http://www.mit.gov.in.

[3] Ibid. Electronics exports have gone up from Rs 95,000 million in 1997-98 to an estimated Rs 541,050 million in 2002-03.

1. To understand the general scenario of the electronics industry in India, its growth, volume of production and business, and changes in national policy

2. To document the impact of liberalisation in terms of changes in management practices, working conditions, and labour practices with regard to employment conditions, social security, gender issues, unionisation, and occupational health and safety concerns of workers

The study is based on fieldwork conducted using questionnaires and case studies. The major production units in the electronics industry are spread out, with Delhi and surrounding regions, Mumbai, Bengaluru and Chennai being the important centres. Recently, Pondicherry (earlier Puducherry) has been identified as an investor-friendly location, and major players like IBM, Wipro, HCL and HP have set shop there.

There are about 3,500 registered units involved in electronics production, in addition to scores of unregistered units, with Delhi being the major location for such units, especially those of unbranded computer assemblers. According to figures published by the ministry of communications & information technology, government of India, there are a total number of 13 central public sector units with 30 manufacturing establishments, approximately 58 units in state public sector, about 625 units in organised private sector, and more than 2,800 small-scale units.[4] The figures correspond to the year 1997, and no other latest figures are available. However, the figures do not convey the true story: there are a large number of unregistered units involved in the manufacturing of electronic goods. There are no reliable figures available about their numbers or the proportion of production by such units. The present study draws its respondents from 16 large- and medium-size units and 13 small-scale units. The size of the units is determined by employment size rather than investment size. The units that employ less than 30 workers are regarded as small-scale units; those with 30 to 100 workers are medium-sized; and those employing more than 100 workers are large-scale. The bigger players involved in the survey include both multinationals and domestic giants. Apart from collecting data from bigger players like LG, BPL, IBM and HCL, data has also been collected from medium-level players like Iljin Electronics and Excel circuits. Data from a small number of computer assemblers, who mainly operate in the grey market, has also been collected. The study also uses a small number of case studies as primary data. Secondary data has been collected mainly from books, articles, journals, surveys, government reports, and the internet. The fieldwork has been conducted in Delhi and Noida, Bengaluru and Puducherry. A total of seventy-four respondents from these units were interviewed in the survey. A purposive random sampling method has been used. Break-up of the sample is as follows:

1. Male – 54; female – 20

2. Domestic – 58; TNC/MNC – 16

3. Delhi & Noida – 38; Bengaluru – 16; Puducherry – 20

(51% belong to Delhi, 22% to Bengaluru, and 27% to Puducherry)

[4] *Guide to Electronics Industry in India 1999*, department of electronics, government of India, p. 1.13

Only a few representatives from the employers' side and a few trade union leaders and other resource personnel have been interviewed and conferred with for informal discussions. We have not included workers in the public sector in the sample.

Limitations of the Study

One of the major limitations of the study is access to workers in the electronics industry. Individual workers, when contacted, justifiably have reservations in cooperating with a survey of this kind, chiefly for fears of victimisation. Unionisation is negligible in the industry and more often than not, the power equation between the employer and the worker is hopelessly unequal. Also, because of the low unionisation, information regarding the industry has to be, for the most part, collected from employers themselves, and cooperation is not easy to come by on that front. Moreover, a large number of smaller and medium-size units have closed down.

The survey uses a purposive sampling method with its attendant limitations. However, since the sample is spread across a wide spectrum of industries, both in terms of size and product base, and covers Delhi, Bengaluru and Puducherry, the problem of true representation is overcome to a certain extent. The sample size of seventy-four, while being small in itself for a pilot study, is believed to be adequate for a preliminary survey.

The study is structured as follows: (1) Introduction and methodology, (2) A brief outline of the national economic and industrial policy framework with specific reference to the electronics industry in India, (3) Research findings, and (4) Conclusion.

CHAPTER II: NATIONAL ECONOMIC AND INDUSTRIAL POLICY AND EVOLUTION OF ELECTRONICS INDUSTRY IN INDIA

This chapter discusses the evolution of national economic and industrial policy with special emphasis on the electronics industry in India. Within India's economic and industrial policy framework, both in the pre- and post-liberalisation phases, India's electronics policy while not following an altogether different trajectory still had its own distinct character. The basic aim of the chapter is to introduce to the reader a broad canvass of economic and industrial policy scenario, before specific questions regarding the central concerns of the study can be raised.

National Industrial Policy: An Introduction

One of the fundamental features of India's industrial policy in the aftermath of Independence was 'centralised planning'. The strategy was aimed at the development of capital goods sector, import substitution, and self-sufficiency. The other noteworthy feature of the industrial policy was the greater emphasis on the public sector, even while granting a role for the private sector. A variety of control instruments like Foreign Exchange Regulation Act (FERA), Monopolies and Restrictive Trade Practices Act (MRTP), and Industries Development and Regulation Act (IDR) were put in force to discourage foreign imports. As a result, small-scale industries dominated the manufacturing scene, apart from the big public sector units.

However, the policy was widely criticised as responsible for the poor growth of the economy, and since 1991 a gradual liberalisation of the economy has been set in motion. As part of the trade policy reforms, quantitative restrictions on imports and exports were reduced, as were the tariffs on various imports. Industrial policy reforms included removal of entry and exit barriers, and abolition of industrial licensing.

Electronics Industry and Policy: A History

The electronics industry in India, from the mid-1960s, has attempted to provide a broad-based, technologically dynamic growth pattern. Initially, the strategy was in tune with the then overall industrial strategy, aimed at import substitution, self-reliance, and public sector-led growth under the umbrella of government protection and regulations.[5] The major strength of the Indian electronics industry during its early decades was its labour-intensive nature. The production techniques used had a large manual labour content, and the industry was dispersed geographically in accordance with the promotional policy framework.

The Indian electronics industry comprises six categories, namely, consumer electronics, instrumentation and industrial electronics, data-processing systems and other office equipment, communication and broadcasting equipment, strategic electronics, and electronic components. The largest among these in terms of production has been the consumer electronics category, largely driven by the spurt in the production of televisions from the mid-1980s. The progressive growth of production in the electronics sector is as follows: Rs 150

[5]Ibid., p. 21

million in 1960, Rs 1,730 million in 1971, and Rs 8,900 million in 1981. This was during the pre-liberalisation period.[6]

The electronics industry came under the spell of liberalisation much earlier than other industries. The liberalised policies were initiated in the electronics industry in the early 1980s, and this implied a total dilution of the earlier regime of controls and greater recourse to market forces. Let us review some of the major milestones in India's policy with regards to the electronics industry:

Milestone	Year	Remarks
Bhabha Committee	1966	Recommends development of an integrated electronics sector to achieve self-reliance with minimal recourse to foreign capital, and dominant role for public sector and small-scale sector
Sondhi Committee	1979	Recommends dismantling of controls in general and MRTP and FERA companies in particular
Menon Committee	1979	Recommends liberalisation of import of foreign capital and technology, and duty-free import of capital equipment
Components Policy	1981	De-licensing of components manufacture except for MRTP and FERA companies. Provision of 40 per cent equity to FERA companies in high technology areas. No MRTP clearance required under sections 21 and 22 of MRTP Act except for large-scale industrialisation (LSI) and very large-scale industrialisation (VLSI). General reduction in duty on components and liberal import of capital goods for component manufacture
Colour Television Policy	1983	Ceiling on capacity is removed. All sectors of industry, excluding foreign companies, are allowed to participate
Telecommunication Policy	1984	Telecommunication is opened to private sector
Computer Policy	1984	All Indian companies, including FERA companies, are allowed to enter the computer industry with no restriction on capacity. Most of the components needed are put under open general license (OGL) to facilitate import
Integrated Policy	1985	De-reserves certain components for small-scale sector. Introduces broad-banding and liberal approach towards foreign companies, even those with more than 40 per cent equity, in high technology areas

[6] Ibid., p. 1.4

Computer Software Policy	1987	Reduction in the import duty on all imports meant for software exports, and no duty for 100 per cent export. Provision of special financing schemes and permission for foreign companies (with more than 40 per cent equity) in 100 per cent export projects
New Industrial Policy	1991	A major step forward in all aspects
IT Action Plan♥	1998	A broad-range revision of all the policies, and creation of soft-bonded IT units (S-BIT)

Source: K.J. Joseph, (1997), Industry under Economic Liberalisation: The Case of Indian Electronics, *Sage, New Delhi, p. 26*

Television Industry: A Preview

Television transmission in India started in 1959, and the manufacture, mainly assembling of television sets, started a decade later. Initially, the emphasis was on building a self-reliant TV industry and towards this end, the government entrusted the responsibility to Central Electronics and Engineering Research Institute (CEERI) in Pilani. The allocation of 50 per cent of television manufacturing to the small-scale sector was based on the overall economic objectives, namely, regional dispersal of economic activity to ensure uniform economic development across the country, providing employment at the local level and utilisation of local skills, materials and capital, and broadening of the entrepreneurial base.

As large areas were brought under television transmission coverage and the demand for televisions increased, a major portion of the production capacity was given to the small-scale sector. In 1976, out of the 81 units licensed for the manufacture of television receivers, 71 units with a total capacity of 20 lakh were in the small-scale sector.[7] The growth of television production in small-scale sector increased from 63 per cent in 1970 to 76 per cent in 1979, and this was higher than the growth rate in organised sector.

However, compared to international production, television manufacturing in India remained low-key throughout the 1970s for a combination of reasons including the government policies distinctly favouring small-scale industries, the low scale of production, and the high costs of imports. Even then, in India the television industry had higher growth rates compared to production in other electronics categories during the Seventies. Joseph observes, "The production in terms of the number of sets increased at an annual compound growth rate of 28.5 per cent... during the same period, the recorded growth of the electronics industry as a whole was only 17 per cent."[8]

A new set of policy measures was introduced in 1983 to improve cost-effectiveness and scale of production. Consequently, the preferential treatment given to small-scale sector was reversed and larger players were allowed to enter the fray. Forty per cent foreign equity was permitted in the television industry; more than forty per cent equity participation was allowed for export-oriented

♥IT action plan was introduced later in 1998, and was not taken from K.J. Joseph (1997).
[7]Joseph, K.J., op. cit., p. 101
[8]K.J. Joseph, ibid., p. 104

production; ceiling on capacity was removed and broad-banding introduced for optimal utilisation; and most of the imports were allowed under open general license.[9] However, the use of foreign brand names was prohibited, and foreign collaboration was discouraged except in special cases.

By 1984, the Indian colour-television market had one indigenously designed colour-television model and several other colour-television models assembled with foreign kits. Two years later, imported kits were banned, while import of components that were unavailable locally was allowed to encourage the indigenising of production of colour televisions. However, the move was not hugely successful, as even in 1991, the import content in colour televisions was as high as 17.6 per cent.[10]

Computer Industry: A Preview

The computer industry in India has passed through different phases, and broadly, three of these may be identified. The first phase was deemed to have started in 1964, with the entry of International Business Machines (IBM) in the Indian market, and extended up to the early 1970s. This phase was dominated by foreign companies. Apart from IBM, International Computers and Tabulators (ICL), Digital Computer Corporation (DEC), Honeywell, and various Soviet firms were the major players during the period. Then, IBM enjoyed more than 70 per cent market share. Joseph writes, "None of the foreign firms had a manufacturing base in the country: the usual practice was to import and refurbish the already used systems and to lease them out at very high rates."[11] Noting the need to promote self-reliant growth, the government reorganised its policies; and two important developments need to be noted here. In 1966, the government mandated the foreign companies to increase their manufacturing operations in the country, while associating Indian capital in their manufacturing activities. Along with this, the government also tightened the entry of foreign companies through Monopolies and Restrictive Trade Practices Act of 1969 and Foreign Exchange Regulation Act of 1973.

The government also set in motion attempts to promote public sector participation in indigenous computer manufacturing. In 1969, Electronics Corporation of India Limited (ECIL) was set up as India's first public sector enterprise to design, develop and manufacture computer systems, components and instruments. This was the beginning of the second phase of India's tryst with establishing a computer industry in the country. The underlying idea behind establishing ECIL was to establish an indigenous minicomputer industry based on systems engineering. This, it was argued, would reduce outflow of precious foreign exchange money. Also, the public sector manufacturing of peripherals was allowed. With such strong protectionism, ECIL emerged as the major player in the computer industry. However, the systems manufactured by ECIL were expensive, and the ECIL experiment was doomed to be a failure with major financial losses for the corporation.

With the adoption of a new policy to allow private sector participation in the minicomputer industry, the third phase in India's computer policy emerged. However, the restrictions imposed on production capacities and imports meant that 'there was hardly any scope for increasing competitiveness and cost reduction'.[12] In November 1984, the government came up with a new set of policies allowing the entry

[9]Ibid.
[10]Khurana, M.M., and Zindal, S.N. (1994), 'Indian TV Industry: Prospects and Challenges', *Electronics Information and Planning*, vol. 21, no. 7
[11]K.J. Joseph, op. cit., p. 70
[12]Ibid., p. 75

of both MRTP and FERA companies. Also, various relaxations were offered in import of technology, components and capital goods. A certain amount of protection was also offered to local companies in the form of high import tariffs for foreign products similar to the ones manufactured indigenously. It was also envisaged that the import duty tariffs would be consistently reduced so as to make Indian firms competitive in the international market through progressive exposure to foreign competition.

The next phase in India's electronics policy can be deemed to be continuing in the direction of the decisive turn that the overall industrial policy has taken since 1991. A substantial reduction of import duties on electronic components and capital goods, and removal of restrictions on foreign investments were the hallmarks of this policy. The shift in India's electronics policy can be located in the change in emphasis from technological self-reliance through internalisation of production, to greater technological development and international competitiveness.

Liberalisation Regime: Post-1991 Phase

In the wake of the grave financial crisis that afflicted the Indian economy in 1991, India launched upon a far-reaching liberalisation and structural adjustment programme. While the problems of the Indian economy pertained to a grave foreign exchange-reserve crisis and a huge fiscal deficit, the response radically altered the industrial scenario in the country with implications for productivity, trade and labour. The structural adjustment programme and reforms seek to shift resources from the non-traded goods sector to the traded goods sector, with emphasis on export activities. It also works in favour of the private sector by changing the structure of incentives and institutions in favour of the private initiative and against state intervention. Some of the principal features of the industrial policy reforms are the removal of entry and exit barriers for industrial houses, and abolition of industrial licensing (except for those specified). In the context of our study, the removal of barriers to entry and exit assumes importance, for the removal of exit barriers[13] renders retrenchment of workers and closure of firms easier. This is a grave development from the viewpoint of workers, and particularly so in an economy where levels of income are low, levels of unemployment high, and social safety nets absent. The other aspect of the liberalisation programme is the trade policy reform that seeks to reduce the quantitative restrictions on imports and exports, as well as tariff reduction for imports. The liberalisation of technology imports may, in fact, encourage large-scale technology imports, stifling the manufacturing capacities of complex technologies domestically.

Liberalisation and the Electronics Industry

Guide to Electronics Industry in India 1999 lists the following as salient features of the electronics industry policy in the liberalisation regime:

- Licensing has been virtually abolished except for manufacturing electronic aerospace and defence equipment.

- There is no reservation for public sector enterprises in the electronics industry, and private sector investment is welcome in every area.

[13]Exit barriers are the set of measures that pertains to closure of firms, retrenchment and liquidation of closed units.

- Electronics industry can be set up anywhere in the country, subject to clearance from the authorities responsible for control of environmental pollution and local zoning and land use regulations.

- Industries exempted from licensing are required to file only a memorandum with the secretariat for industrial assistance (SIA), ministry of industry, government of India.[14]

The anticipated accelerated growth of the electronics industry in the wake of liberalisation was also expected to reflect upon employment growth rate. The electronics industry is regarded as a labour-intensive industry, providing employment at a much higher ratio than other sectors like textiles or chemicals. However, employment generation capacity of the electronics industry has been steadily eroding over the years – and liberalisation, in fact, seems to have accentuated the trend.[15] So, the impact of liberalisation on the electronics industry becomes important not only in terms of production and trade, but assumes even more critical proportions in terms of employment generation and retention.

Some of the key policy initiatives in recent years which have further spurred the liberalisation of the electronics industry are:

1. Removal of quantitative restrictions on the import of a number of electronic components and items. All goods in the electronics and IT sector are freely exportable, with a few exceptions

2. Creation of export-oriented units/export-processing zones/electronic hardware technology parks/software technology parks

3. Creation of special economic zones

4. Reduction in customs duty, rationalising of central excise duty, and other kinds of tax exemptions/holidays and relaxation

These are some of the broad policy measures taken by the Indian government to put the industry on a high growth path.[16]

How do we understand the changes that have taken place in the last decade or so, and what is the impact upon labour? It is clear that at the philosophical level, India's economic and industrial policy has undergone a paradigm shift: a shift from the belief that the state would act as the regulator of industrial and economic policy, to a belief in the marketplace to do the same. This signifies that the labour policy and legislation that understandably were (are) oriented towards securing the maximum rights and security to workers in the pre-liberalisation phase, are under increasing pressure to orient themselves to the new logic of marketplace.

---

[14] *Guide to Electronics Industry in India 1999*, department of electronics, government of India, p. 2.1

[15] See K.J. Joseph (1997), op. cit., pp. 175-9

[16] For elaboration and broad-based details of the above measures, please see *IT Action Plan-II*, *Annual Reports 2001-02* and *2002-03*, department of information technology, ministry of communications & information technology, government of India. These can be accessed from the website: http//www.mit.gov.in.

Notwithstanding the fact that the implementation of labour legislation in India has been poor, it has still provided a modicum of security to workers and secured their rights to some extent, at least in the organised sector. It now appears that the philosophy of labour legislation would rather be made subservient to the needs of globalisation. It is nobody's case to argue that the implicit logic of globalisation is anti-labour, but globalisation entails certain changes and consequences whose impact upon labour needs to be addressed without sacrificing the interests of labour. The proponents of globalisation put forward a host of arguments to justify their stand, though such 'black and white' portrayal engenders measures that do not take a wholesome perspective of the problem. They say: "India's exports environment suffers from several other institutional weaknesses. First, workers in large firms in the formal sector have a virtual guarantee of continued employment according to the Industrial Disputes Act. For firms of 100 employees or more, reductions in workforce must only be by the permission of state government, which is almost never granted... The results of India's highly regulated labour markets have been devastating."[17]

Yet, in a country rife with poverty and regular violations of labour laws, and characterised by the stark power differentials between capital and labour, industrial and economic policy should also necessarily be sensitive to the problems of labour.

Important labour legislations applicable to electronics industry

1. **The Trade Union Act, 1926**: The act is important to the unionisation of labour, and empowers workers in pressing forth their demands and bargaining collectively through the strength of organisation. However, the very fact that a union has been formed does not compel the employer in recognising the same.

2. **The Industrial Disputes Act, 1947**: This deals with strikes, lockouts and dispute-settlement mechanism in industries, and also has important safeguards against arbitrary retrenchment and job loss. It mandates that the employer who employs more than 100 workers should seek permission of the government before resorting to retrenchment, lay-off, or closure. This is one of the aspects of the act which has been targeted for change by advocates of globalisation. The other aspect is the clause that service conditions, which are under dispute, cannot be changed without giving a 21-day prior notice to the union or workers.

3. **The Minimum Wages Act, 1948**: The act determines the minimum wages that are needed to be paid to the workers in scheduled industries.

4. **The Contract Labour (Prohibition and Regulation) Act, 1970**: It regulates the appointment of contract workers by requiring contractors to register if they employ more than 20 workers. The other important aspect of this act is regulating the kind of work for which such workers can be employed. In case a work of

[17]Sachs, Jeffrey D., Varshney, Ashutosh, and Bajpai, Nirupam (eds), (1999), *India in the Era of Economic Reforms*, New Delhi, Oxford University Press, p. 6

perennial nature in the production process employs such workers, the contract can be abolished.

5. **The Workman's Compensation Act, 1923**: The act covers employment injuries – accidents arising out of and during the course of employment – by providing compensation in a lump sum. The act covers those who are not covered by the Employees State Insurance (ESI) Act.

6. **The Employees State Insurance Act**: The act envisages a fixed contribution from the wage by both the employee and the employer to an insurance corporation that would run dispensaries and hospitals for the benefit of the workers. This act and the previous act together constitute important occupational health and safety measures covered by labour legislation in India.

7. **The Maternity Benefit Act**: The scope of the act extends to notified establishments where a woman employee is entitled to 90 days of paid leave on delivery or miscarriage.

8. **Payment of Gratuity Act**: The law ensures retirement and old-age security for workers who have put in at least five years of service. Such workers are entitled to a lump-sum payment at the rate of 15 days' wages for every year of service put in. The employer makes a contribution to a separate fund towards this purpose.

9. **The Provident Fund Act**: This is another type of old-age security scheme in which both the employer and the worker contribute a fixed percentage of the salary (12 per cent), and the total accumulated amount is paid to the worker at retirement. Also, a small part of it is used for payment of family pension.

10. One of the primary pieces of 'occupational health and safety' legislation is the **Factories Act, 1948**, subsequently amended in 1954, 1970, 1976 and 1987. The act requires the workplace to be maintained cleanly with effective ventilation, removal of dust and injurious fumes, provision of clean drinking water and toilet facilities, precaution in the form of protective equipment for workers, and other such measures that ensure the health and safety of workers.

Most of these pro-worker legislations are under threat from the globalisation process, the latter contending on the grounds of flexibility and gaining international competitiveness. What is of more interest to us is the kind of changes that are envisaged in the labour legislation applicable to the IT industry, and the rationale for the same. Let us quote from IT Action Plan – II (which deals with hardware):

"As the Indian IT product will increasingly have to compete with countries like Taiwan, Singapore, Korea and Philippines, the Indian Labour Laws in this limited sector should not be adverse as compared to the Labour Laws in the competing countries. In view of this, the following modifications in the Labour Law specifically applicable to the IT Products manufacturing sector, will be enacted in S-BIT units/zones/habitats with due consideration to the ILO recommendations:

i. Women shall be allowed to work in three shifts subject to provisions of all the ILO-specified conveniences, including transportation from and to the doorsteps of the employee.

ii. Temporary status will apply for 720 days out of 3 years, instead of 240 days out of one year as per the existing labour laws.

iii. Manufacturers will be allowed to downsize employee rolls by up to 10 per cent of total employee strength in any year without permission.

iv. Contract Labour Abolition Act will not be applicable to the IT sector.

v. In order to be able to run 3-shift/4-shift operations, labour law should allow up to 12-hour shifts without overtime as long as the total number of hours worked per week averages the current norm of 48 hours per week.[18]

Employment in Electronics Industry

As per the ministry of information and technology, government of India, the electronics manufacturing industry employed 365,000 persons in 1999. There are no latest figures available. The recent (2003) annual report of the ministry gives at length the production and exports data of each of the electronics sub-sector, but fails to provide data about the total employment in the hardware sector. However, it does inform that 650,000 workers/professionals were employed in the IT software and services industry in March 2003.

The 1999 figure seems to be grossly understated. It does not take into account thousands of workers working in very small units and workers based out of home. The electronics manufacturing sector constitutes 7-8 per cent of the total value added in the manufacturing sector in India (Bhavani, 2002), and the manufacturing sector employed 40 million people in 2000[19]. Moreover, the ministry of information and technology estimates that the number of persons employed in the electronics/IT industry, including both hardware and software, will be seven million in 2008 and of this, 4.8 million will be employed (directly or indirectly) in hardware manufacturing.

It seems that the present workforce employed in electronics manufacturing has been completely ignored under the statistics of production and growth.

[18]http://it-taskforce.nic.in/hardrep/

[19]Economic Survey of India, 2002-2003, government of India

CHAPTER III: RESEARCH FINDINGS

The majority of the respondents (nearly 80 per cent) are below the age of 30 years. The figures do not vary for males and females, indicating that the workforce in the electronics industry is relatively young.

In terms of marital status, two out of three respondents are unmarried. Significantly, there is no appreciable gender difference in this particular category, with the percentage of both unmarried/married men and women approximately remaining the same. This is a corollary of the age profile of the respondents. Perhaps, this also indicates reluctance on the part of employers to employ married women.

The educational profile of the respondents is quite varied. Generally, the educational profile seems to point to a favourable bias towards highly skilled workers in the electronics industry. Understandably, 28.4 workers have technical qualification – mostly diploma from technical institutes – and nearly one in every four respondents is a graduate/degree holder, with quite a few of them having engineering degrees. Nearly one in every two workers has studied up to higher-secondary level or less. In line with the requirements of the industry – which is either skilled or semi-skilled – just one respondent has an education that is below matriculate. It indicates that scope for employment in this industry is more or less closed to those who have studied less than matriculation or to those who are illiterates. The interesting part of the analysis was to find highly skilled persons working in assembly lines, especially in Puducherry, at the IT units, some of these being multinationals. As we will see later, just 6.3 per cent of the workers employed in MNCs are permanent workers – the rest of them are trainees or contract workers, whose services are nullified after what is called 'training', which lasts up to a maximum of one year. Over 55 per cent of the respondents from MNCs either had some technical qualification or are graduates.

The survey is concentrated on those who are mainly in the production line and, naturally, has a high proportion of 'operators' – approximating 70 per cent. The other major group is 'assemblers', found in small-scale unbranded units; they also double up as 'service engineers' and, in fact, define themselves as such. Their main work is to assemble 'computers' from components purchased from local vendors and distributors. In many ways, the job content of 'assemblers' is very similar to that of 'operators' in the computer industry. While operators are found in all sub-sectors of the electronics industry, 'assemblers' are found only among the small-scale, unregistered PC assembly units. While operators do a specific task in a series of tasks, assemblers basically do all that is concerned in assembling a computer from the various components. Also, the assemblers work as 'service engineers', undertaking repairs of personal computers of their customers. The number of unbranded assemblers in New Delhi varies widely – all respondents from such units were asked to give an estimate of the number – but it is safe to assume that their number is no less than 5,000 in Delhi alone. Such units usually employ anywhere from 4 to 10 workers depending upon their scale of operation. The 'others' category includes workers like access team leader (more like line leaders), production executive, supervisor, and marketing coordinator.

Employment conditions of the respondents

Sanjay is a 24-year-old engineer. He was selected as a trainee in a reputed computer-manufacturing factory. He was told that after the training, he would be absorbed as a permanent worker in the factory. However, he was given neither an employment letter nor wage slip, and nor any employment training. For such a highly skilled engineer, the wage is a 'pittance'. Though his work generally spills beyond the eight-hour scheduled working hours and he is forced to stay back and complete the work, he gets no overtime payment. He says he is stressed out. And no, he cannot take a break, for he is eligible for no leave. As a trainee, he is also ineligible for other benefits like bonus. And, of course, there is no provident fund, gratuity, or medical insurance. When he interacted with other workers, he was strictly warned. Then, he learnt that all the engineers in the factory are trainees, and none of them would ever be confirmed in the employment beyond the one-year training period. None of them even thinks about organising the workers. Year after year, new trainees come with hope; they toil, and leave disgruntled. And the multinational company remains competitive because of the low prices of its products. But their workers are paying a heavy price for it.

Sanjay is not alone in his suffering. For many of the workers in the electronics industry, job security seems to be an elusive thing. Apart from the denial of their basic rights, they are perpetually under the axe and could be thrown out any moment without even a notice. In this regard, the system of inducting trainees is an advantage for employers.

The employment pattern in electronics hardware manufacturing varies widely in India, depending on the type of unit and also within the unit depending on the status of the worker (temporary trainee, permanent, etc.), which has clearly reflected in our research findings. As described earlier, electronics production in India is carried out in home-based as well as small-, medium- and large-scale organised units. Small-scale units employ the largest population of workers. In 1997, small-scale enterprises employed about 47 per cent of total workers in the electronics manufacturing sector. However, it contributed to only about 35 per cent of the total produced value.[20]

In small- and medium-scale units, workers are employed predominantly for the assembly of components/parts, which in turn will be used in a bigger unit. This sort of subcontracting has been a hallmark of the Indian electronics industry, and with the globalisation of the industry, it is becoming more and more prominent. The workers in smaller units do not even enter into any sort of formal contract with their employer. They receive only wages and no other social benefits. The 'Factories Act' of India is applicable to units employing more than 10 workers, and any unit employing less than 10 will not even be covered by the law. However, even units employing more than 10 workers do not provide benefits like provident fund to the workers, as prescribed by the law.

In our study, we found that nearly 55 per cent of respondents in larger units and more than 73 per cent in medium-size units are non-permanent workers. Also, the situation seems to be worse as far as MNCs are concerned. The non-permanent category contains all who are not permanent employees – contract workers, casual labour, and trainees. Also, trainees are for all practical purposes treated as casual workers in our analysis. They not only work alongside the casual workers doing the same kind of work, but also when asked about the nature of their training, most of them replied that they were told 'how to do the work' and that the training barely lasted anywhere from two hours to two days. This

[20] Guide to Electronics Industry in India 1999, (1999), Department of Electronics, Government of India, New Delhi

was identical to the replies given by other casual workers. The Apprentices Act 1961 specifically mentions that apprentices are not workers, and labour laws do not apply to them. It is only to take advantage of this act and to deny the workers their due, that most of the employers designate a part of their 'casual workers' as 'apprentices'. In our analysis, we shall not recognise this artificial distinction and treat them as casual workers.

The non-existence of any formal contract between the workers and the employer seems to be a trend in the electronics industry. This – coupled with the fact that they do not even get a payslip – makes it difficult for workers to prove their employment status. As much as the employment letter, the payslip authenticates the worker as an employee of the particular unit, apart from informing the worker about the wage he/she is entitled to receive and also the deductions. Nearly 45 per cent of the workers were not given wage slips. Again, nearly 97 per cent of the employees who were not given wage slips were non-permanent workers.

Experience Profile of Respondents

In our study, more than half of the respondents have experience of less than two years, which naturally belong to the non-permanent category (88 per cent). It is clear that more workers are hired as contract employee, casual labour, or trainee, rather than as permanent workers. While it is difficult to assess without comparative data as to whether this is a recent trend, it can be safely said that such figures indicate a grave job-security situation in the electronics industry. The data points to the fact that a large number of non-permanent workers are employed without any rights or benefits. Many of these workers indicated to us during the survey that a forced 'break' is imposed on them every two or three months. Usually, the break lasts for a week, before they are again taken back for another short spell of employment. With a significant labour surplus in the job market and forced to accept whatever employment comes their way, most of these workers are not only deprived of their rights, but also left without much choice in their dealings with employers.

Wage Profile and Broad Employment Status

Payment is linked to the status of job. It is seen that nearly 26 per cent of the total respondents who are paid less than or equal to Rs 2,000 belong to the non-permanent category. Conversely, there is a tendency to pay less to non-permanent workers. Except in one category (Rs 5,001 to Rs 10,000, where the proportion is more or less equal), the percentage of non-permanent employees decreases as the salary goes up – indicating a positive correlation between job permanency and salary.

It has to be noted that the Minimum Wages Act was followed more in violation than in compliance in Puducherry[21]. The minimum wages in Delhi for a skilled worker is Rs 3,208.00, and in Bengaluru it is Rs 2,430.00. In Puducherry, a three-fourth of the workers received less than Rs 2,000. Even in Delhi and Bengaluru, nearly 20 per cent and 30 per cent of workers do not get the minimum wages. If we see the wage structure in comparative terms for MNCs and the domestic industry, MNCs are not behind in giving lower wages to electronics workers.

[21]Personal interview with trade union leaders in Puducherry

In the sample, nearly 46 per cent of the respondents remarked that they cannot prove whether they are the employees of a particular company. Given the fact that such a huge proportion of the workers is unable to prove their employment status, it is easy to deny their very existence during inspection, and the same underscores their powerlessness to question the in case of violation of their rights or to take recourse to law to seek redress for the same. Such problems for the workers, especially the casual workers, are very real, as shown by the case illustrated by Indrani Muzumdar about an incident in Noida Export Processing Zone:

> "*In May 1995, upon the complaint of some workers, a labour inspector was sent to the factory. He was not allowed to enter the zone, and the customs guards informed the management that an inspector had arrived. Only when the management gave the go-ahead was the inspector allowed to approach the factory. But the management had made the preparations by then. It herded 200 of its workers on to the roof and locked them up there in the blazing sun for over three hours, thus ensuring that their presence was not recorded in the labour inspector's report. Those workers suspected of having made the complaints were instantly dismissed…*" (Indrani Muzumdar, 2001: 205-6)

Working hours of the respondents

Narayan is 23-years-old and working in a small computer-assembly unit. He joined the unit after completing his matriculation and a 'certificate course' in computers. He can, and does, assemble computers all by himself. He also does 'troubleshooting' for customers of the unit. Despite working here for almost four years now, he is still not sure about his employment status. The story is familiar: no employment letter, no wage slip, no leave, no benefits, no provident fund, no gratuity, no medical insurance… nothing to prove that he is working in that unit. And he is working for four years! Workload is heavy. He cannot leave till he completes the assigned work for the day, and has to attend service calls even if it is well beyond the working hours. Of course, there is no question of any overtime payments. He neither underwent any training nor was given the mandatory pre-employment medical checkup. He does soldering and often, the skin peels off his palm. Sometimes, he cannot hold the screwdriver or other gadgets required to do the work. He has to fight for any salary raise, and it was raised by Rs 300 this year after a bitter struggle. There is no union to fight his case.

Many share Narayan's plight. Narayan works in a small assembly unit, but even in medium-sized and large units, it is not uncommon to find workers toiling well beyond the mandatory eight hours without any overtime benefit. Sometimes, they are forced to work overtime despite resistance. And women seem to fare equally badly – one in every two is forced to do overtime. The Factories Act prescribes eight-hour workdays and 48 hours of work per week. However, it is seen that as many as 51 per cent of the respondents work for more than eight hours a day and not all of them are paid for overtime. More than 30 per cent of them were not given overtime benefits, and more than 60 per cent are forced to do overtime at intervals or always.

Leave and Employment Status

In our survey, a clear-cut relation between employment status and weekly holiday emerges. Nearly all the permanent workers enjoy regular, paid weekly holiday, whereas more than 50 per cent of workers in the non-permanent category are denied the same. Nearly 13 per cent of workers in the non-permanent category have no weekly holiday at all. From the available data from the survey, it is clear that there is a relation between the status of the job and the facilities available. The survey points out

that while about 75 per cent of the permanent workers (18 out of 24) have the facility of casual leave, totalling an average 12 days, on the other hand, nearly 80 per cent of workers in the non-permanent category (40 out 50) do not have any casual leave. Both the 'do not know' and 'no answer' category are taken to mean that there is no clear-cut policy as far as casual leave for workers are concerned, and based on experience, it almost always means non-existence of casual leave, especially in the case of non-permanent workers. We can also verify the relation through other leave facilities like earned leave and sick leave. The picture is not very different for other leave facilities. In essence, more than 87 per cent of permanent workers in the survey enjoy most of the leave facilities except sick leave, whereas more than 80 per cent of the total non-permanent workers do not enjoy any kind of leave.

It becomes clear, then, how the system of casualising labour operates in denying basic facilities like casual leave to non-permanent workers. Factors like near-total absence of unions in the sector, the constant threats to their employment, and poverty render the workers powerless vis-à-vis their employers, and pave the way for unhindered exploitation. A small comparison between the three sectors covered in the survey – namely, computer and related industries, television and related industries, and electronics components industry – would tell us any sector-wise difference in the scenario.

A fairly uniform picture emerges for all the three sub-sectors: 75 per cent or more of the permanent workers enjoy leave facilities, whereas more than 75 per cent of workers in the non-permanent category do not have any leave at all. In television and related sub-sectors, not a single employee in the non-permanent category enjoys any leave facility.

Bonus and Other Facilities

Again, facilities like bonus are linked to employment status. While more than 85 per cent of permanent employees report that they have bonus facilities, 76 per cent workers in the non-permanent category do not have this facility.

The percentage of permanent workers who receive bonus is uniformly high across all three sub-sectors, at above 75 per cent. The workers in non-permanent category fare poorly in both components and television sectors – averaging just above 22 per cent in components sector and zero in television sector. The computers sub-sector has a slightly better picture to project: about 37 per cent of non-permanent workers receive bonus. In MNCs, about 69 per cent workers do not get bonus.

Fifty Eight per cent of the permanent employees receive salary hike of Rs 500 or less (a majority of this group receives between Rs 200 and Rs 500), while 38 per cent receive a hike of more than Rs 500. However, in the non-permanent category, 44 per cent do not receive any salary hike at all (or are ineligible for it because they are employed for a period of less than one year); and nearly 40 per cent receive a salary hike of Rs 500 and less. The 'others' category includes workers from units that do not have a clear-cut wage-hike policy, and units where there has been no hike in the past year.

What has been the debate on the impact of globalisation on labour? There are three clear positions regarding the same: the first argues that the impact of globalisation and economic reforms upon labour are bound to be beneficial to labour in the long run; the second indicates a neutral character

for globalisation and suggests that it is the direction of globalisation that would determine its impact upon labour, and the third is unambiguously anti-globalisation in character.

The proponents of pro-globalisation would argue that restrictions and regulation upon economy and labour induce efficiency losses, which subsequently translate into lower wages and poorer working conditions for labour. They also argue that India's preferential treatment to small-scale industries keep them from expanding to larger sizes, which could improve employment choices for workers. The other argument is that liberalised economies are always going to perform better, and since the major portion of India's workforce is in the informal sector, improvement in the performance of the real economy is bound to improve the lot of the informal workers.[22] There are also spin-off effects of globalisation. For example, global trade also involves issues like 'code of conduct', which links labour standards with trade. The use of consumer pressure on employers/retailers to ensure minimum labour standard is one of the possible ways in which globalisation can address some of the issues that concern labour.[23]

However, from the above analysis, it is clear that even though economic reforms and the entry of multinationals have increased the production level, at the outset, the working conditions remain poor. The most significant finding that emerges out of the survey is the fact that many of the basic facilities and rights due to the worker do not reach him/her on account of his/her employment status. A significant proportion of workers are not given any employment letter or wage slip, not provided with any clarity on their employment status, and are routinely forced to do overtime without payment for the same. Basic facilities like weekly holiday are denied, and workers are given periodic breaks that make their employment—and livelihood—uncertain. They are given lesser salary than their permanent counterparts, earn lesser annual hikes or no hikes at all, and denied basic bonus facilities. The so-called 'flexi times' is now one of the demands of the employers to arrange flexible schedules for production, and also to have '12-hour work shifts'. A majority of the workers are young and unmarried, and do not have permanent employment. It is clear that while the employers prefer young and energetic workers who can work for long hours, there is also a tendency to deny the workers their basic rights. This casualisation of labour has to be directly linked with globalisation, where the concept of 'flexible labour force' is being stressed as a major requirement to face up to the competition (which itself is seen as an outcome of globalisation).

Social Security in Electronics Industry

One of the telling pieces of statistics in India about social security is that 'roughly 90 per cent of the working population do not have any formal arrangements for social security coverage'.[24] Social security is basically understood as the continuous economic support to a human being for his or her social well being. For labour, it is achieved through the following provisions:

- Provident funds/gratuity (Employees Provident Fund and the Miscellaneous Provisions Act, 1952)

[22]For a similar argument, see Zagha Roberto, 'Labour and India's Economic Reforms', in Sachs, J.D., Varshney, Ashutosh, and Bajpai, Nirupam (eds), (1999), *India in the Era of Economic Reforms*, Delhi, Oxford University Press, pp. 160-82

[23]http:///www.iisg.nl/~clara/rep_hensman_htm

[24] http://www. globalaging.org/health/world/socindia.pdf.

- Old-age, survivor, widow and disability pension (Payment of Gratuity Act, 1971)
- Medical care of all sorts (Employees State Insurance Act, 1948; Maternity Benefit Act, 1971; and Workman's Compensation Act, 1923)
- Protection from all kinds of risks affecting the social existence of the individual (all the above acts)

Increasing poverty levels in the country, casualisation of labour, and gender inequalities are some of the factors that have brought social security of workers into sharp focus, especially in the wake of globalisation. In our survey, the attempt has been to understand the level and quality of social security benefits available to electronics industry workers.

There is a clear relation between employment status and provision of provident fund. All the permanent workers get provident fund, with both workers and employers paying their share towards the fund. However, in the case of non-permanent workers, just 12 per cent of the workers and their employers pay their share to the fund. Another 10 per cent workers pay their share to the fund even while their employers are not doing so. It is reasonable to assume that those who have reported they 'do not know' whether they have PF facility, do not, in fact, have it. Thus, more than three-fourths of non-permanent workers do not have PF facility, thereby denied one of the most important social security measures. Moreover, they are also denied the loan facilities that other workers avail of using their PF accumulation.

A significant proportion in all the three sub-sectors (computer, components, and television) either does not have provident fund facility or claim to not know whether they have the facility, with the position in the television industry being marginally better. The figures are approximately 61 per cent of the total workers surveyed in the computer industry, 69 per cent in the components industry, and 36 per cent in the television industry.

Among the workers with gratuity, 16 (84 per cent) are from the permanent category; and of the 21 workers who do not have gratuity, 18 (86 per cent) are from the non-permanent category. About 75 per cent of workers at MNCs do not have the benefit of any social security measure.

Again, the sectoral distribution of retirement benefits does not vary significantly across the computers industry and related sub-sectors as well as the electronics components sub-sector, while the situation is slightly better in television and related industry. More than 85 per cent of the respondents in both computer and components sub-sectors do not have retirement benefits, while the corresponding figure for television and related sub-sectors is 54 per cent.

The extension of ESI facilities is also linked to the permanency of employment. Hundred per cent of the permanent employees are extended ESI facilities, whereas as many as 68 per cent of the non-permanent category do not have the facility.

About 90 per cent of all the women respondents report that maternity benefits are provided to them. It must be noted here that only a very small number of women work in the small-scale sector (in our sample, there was just one woman in the small-scale sector). The medium- and large-size units in

which there is a significant number of women workers, it is clear that maternity benefits are available to them, and employment status seems to make only a slight difference there.

One of the features of Indian labour legislation is that the state is responsible for its implementation through the ministry of labour. The state's responsibility is all the more comprehensive in social security legislation like Employees State Insurance Act. With the ongoing globalisation process, one of the ways in which the state has responded is to withdraw from certain areas of action– and the prime target has been the social sector. With dwindling investments in social sectors like education, workers who are already reeling under increased costs of living have to also contend with the prospects of reduced social security measures that are in the offing.

It has been the general belief that all workers 'eventually end up in large enterprises, or at least they do in the formal sector'.[25] However, the recent trend has been one of downsizing the workforce accompanied with a marked reduction in social security benefits. This is achieved not through a visible reduction in social security, but by circumventing the legislation through the use of casual labour or even unaccounted labour; another way is to offer voluntary retirement schemes and outsourcing the employment. How does this new trend of 'outsourcing' impinge upon the welfare of labour? Basically, outsourcing can be done to smaller enterprises that exist outside the purview of the law – where the wages are low, working hours long, and conditions poor. This is one way of reducing labour costs. The other way is to demand a change in the Contract Labour Act, which prevents the employment of casual/contract labour for perennial work. While this law is routinely flouted, it is also one of the laws that prevent employers from fulfilling all their labour needs through contract labour.

Our finding shows that there is a clear-cut relationship between employment status and social security benefits like provident fund, gratuity and medical insurance. A majority of the non-permanent workers do not enjoy any of these benefits, and were dependent upon the vagaries of seasonal/demand-based employment even for eking out a living. Moreover, since these workers are not listed and, thereby, unable to prove the fact of their employment in a particular unit, it becomes easier for the employers to deny them standard benefits. Predictably, the existing labour legislation is poorly implemented and is, rather, in the process of dilution, which will only aggravate the crisis that engulfs the lives of workers now.

Since the working force is young and not very experienced, the survey is unable to track changes that have taken place over a period of time; in our case, we set a limit of five years. In any case, whatever indications are available points to little or no change. Usually, the proponents of globalisation argue that there is a time lag between liberalisation of an economy and trickling down of benefits to the workers. However, the electronics industry in India has been undergoing the liberalisation process for nearly two decades now, and the results continue to be dismal as far as the prospects for its workers are concerned. Perhaps the most telling finding of the survey is that the conditions are uniformly poor as far as MNCs are concerned when compared with domestic companies in providing social security benefits, namely, retirement and medical insurance. The argument that competition would improve the conditions of workers has not really been substantiated in our pilot study; on the contrary, it seems to have made the workers more vulnerable.

[25] http://www.globalaging.org/health/world/socindia.pdf

Electronics Industry and Health Hazards, and Other Legislation

The electronics industry is generally deemed to be one of the 'clean industries'. However, electronics manufacturing involves hazardous processes and has high rates of illness among its workers.[26] The handbook on health hazards in electronics by Asia Monitor Resource Center lists several immediate and long-term health problems that workers suffer from: ranging from eye irritation to respiratory problems, the list also includes cancer, liver damage and paralysis as some of the possible illnesses suffered by the electronics industry workers.[27] In the Indian context, it is important to focus on health hazards in the electronics industries even while the accent is on increasing production.

In India, because of the surplus labour, workers concentrate more on getting work than on the possible hazards thereof. The country has a well-developed legislative structure to protect workers' health rights, though implementation still remains very limited. It would be pertinent to list some of the constitutional provisions and labour legislation meant to protect the workers' health rights:

Article 24: Prevention of child labour – children below the age of 14 years shall not be employed in hazardous work.

Article 39: The state shall direct its policy towards securing the health and strength of workers, and ensure that men and women and young children are not abused, and that the citizens are not forced to enter vocations unsuited to their age and strength because of economic necessity.

Article 42: The state shall make provision for securing just and humane conditions of work and maternity relief.

Some of the occupational safety and health acts enacted by the Indian government are: The Factories Act, 1948; The Mines Act, 1952; The Dock Workers (Safety, Health and Welfare) Act, 1986; The Plantation Labour Act, 1951; The Explosives Act, 1884; The Petroleum Act, 1934; The Insecticide Act, 1968; The Indian Boilers Act, 1923; The Indian Electricity Act, 1910; The Dangerous Machines (Regulations) Act, 1983; The Indian Atomic Energy Act, 1962; The Radiological Protection Rules, 1971; and The Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989. The Workman's Compensation Act, 1923, and the Employees State Insurance Act constitute legislation that ensures that the workers get adequately compensated for work-related illness and injuries.

In the course of this study, we realised that in the computer manufacturing sector in India, the major activity involved is assembling of pre-fabricated components. Here, quality testing and other such processes involve work of hazardous nature. In other sectors, electronic components including printed circuit board, electron tubes and semi-conductors are manufactured in India. These typically involve electroplating and soldering activities. In all this, various kinds of toxic chemicals and gases are used including arsenic, phosphene, cyanides, hydrofluoric acid, sulphuric acid, solvents and thinners. These have an impact on the health of the workers, who are exposed to such chemicals and gases in the

[26]Gassert, Thomas H., (1985), *Health Hazards in Electronics: A Handbook* , Hong Kong, Asia Monitor Resource Center, p. 2
[27]Ibid., p. 27

workplace. Workers in the electronics industry are routinely exposed to electric shocks and such other occupational hazards.

Thangamma is 20 years old. She has two younger sisters and one brother. Her father is old and weak, and cannot go to work. Her mother does household work. Her brother goes to school, but her sisters don't. Her parents sent her to school with great financial difficulty, and she studied up to higher secondary. She used to work in a nearby electronics factory, but presently she is out of work and her health remains poor as well. Thangamma feels guilty about it, being without work and a burden to her helpless family. She used to earn up to Rs 1,000 in the factory, and even though there were no other benefits, it was a significant addition to her family's income. Why is she out of work?

She was in the welding section and had to do 150 welding in one hour. It was back-breaking work. She had to press a pedal to make the electrodes touch, and then weld the metal at three places. She had to keep her hands and heel in the same position for hours together, and after sometime they would become numb. Her shoulders and legs ached incessantly. The workload was heavy, leaving her no time even to use the toilet. If she slightly slackened the pace, the supervisor would yell at her. Her periods had become messy, irregular and painful. But Thangamma did not leave the job for these reasons. She was thrown out. Initially, she was told that she was being recruited as a company worker. But she was given no employment letter. She would sign in a 'voucher' to get her salary. She was also denied facilities like provident fund and leave. She was told that the company was facing a 'crisis' due to 'competition', and that the workers would have to make sacrifices. Then, some of her fellow workers wanted to start a union, and they did. She also joined them, and immediately she and the other members were thrown out. She now feels too weak to work. She was thrown out of the job in February 2003, and the fieldwork was conducted in May-June. She was still complaining of pain in her shoulders and legs.

Health and Safety

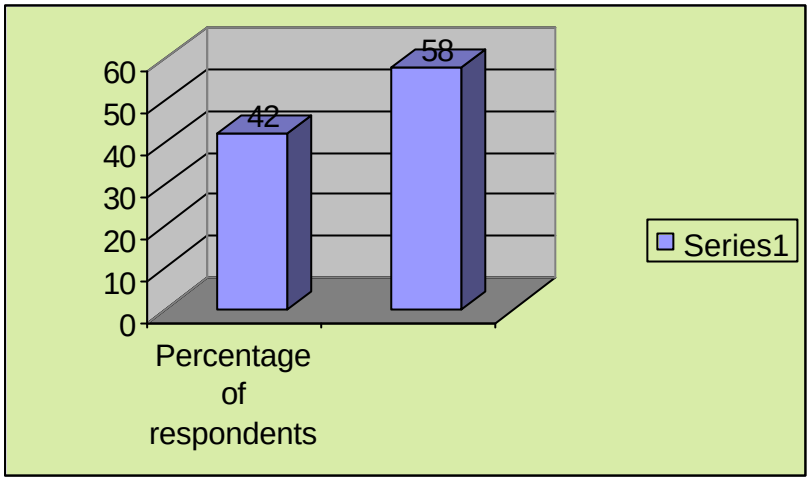
How many units have a well-defined health and safety policy, and what is the level of awareness among the workers? The answer to this in our survey points to a worrying situation: more than 50 per cent of the workers reported that they have no health and safety policy in their units, and nearly one-fourth of them never heard of any such thing. The manufacture of electronic components which involve some of the most dangerous processes seems to be the worst culprit: just above 15 per cent say that their unit has a health and safety policy.

With regards to the presence of health hazard at the workplace, the following is the break-up of respondents who said that the mentioned hazard is present in their workplace:

Eighty-eight per cent feel electrical-related accidents, 57 per cent feel the presence of heat, and 51 per cent feel chemical presence at hazardous level.

- Nearly 34 per cent of the respondents (roughly one in every three) say that there is no ventilation system in their workplace to suck out chemical fumes, and nearly an equal proportion say that the system is not effective.

- Out of the 74 respondents surveyed, nearly 42 per cent do not use any personal protective



equipment.

- Only 12 per cent use earmuff, 11 per cent use mask, and 16 per cent use protective shoes. Fifty-three per cent use some kind of protective equipment like finger guards, gloves, anti-static coat, heel-straps, and wristband. However, most of these protective equipments are to prevent damage to the product rather than to the worker. In some industries where the worker has to dabble with electrical gadgets with high propensity to experience electrical shocks, a rubber sheet is spread on the floor. It is not very clear how effective such arrangements would be in protecting the worker from electrical hazards.

- Nearly one in every three workers who said that chemicals are present in their workplace could not name the chemicals they are using in the production process.

- Flux, thinner, hydrochloric acid, sulphuric acid, nitric acid, isopropyl alcohol, soldering lead, ammonium per sulphate, hydrogen per oxide, sodium per oxide, ammonium chloride, and ethylene are some of the frequently named chemicals as being used in the production process.

- While 55 per cent of the workers interviewed said that they were not given any material safety data sheets (MSDS), as much as 68 per cent said they were not given any safety and health training.

- Eighty-one per cent of the respondents did not undergo any pre-employment medical examination. Even among the permanent employees, just a little above 50 per cent have undergone pre-employment medical examination, and no non-permanent worker has undergone pre-employment examination.

- Forty-six per cent of the permanent workers undergo periodical medical examination, and just 4 per cent among the non-permanent workers have the privilege.

- Nearly 38 per cent of the respondents said that there have been accidents in their workplace, of which 18 per cent were very minor ones. Incidentally, 71 per cent of the respondents who work in television and related industries report some kind of accident in their units.

- Among those who said that there were accidents in their units, 75 per cent said that either no compensation and medical expenses were given, or only medical expenses were given.

Health Problems of Women Workers

Forty per cent of women workers said in this study that they suffer excessive bleeding during the menstrual cycle; 40 per cent said they have to face more than one period a month due to work-related hazards; and 55 per cent feel lower abdominal pain associated with periods.

Women-related health issues in the electronics industry receive low attention though it is emerging as a significant factor for workers. Even though labour legislation provides enough safeguards, it barely seems to be followed. Whenever chemicals are used in the production process, as they are in the electronics industry, it is required that the worker is provided with a material safety data sheet, in a language understandable by the worker, but the same is seldom provided to the worker. We found in the survey that most of the workers were not even aware of the fact that they were involved in a hazardous process. With non-functional ESI, accidents either go unreported or the compensation given just covers the medical expenses. In some cases, the workers reported that when they had to be away from work because of the injury caused during the production process, they were not given any wage for those days as they are ineligible for any leave.

Workplace Organising

Raju works in a television-manufacturing unit. It is a big company. He has been working there for the past seven years, and now he is 25 years old. His job has only been confirmed now. It was a struggle for the past seven years. His earnings were meagre; he had no rights; and he was always forced to work overtime. Supervisors usually use foul language and do not even give basic respect to the workers. Raju works in the moulding division. He has to work with temperatures ranging up to 240° C, and has had to compel the supervisor to give him some safety equipment. Many of his fellow workers in the unit suffered severe burns, but no compensation was given. However, the company took care of the treatment. Subsequently, the workers started a union and demanded for their rights. The company threatened them with police action and many of his fellow workers were lodged in jail with false cases; some were dismissed, while some were attacked with goons. In the face of all this, the workers persisted, and finally many of them including Raju received their job confirmation. The salary hike, which used to be just Rs 80 annually, was now made Rs 1,000 through an interim court order. The ordeal for Raju is not over, though. The work atmosphere now is generally sullen with frequent arguments with the supervisor, and those who are in the union are picked for 'special treatment'. They receive threats from the management. Even the slightest mistakes invite suspension from duty.

One of the more touchy human problems involves the supervisor-worker relationship in a factory situation. It is important to realise that the workers should be given their due respect and all cooperation in what is demonstrably a difficult occupation. When such sensitivity is not displayed in human relations, especially at shop-floor level, the atmosphere degenerates into a distinctly unpleasant situation. Also, when there is discrimination in the treatment of different groups of workers – for example, between permanent and non-permanent workers, or male and female workers – it prevents any kind of solidarity emerging among the workers. Sometimes, it is a deliberate ploy on the part of the management to adopt a kind of 'divide and rule' policy. The situation becomes even more strained

if there is no organisation to channel the grievances of workers. What, then, is the situation in the electronics industry in India according to our survey?

In India, only around eight per cent of the workers are organised, and most of them are in the public sector. In keeping with a worldwide trend, unionisation is low among the electronics industry in India as well. Apart from the public sector units and some big private units in India, there are no unions in most of the units in the electronics industry, and the same has been found to be true in our survey. Especially among the multinationals in the IT sector, unionisation is very actively discouraged with threats of dismissal. One person associated with the IT industry suggested that since the workforce is highly educated there, workers preferred to deal directly with the management than through unions. However, during our survey, we found that whenever workers made attempts to organise themselves in these units, they were dissuaded either through threats or by summarily dismissing those who were regarded as leaders. One respondent in Puducherry narrated how the workers had once complained that the food served during lunch was of poor quality. When they received no proper response, they tried to submit a joint expression in the form of a letter. Consequently, those who were perceived as responsible for the 'joint action' were dismissed, and the others were warned of a similar fate. It is evident that if workers can be dismissed for giving 'joint representation', it may be understood as an active threat to organising.

In this study, 73 per cent of the respondents report that they are not allowed to organise in their units, and more interestingly, 35 per cent express the fear that they will face extreme action in case they try to organise, which means instant dismissal from their job.

Wherever we found the presence of independent workers' union, it could not have been easy for them to get organised, command collective bargaining, and secure their labour rights in the process. The case of the workers in a famous television brand in Bengaluru shows the worst consequences for organising themselves:

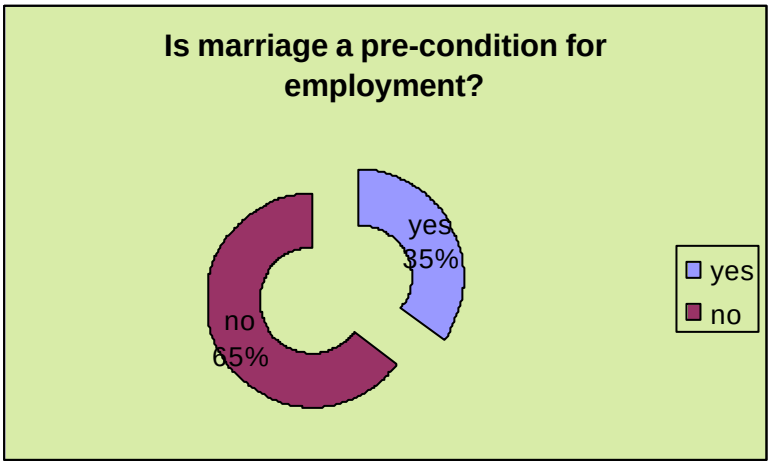
The workers of this company have faced problems right from the beginning, when their union registration was cancelled under pressure from the company. However, they won the case in the court, and their union was rendered legal. "Because of the union, we have dignity now," says Laxmi, who has worked in the company for about 30 years. "I have been toiling in the company for the past 30 years and was not even paid the minimum wages. Only because of the union can I now get decent wages and other benefits. However, we all feel bad because many of our colleagues have lost their jobs in this fight, and some of them are in jail serving life sentence." All of them had a similar story, about the company hiring them as trainees and never making them permanent. After they formed the union in 1998, they went on a strike in November of the same year. The struggle was tough, and they had to face the wrath of the police and management goons. In January 1999, they even went on a hunger strike. In February 1999, 400 to 500 women were arrested as they were demonstrating outside the chief minister's house, and they were put in different lock-ups outside Bengaluru for about a week. Ten to 12 of the arrested women were breastfeeding their babies at that time. The situation took a dramatic turn on March 25, 2003, when some people burnt the company's staff bus, which the union believes was the act of management-hired goons. Two women died in the incident, and according to the union, they died under mysterious circumstances. The police said that the women before dying told the names of the people who burnt the bus, and they included the trade union leaders. Forty-four workers were arrested and put in jail for about two-and-a-half years, and on October 13, 2003, seven of them were convicted and sentenced to life imprisonment – among them were Mr Srinivas, the president, and Mr T.K.S. Kutty, the general secretary, both of them in their late '50s or early '60s. "This is all because of globalisation," said Mr Srinivas, who seemed not to

have lost his vigour in spite of the tough sentence. It is really hard to believe that these people actually took part in burning the bus, as proven in the court of law. Some of the women workers at the prison compound said, "We come here regularly to provide our moral support to our leaders; we also bring some food and books for them." When we asked how they took a day off, they said that the company has asked them to stay at home as there is no work, but that they will be paid their wages. "We feel scared as we have heard they might shut the units," they said. "They have already moved into different sectors, and the money they made all those years, they will invest in something else and close these units, as these are no longer profitable for them." And this is quite visible, as the company has been providing mobile-phone services across some 209 cities in the country, with about two million subscribers in this lucrative business.

❖ **Gender Concerns**

Sonia works in an electronics components factory. She has studied up to matriculation and now earns Rs 4,000. In fact, she has been working at the factory for the past 15 years. Her husband used to work in a nearby factory, but now that factory is closed. He is looking for a job. Now, she has a problem. She has been told that her company has become a 'sick unit'. No overtime payment has been made for the past six months. And there has been no salary raise for the past two years. It is rumoured that many people in the factory would lose their jobs. She is worried. It is a bigger problem for women, she says. "People take advantage of the position. They speak dirty in the sly. If we retort, they ask whether we have no wish of continuing in the job." Didn't she complain to the union? They are equally bad, she remarks. Her work is tough; she usually works with chemicals, suffers from ulcer, and has problems with her periods. She travels a long distance to reach the factory, after doing all the household work. If she comes late even for one day, she is given a warning. Why doesn't she leave and look for work somewhere else with her experience? No work is available, she replies, and it is impossible to indulge in such 'adventure' when she is the only earning member of the family.

Women are more vulnerable to exploitation in a social structure where the odds are heavily stacked against them. They seem to be the first persons to be retrenched or to be threatened with retrenchment in case the unit faces an uncertain future. They face a heavy burden with the additional task of looking after household duties, and for that reason, they are also discriminated in employment opportunities, with unmarried young women being preferred generally. Also, child-rearing duties, in which women share the maximum responsibility, make them vulnerable on the job front as they struggle to cope with an enormous quantity of work. While sexual harassment seems to be rare, as



reported in our survey, the data has to be treated carefully in view of the shame, discrimination and social disapproval attached to women who disclose such attacks. In this study, 35 per cent of women respondents say that being unmarried is a precondition for getting employment in their units, while 15 per cent say that their employment will be terminated if they get married. Moreover, 30 per cent of them feel that their employment gets affected if they have children. The main reasons quoted are 'inconvenience' and 'more responsibility'. However, about 90 per cent of women get maternity leave, with 60 per cent of them getting two-and-a-half months' leave and five per cent, about two months. Less number of women workers (five per cent) say that they are sexually harassed, and the harassment here is mainly verbal.

CHAPTER IV: CONCLUSION

The electronics industry, specifically hardware, is maintaining a growth rate that is significantly higher when compared to other manufacturing sectors, while being lower than its counterpart, that is, software. The electronics industry is also characterised by the entry of multinational giants both in the IT sector and the consumer electronics sector. As a result of this, competition has intensified in these two sectors. The production growth trends in the past five years read a very healthy picture: 28.3 per cent in 1998-99, 27.5 per cent in 1999-2000, 30.5 per cent in 2001-02, and 21 per cent in 2002-03.[28] This has also brought in major multinationals to India. 'Today, all the renowned global brands have either established production facilities in the country or are present in the market through technical/financial collaborations, thus giving customers a wider choice in terms of product features, technology quality and competitive prices', remarks the ministry's annual report for 2001-02.[29]

While production levels have shown significant growth rates in these sectors, it has resulted in certain trends in working conditions and labour relations in the electronics industry. This pilot study has tried to get a whiff of the trends. Most of the units have resorted to employing non-permanent workers, and in many of the units, non-permanent workers number more than the permanent workers. The trend seems to cut across the size of the units, and is true whether the units are domestic or multinational. Also, in all the three sub-sectors that were studied (computers and related sub-sectors, television and related sub-sectors, and components), the proportion of non-permanent workers is significant.

This casualising of labour, which we use in the sense that the majority of workers are non-permanent, even though distinguished as temporary, contract, trainee, and others, puts the workers straightaway at a disadvantage. Naturally, non-permanent workers tend to get paid less – one-fourth of the workers were paid less than Rs 2,000 – and in a significant number of cases, not even minimum wages are paid. Puducherry, where some of the global players like IBM, HCL, and HP have their manufacturing units, is the poorest paid among the three clusters under study. This is basically because of the limited nature of manufacturing activity that comprises the computer sector. None of the major components of computers is manufactured in India; mostly, pre-fabricated components are imported from foreign countries like Taiwan, Singapore, the United States and Malaysia, and only the assembly takes place here. Since assembly of computers involves plug-ins to a large extent, not requiring a great degree of skill, it is accomplished by means of a large number of casual labour, with minimum training and low wages. Even though 69 per cent of the workers said that they were given job training, it hardly lasted for more than two days in a majority of the cases.

One of the crippling effects of this type of non-permanent employment is that there is hardly any social security. Even though social security measures hardly reach the unorganised sector in India, the trend seems to be worse in case of the electronics industry. Most of the workers surveyed came under the skilled category; yet, they were denied even the minimum social security in the form of retirement

[28] *Annual Report – 2002-03*, department of information technology, ministry of communications & Information technology, government of India, p. 10

[29] *Annual Report – 2001-02*, department of information technology, ministry of communications & information technology, government of India, p. 1

benefits or medical insurance. Since most of the workers are not even given an employment contract, they are virtually an invisible working force and the denial of basic rights seems all too easy. The electronics industry involves many processes where there is a high probability of physical injury or illness. Workers are regularly exposed to electric shocks, and in units manufacturing components like PCBs, they are exposed to hazardous fumes and gases. Yet, even in cases of work-related illness, most of the non-permanent workers pay for their own treatment and medication. On the other hand, maternity benefits are provided to a majority of the women workers.

While the accent of the government and the industry management is on increasing productivity and profits, hardly any attention seems to be paid to health and safety issues. The fact that there are no social security measures worth mentioning, when seen concurrently with the absence of motivation to provide a conducive work environment, becomes all the more worrying. More than 50 per cent of workers report that their units do not have any health and safety policy. Electrical-related mishap, heat and chemicals are three of the most frequent hazards quoted by the respondents. Also, the preventive measures taken to protect workers from such hazards do not measure up to the standards prescribed by law. More than one in every two respondents do not use any kind of personal protective equipment. More often than not, in the words of the respondents, the protective equipment is meant more to prevent damage to the machinery than protect the workers. For these workers, liberalisation has brought no joy. Intense competition for jobs has essentially rendered them voiceless to protest against such practices, and getting a job and retaining it is far more important for them than claiming their rights.

Globalisation has also brought in different management strategies: unions are actively discouraged, and employers prefer to deal with the workers directly. Globalisation brings in two styles of management strategy. There is the low-road strategy, which favours hierarchical and specialised division of labour with many low-skilled jobs, characterised by payment according to the time worked, very limited worker training, and flexibility based on changes in hours worked (wage flexibility) and number of persons employed (numerical flexibility), which vary according to demand as well as non-union labour relations (management-preferred) or conflicting relations with one or more unions. On the other hand, the same competition may result in a high-road strategy, characterised by emphasis on quality in combination with product and process innovation, higher margins and higher pay, team-based work organisation with broad task and supervisory responsibilities, performance-related pay, continuous skill formation for flexible roles (functional flexibility) and innovation, and either non-union relations (management-preferred) or cooperative relations with a single union.[30] Based on this model, the survey clearly points to the use of the low-end strategy in India, at least so far as worker-management relations are concerned.

Even though there are a minimum of ten major central trade-union organisations in India, unionisation in the electronics industry is still very minimal. Seventy-three per cent of workers in the survey said that they were not allowed to form unions. This directly goes against the constitutional guarantee of freedom of association. Remarkably, 35 per cent of the workers feared dismissal should they

[30]Kuruvilla, Sarosh, and Frenkel, Stephen, 'Globalisation and Workplace Relations in Electronics Industry in India, China, Malaysia and The Philippines', in *The Indian Journal of Labour Economics*, Vol. 44, no. 3, July-September, 2001, pp. 429-445

participate in union activities or try to form an organisation. Some of the central trade unions have a marginal presence among the workers in our survey. However, it is repeatedly noted that the level of confidence that unions can inspire among workers is rather low here. The long-drawn-out legal process in ensuring justice dampens the spirit of the workers for partaking in prolonged collective action. Poverty, unemployment and lack of unity among the workers make it easier for management to come to individual settlements, considerably reducing the effectiveness of unions. This also works out as a circular process – every out-of-union settlement reduces the ability of the unions to act on behalf of the workers.

It is clear that even while production levels have gone up, it has not reflected in the lives of workers in the electronics industry. There, the worker still tends to work long hours, with poor wages and no social security, and deprived of the fundamental right to association. Worse, while the workforce in the industry is young and skilled, it has not made matters better for them. Because they are invisible, they do not exist in the rolls. And in the new information age, visibility matters.

REFERENCES

Annual Report 2002-03. Department of Information and Technology, Ministry of Communications & Information Technology, Government of India.

Bhavani, T.A. 'Small-scale Units in the Era of Globalisation: Problems and Prospects', *Economic and Political Weekly*. July 20, 2002.

Chhachhi, Amrita (1997). *Dormant Volcanoes or Fresh Green Vegetables? Women Electronic Workers in Delhi*. Institute of Social Studies, The Hague.

De, Rajneesh. 'What ails hardware manufacturing?' www.expresscomputeronline.com/20011105/newsan.htm

Economic Survey 2002-2003. Ministry of Finance & Company Affairs, Economic Division, Government of India.

Electronic Component Industries Association (ELCINA). *Indian Electronics Directory, 2002-03*. New Delhi. 2002.

Gassert, Thomas H (1985). *Health Hazards in Electronics: A Handbook*. Hong Kong. Asia Monitor Resource Center.

Guide to Electronics Industry in India 1999. Department of Electronics, Government of India.

Indian Electronics Directory 2002-03. Electronics Components Industries Association, New Delhi. 2003.

IT Action Plan – II, *Annual Reports 2001-02* and *2002-03*. Department of Information

Technology, Ministry of Communications & Information Technology, Government of India.

Jeffrey, D, Varshney, Ashutosh, and Bajpai, Nirupam (eds), (1999). *India in the Era of Economic Reforms*. New Delhi. Oxford University Press.

Joseph, K.J. *Industry under Economic Liberalization – The Case of Indian Electronics*. Sage Publications, New Delhi. 1997.

Khurana, M.M., and Zindal, S.N. (1994). 'Indian TV Industry: Prospects and Challenges'. *Electronics Information and Planning*. Vol. 21, no. 7.

Kuruvilla, Sarosh, and Frenkel, Stephen. 'Globalisation and Workplace Relations in Electronics Industry in India, China, Malaysia and The Philippines'. *The Indian Journal of Labour Economics*. Vol. 44, no. 3. July-September, 2001.

Leigh, James; Macaskill, Petra; Kuosma, Eeva; and Mandryk, John. *Global Burden of Disease and Injury Due to Occupational Factors*. Epidemiology. September 1998. Vol.10, no. 5.

Roberto, Zagha. 'Labour and India's Economic Reforms'. In Sachs, J.D., Varshney, Ashutosh, and Bajpai, Nirupam (eds), (1999). *India in the Era of Economic Reforms*. Delhi, Oxford University Press.

http://www.mit.gov.in

http://www.abnamroindia.com/Research/pdf/WO-W01M09Y03.pdf

www.circuitree.com/CDA/ArticleInformation/features/BNP_Fea.../0,2133,7729,00.htm

http://www.globalaging.org/health/world/socindia.pdf

http//itfriend.mit.gov.in/advantageindia/industryprofile.htm

http://samsungindia.com/who_are/company/performance.asp

http://www.idpad.org/docs/2000-5Servastrom.doc

http:///www.iisg.nl/~clara/rep_hensman_htm