Developing an Action-based Health and Safety Training Project in Southern China

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A project brought together international footwear manufacturers, labor rights groups, local contract factories, and occupational health professionals to strengthen factory health and safety programs in southern China. Steps involved in the two-year project, including needs assessment, interviews and focus groups with workers and supervisors; design and development of a participatory workshop; development of plant-wide health and safety committees in three footwear factories; and evaluation project impact, are discussed. The project significantly increased occupational safety and health knowledge, and hazards in the factories were identified and corrected. Successes and challenges faced by three functioning worker–management health and safety committees are discussed. Key elements to create effective programs with meaningful participation by workers include: 1) developing clear guidelines that enable multi-stakeholder groups to collaborate; 2) obtaining top-level management support; 3) building workers' knowledge and capacity to fully participate; 4) involving local labor rights groups and occupational professionals in support and technical assistance; and 5) connecting project goals to larger issues within a country and the global economy. *Key words*: China; worker participation; workplace health and safety programs.

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> Wang Pingli is one of 60,000 workers who produce shoes in a huge factory in the Guangdong province of southern China. Along with other workers, she cuts, sews, glues, assembles, and inspects thousands of sports shoes every day. The factory produced 14% of all branded athletic footwear sold worldwide in 1999, including shoes for many transnational brands. Under the brands' code of conduct, Wang is supposed to work a maximum of 60 hours per week, for which she receives 650 yuan per month (about U.S. $80) and room and board.
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> Like the other young, predominantly female workers, aged 18–24 who work at the factory, Wang lives on site and sleeps on a narrow bunkbed in a small, 12-woman dormitory room in a high-rise building. Her work entitles her to three meals a day at the factory canteen. Factory regulations stipulate that she place her toothbrush in just the right angle in her rinse cup, hang her face towel just so, participate in early-morning drills, and obey the 11:30 PM curfew. Despite code-of-conduct guidelines, at times Wang and her co-workers are not provided with gloves to protect their hands from the toxic glues they use or given safety glasses to protect their eyes. During peak production times, they are often asked to work additional overtime in violation of labor laws.[1]

The experiences of millions of young migrant women in southern China's transnational factories, like Wang Pingli, represent, for some, all that is problematic about globalization. Today, China is the largest manufacturing center in the world,[2]and Guangdong province, located one hour outside Hong Kong, is home to more than 100,000 factories that employ 15 to 20 million migrant workers from China's less developed rural areas.[3,4] And even as China achieves spectacular rates of economic growth, lax enforcement of regulations has led to adverse impacts of this growth, including a shocking health and safety record.

The government's failure to regulate manufacturing has led to a string of well-publicized industrial tragedies—factory fires, high accident rates, toxic exposures—as well as chronic occupational health problems throughout the industry.[5] During the last ten years, widespread media attention, and consumer and public concern about "sweatshop working conditions" in developing countries, have led to a proliferation of "codes of conduct" and related nongovernmental monitoring systems to improve conditions even in areas with weak government enforcement. These codes are designed to set standards for labor practices, including health and safety. Yet there is widespread agreement among labor, human rights, and environmental groups that codes of conduct and workplace monitoring systems often fail.[6] Many believe that the best monitors are workers and local organizations, but they are often left out of the process, and may not have sufficient training and skills to evaluate these conditions themselves.[7]

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The 90 participants of the course included 15 workers and five supervisors from each of the three footwear factories, 22 representatives from four Hong Kong-based nongovernmental organizations, and eight labor practices staff members from Adidas, Nike, and Reebok. (Courtesy of Labor Occupational Health Program)

BACKGROUND OF THE TRAINING PROJECT

The China Capacity Building Project on Occupational Safety and Health took place over two years, beginning in 2000 and ending in 2002. It focused on building the capacity of factory workers and managers in China to identify and resolve workplace health and safety problems in factories producing shoes for major multinational footwear companies. The project was initiated by an unusual collaboration between nongovernmental organizations, leading footwear manufacturers, contract factories, and U.S.-based occupational professionals and educators.

It had two primary goals: 1) to train workers, supervisors, and managers in three footwear factories in the Pearl River Delta (Guangdong Province) in occupational safety and health principles; and 2) to facilitate the inclusion of workers as full, active members of plant-wide health and safety committees. A long-term goal of the project was to set an example not only for plants producing for international brands, but also for locally owned workplaces producing for the Chinese market.[8]

A grant from the MacArthur Foundation and contributions from the three participating footwear manufacturers funded project activities.

The project included a series of organizational meetings, a formal needs-assessment process with stakeholders, curriculum development, development and implementation of a four-day health and safety training program for 90 people, capacity building and health and safety committee support efforts, individual committee initiatives, and an impact-evaluation process. A critical aspect of making the project successful was designing and developing a culturally appropriate, participatory training program.

PROJECT ORGANIZATION AND STAFFING: CREATING NEW COLLABORATIONS

The project was designed and conducted by staff from three U.S.-based organizations: Garrett Brown from the Maquiladora Health and Safety Support Network (MHSSN), a volunteer network of occupational health and safety professionals who provide information, technical assistance, and on-site instruction regarding workplace hazards to "maquiladora" (foreign-owned) plants along the U.S.–Mexico border; Betty Szudy from the Labor Occupational Health Program (LOHP), a public service program of the University of California at Berkeley that provides action-oriented training, educational materials, and policy and legal analysis for a range of health and safety issues on a local, national, and international basis; and Dara O'Rourke, a professor of labor and environmental policy at UC Berkeley who researches global systems of production as well as codes of conduct and monitoring systems.

In November 2000, U.S.-based project coordinators brought together representatives of Adidas–Salomon, Nike, and Reebok (three transnational brands); Yue Yuen II (YYII), Pegasus Shoes, and Kong Tai Shoes (KTS), (contractors for the three respective brands); and four nongovernmental organizations (NGOs): Asia Monitor Resource Center (AMRC), Chinese Working Women Network (CWN), Hong Kong Christian

Industrial Committee (HKCIC), and the Hong Kong Confederation of Trades Unions (HKCTU).

At this initial meeting held in Hong Kong, all agreed to participate in a project that would include a four-day training program for 90 participants at the Yue Yuen II plant in Dongguan, China, in August 2001 and a post-training period of technical assistance. The parties developed a Memorandum of Understanding (MOU), agreeing to a set of common written goals that governed the project, and also formed a project-coordinating committee consisting of representatives from each participating organization. This committee met regularly during the two years. The MOU established the structure, organization, and terms of the project, and was key in allowing organizations with differing perspectives and agendas to work together toward a common goal. For a copy of the MOU and additional background on the project, see <www.igc.org/mhssn>.

Juliana So, coordinator of the Chinese Working Women Network (CWN), agreed to work in a part-time, paid position as the Local Project Coordinator. The CWN is a grassroots organization, based in southern China, that provides training and information about labor rights and health and safety to young women workers employed in factories in the Guangdong region. It was critical to have a Local Project Coordinator who was fluent in Cantonese (the language spoken in Hong Kong), Mandarin (the language spoken by most migrant workers in the factory, who were from western and northern China), and English (the language spoken by the U.S.-based project coordinators).

DESIGNING THE TRAINING

As outlined in the Memorandum of Understanding, the 90 participants for the training program were drawn from four populations:

- shop-floor level workers from the participating plants (15 from each of the three plants);
- supervisors/managers with departmental or plant-wide responsibilities for occupational health and safety in the participating plants (five from each of the three plants);
- labor practices/health and safety staff of the participating manufacturers of the brands (a total of eight from three companies); and
- staff members or active volunteers from the participating NGOs in Hong Kong and China (a total of 22 from four organizations).

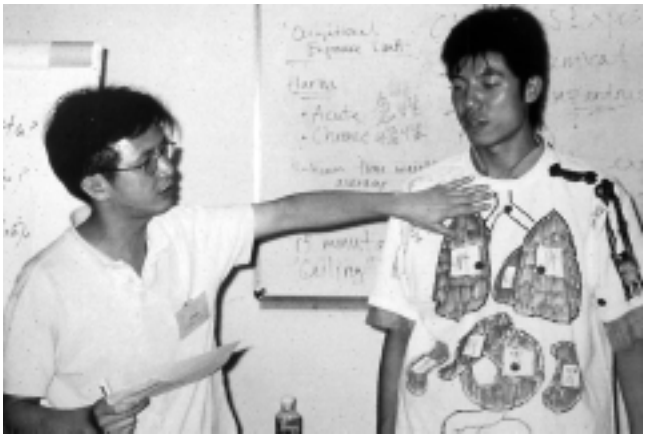
The participants were intended to be individuals who were currently involved, or would play future roles, in plant-wide or departmental health and safety committees. Each participating organization designed its own method for selecting its designated participants. The MOU specified that the contractors and brand manufacturers should select shop-floor workers and supervisors in such a way that all participants would feel able to speak freely and openly during the training. They were also encouraged to send a significant number of female workers to the training, since young women are the majority of the workforce. Implementing the MOU played a critical role in overcoming local cultural bias towards sending a majority of male participants and resulted in all three factories sending at least 50% female participants from the shop floor.

U.S. project coordinators and the Local Project Coordinator conducted a series of written and oral interviews and a needs assessment with workers, NGOs, and the company representatives who would be coming to the training. The two-page written needs assessment was designed to learn more about participants' specific jobs, what they hoped to learn during the training, their literacy skills (including the kind of written materials they were comfortable reading and working with), and their current knowledge about health and safety. A total of 72 participants completed the written survey and participated in follow-up interviews in the spring of 2001. Table 1 lists issues identified as having priority by factory participants:

The needs assessment was conducted on site at the three shoe factories, which gave the training team an

TABLE 1. Knowledge and Skills Needed by Participants (*n* = 42)

	No.	%
Q1: Which of the following technical topics would you like to learn about?		
Electrical and machine hazards	38	90.5
Chemical hazards	36	85.7
Ergonomic problems	28	66.7
Stress	24	57.1
Heat	20	47.6
Noise	17	40.5
Reproductive hazards	10	23.8
Q2: Which skills would you like to develop?		
Understanding the law and evaluating problems (legal rights)	36	85.7
Effective communication	34	81.0
How health and safety committees work	29	69.1
Developing a plan to solve health and safety problems	18	42.9
Measuring noise and chemical exposures	17	40.5
How to collect information about workplace hazards	16	38.1
Training others about this information	16	38.1
How to use respirators and gloves correctly (personal protective equipment)	11	26.2
Learning how to read chemical labels	9	21.4



A participant uses a T-shirt as a visual aid to explain which parts of the body and which specific organs are affected by the chemicals used in shoe manufacturing. (Courtesy of Labor Occupational Health Program)

opportunity to see the types and severity of hazards involved in shoe production, as well as to view on-site dormitory housing, food canteens, and medical clinic services. The needs-assessment results pointed out that including certain topics such as effective communication, stress, and sexual harassment (which had not been included in the original list of training topics) would be key to making the training credible and successful.

TRAINING AGENDA AND APPROACH: AN ACTION-BASED LEARNING PROCESS

The survey results were incorporated into the design and development of the four-day (32 hours) training program and curriculum. The training was designed to be interactive, with the goal of involving participants in an action-based learning process. Topics were presented in the classroom using a range of participatory training methods, including small-group exercises, role playing, games, and visual demonstrations, that involved participants in seeing, hearing, applying, and evaluating the information.

The four-day training program was held in August 2001 on site at the YY II plant in Dongguan City, allowing significant training time to be devoted to hands-on exercises and walk-around inspections in the production areas of the plant. For example, a classroom lecture on noise was followed by an activity that sent participants in small teams to the factory to conduct noise exposure surveys with a sound-level meter. The teams then returned to the classroom and reported their findings, including suggestions for reducing the noise levels in the departments surveyed.[8]

The training team developed overall goals for the training that emphasized key concepts:

- Learning about hazards involves using a number of "tools," such as interviewing workers and supervisors, conducting walk-around inspections, taking measurements, making other observations, gathering and reviewing fact sheets, and studying regulations.
- Solving health and safety problems requires a "systems" approach that looks at every aspect of the situation.
- Effective health and safety programs require active worker involvement at every step, as well as a serious commitment from management.
- Developing effective communication skills is a key part of learning how to present a problem, including ideas for solutions.

A complete agenda and a copy of the training goals are posted at <www.igc.org/mhssn>.

Given the large size of the training group, it was divided into two separate groups of 45 people, with both utilizing the same agenda (with staggered training times) and a shared training team. The six-person primary training team included Betty Szudy and Pam Tau Lee from UC Berkeley's LOHP, Garrett Brown from MHSSN, Dara O'Rourke from UC Berkeley, and Christine Chiu and Pak Ip, industrial hygienists on the occupational health and safety staff at Hong Kong University of Science and Technology (HUST).

Early on, the training team recognized the challenges of having both workers and supervisors from the three factories together in the same room. How could they design activities that would allow workers to speak honestly and openly about hazards without fearing that they might lose their jobs? All training methods tried to take into account issues of confidentiality and fear of speaking up.

For example, the health and safety committee activity utilized a training method called "popcorn," which allows participants to voice their ideas in a safe manner. An individual writes an idea on a piece of paper, then crumples it up and tosses it into the center of a circle or into a basket, making the comment anonymous. This method allowed all participants to voice their opinions about sensitive issues such as selection of committee members, rules that would help make the committee a safe place to speak up (particularly for workers), and possible challenges the committee would face in trying to be effective.

Similarly, the stress workshop used a picture of a female factory worker being touched by a male supervisor as a visual "trigger" to introduce the topic of stress at the workplace and sexual harassment, a key problem in many of the factories. Participants were asked to describe what they saw in the picture, and volunteers were asked to role play possible solutions to the problem.

This served as an icebreaker and a quick needs assessment about how participants would solve the problem. Participants then partnered up to interview each other about other "stressors" in their workplace. After listening to each other, they summarized each problem in three or four words. Relying on help from the transla-

tors, the trainer collected all the examples in a bowl, and picked several issues that came up repeatedly. Small groups then worked together to identify all the ways this source of stress could be reduced or eliminated, and reported back to the large group on their discussion.

The training team also included local trainers from Hong Kong and China to provide their expertise and cultural knowledge about key topics. Apo Leung from the Asian Monitor Resource Center conducted a lively session on effective communication skills, and Dr. Qiu Chuang Yi from the Guanzhou Prevention and Treatment Center for Occupational Disease shared his knowledge about Chinese labor laws and health and safety regulations, along with his experiences treating injured Chinese workers.

The language of instruction was Mandarin Chinese. The remarks of instructors speaking in English or Cantonese were translated into Mandarin by a rotating team of three translators. Flipcharts and other visual aids were posted in both languages. Training through interpreters proved to be difficult, because two of the three translators were not fluent in English. It is critical to have flexible, skilled translators fluent in both languages and to budget the funds necessary to hire experienced people.

An "inspection team" of training participants takes notes after observing a particular job task and interviewing the workers to learn more about job hazards as part of field exercises in the factory where the training was held. (Courtesy of Labor Occupational Health Program)

TRAINING CURRICULUM: DEVELOPING AN EASY-TO-USE REFERENCE WITH PICTURES

The training curriculum was developed by LOHP and MHSSN and drew on a number of existing health and safety publications, including the International Labor Organization series "Your Health and Safety at Work."

The 500-page training manual was first developed in English and then translated into Chinese, with a copy for each participant.[9] The page numbering in the two versions was the same so the binder could be easily referred to by either English- or Chinese-speaking trainers. It was designed to be easy to read, with simple definitions of key health and safety topics, and with numerous pictures to illustrate the text. Efforts were made to locate and include drawings that featured women workers, Asian workers, and large factory settings.

The manual was designed to be comprehensive so that it could serve as a reference for future work of the plant health and safety committees. It includes 13 sections on different health and safety topics such as chemical hazards; identifying, evaluating, and controlling hazards; ergonomics (the design of work); occupational health and safety laws in China; health and safety committees; inspection procedures; and training others.

FOLLOW-UP PLANNING SESSION: COMMITTING TO ACTION

On the fourth day of the training program, five groups of participants (workers and supervisors from each of the three factories, representatives of the NGOs, and the brand manufacturers' labor practices staff) met for several hours to map out a follow-up plan to the training. The groups utilized a simple written action-planning form to help prioritize their health and safety goals and specific steps they would take over the next six months to accomplish these goals.

The factory groups (workers and supervisors) also practiced holding a "mock" health and safety committee meeting, with the goal of identifying ways to allow everyone involved, especially workers, to speak up and be heard. The NGO participants met separately to discuss how they would link health and safety to their own organizations' work and how they could be resources for the three different factory health and safety committees.

The entire group—all 90 participants—then met together to hear presentations of the individual groups' action plan. Each of the three factory groups proposed establishing or expanding plant-wide safety committees with the training participants at their core. The brands' representatives each pledged upper-management support for the efforts at their contractors' facilities. The NGOs offered their support to all the plant committees, while also elaborating plans for other occupational safety and health activities.

PRE/POST TRAINING KNOWLEDGE SURVEYS AND RESULTS: ASSESSING THE IMPACT

Training participants were asked to fill out the same knowledge-assessment worksheet on the first day of the four-day training program and again at the end of the

Training participants practice monitoring noise levels in the factory using a sound-level meter. (Courtesy of Labor Occupational Health Program)

training. The comparison showed a significant increase in knowledge and problem-solving skills as a result of the training.

Prior to the training, less than 25% of the 90 participants felt sure about their knowledge of four key health and safety concepts. After completing the training, 75% of the participants stated they were "very sure" about their knowledge in these four key areas. They also reported that they had learned most of what they knew about these concepts in the four-day training workshop.

The participants also showed gains in knowledge of health and safety committees and problem-solving approaches. Prior to the training, the most frequently reported way of getting additional information about health and safety problems at work was through books (23 participants). After the training, a majority of participants (58) responded to this same question that they would interview and communicate with workers and listen to their opinions to get additional information about problems.

The participants were also asked to give feedback about the topics, activities, methods, and usefulness of the training. They found the factory inspections and on-site practice to be the most useful, along with the sessions on communication, ergonomics, chemical hazards, noise, and stress. They also gave positive feedback about the participatory training methods, and the opportunities to talk with instructors (through translators) at lunch and during breaks.

ESTABLISHING AND EVALUATING HEALTH AND SAFETY COMMITTEES

In the six-month period following the training, the functioning of the recently formed committees was evaluated on site on two occasions. Several different evaluation tools were utilized: written survey, small-group interviews, walk-around inspections, on-site visits, and formal presentations to the evaluators by each health and safety committee.

Phase I Evaluation: Three Months after Training

In November 2001, Local Project Coordinator Juliana So visited each plant and met with the safety committees. All participants from the training workshop were asked to complete another written survey. The surveys were confidential, and asked participants to give feedback about the usefulness of the August training as well as information about their specific health and safety committee activities during the three months since the workshop.

Over half the participants reported on the written survey that they had used the materials in their binder, conducted a factory inspection, and participated in their factory's health and safety committee since August. The survey results also showed that the health and safety committees were beginning to hold monthly meetings, set up systems for reporting accidents, and develop outreach plans to inform workers and supervisors about the roles of the committee (see Table 2).

Juliana So then followed up the written surveys by holding in-person discussions with representatives of the health and safety committees at each of the three factories. These discussions pointed out problems with the committees that were not captured by the written surveys. Problems included: resistance from supervisors to the committee's workplace inspections; frustration about the committee's lack of ability to actually initiate health and safety changes on the shop floor; problems of shop-floor workers not getting salary or overtime while involved in committee activities; and a hesitancy by many shop-floor participants to speak up during committee meetings.

She also met in Hong Kong with representatives of the four participating NGOs and completed evaluation surveys with each of their participants from the training. Three of the four NGOs played a critical role in supporting worker participation in the committees in the months after the training. For example, AMRC and HKCIC helped monitor a union election in one factory and are now providing training on how to run worker committees. CWN staff conducted follow-up assessment with workers at all three plants.

Phase II Evaluation: Eight Months after Training

In March 2002, an evaluation delegation consisting of Juliana So, project coordinators Garrett Brown and Dara O'Rourke, and representatives from the Asia Monitor Resource Center, Hong Kong Christian Industrial Committee, and Chinese Working Women Net-

TABLE 2. What Did Workers (n = 52) Learn?

	No.	%
Q1. Since the training, I have:		
Participated in my factory's health and safety committee	47	90.4
Used or reviewed the written health and safety materials in my binder	46	88.5
Conducted a factory inspection at a plant	45	86.5
Interviewed and listened to workers' concerns about health and safety	36	69.2
Tried to solve a health and safety problem	28	53.8
Researched information about a specific health and safety problem	26	50.0
Educated and trained others about a health and safety topic	25	48.1
Q2. Which of the following training topics were most useful to you?		
Health and safety committee information and training	43	82.7
Inspections in the factory	37	71.2
Group discussions	37	71.2
Interviewing workers	31	59.6
Learning from and meeting NGO representatives	29	55.8
Practicing with equipment (noise monitors, smoke tubes)	28	53.8
Written materials	26	50.0
Seeing a variety of teaching methods	25	48.1
Learning from and meeting supervisors and workers from other factories	24	46.2
Q3. Since the training, the health and safety committee at my plant has:		
Conducted a workplace inspection	41	78.8
Looked at MSDS or CSDS sheets	40	76.9
Interviewed workers and supervisors	33	63.5
Reviewed accident or monitoring reports	31	59.6
Set up a system for reporting accidents, hazards, and worker suggestions	29	55.8
Held regular meetings of the committee	21	40.4
Developed an outreach plan to inform employees about the committee	17	32.7
Taken action to try to resolve a specific health and safety problem	5	9.6
Q4. Since the training, the factory management has:		
Made an effort to promote the health and safety committee among workers and supervisors	45	86.5
Encouraged open communication among workers and supervisors about health and safety	40	76.9
Listened to health and safety concerns raised by workers on the committee	40	76.9
Provided committee members with resources needed to function on committee	38	73.1
Followed through on decisions made by the health and safety committee	36	69.2

work visited each of the three factories involved in the project. The delegation received a presentation on each committee's work, inspected areas of the plant where the committees had been active in identifying and correcting hazards, met with the full safety committee, and also met with the smaller group of full-time staff members of each plant's safety committee.

These visits identified several successes in the initial period after the training. At each of the three plants, the health and safety committees had begun regular inspections of production areas, identified safety and health hazards, and worked with the department managers and first-line supervisors to eliminate or reduce the identified hazards. The committees and their members were also learning how to effectively convey this information to factory managers, labor practices staff of the brand manufacturers, and NGOs outside the factories. In a number of cases, the committees had been able to identify and correct previously unrecognized hazards, as well as to highlight longstanding concerns of workers.[5]

KTS/Reebok Factory: Workers as Inspectors

At the 5,000-worker KTS facility (producing shoes for Reebok), a safety committee with five separate components was established after the training workshop. The committee included the 20 training participants, which they call the "Risk Improvement Team" (RIT). The team's primary function is to conduct regular inspections of the factory. The committee has become extremely adept at identifying hazards through inspections, and then following up with visits to ensure timely correction. The team has four full-time safety inspectors (including two women), all of whom participated in the August 2001 health and safety training. These committee members are paid their normal production wages for serving on the health and safety team.

The RIT inspectors, who wear distinctive red caps while conducting their walk-around inspections, give the first-line supervisors a written notice of any identified hazard with a deadline for correction. Deadlines range between two weeks and three months, depend-

After conducting an inspection of one department in the factory to identify and evaluate hazards, participants draw a visual map of the factory floor using different colors to identify various hazards. (Courtesy of Labor Occupational Health Program)

ing of the severity of the hazard and difficulty of correcting it. The inspectors make follow-up visits to ensure that the hazard abatement has occurred, and if it is not corrected after three notices, the safety committee takes the issue to higher managers.

In its first six months of work, the committee had compiled a binder about three inches thick of "tickets" given to supervisors during inspections and documentation of follow-up visits and hazard correction. The committee has developed its own inspection checklist and a standardized accident-investigation form. The results of the accident investigations are posted in the affected work areas. Each department of the plant has a supervisor-selected health and safety coordinator who has responsibility for tracking identified hazards and their correction.

The KTS committee also reported having benefited from a technical assistance visit and interaction with the Hong Kong Christian Industrial Committee, Asia Monitor Resource Center, and the newly formed Labor Education and Services Network, all based in Hong Kong.[5]

Pegasus/ Nike Factory: Conducting Accident Investigations

At the Pegasus plant (producing for Nike), a 60-member committee was formed, expanding an existing health and safety committee by adding the 20 participants from the August health and safety training program and others. The workforce at Pegasus faced economic challenges after the training, with a resulting reduction in the workforce from approximately 16,000 at the time of the training to 12,000 in March 2002.

Committee members at Pegasus have taken part in formal investigations of accidents involving partial amputation of fingers and hair being caught in moving parts of equipment. The accident investigations have resulted in new machine guarding being installed, and in work-practice changes that include wearing caps to prevent long hair from being caught in machinery. The committee, largely male in composition, has three full-time members (one of whom is female). They have developed a plant-specific inspection checklist and accident investigation protocol.

The full-time committee members have trained other members of the committee and the general workforce about chemical exposures, noise hazards, ergonomics, stress, and fire safety. Twice a week the committee shows a safety video in the plant's canteen area during the lunch break.

The Pegasus committee also organized activities for "Safety Month" at the plant, the first of the annual campaigns being conducted in March 2002. Pegasus, like the two other plants, will be giving out "safety awards" for the production unit or department with the best safety record and activities.

Still, the Pegasus committee had some limitations. The committee was male-dominated despite an overwhelmingly female workforce. Members were given limited time each month away from their production tasks to conduct committee work, and the hour-long inspections conducted by committee members each month were not enough to accomplish a systematic evaluation of workplace hazards.[5]

Yue Yuen/Adidas Factory: Training Committee Members

At Yue Yuen II (producing for Adidas), a 100-member committee was formed covering four sub-factories within the 30,000-worker complex manufacturing for Adidas. The committee is divided into four subcommittees, each managed by a full-time coordinator and staffed by 25 volunteer members. In its first six months, the YYII committee focused on training committee members to enhance their knowledge of and confidence about workplace safety issues. Between August 2001 and March 2002, there were regular monthly meetings, or "symposia," of committee members, covering fundamental

concepts of workplace health and safety, hazard-identification techniques, chemical handling and management, use of personal protective equipment, and fire safety. The symposia were held for one to two hours in the evenings, after a work shift, on unpaid time.

Each of the four subcommittees had a safety coordinator or "commissioner," selected by management. Women made up 40–50% of the overall committee's membership, although all four plant commissioners are male. Some committee members, as well as the labor practices staff of adidas in Hong Kong, have led health and safety training sessions. The committee also developed a program on "zero work-related injuries" that involved a competition among sub-factories.

At YY II, upper management has supported the committee and committed to extending worker training. They see worker knowledge as a key component for improving health and safety. The negative aspect of this top-down management approach has been a resulting lack of democratic processes within the committee and generally weak participation from line-level workers.[5]

Nongovernmental Organizations: Connecting to the Factories

Three of the four participating nongovernmental organizations (NGOs) have also enhanced their work on health and safety issues following the August 2001 training program.

Training participants from the Chinese Working Women Network (CWN) included six young women from various parts of China who had been workers in Pearl River Delta factories before joining the CWN staff. They provide occupational health and safety information through their outreach work in CWN's Nanshan women workers' center and through their mobile van, the "Women's Health Express," which visits industrial areas in Guangdong Province. The CWN participants have adapted parts of the training binder for their educational activities, including integrating health and safety materials into their "Sister Whisper" newsletter distributed to plant workers.

The Asia Monitor Resource Center (AMRC) used some of the materials and training approaches and incorporated them into its own health and safety training program. This included a seminar held in Cambodia in late 2001, as well as other ongoing educational activities.

The Hong Kong Christian Industrial Committee (HKCIC) has used the 2001 training program to move forward with proposals to conduct similar health and safety training sessions and related activities in other industries in China, such as toy production.

Both HKCIC and AMRC were invited in November 2001 to the KTS plant to meet with the safety committee for discussions on developing the committee's activities and strengthening interactions with the plant's union. HKCIC and AMRC have also continued their relationship with the two local industrial hygienists, Pak Ip and Christine Chiu, from Hong Kong University of Science and Technology, who were instructors in the August training workshop. The two industrial hygienists have provided consultation on several health and safety issues for both groups.

February 2003 Follow-up Meeting: Sharing Results 18 Months after Training

In February 2003, KTS hosted a meeting of the three plant safety committees and representatives of three Hong Kong-based NGOs to exchange information about their work in the 18 months since the August 2001 training and to provide additional training. In addition to 10–12 members from each of the three plants' committees, representatives were present from AMRC, CWN, HKCIC, and the labor practices staffs of Adidas, Nike, and Reebok.

The all-day meeting included reports from each of the three plants' committees, a tour of the KTS facility where hazards had been corrected by the plant committee, and three simultaneous afternoon workshops on chemical management, China's new occupational health laws, and worker education and communication, led by staff members of Nike, Adidas, and HKCIC, respectively. All three plant committees reported progress in establishing their ongoing inspections, accident investigations, and employee training, but also reported similar challenges in gaining cooperation from low-level supervisors and improving the functioning of the committees themselves.

SUCCESSES, CHALLENGES, AND LESSONS LEARNED

The China Capacity Building Project on Occupational Safety and Health is in many ways a first-of-its-kind undertaking. At the final meeting of the multi-stakeholder Coordinating Committee, members noted that project successes include:

- Creation of young, but functioning, worker–management health and safety committees, including one committee supported by a democratically elected union. While the three committees vary in important ways, each is taking steps toward building worker participation.
- Providing training to committee members and NGOs using an action-based, participatory learning approach that resulted in measurable knowledge gains about key principles of occupational safety and health.
- Producing a well-researched, easy-to-understand health and safety curriculum on core health and safety topics in both English and Chinese.

Meeting at the 5,000-worker Kong Tai Shoes (KTS) factory in Longguan in March 2002 of the plant health and safety committee and the post-training evaluation team, consisting U.S.-based project coordinators Dara O'Rourke and Garrett Brown, Local Project Coordinator Juliana So, and Sanjiv Pandita, health and safety researcher from the Asia Monitor Resource Center in Hong Kong. The plant health and safety committee is led by participants in the August 2001 training. (Courtesy of Labor Occupational Health Program)

- Expanding project participants' knowledge of how health and safety committees organize themselves, carry out their activities, and involve workers in all aspects of a workplace health and safety program.
- Increasing the level of dialogue between plant management, manufacturers of international brands, and NGOs and helping to lay the basis for additional joint projects.
- Increasing the interest in and awareness of safety issues among all participants, and identifying areas for further training and action.

The project also faced a number of challenges, including the need for:

- Additional training on technical subjects, effective communication, and committee development.
- Increased management commitment and resources for health and safety programs, especially more members, paid release time, and additional testing equipment and educational materials.
- Adjustment of committee members' workloads so that they are not also expected to meet their production quotas when they are undertaking committee assignments.
- Development of networks of peer trainers to reach thousands of additional workers (and supervisors) employed in the factory.
- Overcoming longstanding "cultural barriers" to promote meaningful worker involvement despite existing hierarchical structures.
- Developing systems that encourage gender equality.

There are a number of lessons to be learned from the China Capacity Building Project that were critical to its success and can benefit others involved in creating meaningful workplace health and safety programs. Some of the most important were:

- It is essential to have commitment from top-level management. The project had this from three transnational brand manufacturers, and they also worked to build support among their subcontractors, whose own top managers also committed to the project.
- Building worker capacity and participation is central to an effective worker health and safety program. This project's focus on worker empowerment goes beyond previous debates about codes and monitoring to practical hands-on concerns about the best ways to encourage participation.

- Using action-based training approaches and participatory methods is effective even in a more traditionally structured learning culture such as China (where students often are hesitant to speak up in classroom settings).

Workers globally share many common health and safety concerns. While some of the lessons learned in this project are unique to China, many of the successes, challenges, and results can apply to workplaces in different countries and locations. This project can and should be replicated elsewhere.

Public pressure can help make such projects happen, and can make it easier to obtain funding and support. Media publicity and labor, community, and student advocacy about working conditions in the global economy have led to the development of codes of conduct, including improved health and safety practices. This, in turn, has pressured transnational corporations and their producers to begin committing to health and safety programs. In this atmosphere, programs such as this are more likely to be successful.

Connecting projects such as this to larger issues within a country and within the global economy is key to expanding civic participation and democracy. In China, this project created increased connections between the NGOs and factory workers, as well as the NGOs and local technical people. It also brought together workers from three different factories who had never met each other to learn together, share experiences, and discuss and practice the concept of worker involvement. One factory experienced its first democratic union election during this project, which benefited from the involvement of some health and safety committee members and local NGOs.

In conclusion, there is no one perfect model for improving factory conditions in China (or anywhere else). However, this project, and the corporations, factories, NGOs, workers, and supervisors involved, have demonstrated that a well-designed training program combined with management commitment, worker involvement, and support from NGOs and unions can help point the way toward improved systems of worker participation to reduce hazards in factories producing goods for global consumers.

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