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The Effect of Training on Flood and Landslide Preventing and Solving by Applied Geo Information Technology of the Local Government Officers at Uttaradit Province, Thailand

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Abstract: This research aimed to study the effect of training on flood and landslide preventing and solving by Applied Geo Information Technology of the local government officer at Uttaradit province Thailand to comparing their knowledge awareness before and after training. The sample composed of 39 peoples of the local government officers in Uttaradit province which have been selected by a purposive sampling technique. The research design was just one group pre-test and post-test. The data collection was analyzed by mean, standard deviation and testing hypothesis by t-test. The study results are as following: The result of this study showed that total knowledge awareness and practical on flood and landslide preventing and solving of the local government officer after training was rated higher that before training ($p<0.05$).

Key words: Geo Information Technology (GIT), flood and landslide preventing, training, knowledge, awareness, practical, local government

INTRODUCTION

Landslides were the most important and hazardous slope failure phenomena during an earthquake event. In recent years, remote sensing and Geographic Information System (GIS) technologies have significantly promoted the ability to map earthquake induced landslides (Wang *et al*., 2007). With the benefit of aerial photographs, multi-source remote sensing imagery and field investigations, slope failures and catastrophic landslides induced by earthquakes have been extensively mapped and analyzed in many countries. Some of such landslides can impact property, developed areas and infrastructures, leading to economic losses and sometimes fatalities. Understanding where these types of landslides are most likely to occur is crucial in reducing property damage and casualty in future earthquakes (Xu and Xu, 2012).

Local government practices in Thailand have become more participatory or governance oriented since the promulgation of the Constitution of 1997 and the Decentralization Plan and Process Act of 1999. Several local governments have applied modern concepts of new public management and participatory approaches in performing their tasks (Jansamood, 2012).

Many governance organization try to solve those problem with many methods, especially environmental education which it is process of environment teaching for people have environmental knowledge and understanding, awareness, attitude, environment ethics, behavior and evaluation (Wongchantra *et al*., 2008). In extension systems, effective training must be able to take care of all the theories of learning in order to change the action, belief and knowledge component of trainee simultaneously. The importance of manpower development in the nation economy of any country hardly needs any emphasis. Training is the process by which desired knowledge, abilities and attitude are inculcated, fostered and reinforced in a trainee. It the major means to improve the competence of the trainee or personnel (Matthews-Njoku and Adesope, 2007).

The training program is the process for improving the abilities of each person in many aspects such as knowledge, attitude and abilities that happen systematically. If some of them know and understand clearly in each topic, they would change their behavior according to the experiences that they have learnt under the condition of the situation and appropriate time (Jansamood *et al*., 2010). This research purposes were studies the effect of training on flood and landslide preventing and solving by Applied Geo Information Technology of the local government officers at Uttaradit province, Thailand to comparing their knowledge and awareness before and after training.

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The research's purposes:

- To compare knowledge and awareness on flood and landslide preventing and solving by Applied Geo Information Technology of the local government officer at Uttaradit province Thailand before and after training
- To study practical on flood and landslide preventing and solving by Applied Geo Information Technology of the local government officer at Uttaradit province Thailand after training

Hypothesis:

- The local government officer had knowledge and awareness on flood and landslide preventing and solving by Applied Geo Information Technology after training were higher than before training

MATERIALS AND METHODS

Population and sample: Population were 80 as an agent local administrative organization in Uttaradit province.

Sample: About 39 local government officers in Mueang, Lablae and Thapla district local administrative organization Uttaradit province which have been selected by a purposive sampling technique.

Research instrument:

- The training program on flood and landslide preventing and solving by Applied Geo Information Technology of the local government officers
- The test of knowledge awareness and practical on flood and landslide preventing and solving by Applied Geo Information Technology of the local government officers

Data collection:

- Step 1; collecting pre-training data from the sample by the test of knowledge awareness and practical on flood and landslide preventing and solving by Applied Geo Information Technology of the local government officers
- Step 2; collecting the immediate post-training data from the same sample by the same instruments, namely; the tests of knowledge awareness and practical flood and landslide preventing and solving by Applied Geo Information Technology of the Local Government Officers
- Step 3; analyzing data by statistical, percentage and t-test

RESULTS

The local government officer had knowledge and awareness on flood and landslide preventing and solving by Applied Geo Information Technology after training is higher than before training ($p<0.05$) (Table 1 and 2). The local government officer had practical on flood and landslide preventing and solving by Applied Geo Information Technology after training showed that a good level every process.

Table 1: Compare knowledge on flood and landslide preventing and solving by Applied Geo Information Technology of the local government officer before and after training

	Before		After			
Knowledge	$\bar{X}$	SD	$\bar{X}$	SD	t-value	p-value
Flood	1.56	0.55	4.970	0.71	-29.78	0.000*
Landslide	1.49	0.68	4.260	0.79	-15.91	0.000*
Geo-technology	1.59	0.59	4.130	0.77	-16.36	0.000*
Applied GIT	1.54	0.51	4.260	0.79	-16.17	0.000*
GIS	2.10	0.75	4.182	0.76	-14.41	0.000*
Total	8.28	1.38	21.770	3.06	-25.40	0.000*

Table 2: Compare awareness on flood and landslide preventing and solving by Applied Geo Information Technology of the local government officer before and after training

	Before		After			
Awareness	$\bar{X}$	SD	$\bar{X}$	SD	t-value	p-value
Flood	3.50	0.26	4.220	0.32	-10.66	0.000*
Landslide	3.51	0.24	4.270	0.31	-11.06	0.000*
Geo-technology	3.57	0.23	4.308	0.28	-13.19	0.000*
Applied GIT	3.56	0.20	4.260	0.32	-10.53	0.000*
GIS	3.55	0.30	4.260	0.32	-9.69	0.000*
Total	3.54	0.17	4.262	0.16	-24.96	0.000*

DISCUSSION

The local government officer had knowledge awareness and practical skill on flood and landslide preventing and solving after training is higher than before training with statistically significant difference at the level of 0.05 which shows that the training program making more knowledge awareness and practical skill receiving for the local government officers which relating to the environment and resource management directly to the program's target which is accorded to the Jansamood *et al.* (2010)'s research who found that the local government officers had knowledge and awareness on Environmental Impact Assessment (EIA) after training were higher than before training with statistically significant difference at the level of 0.05 and accorded to the Sailabat *et al.* (2012)'s research who found that the sub-district administration organization members had total knowledge awareness and ability on environment and resource management of sub-district administration organization members after training was rated higher that before training ($p<0.05$)

CONCLUSION

From this research, the training model on flood and landslide preventing and solving of the local government

officer by Applied Geo Information Technology was rated as a high efficiency and they also had knowledge awareness and practical skill on flood and landslide preventing and solving after training were higher than before training. Information from the study was giving beneficially to the development of flood and landslide preventing and solving in local government officer.

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REFERENCES

Jansamood, C., 2012. The roles and responsibilities in natural resources and environmental management of local government in Thailand. Social Sci., 7: 16-19.

Jansamood, C., P. Jitto, R. Junggoth and W. Pansila, 2010. Curriculum development in training on environmental impact assessment for local government officers. Social Sci., 5: 30-32.

Matthews-Njoku, E.C. and O.M. Adesope, 2007. Effect of training in ICT on utilization among extension managers in the Niger Delta Area of Nigeria. Asian J. Inform. Technol., 6: 34-37.

Sailabat, P., P. Wongchantra and C. Navanugraha, 2012. The effect of training on environment and resource management of sub-district administration organization members. Social Sci., 7: 33-35.

Wang, H.B., K., Sassa and W.Y. Xu, 2007. Analysis of a spatial distribution of landslides triggered by the 2004 chuetsu earthquakes of niigata prefecture, Japan. Nat. Hazard, 41: 43-60.

Wongchantra, P., P. Boujai, W. Sata and P. Nuangchalerm, 2008. A development of environmental education teaching process by using ethics infusion for undergraduate students. Pak. J. Social Sci., 5: 941-944.

Xu, C. and X. Xu, 2012. Controlling parameter analyses and hazard mapping for earthquake-triggered landslides: An example from a square region in Beichuan county, Sichuan province, China. Arabian J. Geosci., (In Press). 10.1007/s12517-012-0646-y.