Applying WISH Programme to Improve Productivity of Home Industry

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1. Introduction

Home industry in Indonesia is a micro level industry which employs less than five persons (Central Bureau of Statistics, 2012) and commonly the production process at home workplace. The role of home industry is very significant for economy of Indonesia. Therefore, productivity improvement of home industry is very important. Workplace condition is one of the important aspects that need to be considered in improving productivity of home industry. Workplace is defined as an ecosystem comprising a careful balance of people, process and place developed to support people and the nature of their work. An innovative workplace strategy will lead optimization of business performance (Mitchell-Ketzes, 2003). Workplace improvement give significant contribution in productivity, quality and worker health and morale (Petrarolo 1998; Grant, et al. 2003; Harte, et al. 2011). Several studies revealed many approaches in workplace improvement. Organizations have over the years implemented many approaches in workplace improvement such as quality control, team activities and setup reduction (Petrarolo, 1998). The use of balanced scorecard system to integrate multi-dimensional of objectives is one of the workplace improvement strategy (Bradley, 2002). Japanese tool for workplace improvement is 5S methodology. It is the tool for helping the analysis of processes running on the workplace (Michalska and Szewieczek 2007).

The purpose of this study is to show the application of WISH (Work Improvement for Safe Home) programme in improving productivity of a home industry in Yogyakarta City, Indonesia. WISH is an action manual published by ILO (International Labour Organization) to improve work conditions among home manufacturing. The WISH action manual provides home workers with practical, low cost and easy-to-implement ideas to improve their safety, health and working conditions. These improvements will also contribute to higher productivity and efficiency of their work and promote active participation and cooperation of home workers in the same workplace or in the same community (Kawakami, Arphorn and Ujita 2006).

2. Method

The study was conducted in a home industry in Yogyakarta City which produces ethnic sandals by simple manual process. WISH action checklist has been used as the instrument to evaluate the working conditions. The working conditions in WISH action checklist covers five aspects; i.e. materials storage and handling, machine safety, work stations, physical environment, and welfare facilities and work organization. Each aspect consists of many items checklist. For each item in WISH checklist was looked for the way of application in the workplace and marked as priority for worthwhile items where the benefits seem the most important. The process was done by participation of home workers in workplace evaluation by WISH item checklist.

Participatory approach was applied by active involvement of home workers in evaluation and improvement of working conditions. Participatory is an approach in macro ergonomics analysis and design. Participatory ergonomics is defined as a methodology that involves employees’ at all organizational levels in the design and improvement process (Hendrick and Kleiner 2001). Trust, commitment and good will resulting from employee participation may increase job satisfaction and thus reduce the disability of effort. These effects, in turn, may lead to greater effort and improved performance (Brown 2002).

Based on the checklist result then analysis was done to determine the index priority of each aspect to specify the most priority aspect for improvement of home industry. Index of priority (IP) is the ratio between the number of priority item and the number of items checked for each aspect.

Workplace improvements was developed with main focus on the most priority aspect for improvement. The participating home workers have also developed implementation of many low cost improvements for productivity by using available local resources. The action needed for improvement was developed based on the WISH manual.
3. Results and Discussion

Index priority of five working condition aspects shows in Figure 1. The result shows that ‘materials storage and handling’ is the most priority aspect for improvement of the home industry, with index of priority 0.8.

![Figure 1. Index of priority for improvement](image)

Improvement actions for materials storage and handling were developed by designing a multifunction container and redesigning workplace layout. The multifunction container was used as storing and moving rack of materials and tools so transportation became faster and safer. Setup time and processing time were significantly reduced by implementation of improvements. Improvement in storage and material handling aspect then lead to improvement in other aspects, such as workstation and environment.

The actions were revealed improvement in productivity from 0.79 unit/man-hours to became 0.86 unit/man-hours. The improvements give positive effect in fulfillment customer demand and certainly the development of the home industry. Applying WISH programme will help home workers improve safety, health and working conditions and eventually productivity. This improvement model is also applicable for other home industries.

References


