Participatory Approaches to Improving Safety and Health under Trade Union Initiative

—Experiences of POSITIVE Training Program in Asia—

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Abstract: The participatory, action-oriented training program in occupational safety and health named POSITIVE (Participation-Oriented Safety Improvements by Trade Union Initiative) was established in Pakistan and extended to other countries in Asia. The steps taken in the development of the POSITIVE program included collecting local good examples in safety and health, developing an action-checklist, testing a participatory training program, and conducting follow-up activities to examine local achievements. Training manuals were compiled to provide workers with the practical, easy-to-understand information on safety and health improvements and on the positive roles of trade unions. Trade union trainers trained in the methodology conducted serial POSITIVE training workshops in Pakistan and then in Bangladesh, Mongolia, Nepal, the Philippines and Thailand and recently in China. These workshops resulted in many low-cost improvements at the workplace level. These improvements were carried out in the technical areas of materials handling, workstations, machine safety, physical environment, and welfare facilities. The trade union networks have been vital in reaching an increasing number of grass-root workplaces and in expanding the program to other countries. This included the visits to Mongolia and Thailand of Pakistani trade union trainers to demonstrate the POSITIVE training. The participatory training tools used in the POSITIVE program such as the action checklist and group discussion methods were commonly applied in different local situations. Participatory approaches adopted in the POSITIVE program have proven useful for providing practical problem-solving measures based on the local trade union initiative.

Key words: Participatory training, Occupational safety and health, Action checklist, Low-cost improvement, Trade union, Networking

Introduction

As rapid industrialization grows, securing safety and health at work is becoming an increasingly important concern for trade unions in Asia. Many new production technologies being applied have had both positive and negative effects in terms of safety and health. Workers are still facing traditional and emerging work-related risks^{1–3}. Such risks

include handling of heavy materials, transferred production machines, work-stations not fitted to local workers, hazardous substances banned or strictly regulated in industrially developed countries, and poor welfare facilities at the workplace. Monotonous and repetitive patterns of work seen in assembly lines need special attention in view of the growing need for preventing musculoskeletal disorders and psychosocial stress⁴. Diversifying working time arrangements such as shift and night work require adequate measures to counter the adverse health and social effects^{5–7}. As in other

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developing regions, workers in industrially developing countries in Asia need practical safety and health support measures suited to the local situations.

Trade union networks in Asia have been increasingly developed to promote grass-root level activities of workers. Awareness is growing that the knowledge of the risks associated with the transferred technologies and of the practical countermeasures to be taken should be communicated to the grass-root level. It is true that, despite resource constraints, local workplaces have demonstrated their initiative to improve safety and health, resulting in multiple improvement examples⁸⁻¹¹. These improvements have been built on local wisdom and available resources^{12, 13}. Workers and trade unions had the potential to play the greater roles in improving safety and health at the enterprise level. It has been a real challenge for the trade unions in Asia to provide and extend workable support through their networks to fortify the initiative of grass-root workers¹⁴.

It is striking that participatory approaches to improving safety and health are gaining momentum in many countries in Asia¹⁵⁻¹⁹. Action tools aimed at active participation of both workers and employers have been playing dynamic roles in facilitating concrete improvement actions^{20, 21}. Action checklists, group work dynamics and photo sheets showing local good examples present typical examples of the action tools. Applying new participatory training methods, the small enterprises in the Philippines that participated in the Work Improvement in Small Enterprises (WISE) project in the Philippines from 1994–1996, with the technical assistance of the ILO and the financial assistance of the United National Development Programme (UNDP), produced over 2,000 improvement examples²². These improvements covered multiple technical areas using the locally available materials at low-cost²³⁻²⁵. Local trade union trainers as well as employer and government trainers jointly organized and implemented the WISE training courses in the Philippines.

Participatory approaches established in the WISE program have thus been adapted to the trade union-specific situations with a view to strengthening the trade union initiative in improving safety and health. The WISE program pointed to the importance of building sustainable safety and health practices on participation of local people. The participated local workers and employers had gained self-confidence to take more assertive roles in their workplaces. It was considered that extending participatory approaches to more workers at the grass-root workplaces would be possible through action-oriented support for local trade union initiatives and networks. The new program built on local trade union practice and needs was required. Such urgent

needs were communicated to the Japan International Labour Foundation (JILAF) by Pakistani trade union leaders. Thus, a participatory training program to improve safety and health under the trade union initiative was first built in Pakistan in 1994. The program has gradually expanded, during the subsequent decade, to Bangladesh, the Philippines, Mongolia, Thailand and Nepal and recently to China. JILAF has provided the financial and logistical support while the Institute for Science of Labour (ISL), Japan offered technical assistance to develop the contents of the program. The new program was named as POSITIVE (Participation-Oriented Safety Improvement by Trade Union Initiative). Based on these experiences, some common features of local trade union initiatives in improving safety and health and the growth of the POSITIVE program are discussed.

Methods

Establishing POSITIVE training program in Pakistan

National trade union centers in Pakistan had strong concern over workers' safety and health problems and requested technical cooperation to JILAF. Practical problem-solving measures to strengthen workers' own capacities to identify safety and health risks were expected. The measures were required to be easy-to-apply at the workplace level and to assist workers in producing practical improvement proposals to convince their employers.

International experiences of the successful intervention measures at the workplace level were reviewed. The ILO's WISE program in the Philippines²²⁻²⁵ and other participatory training experiences in Japan, Malaysia²⁶ and Thailand¹⁶ were referred to. The successes in intervention measures commonly focused on learning steps from local good examples and the group discussion methods to enhance the active involvement of local people. Action-checklists have commonly played a central role in assisting local workers and employers to identify feasible solutions. Stress was placed on looking at multiple action needs of local workplaces and starting with low-cost feasible actions. Participatory intervention measures using action-checklist exercises and group work processes were considered particularly relevant to the new training program to be built on the trade union initiative.

The four-day pilot POSITIVE training workshops were conducted in Karachi in 1994 and Faisalabad in 1995 in Pakistan. The participants were local trade union leaders and members. The training program was designed to be action-oriented for meeting the immediate needs of local workers covering five technical areas; materials handling,

Fig. 1. Steps taken in the POSITIVE training workshop

Table 1. 46 items listed in the action checklist used in the POSITIVE training workshops²⁷⁾

Materials storage and handling

1, Clear transport ways; 2, Wide and even transport ways; 3, Carts and other wheeled devices; 4, Multi-level shelves or storage racks; 5, Pallets or containers; 6, Mobile storage racks; 7, Hoists and conveyors; 8, Grips or holding points

Machine safety

9, Guards to dangerous moving parts of machines; 10, Safety devices protecting the worker's hands; 11, Feeding to avoid hazards; 12, Easy-to-read labels and signs; 13, Good machine maintenance; 14, Clearly visible emergency controls

Work-stations

15, Working at elbow height; 16, Platforms for small workers and work item holders for tall workers; 17, Tools, controls and materials within easy reach of workers; 18, Jigs, clamps, vices or other fixtures to hold items; 19, Hanging tools or conveniently fixed tools; 20, Home for each tool; 21, Alternate standing and sitting while at work; 22, Chairs or benches of correct height

Physical environment

23, Skylights and clean windows; 24, Ceilings and walls in light colors; 25, General artificial lighting; 26, Local task-lights for precision and inspection work; 27, Relocate light sources to eliminate direct glare; 28, Move hazard sources out of the workplace; 29, Screens, partitions or barriers to reduce the harmful effects of hazardous agents; 30, Labels on all the containers of hazardous chemicals; 31, Covered containers for organic solvents; 32, Personal protective equipment; 33, Local exhaust ventilation; 34, Safe wiring connectors for supplying electricity; 35, Heat protection of the building by backing up walls or roofs; 36, Natural ventilation by more openings, windows or open doorways; 37, Fire extinguishers within easy reach; 38, At least two unobstructed ways out of every floor or every big room

Welfare facilities and work organization

39, Adequate supply of cool, safe drinking water; 40, Cleaned toilets and washing facilities close to the work area; 41, Resting corners and a separate hygienic place for eating meals; 42, First-aid equipment and a qualified first-aider; 43, Combine tasks so that each worker can perform varied and interesting work; 44, Buffer stock of unfinished products between different work-stations; 45, Layout and the order of operations to ensure smooth flow of work; 46, Short breaks for strenuous work or work requiring continuous attention

work-stations, machine safety, physical environment, and welfare facilities. As shown in Fig. 1, a factory visit with the action checklist exercise was placed at the beginning of every POSITIVE training program. This was to help the participants start with the reality of local workplaces and learn locally practicable solutions. The POSITIVE action checklist (Table 1) consisting of 46 essential items in the five technical areas was formulated and applied. While using the checklist, participants were advised to identify both good points and points to be improved at the workplace. After the workplace visit combined with the checklist exercise, the simple implementation rules and local good example photos in the five technical areas were presented. Group discussions were followed to prioritize improvement points and conduct real improvements. Achieving a consensus for priority actions in a given time framework was an important part of the training. At the end of each session for this group

discussion, a representative of each group presented the summary of ideas for solving existing problems.

Development of training manuals and local trade union trainers

Compiling the pilot training experiences, a trainer manual²⁷⁾ and an action manual²⁸⁾ of the POSITIVE program were drafted and published. Both the two manuals were translated into local languages of each country where the POSITIVE workshops were conducted, except in the Philippines where the original English version could be used in training. The trainer manual described the ways to organize successful participatory training workshops and to make technical sessions clear and concise. As shown in Table 2, the key elements to become a successful participatory trainer were stressed. The guidance notes to plan effective follow-up and evaluation activities were attached. In the POSITIVE

Table 2. Key elements to become successful trade union trainers²⁷⁾

Key elements	Measures
Organization skills	Planning effective workshops and recruit appropriate participants
Technical knowledge	Understanding and applying basic rules of the five technical areas
Group work skills	Guiding and facilitating active group discussions
Presentation skills	Speaking in a clear and concise manner using audio visual aids effectively

Work-stations

- 15** Adjust working height for each worker at elbow level or slightly lower than elbow level.

Do you propose action ?

☐ No ☐ Yes ☐ Priority

Remarks

- 16** Use foot platforms for small workers and work item holders for tall workers.

Do you propose action ?

☐ No ☐ Yes ☐ Priority

Remarks

Fig. 2. Examples from the POSITIVE action checklist²⁸⁾

program, follow-up activities were essential for sustaining local improvement actions.

The action manual was aimed to provide workers with the ready-to-use information for improving safety and health. The manual consisted of (1) the 46-item action checklist with illustrations, (2) technical explanation on each of the 46 items, and (3) good example photos covering the five technical areas. Figure 2 gives a portion of the action checklist with the illustrations. The technical explanation for each of the checklist items was provided in the identical format consisting of “benefits for workers”, “basic rules”, “what workers can do”, “how to collaborate with employers” “points to remember” and “further suggestions”.

Using the trainer manual, the first training-of-trainer (TOT) workshop was undertaken in Pakistan in the mid-1990s and then in each of the other six countries. The participants

were recruited from the active trade union members who know the local workplace conditions. After the TOT, they were to organize the POSITIVE training workshops without direct outside assistance. In the TOT workshop, facilitator roles of POSITIVE trainers were emphasized to enhance inter-active discussions among their training participants. The four key elements to become skillful POSITIVE trainers were stressed (Table 2). As well as having technical knowledge on practical, low-cost improvements, the trainers required organizational skills to increase the sense of participation and to facilitate the active discussion among the participants. The voluntary expansion of the POSITIVE program by the trade union trainers met the trade union purpose to upgrade the quality of the working lives of local workers.

Table 3. Evaluation results of POSITIVE training workshops

Technical sessions	Strongly agree	Agree	Disagree	Strongly disagree
Checklist exercises	35	13	1	0
Materials handling	31	16	2	0
Machine safety	28	21	0	0
Work-stations	24	23	2	0
Physical environment	26	20	3	0
Welfare facilities	32	14	3	0

Evaluation results of 49 participants in the two workshops in Pakistan.

Table 4. Examples of group discussion results mentioning existing good points and improvement proposals in a garment factory²⁷⁾

Technical areas	Three good points	Three points to be improved
Materials handling	<ol style="list-style-type: none"> 1. Clear passageways 2. Carts and hand trolleys 3. Organized storage systems 	<ol style="list-style-type: none"> 1. Mobile storage trolleys 2. More mechanical aids for materials loading 3. Multi-level racks for storage chemical containers
Work-stations	<ol style="list-style-type: none"> 1. Appropriate working height 2. Tools and switches placed within easy reach of workers 3. Chutes for collecting wastes 	<ol style="list-style-type: none"> 1. Chairs for standing workers 2. Work height adjustment in the cutting section 3. Use more fixing devices
Machine safety	<ol style="list-style-type: none"> 1. Safe guards 2. Clear instructions for safe machine operation 3. Emergency stop switches 	<ol style="list-style-type: none"> 1. Moving chains and gears to be covered 2. Clear labels and signs 3. More feeder systems
Physical environment	<ol style="list-style-type: none"> 1. Full use of skylights and artificial lighting 2. National ventilation and exhaust fans 3. Proper storage of chemical containers 	<ol style="list-style-type: none"> 1. More local task lights 2. Proper lids for all chemical containers 3. Increasing ventilation in the chemical storage area
Welfare facilities	<ol style="list-style-type: none"> 1. Resting corners 2. Sufficient number of toilets 3. Drinking water facilities at the workplace 	<ol style="list-style-type: none"> 1. First aid boxes in the workplace 2. Changing rooms and lockers especially for women workers 3. Recreation facilities

Results

Evaluation of the POSITIVE training program

Table 3 shows the evaluation results on the technical contents by the participants of the two pilot POSITIVE training workshops in Pakistan. The technical contents of the POSITIVE training program were well accepted by the participants. The similar affirmative evaluation results have been gained in the subsequent training workshops. Particularly, the participants appreciated the easy-to-understand and action-oriented technical contents. Participatory approaches using action-checklist exercises and group discussions were also highly valued by the participants. Participants mentioned in their written comments that the POSITIVE training program using many good example pictures and illustrations was helpful for illiterate workers to understand practical safety and health contents. Some participants proposed a longer duration of the training to obtain more detailed knowledge while the

majority supported the four-day seminar program. Table 4 shows a sample of group discussion results in the pilot training in which the checklist exercise was organized in a garment factory. The points raised by the participants in the five technical areas were technically reasonable. Many of their ideas for improvements were possible to implement at low-cost using locally available materials. Applying the POSITIVE action-checklist, the participating workers were able to identify both good examples and relevant action points. The POSITIVE program contents tested was considered appropriate for workers and the trade unions in Pakistan to strengthen their improvement actions in safety and health at the workplace. The next step was to extend the established POSITIVE training program to many grass-root workplaces in Pakistan through the trade union networks. One should note that all these points were equally relevant in other countries where POSITIVE workshops could be organized.

Fig. 3-1. Improvement resulting from a POSITIVE training workshop in Pakistan. Before improvement, workers carried heavy materials manually (left). After improvement, hand trolleys newly applied (right).

Fig. 3-2. Before improvement, waste materials placed on the passageway (left). After improvement, waste storage areas designated (right).

Expansion of the POSITIVE program in Pakistan

The expansion of the POSITIVE program in Pakistan has been striking. The trained trade union trainers have conducted POSITIVE training workshops actively using their networks. In the first three years (1995–1997) of the project, 77 training workshops were carried out and 1,897 workers and trade union members were trained in Pakistan. Among the 77 training workshops, 45 were conducted at the workplace level for easier access to workers. As of 2,003, over 150 trade union trainers trained 7,251 workers, confirming the high sustainability of the program.

After attending the training, the trained workers have applied the action-checklist to their own workplaces to identify feasible solutions. Many safety and health improvements in materials handling, work-stations, machine

safety, physical environment, and welfare facilities have been implemented in collaboration with their employers. Some workplaces succeeded in newly establishing their safety and health committees as well as the improvements of the five technical areas. As shown in Fig. 3-1 and 3-2, the reported improvements were carried out using locally available materials. Table 5 shows 74 improvement results reported in a follow-up workshop. It was particularly important that many improvements were possible at low-cost. The trained workers were able to propose concrete solution ideas in safety and health and convinced their employers to take necessary actions. Some participants pointed to their positive experiences that their safety and health proposals submitted to their employers produced visible results and benefited both workers and employers. These joint successful

Table 5. Improvement examples classified by technical areas and costs

Area\Cost (USD)	0	<20	<100	100<	Total
Materials handling	2	1	3	0	6
Work-stations	1	5	3	0	9
Machine safety	3	7	1	4	15
Physical environment	1	9	12	2	24
Welfare facilities	1	7	8	4	20
Total	8	29	27	10	74

experiences have greatly helped build the stronger worker-employer communication and collaborative relationships.

The POSITIVE program has been adjusted to meet industry-specific safety and health needs. A typical example was the adjusted program for the coal mining industry in Pakistan. Learning from the POSITIVE checklist, some local trade union members developed an action checklist for the coal mining industry depending on their practical experiences. The checklist consisting of 154 items to respond to the practical improvement needs of the coal mining industry that has faced high accident risks. The checklist covered the broad and specific safety and health needs of miners. They were “preparation before entering the mine”, “materials handling”, “storage of explosives”, “workstations”, “face”, “haulage transportation and machine safety”, “use of safety lamps”, “electrical safety”, “ventilation”, “fire-fighting”, “welfare facilities”, and “safety and health organization”. The local trade union trainers have completed 90 workplace-level training workshops and trained

2,550 workers from 2001–2003. Remarkable was that the trade union used the POSITIVE program to strategically organize mining workers and to strengthen their initiative for improving the working conditions.

Spread to other countries

The success of the POSITIVE program in Pakistan has been widely communicated to trade unions in other Asian countries. As a result, many proposals requesting POSITIVE training workshops were sent to JILAF. In response, POSITIVE training workshops have been held in the Philippines, Bangladesh, Mongolia and Thailand after the initial success in Pakistan (Fig. 4). The first POSITIVE workshops in Mongolia and Thailand were held with the assistance of Pakistani trainers. It was of particular interest that the grass-root training experiences of Pakistani trade union trainers were applicable in Mongolia and Thailand. The impact was substantial. For example, in Mongolia, 205 POSITIVE workshops have been conducted and 5,192 workers have been trained during 1998–2001 by the trained Mongolian trade union trainers. The POSITIVE workshops and associated train-the-trainers activities were similarly successful in Bangladesh, Nepal, the Philippines and China. Lately in 2003, the pilot workshops held in China led to subsequent train-the-trainers activities in some provinces in China.

Special efforts were done in each country to adjust the training materials to the local situation. Improvement rules, checklists, and manuals were translated into the local

Fig. 4. Spread of the POSITIVE program in Asia.

languages and tested repeatedly. Local good examples were collected in the respective countries and used for their training. To ease the participation of more workers, a one-day training program was designed and applied at the workplace²⁷⁾. The one-day program consisted of the checklist exercise, trainer presentations showing selected improvement rules and local good examples, and group discussions to identify improvement points. In the 205 training workshops undertaken in Mongolia, 108 were conducted at the workplace level applying the one-day training program. The local trainers have used the printed photo sheets showing local good examples when no audio-visual aids like an overhead projector were available at the workplace. The one-day seminars organized subsequently also led to many low-cost improvements.

Environmental protection was added to the POSITIVE program as the sixth technical area. The Pakistani trade union trainers found it possible to reduce environmental pollution sources in the workplaces under their initiatives. Four new items to promote environmental protection that can be implemented by the workers at the workplace were identified for the POSITIVE training program. They were: “select raw materials without damages or decays and free from unnecessary package materials”, “collect wastes as separately as possible and recycle them into the production processes so as to minimize wastes”, “reduce water consumption by collecting solid waste before flushing with water and adopting washing rather than continuous rinsing”, and “collect and dispose of hazardous waste separately from other waste and establish proper waste treatment mechanisms”. The 4 items were added to the checklist and then the participating workers have been trained to find the practical solutions in environmental protection at the workplace level.

In conducting the POSITIVE activities, the trainers usually concentrated not only on facilitating the planning and implementation of low-cost improvements, but also on strengthening the roles of workers’ representatives in safety committees and trade-union-based risk communication and campaigns. This was useful in enhancing the roles of trade union members in the overall safety and health activities at enterprise level. The action-oriented nature of the POSITIVE methodology was useful in encouraging this kind of enterprise level cooperation involving both employers and workers.

Further, the evaluation of each POSITIVE workshop was done by distributing a brief questionnaire to the participants. The questionnaire results from the seven countries confirmed that the POSITIVE methods were favorably evaluated by the participants. The action-oriented aspects of the group

work and of the training materials were particularly appreciated by the participating workers. Usually, the majority of the workers agreed to spread the methodology to other workers through trade union initiatives. The obtained positive feedback from the workers were beneficial in collecting local good examples that could be used to amplify the training materials suited to each local situation.

Discussion

The experiences of the POSITIVE program in nearly a decade on the trade union initiative have demonstrated the importance of both the local initiative through the national trade union centers and the network support for training of trainers. Practical training methods such as action-checklist application, local good example demonstration, and group discussions were useful for strengthening the local trade union initiative. The trade union networks have always played essential roles in reaching grass-root workplaces and extending the training, resulting in many tangible changes in safety and health. Trained workers in the POSITIVE program were able to propose the feasible action plans that could be implemented at low-cost. The workers’ representatives took the greater initiative in day-to-day safety and health activities in the workplace. They succeeded in convincing their employers to invest the necessary resources for the proposed improvements so that the both sides shared benefits from the positive workplace changes.

The expansion of the POSITIVE program has coincided with a growing trend of participatory approaches to improving safety and health in various target groups in Asia^{17, 29)}. The success of the POSITIVE methodology should be seen in the context of these mutually related participatory approaches. Various support programs to the local initiative have provided workers and employers in different countries with the practical measures to improve safety and health. In Vietnam, for example, participatory training methods have been widely applied to farmers. The training program named WIND (Work Improvement in Neighbourhood Development) has been extending practical support measures using an action-checklist and group work dynamics to rural agricultural villages, resulting in positive impacts on both the working and living conditions^{30–34)}. In Thailand, home workers have been trained using participatory training methods and broadened their network coverage³⁵⁾. It should be noted that these successful programs have placed clear focus on practical action-oriented methods to assess safety and health risks and relied on local initiative and resources.

The existing trade union networks were strikingly powerful

for multiplying the effects of the action-oriented training program locally and regionally. This was because trade union leaders and members had known the workplace potential to improve safety and health and looked for practical approaches leading to concrete workplace actions³⁶⁾. The POSITIVE program has replied to such immediate needs. Remarkable were the trade union efforts to further adjust the program to be suited to the local workplace situations. The shortened one-day training workshops organized at the workplace were precious opportunities to many workers in participating in safety and health improvements. The photo sheets showing local good examples enabled trade unions to conduct the POSITIVE training in the workplace where audio-visual aids were not available. The adjusted program for the coal miners in Pakistan indicated that the participatory approaches adopted in the POSITIVE program could be applied for different workplace situations under the trade union initiative. The expansion of the POSITIVE program has involved many workers and trade union members to strengthen their safety and health networks.

The trained trade union trainers have played facilitator roles and widened the POSITIVE training. The trainers presented technical improvement rules in an easy-to-understand manner. They encouraged the participants to look at existing local good examples and to formulate feasible action plans in their own workplaces. Through group work discussions, ideas and views among different participants have been shared. The participatory trainers in the POSITIVE program have organized the training confirming these essential steps. It was of particular interest that the Pakistani POSITIVE trainers helped conduct the initial POSITIVE training workshops in Mongolia and Thailand and built the firm base for the further development of the POSITIVE program in these countries. The facilitator roles transferred by the Pakistani trainers were helpful for the wider acceptance of the program. The trade unions' network support which started in Pakistan is now spreading to other countries³⁷⁾.

Conclusions

The new action-oriented POSITIVE training program under the trade union initiative has been effectively applied in seven industrially developing countries in Asia. This program has greatly facilitated the trade union activities for improving safety and health at the workplace in these countries. Participatory, action-oriented steps taken in the program helped the participating workers identify concrete solutions in their workplaces. Practical training tools such as action-checklists, group discussions, and local good

example photos were particularly useful in supporting such workers' initiative in a locally adjusted manner. Workers' practical action proposals taking into account low-cost ideas have often strengthened the constructive relationships with their employers. The trade union networks have fortified the workers' initiative in improving safety and health and expanded the POSITIVE program reaching many grass-root workplaces. It was confirmed that action-oriented safety and health programs can be built on the workers' own experiences and initiative. We need to further encourage the application of practical training tools for involving local human resources and experiences.

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