

Occupational Health Regulation: The Case of Women Workers in Selected Economic Zones in the Philippines

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This study investigates the impact of information technology and gender relations in two manufacturing industries, namely, garments and electronics, in the Philippines on the health and nature of work of women workers. It consists of a cross-sectional study of 23 establishments, 630 respondents and 47 supervisors. Methodology consists of questionnaires, walk-through survey of industries and interviews. The study shows that the overall physical health of supervisors is affected by factors such as number of workers supervised; burdensome, fast-paced and toxic nature of work; overtime; and lack of job autonomy. Workers' health is also affected by close monitoring, poor quality of work and hazard exposures. Results show that gender segregation is evident in companies, that new management styles and production processes adversely affect the health of women, and that information technology has brought about several organizational changes affecting women's nature of work. The data were analyzed in the light of existing regulations of the four books of the Labor Code of the Philippines. Policy and advocacy work implications are recommended based on the results of the study.

Introduction

The new era of work is an interesting inquiry in our modern society, which has been to a great extent, shaped and influenced by the new information and communication technologies. Information technology has created new industries such as electronics and semiconductor manufacturing. It has also altered the work production process in "traditional" manufacturing such as in garments and textile. The use of microelectronic devices in modern machinery has been widely adopted in the various phases of production. The so-called "modern" industries like semiconductors and electronics as well as the "traditional" ones like garments and textiles are now faced with new work processes and new forms of work organization, as a consequence of these new information technological inputs into the work systems. Microelectronics-based equipment, numerically-controlled machine tools, computer-aided designs, robotics and programmable controllers have all changed the nature of

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task, organizational setup and work conditions of the workers. In the textile industry, for instance, the use of circular automatic looms in knitting has necessitated special training for the blue-collar workers (Brady 1989; Acero 1995). The use of microelectronic control devices has also facilitated the adoption of new forms of management and work organization, such as "semi-autonomous groups," "quality control circles" and "just in time production" (Ferraz 1992; Acero 1995). In the banking industry, information technology has brought about new work strategies for customer service such as electronic transfer, automated clearing, and home banking and insurance. This cuts down the need for front office desks and facilitates the relocation of information processing to the central office answered and done by automated machines with built-in voice mails (Senker and Senker 1994; Webster 1996: 46-47).

Work relations and work organizations are influenced by the introduction of information technology among the various occupational and job categories. This seems to follow the labor process theory of Braverman (1974) that tasks are fragmented, intensified and controlled, thereby deskilling the work (Braverman 1974).

The study of Jacobs and Lim is suggestive of the deterioration of women's economic position in developing countries. Although they noted a declining trend of gender segregation across occupations and industries, this is not translated into equal economic advantages for both men and women (Jacobs and Lim 1995: 259). Even the growth of new industries like soft manufactures (mainly electronics and garments) has not erased women's economic disadvantage. The latest production commodities that involve the use of up to date information technologies are called soft manufactures in contrast to hard manufactures that involve bulky machineries such as in shipbuilding and automobile manufacturing.

The experiences of women in developing countries give us a perspective on their working conditions and the effect of employment on their lives. In Bangladesh, the export-oriented garment industry created a feminine labor force employing about 500,000 young women. Job conditions in the factories are far from perfect or even normal. They are characterized by low wages, unsafe work environment, overwork and lack of job security. But, it is even better than employment in domestic work and prostitution. Those in the Video-Display terminals reported video blues which consist of syndromes of eye problems, varicose veins, headaches, nausea, skin allergies, and persistent coughs and colds including extreme reproductive problems such as abortion, infertility, stillbirths and birth defects (Spivak 1993 as cited in Mitter et al. 1995: 18). Among the issues focused on women workers included health and safety, establishment of childcare facilities, housing and transportation benefits. Some of the problems encountered by Indian women in the workplace included burden of the dual role, sexual harassment, lack of

solidarity among women, and the need to exert double time to gain the same recognition accorded their male counterpart (Gothoskar 1995: 166). The increased scale and pace of production have also led to stress among women.

As regards work environment and hazard exposures of women in industrial sector, the Bureau of Working Conditions reported the following problems in the Philippines: isolation and fatigue from decreased communication, reproductive-associated problems such as spontaneous abortion from chemical exposures, injuries and disabilities from unsafe machines, allergies and chemical burns, headaches and loss of sight from working with video terminal displays and localized muscular and back pains due to prolonged standing and repetitive and strenuous work (BLES, DOLE 1994: 23-32). Aganon (1994) noted that young workers in Philippine export zones were confronted with long hours and overtime work. This becomes heavier for women who are saddled with household, family, child care and community responsibilities. Aganon also noted that many women workers in export zones who work at night are subjected to socially disruptive shift work, compulsory overtime, extreme fatigue, hazard exposures or a combination of these factors.

On the other hand, some positive effects of the use of information technology in the production process are evident in literature. The need for both software design and hardware manufacture of electronics products does not only alter the employment composition between sexes but also demands a shift in supervisory skills. In traditional mass production processes, supervision is connected with the monitoring and surveillance of the workforce to ensure that standard operating procedures are met and output is maximized. The global trend of high value added, application-specific, integrated circuits requires greater input from supervisors on circuit design and software programming. This veers away from the repetitive and unchallenging roles of supervisors and managers to more creative, challenging and autonomous jobs. In fact, factory work is regarded as "clean, light, secure, prestigious work to young women compared to homework and work in the informal sector" (Ackerman 1984, cited in Ng 1996: 76). In Malaysia, the semiconductor sector demands expertise in material control systems such as material requirement and material resource planning.

In the light of these developments in the labor market which have significantly depended on women's labor to meet the volatility of the global market, and the demand for competitiveness and quality production, it is worthwhile to look into the nature and content of women's work as influenced by information technologies. The study looks into the role of information technology in the contemporary development of women's work and into the organizational changes concomitant with technological innovations. It also investigates the health of women workers and how it is influenced by the

complex physical work environment, social environment, the process and organization of their work and the impact of economic changes in the local and global levels.

Findings of the Study

There were a total of 23 industries taken from the list of semiconductor and garment industries located in Laguna and Cavite export zones. The samples were selected through stratified random sampling consisting of 13 electronics and ten garments establishments. Based on a proportionate sampling, there were a total of five small industries, five medium-scale, and 13 large-scale industries. The classification is based on the existing Department of Labor and Employment (DOLE) category: small industries employ less than 100 workers, medium scale employ 100-199 workers and large scale employ 200 and more workers.

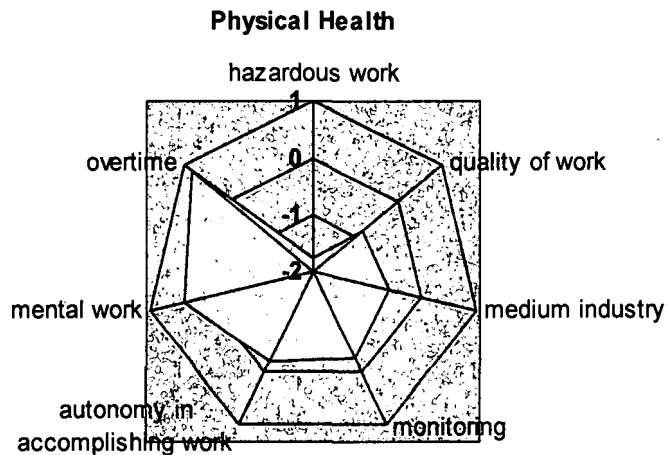
The survey questionnaire was administered to 630 women respondents whose mean age was 27 years old and was mostly 24 years old. This shows a relatively young and active population. Majority or 64 percent were single and around 41 percent had a salary range of P6,001 to P8,000 per month. However, 4.92 percent of the respondents received only a measly amount of at most P4,000. The new technologies and computer-aided facilities used by the sample industries in this study were computerized decision support systems, computer information systems, computer aided design (CAD), computer aided manufacturing (CAM), computer integrated manufacturing (CIM), computer numerically controlled machine (CNC), mechanized product systems such as conveyor belts or workstations, and robotics.

Of the sample establishments in the electronics industry, more than half were large industries (53.8%), followed by medium (30.7%) and then small (15.3%). In the garment industry, the large scale industries were likewise predominant (60%), followed by small (30%) and then medium industries (10%). Females dominated the labor force.

The overall physical health of workers is affected by overtime and mental work. It was found out that workers who have autonomy in making use of their own strategy to accomplish their work are likely to have higher level of physical health. In contrast, those under close monitoring are more likely to have low level of physical health. Poor quality of work and exposure to hazardous work also increase chances of having low physical health among workers. Cases of low physical health are less common in medium industries (See Table 1 and Figure 1).

Table 1. Work Conditions Affecting the Physical Health of Workers

<i>Physical Health</i>	<i>Coefficient</i>	<i>Odds Ratio</i>	<i>Standard Error</i>	<i>z</i>	<i>P> z </i>
Overtime	0.80	2.23	0.26	3.04	0.00
Mental work	0.39	1.48	0.14	2.80	0.01
Autonomy in accomplishing work	0.23	1.80	0.13	1.72	0.09
Monitoring	-0.28	0.76	0.13	-2.11	0.04
Medium industry	-0.61	0.55	0.32	-1.91	0.06
Quality of work	-0.83	0.44	0.14	-5.80	0.00
Hazardous work	-1.77	0.17	0.28	-6.36	0.00
Constant	1.38		0.28	4.85	0.00

Figure 1. Physical Health**Analysis of Data**

The data gathered in the study were analyzed in the light of existing provisions of the Labor Code of the Philippines in order to assess the compliance and/or non-compliance of the industries included in this study. In the same manner, the results of the study were used to assess the lapses and gaps in the existing rules and regulations pertaining to health and safety standards for workers.

The garment industry employs workers under its apprenticeship program where they are paid 75 percent of the minimum wage with no fringe benefits. This employment arrangement is allowed by the government but only for a limited period, that is, until such time that the worker has gained mastery over the work (Section 6, Rule I, Book 6, Labor Code of the Philippines). The study however found out that the women workers have been employed for so many years already as apprentice, moving from one industry to another, and in spite of mastery of work, they have not gained entry into the regular workforce. This arrangement is more precarious than contractual employment since the wage is far below the sustainable level, and work employment is limited to five months only.

Casual employment is also allowed by law but insofar as "the work or service is incidental to the business of the employer and such job, work or service is for a definite period made known to the employee at the time of engagement" (Section 5b, Rule I, Book 6). The study however showed that employers resorted to casual employment even for integral tasks and services in the company. This remains to be the dominant mode of employment in the garment industry.

The workers may also leave the premises of the workplace during rest period, and such is counted as compensable working time (Section 4 b, Rule 1, Book 3). This however is not implemented at work because of the strict surveillance of the entry and exit of employees from the work premises. There are guards stationed at the gates who monitor the movement of employees.

With regard to meal and rest periods, the law provides that the employer shall give no less than one hour off for regular meals. In most of the industries in this study, women workers are given only 30-minute meal break and then are asked to resume work immediately. The meal period of less than one hour is permitted only under the following conditions: where work is non-manual, where the work production is not less than 16 hours a day, and when there are emergencies such as breakdown in equipment (Section 7, Rule I, Book 3). The study showed that the standard operating procedure is usually 30-minute lunch break even on regular working days, which cover assembly line work characterized by physically demanding tasks.

On overtime work, Section 10 of the same book is clear about its stipulation that "in cases not falling within any of the (proceeding), no employee may be made to work beyond eight hours a day against his will." These conditions include exigencies of war, breakdown of equipment, where overtime work is necessary to prevent loss of property and to prevent damage to perishable goods. The women in the study however revealed that they are made to work overtime without their consent. They call this "management prerogative" and "forced overtime."

Night shift differential is also a very neglected issue in terms of compensation and in the computation of wages. Section 2, Rule II of Book 3 states that an employee shall be paid a night shift differential of not less than ten percent of the regular wage when work is performed between 10:00 in the evening until 6:00 in the morning. The 24-hour work production schedule in the industries usually requires two to three work shifts, but the compensation of the night shifters does not embody the stipulated ten percent additional wage. Likewise, wage deductions for losses and damages can be made but only through a judicial process such as giving opportunity to the worker to justify why deductions should not be made. This is also permitted when the employer actually supplies the tools, equipment and materials to the employee. In the garment industry, poor quality goods and rejects are deducted from the salary of the workers, leaving them with very measly income at the end of the day. This should not be allowed as there are other mechanisms by which poor quality can be limited or discouraged other than salary deductions. Oftentimes, it is the conditions at work that predispose poor quality output beyond the control of the workers like too long working hours, exposure to excessive heat and other hazards, and lack of training (Section 11 of Rule VIII, Book 3).

Labor-only contracting is a work arrangement where the contractor or subcontractor provides labor to perform a job or service for a principal employer. The law only allows this when the principal employer does not have substantial capital or investment to actually perform the job, work or service under its own account and responsibility (Section 4f, Rule VIII, Book 3). In the Philippines, however, both garment and electronic industries are covered by this kind of work arrangement where labor and/or physical space is provided by the subcontractor, and the actual capital outlay for facilities and machineries is given by the principal company. Many mother companies resort to subcontracting in this form to evade problems associated with labor management, thus limiting their responsibility to more controllable non-human assets. Notwithstanding the common practice nowadays towards subcontracting and contracting of work and services, this is clearly prohibited by law in cases such as contracting out work that displaces employees of the principal company, or reduces their working hours. Lean production, which has downsized employees to a minimum core, while maintaining a large segment of flexible subcontracted workers is clearly against the law and not in accordance with the spirit of preserving and protecting regular employment.

It is a common practice in garment industries to pay workers by results. Section 9, Rule 1 of Book 3 stipulates that these workers should not receive less than the minimum wage for the regular eight-hour work, and a proportion of it if less than eight hours. Based on the interviews with the women workers in the garment industry, many receive below the minimum wage which can go as low as P160.00 per day on piece rate basis.

The coverage of wage increase exempts some industries in the export processing zone (Section 15 of Rule IX, Book 3) for a maximum of three years and where such company is shown to have initial difficulty in implementing the wage increase. This is just one of the benefits given to the industries inside export zones in the Philippines, which can be deleterious to the workers. Related also to the payment of wages to workers, is the provision of the law on rights of a union representative or worker's representative to concur in case of an investigation of the wage structure in the company. The worker representative has the right to submit directly his own findings to the Department of Labor and to "testify if he does not concur with the findings of the labor inspector" (Section 18, Rule IX, Book 3). This right however is not communicated to the workers and their representatives, there has never been any instance where the findings of the labor inspector have been contested or verified by the workers themselves. In one electronic industry covered in the study, workers complained of wage distortion as a consequence of wage increase orders. This situation is where employees who previously received the minimum wage are now comparable with those who have higher than minimum wage prior to the wage increase, resulting in the demoralization of workers prejudiced by the wage scheme. This happens in companies that have been experiencing financial downturns. Situations like these, warrant employer and the union to negotiate and correct the wage distortion through collective bargaining agreement (Chapter 3, Section 7, Book 3).

Thirteenth month pay is mandated by law which means one twelfth of the basic salary of an employee within a calendar year must be given to all employees except to distressed employers who had been suffering substantial losses. In effect, any industry in the Philippines can now apply for exemption due to substantial losses for the recent years caused by the financial crisis. This stipulation does not cover what substantial loss means to various companies.

Inspection is regularly done by the Regional Office of DOLE to ensure that the conditions in the Labor Code are followed and complied with by industries within their jurisdiction. The inspection result must be posted in two conspicuous places inside the company premises (Section 4, Rule X, and Book 3). In all the industries investigated in the study, none was observed to have posted the findings of the labor inspector. This requirement is important to make workers aware of the existing work conditions and to inform the workforce of the compliance and noncompliance of their management to standard rules and requirements.

The protection of women and children is provided for by Rule XII of Book 3 of the Labor Code of the Philippines. Specifically Section 5 says that women should not be discriminated against with respect to training, promotion, wage structure, tenure and other privileges. Management must actually be fully

aware of the need to give fair and objective opportunities to both sexes at work in terms of promotion, training, and benefits, and must not exercise gender discrimination in any form.

It is also mandated that the labor representative of the management committee or a certified labor organization be elected by at least a majority of all rank-and-file employees who have rendered a minimum of six months continuous service. This is contrary to the findings of the study where there is one or actually no labor representative to the management committees. They are selected by management. Even the composition of the labor-management committee should consist of an equal number of both management representatives and rank and file employees (Section 2 a, b, Rule II, Book 3).

Book Four of the Labor Code contains the Implementing Rules and Regulations on Health, Safety, and Welfare Benefits. This includes provisions on the number of health personnel, health training needs, training and qualifications of occupational health personnel, surveillance and monitoring of hazards at work, and the establishment of standard or threshold limit values for hazard exposures in the workplace.

Rule 1070-1075.04 of the Occupational Safety and Health Standards establishes the threshold limit value for all exposures to chemical and physical hazards in the workplace. Threshold limit value (TLV) represents the concentration or level of substances to which nearly all workers may be exposed without causing any adverse health effects. This study showed that almost all chemical and physical hazards were exceeded and thus may be inimical to the women workers' health. For instance, exposure to heat above the TLV of 28 degrees centigrade for moderate work and standard work-rest regimen resulted in heat stress manifesting in headaches and fainting.

None of the large industries employed a full-time physician which is contrary to the stipulation that those that employ more than 300 workers should have at least one physician, a dental clinic, and an emergency hospital with one bed capacity for every 100 workers. The physicians usually come at designated hours and days rendering about twelve hours of medical service a week. This is far below the requirement that they should stay in the work premises for at least eight hours everyday, and during night shifts, a nurse or a first aide should be assigned (Section 4, Rule I, Book 6). The physician should also have a minimum training in occupational medicine course conducted by the Occupational Safety and Health Center and the College of Public Health of the University of the Philippines. This one-week training course is not sufficient to cover all aspects of occupational health. In addition to the training, the physicians should be required to know the entire work production and the associated hazards at work. The workers in the study reported that most of the health practitioners stay only in the clinic, and

rarely go around the work premises where they could have firsthand information of the extent of hazards at work. Occupational medicine is preventive in nature, not curative or rehabilitative, and so, physicians must be actively engaged in preventive measures. The usual medical regimen is the provision of drugs like painkillers for headaches and commercial drugs for upper respiratory disorders, without proper diagnosis of the work-relatedness of the ailment. As such, the practice of occupational health and medicine is still far from its preventive thrust.

The Bureau of Working Conditions also requires that establishments submit an annual medical report. This report however does not contain any item on possible causes of the illness arising from the workplace, but is rather a mere enumeration of the number of workers suffering from a particular illness at work. It does not reflect the work-relatedness of illnesses and injuries incurred at work, and may eventually mask the need to redesign the workplace. A revised medical form should include actual quantification of hazard exposure.

The definition of the hazardous workplace by the Bureau of Working Conditions also needs revision and review as it does not cover new work hazards. It is still defined by the traditional hazards of previous traditional manufacturing industries. The so-called light industries such as electronic manufactures are not included in the list of hazardous workplaces. Section 7 of Rule I of the same book provides the list of hazardous workplaces as: "where the nature of the work process exposes the workers to dangerous environmental elements, contaminants or work conditions including ionizing radiation, chemicals, fire, flammable substances, noxious elements and the like, where workers are engaged in construction work, deep sea diving, those who are engaged in the manufacture of explosives and those handling driven machinery or equipment or power driven tools (Section 8, Rule I, Book 4). The new industrial hazards like persistent musculoskeletal disorder characterized by workers as squeezing pain at the waist, shoulders or hands, mental distress, handling of toxic chemicals and the like are not included. In view of this, there is a need to review and update the provisions in the health and safety book.

With regard to comprehensive health programs, only three industries in the study submit such report annually to the regional office of DOLE. This reportorial requirement must be rigorously implemented since it is the basis for the assessment of how management controls hazard exposure and promotes health and safety of the workers. It is also recommended that this report be incorporated in the annual medical form submitted to the Bureau of Working Conditions and Regional Office of DOLE.

The training program and information dissemination campaign of the Occupational Safety and Health Center which is in charge of these functions

are insufficient insofar as equipping workers with knowledge on hazard identification at work. The control strategy is also focused on personal accountability such as use of personal protective equipment, and directed to assembly workers. Training for management should also be done on control measures that must be actively adopted by management itself.

Section 8, b of Rule I also stipulates that every establishment must be monitored at least once a year, or more often if there are complaints. But with the current workforce of inspectors, this is rarely carried out. There are industries that have never been inspected, others every three to five years only. To address this problem, it is suggested that, prior to securing a permit from DOLE to operate, training of a supervisor or designated personnel should be done first. In this training, all the reportorial requirements will be made known to the industry. This is one way to promote health and safety concerns in industries that may eventually be selected for inspection by DOLE.

The parameters laid down for compensable illnesses are also limited, resulting in limited access and award compensability. Not all workers are aware that diseases and injuries are compensated by Social Security System (SSS) and/or the Employees Compensation Commission. Also, the periodic medical examination provided for the employees yearly should include the following: eye check-up, hearing acuity, musculoskeletal integrity, blood test for determination of metabolite of chemicals found in the industry. For blood testing, the usual parameters taken are red blood cell and white blood cell counts, which cannot entirely show the work-relatedness of any physiological imbalance. In order to make medical examinations more work-relevant and to capture the work-relatedness of illnesses, the following are recommended: first, a mandatory comprehensive ambient monitoring of the workplace should be done for all identified hazards like noise, heat, radiation, chemical exposures, illumination and the like. Second, those that exceed the threshold limit value should have biologic surveillance of exposed workers such as blood lead testing. Third, for those who exceed the biologic threshold value for standards of health, they should be treated and assigned immediately to less hazardous workstation while at the same time, corrective engineering measures be done by management to deal with the problem. It is also recommended that yearly examination be done for visual acuity in all establishments and hearing acuity for those establishments where noise is inevitable in the work production. The list of compensable diseases or ailments should also include visual problems.

In the application of the employee/worker for compensable illnesses, the Bureau of Working Conditions and the regional office of DOLE shall automatically provide the medical and safety records of the establishment. This shall include the annual medical report, annual hazard report, and the annual medical examination record of the employee covering her first

employment to the time of illness or injury. This will greatly facilitate the decision of approving body on compensable diseases. The usual procedure for applying and claiming compensation puts the burden of proof on the worker like submission of medical record duly signed by her private doctor. Due to lack of resources and complete documentation of the work-relatedness of illness, the worker is usually denied the claim. Those who make decisions on compensable illnesses in the SSS must also be required to have at least training in occupational health and safety because general medicine is very different from occupational medicine.

The liability clause in Rule IV of Book Four in the Implementing Rules and Regulations (IRR) of the Labor Code limits the claim for compensation since Section 1 stipulates that no compensation shall be made where injury, sickness or death was occasioned by "his intoxication, his willful intention to injure or kill himself, or his notorious negligence." There is no provision on the liability of management. To show the case at hand, the results of the interview in this study showed a situation where some women workers use chemical solvents to wash their hands. These solvents are readily available in the work premises, as they are important industrial bases, degreasers, additives or binders. When asked about this practice, the women said that the stains caused by chemicals could not be removed from their hands by merely using soap and water, they used solvents instead. Upon investigation of the work premises, it was noted that there were no washing facilities and safe-cleansing agents provided for the workers. Despite persistent cautioning by management to stop washing with solvents as this may cause toxicity, workers persisted. This clearly shows that the "notorious negligence" of the worker was caused by lack of alternative measures by the management. The liability clause should indicate that the workers' negligence is culpable when there is a clear showing that management exercised its "duty of care."

The "duty of care" of management should be well defined in the health and safety code of the Philippines (Sutherland and Cooper 2000). The "duty of care" shall depend on the following conditions: 1) duties are made absolute when the risk of injury or illness is inevitable and where the work production is impossible without use of substances and machineries that are hazardous; 2) control measures must be implemented even when they are costly when the risk of injury or illness is inevitable. For instance, the use of ozone or the production of ozone as a by-product in the work production must always include the use of ozone control device to prevent exposure of workers; 3) where employers think that a control measure is not necessary because of cost-benefit considerations, the former should show that the cost far exceeds the benefit, and where there is contained risk to workers.

There are other provisions that must be incorporated in this "duty of care" of management and employers. The term itself, "duty of care" is not used

in the labor standards. It is indicated as a mandatory requirement for employers. Based on the study, these are the lapses in the provisions:

1. The worker's right to know the chemicals and hazardous agents they are handling at work. The Material Safety Data Sheet (MSDS) which contains the chemical information and hazardous content of substances should be posted in conspicuous areas in the workplace. This should be explained to the workers including the preventive and control measures. The MSDS however is very technical and written in English. It should be translated into layman's term and to Filipino. The Occupational Safety and Health Center (OSHC) can help in this endeavor, as it is the training and research center of DOLE.
2. The right to know the computation of wages and benefits, to avoid misunderstanding and ensure transparency and accountability. This way, wage distortions are also prevented.
3. Access of the labor union representatives to any reportorial document submitted by management to the Department of Labor and Employment related to their health, safety and the conditions of employment. The reportorial forms submitted by the establishments should in fact bear the signatures of the labor representatives attesting to the veracity and truth of the report. This is also a means by which additional verification procedure is done when labor inspection could not be carried out in certain establishments due to lack of manpower.
4. Training on safe handling, storage, and transport of chemicals and substances. Accidents related to chemicals will be reduced through this training program.
5. Focus of the training program of the OSHC on preventive and control strategies related to hazard exposures. Training and information dissemination should also include topics on the benefits that workers can avail of such as compensation of work-related illnesses and injuries, information about agencies that could provide assistance on dispute settlement or work problem resolution, and information on their rights and benefits. In fact, none of the workers have heard about the Employees Compensation Commission, which gives double compensation to work-related illnesses. The benefits under the Employees Compensation Commission include (Rule VII, Section 1, Book 3) "medical services, appliances and supplies; rehabilitation facilities; temporary total disability benefit; permanent total disability benefit; permanent partial disability benefit; death benefit and funeral benefit."

6. Emphasis on the need to promote health at work. Mental health is defined in many ways. It can mean a positive sense of self-concept, the capacity to effectively interact with others and cope with the challenges of daily living, or the ability to function in accordance with the normal expectations of society. Mental health can also be defined as "a state of well-being in which the individual realizes his or her own abilities, can work productively and fruitfully, and is able to contribute to her or his community" (<http://www.who.int/mediacentre/factsheets/fs220/en1>). There is no provision in the Labor Code on specific strategies to diagnose, prevent, treat, and rehabilitate mental health problems.

Memorandum Circular No. 2, Series of 1998 by virtue of Article 5 and Article 162 of the Labor Code of the Philippines provides the general classification for hazardous and non-hazardous establishments, processes, substances and conditions. However, as stated earlier, the classification refers to the traditional hazards and does not include the advanced hazards in new modern industrial establishments. It does not cover conditions where persistent fatigue arises as well as chronic sleep debt, persistent low back pain or related musculoskeletal disorders, visual strain and failing eyesight, persistent upper respiratory tract infection, mental stress and violence at work. Standards on these modern health and safety hazards should be specifically indicated as part of the implementing rules and regulations.

For the application of criteria for the determination of hazardous work, Section 7 of Memorandum Circular No. 2 states that hazards evaluation and assessment shall consider the following factors: "quantity of hazardous materials and substances, the hazardous work processes or operations undertaken, the number of workers affected, the period of exposure and the effectiveness of preventive and control measures that have been set in the establishment." But these are just qualitative criteria which leave the inspector to his own judgment as to what is hazardous and non-hazardous. A weighting system is therefore suggested in the hazard and risk assessment of industries. Based on the study conducted, government agencies are recommended to use an exposure and risk rating system. The matrix below is formulated based on the data gathered in the study.

Exposure Ratings for Chemical Exposure

Chemical exposure is one of the hazard exposures of women workers. The proposed exposure rating system (see Table 2) allows an easy guideline for the assessment of chemical hazards considering factors such as contact with the body surface, generation of vapor within the breathing zone,

Table 2. Exposure Ratings for Chemical Exposure

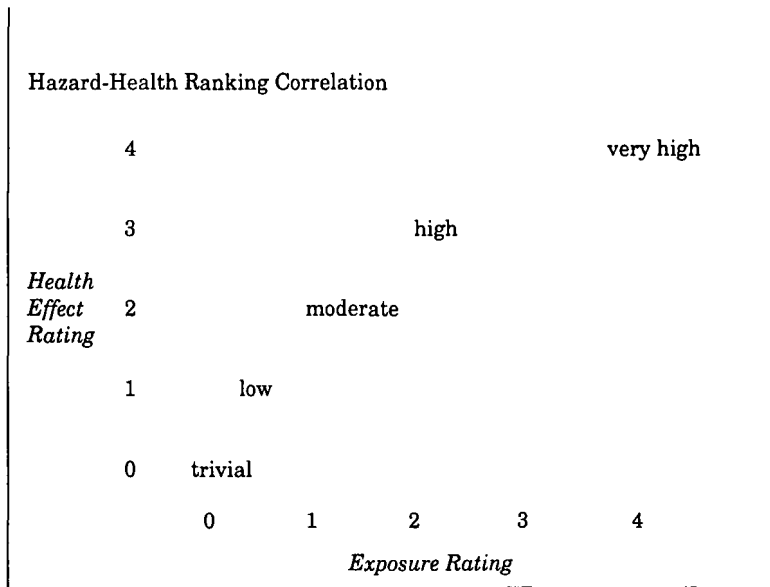
<i>Exposure Rating Estimate</i>	<i>Category</i>	<i>Qualitative Description</i>	<i>Exposure Time</i>
0	No exposure	No contact Not within breathing zone	No exposure time
1	Low exposure	Minimum contact Minimum concentration within breathing zone	Less than the specified TLV Ceiling
2	Moderate exposure	Moderate contact Moderate concentration within breathing zone	Less than 50 percent of the 8-hour workday.
3	High exposure	High contact High concentration within breathing zone	More than the specified TLV Ceiling; and TLV- TWA
4	Very high exposure	Very high contact Very high concentration within breathing zone	More than the specified TLV Ceiling; and TLV- TWA

threshold limit values established by OSHA and American Conference of Governmental Industrial Hygienists (ACGIH), and exposure time. For example, exposure-rating estimate of zero means no exposure either through dermal contact or within the breathing zone of the worker. Minimal exposure is allowed in industries rather than no exposure at all. The worker may be exposed to chemicals for a minimal period and for a minimum concentration. Moderate exposure is given an estimate of two percent which means moderate amount of exposure by contact or respiratory route, and exposure time of less than 50 percent of the total eight-hour workday. Very high exposure means there is excessive exposure above the threshold limit value, which varies per chemical and where the exposure time is beyond the eight-hour work duration. It can also mean an exposure time specified for TLV-Ceiling for maximum exposure to prevent acute responses.

Hazard-Health Ranking Correlation

The matrix below is a qualitative ranking coordinate that shows the correlation between health effects and hazard exposure. The greater the hazard rating exposure, the greater the adverse health effect. For instance, ethyl acetate which is a common organic solvent in industries has a TLV of 400 PPM (parts per million). If the worker is exposed to about 900 PPM for 12 hours per day, her exposure is categorized as very high. The consequent health effect would also be higher compared to the effect of a minimal exposure.

Figure 2. Health Hazard Rating Matrix



The exposure hazard rating for physical hazards (refer to table 3), other than chemical also shows the same principle as that of the chemical hazard rating matrix. No exposure means there is absence of hazard, either noise, heat, cold, pressure, vibration, radiation or illumination. For instance, noise, which has a TLV-TWA of 85 dbA, should not exceed eight hours; otherwise exposure becomes high or very high depending on the noise level and exposure time. For illumination, the required amount of light for very detailed inspection of microchips requires about 1000 lux. Below this level, eye strain may develop. Moderate exposure may be allowed as long as exposure time is minimized and in accordance with recommended TLV-ceiling.

Required Control Measures

The corresponding control measure (see Table 4) to be implemented in the workplace in relation to hazard exposure is related to the degree of risk to which a worker is exposed. There are three major control measures: the use of personal protective equipment (PPE), administrative controls, and engineering method. The use of PPE includes protective caps, respirator, earplug and the like. Administrative controls include shortening exposure duration, massive information dissemination and support by management. Engineering controls include enclosure, use of noise mufflers for noisy equipment, reengineering equipment, machineries and tools, and use of exhaust and general ventilation systems.

Table 3. Exposure Ratings for Physical Hazards such as Noise, Heat and the Like

<i>Exposure Rating Estimate</i>	<i>Category</i>	<i>Qualitative Description</i>	<i>Exposure Time</i>
0	No exposure	No exposure	No exposure time
1	Low exposure	Minimum exposure Within threshold limit value	Less than the specified TLV-ceiling
2	Moderate	Moderate exposure Within threshold limit value; or Above threshold limit value but exposure time within TLV- ceiling	Less than 50 percent of the eight-hour workday; or Above TLV-ceiling
3	High exposure	High exposure More than the required TLV-TWA for eight-hour workday.	More than the specified TLV-ceiling and TLV-TWA
4	Very high exposure	Very high exposure More than the required TLV-TWA for eight-hour workday.	More than the specified TLV-ceiling and TLV-TWA

Table 4. Required Control Measures

<i>Exposure Rating Estimate</i>	<i>Use of Personal Protective Equipment</i>	<i>Administrative Control Measures</i>	<i>Engineering Control Measures</i>	<i>Regular Monitoring and Surveillance</i>
0	X	X	X	/
1	x	X	X	/
2	/	/	X	/
3	/	/	/	/
4	/	/	/	/

Proposed Monitoring System

A monitoring system is an urgent standard operating procedure among labor inspectorates. Considering the dearth of inspectors in the country (there

are only 250 inspectors for about 500,000 registered industries), a rating matrix would facilitate the coordination and monitoring of compliance among industries. Table 5 shows a proposed monitoring system which incorporates violation and corresponding sanction. Monitoring is required only for zero, minimal and moderate exposures. For high and very high exposures, immediate rectification of the problem area should be done. Noncompliance of Order for Rectification will lead to suspension of operation.

Table 5. Proposed Monitoring System

<i>Violation Estimate</i>	<i>Description</i>	<i>Category</i>	<i>Sanction</i>
0	No exposure	No violation	
1	Low exposure	Monitoring required	
2	Moderate exposure	Monitoring required	
3	High exposure	Order for immediate rectification required	Noncompliance warrants a subpoena
4	Very high exposure	Order for immediate and mandatory rectification required	Noncompliance warrants suspension

Proposed Health Hazard Rating

For health hazard rating (Table 6), the intensity and frequency of the illness are used as gauge in determining the level of occupational illness. An inspector or the management can itself get a random sample of workers, and then get the number of illnesses according to frequency and intensity, which will then be the basis for the health hazard rating matrix.

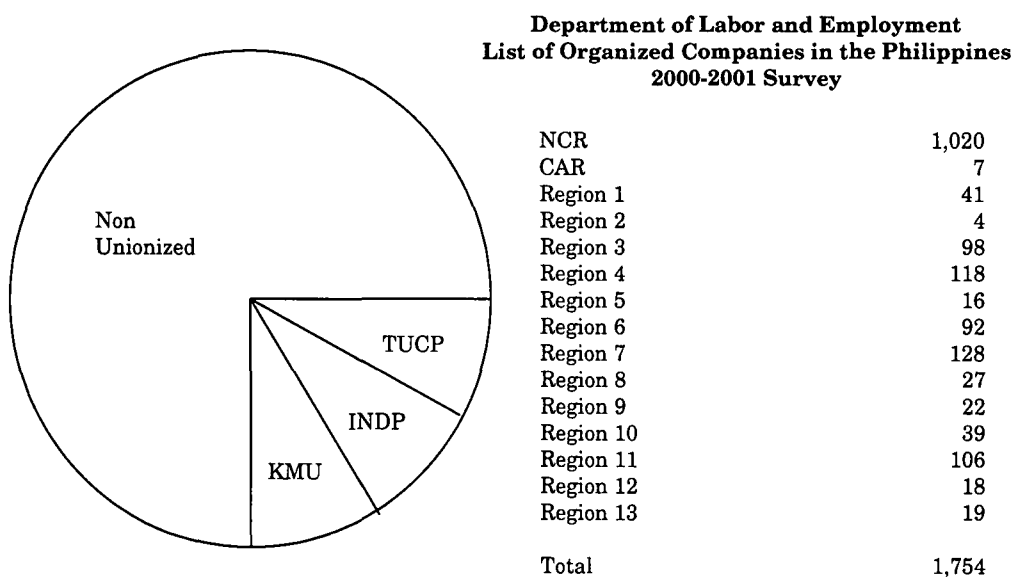
Table 6. Proposed Health Hazard Rating

<i>Frequency of Health Problem</i>	<i>Intensity of Health Problems</i>		
	<i>Slight</i>	<i>Moderate</i>	<i>Severe</i>
Rarely	1	2	3
Occasional	2	3	4
Frequent or always	3	4	5

Right to Self-Organization

Department Order No. 9, Series of 1997 amending Book V of the Labor Code in Section 1, Rule II states that it is the policy of the State to promote free and responsible exercise of right to self-organization of workers. But this is not rigorously pursued in all zones of industrial production particularly in export zones where organized union is discouraged. Figure 3 shows the extent of labor organizing in the various regions in the country.

Figure 3. Coverage of Unionism in Export Zones in Region IV



Data from IMI, Laguna Technopark.

The objectives of labor-management cooperation are envisioned to be beneficial to both management and workers. For management, it is a venue for sharing information about business conditions, work processes, product development and other matters related to production. It is also a venue to discuss organizational structures related to work schedules, compensation, compliance with rules and regulations, lay-off and overtime work. It is a means to harness the potential and skills of workers in decisionmaking processes covering product development, quality assurance, best surveillance system and new innovations in work. For the workers, it is an opportunity to participate in policymaking and program formulation in the various departments, an avenue to voice their problems and issues, whether personal

or work-related, and to build collaborative relationships with management. In the end, this is viewed as means to attain the highest level of performance, efficiency, and health and safety at work. The joint collaboration of management and workers is needed in the prevention of physical and mental health problems at work and in carrying out the most appropriate organizational structure and processes for the benefit of both management and workers. In fact, the study of Aganon, Ofreneo, et al. (1998) reported the following benefits that women workers cited from unionizing: improving their socioeconomic status in society, assurance of job security, participation in dispute settlement through the arbitration process, removal of abusive management personnel, assurance of just compensation and other benefits such as SSS, PhilHealth, Medicare, and the availment of loans from union funds which they use for emergency purposes or for daily sustenance.

This study focused on the various aspects of the labor process such as job description, job autonomy, nature of supervision, nature of management, hazard exposures and nature of task. The study has shown that these factors are significantly associated with health or ill health. It is therefore recommended that the policies and programs in the workplace coupled with positive and supportive policies and programs of DOLE be formulated and adopted to promote the welfare of our women workers who are now seen as crucial partners in attaining national development. In the final analysis, the establishment of a comprehensive health and safety program in the workplace is aligned with the goal of economic productivity of the country. The financial burden of ill health, injuries, and disabilities comes in the form of person-hour losses, decrease in productivity, increase in rejects, destruction of property, increased use of medical resources provided by the company, and more expenditures in employees compensation; all these will increase the cost for both management and workers.

Advocacy and policy framework should not only be directed locally and nationally, but must wield influences at the global level as well, since the processes inside the work organization are just a reflection of the wider and broader realities occurring in the global economy.

Advocacy Work Both at the National and Global Levels

Traditionally, the state is seen as a vital instrument in the promulgation of social welfare, the regulation of the market economy and the management of risks resulting from industrialization and modernization. Today, the nation state must also confront risks arising from globalization. The struggle for the alleviation of the plight of the women workers should include issues related to geopolitical transformations, ecological problems, industrial hazards and the new international division of labor that place the Third World in a riskier and more precarious condition.

Modernity is now characterized by greater risks. Modern people now live in "risk societies" due to process of modernization and industrialization. This risk, according to Beck, presents a new type of uncertainty because of three reasons—that risk is greater now, that it has shifted from naturally occurring to those risks created by man in the process of industrialization, and that the disadvantaged groups are at a greater exposure to these risks and have lesser ability to regulate them (Kemshall 2002: 6). In this study, the women are the most vulnerable group and least able to resist the magnitude and direction of the risk exposures at work by virtue of their gender and class position in the work organization. They also lack negotiating power especially with the regulation of labor unions in export zones. The risks are either unregulated or underregulated by government whose thrust is the creation of employment in boosting the internal economy, however short-lived and shortsighted this strategy may seem to be.

When risks to health are created, the logical response is to trace the accountable agencies that regulate these processes and procedures. However, the systems of control in the country sometimes can inadvertently produce the risks that they seek to control. For instance, the approval of apprenticeship as a form of employment in the garment industries disadvantages the women workers as they receive only 75 percent of the wage of a regular worker and are not given social protection benefits. It is for this reason that advocacy work should also focus on the role of implementing and regulatory agencies in health and safety. The standards for safe and healthy work environment and the promotion of the highest degree of physical and mental health are not problematic in the Philippines because these are culled from the international standards given by the three known agencies: National Institutes of Occupational Safety and Health (NIOSH), OSHA and ACGIH. Theoretically, the cross-culture requirements of work are indicated in the Labor Code of the Philippines, but the conditions of work in the local context should be made more specific and not merely borrowed from international standards. The established international standards are crafted for regular employment in regular establishments. These may not be applicable in situations where contingent work is the norm over core employment, and where instability characterizes the internal economy over stability. Standards should be formulated to fit the conditions and terms of work of the Third World women workers. At present, life chances for quality life are severely restricted with the existing policy of the government. DOLE in the Philippines only has 250 labor inspectors covering about half a million registered industries. This shows the lack of manpower to actually investigate and inspect industries as to their compliance with standards of work and employment. The control of labor organizing in export zones doubly deters the "resistance" that women can wield to make their working environment better.

Regulation can come from various agencies as there is now a need for diverse systems of surveillance and monitoring to include corporate

regulation, regulation by government, regulation by non-government organizations, and self-regulation. Organized labor group can serve to arbitrate and negotiate the women worker's position in the industrial organization where government regulation is weakened or relaxed by social and economic considerations. But the priority for industrial peace over protection of the rights and benefits of the workers undermines the creation of union groups and this relegates women's issues on health and safety to a very risky terrain. In spite of the limitations imposed by limited resources, regulatory agencies can promote workers' rights and benefits by formulating worker-friendly policies like the mandatory submission of requirements, the implementation of the right to organize among workers, and the imposition of heavy sanction on erring industries.

Giddens (1998) underscored the negative impact of risks in producing disorder, inequality and ill health, but he also cited the positive outcome of risks. "Opportunity and innovation are the positive side of risk. No one can escape risk...but there is a basic difference between the passive experience of risk and the active exploration of risk environments. A positive engagement with risk is a necessary component of social and economic mobilization" (Kemshall 2002: 117). This can be pursued by the revitalization of civil society composed of the women workers themselves, the nongovernment organizations and other civil groups sympathetic to the cause of women workers. The reenergizing potential of civil society must be actively supported by government through social and economic policies. But what actually happens today in the world of working women in export zones is the weakening of the civil society due to manifest or covert discouragement of labor organizing. The inefficiencies of government regulation and the misplaced thrust of economic development paradigms lend women to further deterioration in their working conditions. In this regard, labor organizing should be actively encouraged in export zones to give the workers negotiating power in relation to management and the industrial organization. But the prevailing culture in the export zones as shown in this study is a very negative perception about unions, as being synonymous to "industrial sabotage" and "closure of the company where union is present." A truer version of empowerment comes through the coordinated struggle of women negotiated only through collective struggles. The first step therefore is to allow collective organizing of labor in export zones.

The self-regulation of workers is seen as one-sided and shortsighted as it shifts responsibility to the individual. Self-management of risks is seen to be individualized in the industries with the focus on the use of personal protective equipment, and the encouragement of individual safety behavior and actions. Those who get sick and injured are cast as agents of their own deeds. Health and/or illness become a matter of choice and discretion, rather than the product of structural processes. This direction may have its own merits but loses the "greater ethical responsibility of corporations and the

state." This is where "reinvention" of corporate values comes in—by allowing greater integration of workers in the processes and structures of work allowing human potential to be tapped, not just subsuming workers to the needs of capital and profit. Efficiency should also translate into happiness and quality of human life both in economic and social terms.

While public health has been latched into a serious debate in legislation and advocacy, occupational health has lagged behind. While the public sector's poor health is usually explained in terms of health inequality where particular groups and individuals are excluded from access to health services or are actually denied health services, ill health at work is more reflective of the wrong thrust of organizations and governments with regard to workers' health. Poor health of workers is a consequence of a pattern of exclusion. In this situation, the stipulation of rights of workers must be coupled with entitlement. Entitlement allows workers to have access to opportunities and enable them to exercise their rights and receive benefits in equitable fashion. Any downstream effort also requires strategies implemented at the upstream level which means that any tangible effort made at the level of organization cannot fully be implemented without corollary policy shift of governments.

Advocacy entails both upstream and downstream policies, targeting both the workplace struggles and the macroeconomic policies of the government. It should be broad-ranging as to include all facets of issues ranging from engineering control measures in the workplace to better policies for women workers at the macro level.

The role of the third sector representing civil societies, nongovernment organizations (NGOs) and democratic alliances is integral to the pursuit of ethical and moral uplift of the conditions of women workers. The advocacy of NGO at the local, regional and international arena is most welcome in order to match the growing internationalization of structures and processes like the United Nations (UN). The potency of this strategy is seen in both the Vienna Human Rights Conference attended by 840 NGOs and the Rio Earth Summit where NGOs convened Global Forum to run parallel sessions with the official meetings. This is particularly important in today's tapestry of international politics. For instance, despite the fact that the UN was born out of tradition of thought about international relations that can preserve and actively pursue world peace, reduction of absolute poverty, hunger, and respect for human rights, there are critiques directed against such state-backed institutions. The cynical comment of the then Ambassador of the Ivory Coast, Arsine Usher, to the Security Council aptly captures the prevailing power relations at the United Nations: "If there was a dispute between two small powers, the dispute eventually disappeared. If there was a dispute between a small power and a great power, the small power disappeared. If there was a dispute between two great powers, the Security Council disappeared" (Ryan 2000: 166).

The dilemma on the health conditions of women, however, does not allude to the elimination of export zones. The thrust of social inclusion includes opportunities for employment itself since paid employment is a moral imperative. Paid employment gives the women autonomy in their lives, and allows them to support their families. Employment is very integral in a system that has no social welfare for the unemployed or underemployed, but overemphasis on work can be problematic from the health perspective. It often assumes that paid work is always desirable and beneficial. Paid work alleviates poverty and financial difficulties, but it can create risks for health if there is no comprehensive program formulated for the protection of workers.

Although workers are the main workforce of the industrial organization, they are socially excluded from more comprehensive benefits and from reasonably healthful social and physical work environments. To fight for social inclusion means more involvement of the stakeholders themselves in action to improve their control of their work, enhance entitlements to economic and social benefits through policy framework of national governments and through a thorough democratic alliance of the third sector. The state can make essential health interventions through policy shifts and active community involvement in its programs specifically designed for the unserved and underserved groups such as the women, children, and other minority groups (Bautista 1999: 16). In this endeavor, the state plays a central role in the social inclusion or exclusion of the workers.

Women need both informal and formal capital to negotiate their positions so that gains in their paid employment are not offset by the cost of ill health and the nemesis of double burden of home and work responsibilities. Formal capital comes in the form of laws and regulations that protect workers. Informal capital can be taken from the existing social capital that is elaborately practiced by women in their exchanges in informal networks. Social inclusion of women in the workplace should be underpinned by the following elements: it should be long-term, and not just quick fix shopping list strategies; it must engage local actors; it must be coupled with political commitments and truly understand the issues of women's work (Hazel 2002). This study has shown the various issues of women's work and women's health in the new organization of work. This is one of the major contributions of this study as women themselves defined their work, their grievances, their wants and aspirations, and their struggles and resistance. The study has drawn much from the experience of the women from which policies can be formulated to attain acceptable levels of social and economic benefits, protection of legal and civil rights of women workers and eventually a positive estimation of themselves, their integrity as humans and attainment of an elevated social status of women recognized by the larger society.

The intervention strategies in the health status of workers are dominated by evidence-based disciplines such as psychology and behaviorism.

The new techniques of self-help, good lifestyle, responsible living and moral accountability in these intervention strategies are rather limited. Management of risks in modern industrial organizations characterized by new information technologies is difficult to carry out individually using mere individual resources. The social responsibility and social responses from corporation and the state to regulate and manage these risks are central in the struggle for a better and healthful work environment in the 21st century. Individuation of responsibility cannot solve the complexities of the global market. The uncertainties of market fluctuation and the fragmentation of social safety nets due to the deregulation of labor markets present real perils beyond the control of individual actions. It is in this situation that the state must intervene to regulate the risks and hazards inherent in the present nature of the global market. The state should be the final arbiter of conflicts and disagreements between workers and management, and always work towards the inclusion, not exclusion of the least powerful. Within this paradigm shift of true governance, the plight of women workers can be addressed and the "politics of hope" geared towards decentralized power based on flexible agreements (Leonard 1997: 162) can be realized.

References

- Acero, L.
1995 Technical Change, Skills and the Labor Process in Brazilian Textiles. Unpublished doctoral dissertation. Sussex University, UK.
- Ackerman, S.E.
1984 The Impact of Industrialization on the Social Role of Rural Malay Women: A Case Study of Female Factory Workers in Malacca. In N. Safia Karim, ed. *Women, A Malaysian Focus*. Kuala Lumpur: Oxford University Press.
- Aganon, M.E.
1994 Working Conditions of Garment Workers in Export Processing Zones. Paper presented during the Seminar on Organizing Through Workers' Education at the Export Processing Zones, held 22-24 August at the Danarra Hotel, Quezon City Philippines, under the auspices of the International Textile, Garment and Leather Workers Federation (ITGLWF) and the Asian and Pacific Regional Organization.
- Aganon, M., R. Ofreneo, et al.
1998 Strategies to Empower Women Workers in the Philippine Economic Zones. *Philippine Journal of Labor and Industrial Relations*, XVIII(1 &2): 106-159.
- Bautista, Victoria A.
1999 *A State of the Art Review of Primary Health Care in the Philippines: Two Decades of Government Initiative*. 2nd Edition. Quezon City: University of the Philippines National College of Public Administration and Governance.
- Brady, T.
1989 *Software Users as Producers: Silent Majority*. Working Paper No. 3. United Kingdom: Science Policy Research Unit, Sussex University.

- Braverman, H.
1974 *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*. New York: Monthly Review Press.
- Bureau of Labor and Employment Statistics, Department of Labor
and Employment (BLES, DOLE)
1994 *1993 Yearbook of Labor Statistics*. Manila, Philippines.
- Desjarlais, R. et al.
1995 *World Mental Health Problems and Priorities in Low Income Countries*. Oxford, England: Oxford University Press.
- Ferraz, Joao C.
1992 *Modernizacao Industrial a Brasileira*, Serie Documentos, No. IEI, UFR.
- Foz, Vicente V.
1999 *The Labor Code of the Philippines as Amended and Its Implementing Rules and Regulations*. Quezon City, Philippines: Foz Publisher and Editor.
- Gothoskar, S.
1995 Computerization and Women's Employment in India's Banking Sector. In Swasti Mitter and Sheila Rowbotham, eds. *Women Encounter Technology: Changing Patterns of Employment in the Third World*. New York and London: Routledge.
- Jacobs, Jerry A. and Suet T. Lim
1998 Trends in Occupational and Industrial Sex Segregation in 56 Countries, 1960-1980. In Marianne A. Ferber, ed. *Women in the Labor Market*, Vol. 1. Cheltenham, U.K. and Northampton, Mass.: Elgar. 217-53.
1995 Trends in Occupational and Industrial Sex Segregation in 56 Countries, 1960-1980. In Jerry A. Jacobs, ed. *Gender Inequality at Work*. CA: Sage. 259-293.
- Kemshall, Hazel
2002 *Risk, Social Policy and Welfare*. Buckingham: Open University Press.
- Leonard, P.
1997 *Postmodern Welfare*. London: Sage, 162.
- Mitter, Swasti and Sheila Rowbotham (eds.)
1995 *Women Encounter Technology: Changing Patterns of Employment in the Third World*. New York and London: Routledge.
- Ryan, S.
2000 *The United Nations and International Politics*. Hampshire, England: ISBN, 166.
- Senker, J. and P. Senker
1994 Skills Implications of Technical Change in the Service Sector. In K. Ducatel, ed. *Employment and Technical Change in Europe*. Aldershot: Edward Elgar.
- Spivak, Gayatri Chakravorty
1993 *Outside in the Teaching Machine*. New York and London: Routledge.
- Sutherland, J. and C. Copper
2000 *Strategic Stress Management: An Organizational Approach*. London: McMillan Press Ltd.

World Health Organization (WHO)

2001 Mental Health: Strengthening Mental Health Promotion. Available through
the website [http://www.who.int/mediacentre/factsheets/fs_220/en/]