

Participatory methods effective for ergonomic workplace improvement

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Abstract

Recent experiences in using participatory methods for ergonomic workplace improvement are reviewed to know how these methods can be effective in different settings. The review covered participatory programmes for managers and workers in small enterprises, home workers, construction workers and farmers in Asian countries. To meet diversifying ergonomic needs, participatory steps reviewed are found to usually follow a good-practice approach easily adjustable according to local needs. These steps are found to usually focus on low-cost improvements. They can thus lead to concrete results particularly by addressing multiple technical areas together. Typical areas include materials handling, workstation design, physical environment and work organization. Further, the review confirms that the participatory methods are always modified according to each local situation. This is done by developing a group-work toolkit comprising action checklists and illustrated manuals and by building a support network of trained trainers. It is suggested that participatory methods taking a good-practice approach by multi-area low-cost improvements through the group use of locally adjusted toolkits are effective for improving small-scale workplaces including those in developing countries.

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1. Introduction

Participatory methods are increasingly utilized in improving ergonomic aspects of work and workplaces. The merits of these methods are widely recognized as a means of promoting initiative of local people and achieving workable solutions (Vink et al., 1995, 1998; Zalk, 2001; Khai et al., 2005). A notable merit is that they contribute to improving various forms of workplaces in their diverse conditions (Noro and Imada, 1991; Nagamachi, 1995; Kawakami and Kogi, 2001; De Jong and Vink, 2002; Koningsveld et al., 2005).

It is of particular interest that participatory methods are extensively used in workplace improvement including risk management processes in both industrially developed and developing countries (Shahnavaz, 2000; Kogi, 1998, 2002; Hignett et al., 2005). Various modified methods are used for facilitating work redesign in these different situations. These methods place a particular emphasis on creating initiative of local people through participatory solving

of workplace problems (Eklund, 2000; Hägg, 2003; Khai et al., 2005). It is important to know how these methods can be effectively applied for improving working conditions in small enterprises despite many constraints (Gustavsen and Oscarsson, 1991; Engeström, 2000; Kawakami and Kogi, 2001).

The advantages of participatory methods have been discussed particularly in relation to participatory ergonomics. Wilson and Haines (1997) define participatory ergonomics as the involvement of people in planning and controlling a significant amount of their own work activities, with sufficient knowledge and power to influence both processes and outcomes in order to achieve desirable goals. This definition is equally relevant to the spread use of participatory methods in workplace improvement. Various reports on the safety and health risk reduction processes at different workplaces confirm this relevance (Khai et al., 2005).

Experiences in our inter-country networking of participatory approaches in workplace improvement in Asian countries likewise indicate the importance of an adequate set of action-oriented participatory methods. Many

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concrete workplace improvements are reported in small enterprises, construction sites, agricultural farms and working homes (Kawakami and Kogi, 2005).

These recent experiences in our networking activities are examined to know types of participatory methods effective in different settings as discussed by Noro and Imada (1991) and Haines et al. (2002). The answers to the following questions are sought:

- (1) What kind of approach is taken commonly by the participatory methods to meet ergonomic needs in diversified work settings?
- (2) To what extent do types of workplace improvements achieved by these methods vary from each other in different work settings?
- (3) Through which support measures can we better facilitate participatory action by local people?

Attention is drawn to the locally adjusted nature of improvement steps taken. Attention is also drawn to the roles of action-oriented tools and key persons in meeting local needs. Practical hints for spreading workplace improvement programmes in small enterprises and agriculture particularly in developing countries may be presented.

2. Materials

Recent experiences in participatory methods effective for ergonomic workplace improvement in different work settings are reviewed. The experiences gained in our Asian inter-country network (<http://www.win-asia.org>) are examined to know the types of support useful for spreading practical improvements in small-scale workplaces in diversified situations.

Most experiences reviewed cover programmes for relatively underserved workplaces including small- and medium-sized enterprises, construction sites, home workplaces and agricultural farms. Participatory approaches in workplace improvement have evolved since the mid-1980s and developed in the form of action-oriented training of local people who plan and implement immediate improvements in their own workplaces.

The reviewed programmes include the following:

- (a) action training courses in the Philippines, Thailand and Vietnam applying the work improvement in small enterprises (WISE) methodology developed by the ILO (Thurman et al., 1988; Batino, 1997; International Labour Office (ILO), 2004);
- (b) similar action-oriented training for risk reduction in small- and medium-sized enterprises and construction sites in Japan, Laos, Malaysia, Mongolia, the Philippines and Vietnam (Hiba, 1998; Ito et al., 2001);
- (c) training workshops for farmers applying work improvement in neighbourhood development (WIND)

methods in Thailand, the Philippines and Vietnam (Khai et al., 2005);

- (d) participatory action training for home workers using work improvement for home workers (WISH) methods similar to WISE methods (Kawakami and Kogi, 2005); and
- (e) action training of trade union members through national trade union centres by applying participation-oriented safety improvement by trade union initiative (POSITIVE) methods developed for technical cooperation activities by the Japan International Labour Foundation and conducted in Bangladesh, China, Mongolia, Nepal, Pakistan, the Philippines, Thailand and Vietnam (Kawakami et al., 2004).

Since these programmes are organized as serial short-term action training courses or workshops, the review include the training packages developed, networks of trainers as well as related follow-up activities. First, the approach commonly taken by these programmes is compared. Then, types of improvements achieved by these programmes are discussed. Finally, the networking arrangements for these programmes are examined.

3. Results and discussion

3.1. The approach commonly taken in responding to diversifying needs

The first question concerns the approach commonly taken by participatory methods applied in different settings. It is of interest that the participatory methods used in the reviewed programmes have gradually developed since the 1980s learning from the experiences gained in applying the WISE methodology. We may confirm that the WISE programmes have spread to many countries in the course of the 1990s with significant influences on the other action training programmes. This is obviously because the basic principles of the methodology building on local good practices have been widely accepted by the other programmes.

The different target groups, the main steps used and special features of these programmes reviewed are shown in Table 1. All the programmes apply short-term training focusing on good examples locally achieved and technical sessions for learning basic principles of ergonomics and occupational hygiene on the basis of good practices demonstrated by these examples. As a rule, extensive follow-up activities led by trainers are undertaken in all the programmes.

It should be noted that participatory methods are undertaken for some different reasons. For example, WISE methods emphasize the advantages of small enterprises in taking immediate measures through workplace-level agreements, and thus rely on group work of managers in applying basic ergonomics principles. Similar methods are used in various industrial workplaces and construction sites

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