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A Development of Waste Management Training Model

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Abstract: The study aimed to develop a waste management training model for the administrators in the subdistrict administration organization in Nongkhai province. The purposive sample of 54 participants participated in the study. The research instrument was developed including two parts; waste management training model and survey questionnaire on opinion about waste management model. The data were analyzed by a percentage, a mean and a standard deviation. The major findings revealed that the developed waste management training model included 6 steps: analysis of the need of participants, specification of objectives, design of training, development of the model, conducting training and evaluation. The model was then given to the experts for validation. These experts reviewed and evaluated the model at the most appropriate level and it had an efficiency at 86.50/88.00. Most of the administrators in the subdistrict administration organizations reported that the training could increase knowledge about waste management from a moderate level to a high level as same as benefits for family units and communities. The steps of training program were appropriated.

Key words: Waste management model, training model, knowledge, awareness, subdistrict administration organizations, participation

INTRODUCTION

In the recent years, waste products have rapidly increased in Thailand due to increasing the number of population and improvement of economic status. Anyhow, the quality of waste management system in the communities was not effective and the government spent a lot of money to solve these problems. Therefore, problem solving should emphasize promotion and distribution for applying appropriate technology in the communities in order to reduce the amount of waste products.

Waste management is important for all people in the communities in particular the administrators in the subdistrict administration organizations because it is the main task.

If the administrators have knowledge and awareness about how to manage the waste products, it would help increase the quality of waste management system (Polat and Olgun, 2007).

The training program is the process for improving the abilities of each person in many aspects such as knowledge, attitude and skills that happen systematically. If some of them know and understand clearly in each topic, they would change their behaviour according to the experiences that they have learnt under the condition of the situation and appropriate time (Chaitach *et al*., 2010).

The research's purposes:

- To develop the waste management model for the administrators in the subdistrict administration organizations in Nongkhai province
- To study the opinion of the administrators in the subdistrict administration organizations about the waste management model

MATERIALS AND METHODS

Method and statistics:

- The target population in this study were 436 administrators in the 109 subdistrict administration organizations in Nonghai province.
- The sample of 54 subdistrict administrators were purposively selected.
- The experimental research design was conducted, data collection strategies were the followings:

Step 1. Analyzing the need of participants: Analyzing of the need of potential participants including the

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need, demographic data, job description or task for being improvement and contents of learning.

Step 2. Setting up the objectives: Planning for the training program by setting up the objectives and goals of the training was made.

Step 3. Designing the training: The details for training program included selecting the contents outline, timeframe, method of training and method of evaluation.

Step 4. Developing the model: The research instrument (Pongpan Model) was tested using a pilot study. The investigator then revised the instrument again before implementation. The steps of developing the model included development of study plan, development of innovation in learning using the multimedia and development of the tool for evaluation.

Step 5. Training: In this phase, the investigator organized the training program and the research instruments were practiced with the samples.

Step 6. Evaluation: The evaluation was conducted throughout the process including before training, during and after training, then the achievement of the training model was evaluated.

RESULTS AND DISCUSSION

After development of the waste management training model, the research instruments were evaluated by giving the questionnaires to the five experts for their approval. The overall score demonstrated at the most appropriate level ($\bar{X}$ = 4.88).

The efficiency of the model: After the model approved by the experts, the model was tried out with the sample of 54 participants. The steps of collecting data were as follows:

- Organized the training for 3 days according to the schedule and activities as planned
- The participants were asked to do the test for two times, 10 marks each
- After the training, the participants were asked to answer the questions to evaluate knowledge of waste management
- The participants were asked to answer the questionnaire about their opinion related to the training program

Data analysis: The participants who participated in the study included the head subdistrict administrator, the deputy of the subdistrict administrator and the secretary to the subdistrict administrator. Most of them were under 45 years old (81.51%) followed by 45 years old and above (18.50%). The educational level was below Bachelor Degree (61.10%) followed by and Bachelor Degree and higher (38.90%).

Table 1: Data concerning with the efficiency of waste management training program

Parameters	Values
Score during training	17.30
Percentage	86.50
Score after	17.60
training	88.00

The efficiency of the developed training model regarding waste management was at 86.50/88.00 (Table 1) with met the required criterion of 80/80. This finding demonstrated that the model was appropriate for implementation.

Data analysis for survey questionnaire showed that the participants reported that after the training, their knowledge regarding waste management increased at 77.78% compared to before the training at 54.44%. The study found that 81.48% of the participants reported the training was useful for household and at the communities level. They pointed out that the followings items were appropriated for the training; the topic of training (100%), the contents (94.44%), appropriated activities (100%), materials (87.70%), timing (92.59%), basic knowledge about waste (90.74%), waste products in subdistrict (88.89%), waste management in household (88.89%), group activities (94.44%), documentations (100%), training climate (100%) and training place (100%).

CONCLUSION

The development of waste management training model (Pongpan Model) included six steps; analyzing the need of participants, setting up the objectives, designing training, developing the model, training phase and evaluating. This model was modified from various training models (Brady, 2004; Erickson, 2003; Cascio, 1998). The investigator was then given the model to the experts to review for the approval. Experts evaluated the model at the most appropriate level and could be used as an instrument for training waste management.

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