ADVOCACY WORK AND POLICY RECOMMENDATIONS IN OCCUPATIONAL HEALTH

(The case of Women Workers in selected Economic Zones in the Philippines)

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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 semiconductor 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 work systems. Microelectronics-based equipment, numerically controlled machine tools, computer-aided designs, robotics and programmable controllers have all changed the nature of task, organizational set-up 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, T., 1989; Acero , 1995)[1]. 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, J. and Senker, P.,1994; Webster, J. 1996: 46-47)[2].

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 labour process theory of Braverman that tasks are fragmented, intensified and controlled, thereby deskilling and fragmenting the work (Braverman, H., 1974)[3]. The paper of Jacobs and Lim in 1998 is suggestive of the deterioration of women's economic position in developing countries. Although they noted a declining trend of sex segregation across occupations and industries, this is not translated to equal economic advantages for both men and women (Jacobs, J. A., and Lim, S. T., 1998: 259)[4]. Even the growth of new industries like soft manufactures (mainly electronics

and garments) has not erased women's economic disadvantage. The newer production commodities that involve the use of newer 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 feminized labor force employing about 500,000 young women. Job conditions in the factories is far from perfect or even normal. It is characterized by low wages, unsafe work environment, overwork and lack of job security. It is even better than employment in domestic work and prostitution. Those in the Video-Display terminals reported video blues which consists of syndromes of eye problems, varicose veins, headaches, nausea, skin allergies, and persistent coughs and colds including reproductive problems at the extreme such as abortion, infertility, stillbirths and birth defects (Spivack,1995 in Mitter,et.al., 1995:18) [5]. Among the issues central to women workers included health and safety, establishment of childcare facilities, better health care for the injured and sick women, and housing and transportation benefits. On the other hand, some of the problems encountered by Indian women in the workplace included burden of the dual role, sexual harassment, lack of solidarity among women, the need to exert double time to gain the same recognition as the male counterpart (Gothoskar, S, 1995:166)[6]. The increased scale and pace of production has also led to stresses among women. Those who produce Video-Display terminals report of video blues, eye problems, varicose veins, headaches and skin diseases as well as abortion, infertility, stllbirths and birth defects (Spivack,1995)[5].

As regards the work environment and hazard exposures of women in the 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)[7]. In the export zones in the Philippines, Aganon (1994)[8] noted that young workers 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 work at night, subjected to socially disruptive shift work, compulsary 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 including 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)[9]. In Malaysia, the semiconductor sector demanded expertise in material control systems such as materials requirement and material resource planning.

In the light of these developments in the labour market which has 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 tried to look into the role of information technology in the contemporary development of women's work and to look 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 way they produce and organize their work and the impact of economic changes in the local and global levels.

DISCUSSION OF RESULTS:

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 10 garments establishments. Based on a proportionate sampling, there were a total of 5 small industries, 5 medium-scale, and 13 large-scale industries. The classification is based on the existing DOLE category: small industries are those employing less than 100 workers, medium scale are those employing 100-199 workers and large scale employing 200 and more workers.

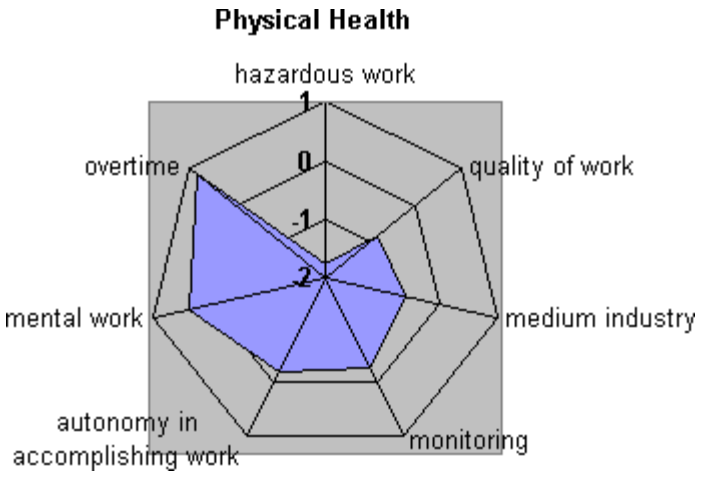
For the survey questionnaire given to the women workers, there were a total of 630 respondents whose mean age was 27 years old and most were 24 years old (mode) showing a relatively young and active population. The study consisted mainly of female workers (100%). Majority were single (64.4%) while only 32.1% were married. Forty and nine tenths (40.9%) had a salary range of 6001 to 8000 pesos per month. However, there were 4.92% of the respondents who received only a measly amount of at most P4,000.00. 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

machining (CNC), mechanized product systems such as conveyor belts or workstations, and robotics.

Among the sampled establishments for the electronics industry, more than half were large industries (53.8%) followed by medium (30.7%) and then small (15.3%). Among the sample establishments for the garment industry, the large scale were likewise predominant (60%) followed by small industries (30%) and then medium (10%). Females also dominated the labour force.

The overall physical health of workers is affected by overtime and mental work. Moreover, workers who have autonomy in making use of their own strategy to accomplish their work are likely to have higher level of physical health. Those under close monitoring are more likely to have low level of physical health. Cases of low physical health are less common in medium industries. Poor quality of work and exposure to hazardous work also increase chances of having low physical health among workers.

Physical Health	**Coefficient**	**Odds Ratio**	**Standard Error**	**z**	**P>|z|**
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



ANALYSIS OF DATA:

The data gathered in the study must be 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 this study will also be 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 in apprenticeship program where they are paid 75% of the minimum wage with no fringe benefits. This employment arrangement is allowed by the government but only for a limited period until such time that the worker has gained mastery over the work (Section 6, Rule I, Book VI, Labor Code of the Philippines)[10]. But the women workers said that they have been employed for so many years as apprentice moving form 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 the contractual employment since the wage is far below the sustainable level, and that work employment is limited to 5 months only.

Casual employment is also allowed by law but in so far 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 5,b, Rule I, Book 6)[10]. The study showed however that casual employment is resorted by employers even for very 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) [10]. 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 that monitor the movement of employees.

With regards meal and rest periods, the law provides that the employer shall give not 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 in the following conditions: where work is non-manual, where the work production is not less than 16 hours a day, and where are emergencies such as breakdown in equipment (Section 7, Rule I, Book 3) [10]. This study showed that the standard operating procedure is usually 30-minute lunch break even for regular working day, which covers 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 this 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 10% of the regular wage when work is performed between 10:00 in the evening till 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 10% 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 show cause 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) [10].

Labor-only contracting is a work arrangement where the contractor or subcontractor provides labor to perform a job or a service for a principal employer. This is allowed by law only 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 4,f, Rule VIII, Book 3) [10]. 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 are given by the principal company. Many mother companies resort to subcontracting in this form to evade problems associated with labor management, thus limiting their control to the 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 of work that displaces employees of the principal company, or reduce 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 worker by results. Section 9, Rule 1 of Book3 stipulates that these workers should not receive less than the minimum wage for the regular eight-hour work, and proportion of it for less than eight

hours. Based on the interviews with the women workers in the garment industry, many receive below minimum wage as low as P160.00 per day for the piecerate they do.

The coverage of wage increases exempts some industries in the export processing zone under 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. Still related to payment of wages to workers, the law provides the rights of a union representative or worker's representative to concur with the labor inspector in the 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) [10]. This right however is not communicated to the workers and their representatives, and there has never been any instance where the findings of the labor inspector had not been contested or verified by the workers themselves. In one electronic industry in this study, workers complained of wage distortion as a consequence of wage increase orders. This is a situation where employees who previously receive the minimum wage are now comparable with those who had higher than minimum wage prior to the wage increase. This happens in companies that had been experiencing financial downturns, but to the demoralization of workers prejudiced by the wage scheme. Situations like this warrant that employer and union negotiate and correct the wage distortion through collective bargaining agreement (Chapter 3, Section 7, Book 3) [10].

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 the Department of labor and Employment 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) [10]. In all the industries investigated in this study, none was observed to have posted the findings of the labour inspector. This requirement is important to make workers aware of the existing work conditions and to inform the workforce of the compliance and non-compliance 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. Section 5 says that women should not be discriminated 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 to management committee be elected by at least a majority of all rank-and-file employees who have rendered a minimum of six months continuous service, or the labor representative of a certified labor organization. This is contrary to the findings of this study where there is actually no labor representative to management committees, and where there is one, they are selected by management. Even the composition of the labor-management committee should be composed of an equal number of both management representatives and rank and file employees. (Section 2 a, b, Rule II, Book 3) [10].

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 needed, 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 establish the threshold limit value for all chemical exposures as well exposures to physical hazards in the workplace. Threshold limit value (TLV) represents the concentration or level of substances to which nearly all workers may be exposed to day by 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 health of the women workers. 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 for designated hours and days rendering about 12 hours of medical service a week. This is far below the requirement that they should stay in the work premises for at least 8 hours every day, and during night shifts, a nurse or a first aide should be assigned for the shift (Section 4, Rule I, Book 6) [10]. 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 doctors 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 a first hand information of the extent of hazards at work. The thrust of occupational

medicine is preventive in nature, not curative or rehabilitative, and as such, 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 cause of the illness arising from the workplace, but rather a mere enumeration of the number of a particular illness at work. This 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 so 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, deeps sea diving, those who are engaged in the manufacture of explosives. those handling driven machinery or equipment or power driven tools (Section 8, Rule I, Book 4) [10]. 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 this view, 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 shall 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 such functions are insufficient in so far 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 equipments, and directed to assemblymen workers. Training for

management should also be done for 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 where there are complaints. But with the current workforce of inspectors, this is rarely carried out. There are industries that have never been inspected, and there are those that are inspected in 3-5 years time 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 shall be made known to the industry. This is one way to promote health and safety concerns to industries that may eventually be selected out in inspection activities of DOLE due to lack of manpower.

The parameters laid down for compensable illnesses are also limited thereby limiting access and award to compensability. Not all workers are aware that diseases and injuries are compensated by 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, musculoskeltal 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 physiologic imbalance. In an attempt 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 the Department of Labor and Employment 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. With lack of resources and complete documentation of the work-relatedness of her illness, she is usually denied of the

claim. Those who make decisions on compensable illnesses at the Social Security System must also be required to have at least a training on occupational health and safety because general medicine is very different from occupational medicine.

The liability clause in Rule IV of Book Four in the IRR of the Labor Code also 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, degreases, 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 suing soap and water, and as such, they use 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 caution given by management for them to stop washing with solvents as this may cause toxicity, workers persist with this behavior. This case clearly shows that the 'notorious negligence' of the worker was promoted by the lack of alternative measures provided by management. As such, the liability clause should indicate that the notorious negligence shall be warranted when there is likewise a clear indication that management has 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,V.J. and Cooper, C.L., 2000)[11]. 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) that control measures must be implemented even when it is 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 of employers. Based on the study, these are the lapses in the provisions:

1. The right to know of the worker of 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 in Pilipino. The OHSC can help in this endeavor, as it is the training and research center of the Department of Labor.

2. The right to know the computation of wages and benefit. The computation of wages must be made known to the workers to avoid misunderstanding and to ensure transparency and accountability. In 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 o the veracity and truth of the report. This is also a means by which additional verification procedure is done where 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 shall be reduced through this training program.

5. The training program of the Occupational Safety and Health is so focused 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) [10] ' 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 should also be given on the need to promote mental 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." (Desjarlais, et.al.) [11] There is no provision in the Labor Code of the Philippines on the specific strategies on how 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, these refer to the traditional hazards and do not include the more modern hazards in the 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 this are just qualitative criteria which leave the inspector to his own judgement 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, an exposure and risk rating system is recommended for use by government agencies. The matrix below is formulated based on the data gathered in this study.

Exposure Ratings for Chemical Exposure

Chemical exposure is one of the hazard exposures of the women workers. The proposed exposure rating system 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, threshold limit values established by OSHA and ACGIH, and exposure time. For example, exposure-rating estimate of 0 means no exposure either through dermal contact or within the breathing zone of the worker. Minimal exposure is allowed and may be the usual exposure in industries rather than no exposure at all. The worker maybe exposed to chemicals for a minimal period and for a minimum concentration. Moderate exposure is given an estimate of 2 which means moderate amount of exposure by contact or respiratory route, and exposure time of less than 50% of the total eight-hour workday. Very high exposure means that there is excessive exposure above the threshold limit value, which varies per chemical and where the exposure time is beyond the 8-hour work duration. It can also mean an exposure time of that which is specified for TLV- Ceiling for maximum exposure to prevent acute responses.

Figure 1 Exposure Ratings for Chemical Exposure

Exposure Rating Estimate	Category	Qualitative Description	Exposure Time
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	Moderate Contact Moderate concentration Within breathing zone	Less than 50% 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

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.

Table 2: Health Hazard Rating Matrix

Hazard-Health Ranking Correlation

4 very high
3 high
2 moderate
Health Effect Rating 1 low
0 trivial

0 1 2 3 4

Exposure rating

Figure 3: Exposure Ratings for Physical Hazards such as Noise, Heat and the Like

Exposure Rating Estimate	Category	Qualitative Description	Exposure Time
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% of the 8-hour workday; or Above TLV-Ceiling
3	High exposure	High exposure; More than the required TLV-TWA for 8 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 8 hour workday.	More than the specified TLV-Ceiling; and TLV-TWA

The exposure hazard rating for physical hazards, other than chemical also shows the same principle as that of the chemical hazard rating matrix. No exposure means that 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 be exceeded for 8 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.

Control Measures Required:

The corresponding control measure to be implemented in the workplace in relation to hazard exposure is related to the degree of risk to which a worker is exposed to. There are three major control measures- the use of personal protective equipments (PPE), administrative controls and engineering method. Use of PPE inlcudes protective caps, respirator, ear plug 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

equipments, re-engineering equipments, machineries and tools, and use of exhaust and general ventilation systems.

For minimal and no exposures, there is no need for control measures. There is however a need for minimal monitoring and surveillance for this type of exposure. For moderate exposure, use of PPE or administrative controls is recommended. For high and very high exposures, all major control measures, specifically engineering measures should be instituted.

Table 4 Control Measures Required:

Exposure Rating Estimate	Use of Personal Protective Equipment's	Administrative Control Measures	Engineering Control Measures	Regular Monitoring and surveillance
0	x	x	x	/
1	x	x	x	./
2	/	/	x	/
3	/	/	/	/
4	/	/	/	/

Proposed Monitoring System:

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. The above matrix is a proposed monitoring system, which incorporates violation and corresponding sanction. For no, minimal and moderate exposures, only monitoring is required. For high and very high exposures, immediate rectification of the problem area should be done.. Non-compliance of Order for Rectification will lead to suspension of operation.

Table 5: Proposed Monitoring System:

Violation estimate	Description	Category	Sanction
0	No exposure	No violation	
1	Low exposure	Monitoring Required	
2	Moderate exposure	Monitoring Required	
3	High exposure	Order for immediate rectification required	Non-compliance warrants a subpoena

4	Very high exposure	Order for immediate and mandatory rectification required	Non-compliance warrants suspension

Health hazard rating matrix

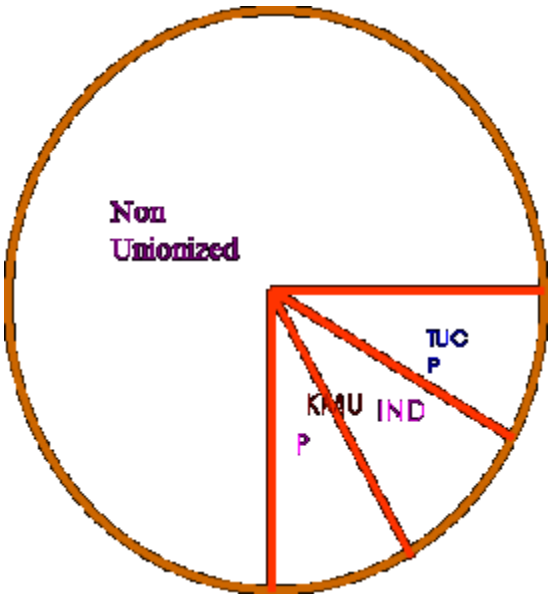
For health hazard rating matrix, the intensity and frequency of the illness are used both as gauge in determining the level of occupational illness. An inspector or the management can itself get a random sample of workers, then get the number of illnesses according to frequency and intensity, which will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

Table 6: Health hazard rating matrix

	Intensity of Health Problems		
Frequency of Health Problem	Slight	Moderate	Severe
Rarely	1	2	3
Occasional	2	3	4
Frequent or Always	3	4	5

Department Order NO. 09, 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 the free and responsible exercise of the right to self-organization of labour and workers association. But this is not rigorously pursued in all zones of industrial production particularly in export zones where organized union is discouraged. The figure below shows the labor organizing in the various regions in the country.

Figure 8 Coverage of Unionism in Export Zones in Region IV



List of Organized Companies in the Philippines
2000-2001 Survey

NCR		1,020
CAR		7
Region 1		41
Region 2		4
Region 3		98
Region 4		118
Region 5		16
Region 6		92
Region 7		128
Region 8		27
Region 9		22
Region 10	39	
Region 11	106	
~~Region 12~~	~~18~~	
Region 13	19	
Total		1,754

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