

**FACTORS AFFECTING THE KNOWLEDGE AND
UNDERSTANDING OF HEALTH IMPACT ASSESSMENT
MANUAL OF CONSULTANT FIRMS IN THAILAND
FOR PRACTICAL CHANNEL**

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ABSTRACT

The purposes of this research were to study the knowledge, understanding and their affecting factors of Health Impact Assessment (HIA) manual of consultant firms, and to find out problems and obstacles, in order to recommend guidelines for the consultant firms to act upon the HIA manual. A questionnaire was employed to collect data from 50 consultant firms registered with the Office of Natural Resources and Environmental Policy and Planning (ONEP). The descriptive statistics, i.e., percentage, mean, and standard deviation were applied to analyze the data whereas; the t-test, F-test, and Correlation were applied for inferential statistic test. The results revealed that the majority of the consultant firms (57.14%) had moderate knowledge and level of understanding of HIA manual. In addition, the studied factors, i.e., firm size, numbers of public health experts, numbers of received information, numbers of sources of received information, numbers of project categories studied by consultant firms, participation in HIA activities, including policy of the firms, the status of being Public Health Association member, attentions in HIA, and opinion to act upon the HIA manual was not significantly related to the knowledge and understanding of the manual. From the study, the ONEP should be advised to give more information to the consultant firms through its homepage. Moreover, the authority should offer more training courses in HIA, improve for a clear and compact HIA manual, and separate the manual into individual projects. Simultaneously, public health database should be collected for HIA, along with the arrangement of pilot projects in several categories of projects under the authority's duty, whilst HIA courses should be increased and introduced in universities.

KEYWORDS: assessment, consultant firm, environment, guideline, health and manual

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1. INTRODUCTION

Based on the manual preparation on the Health Impact Assessment (HIA), the Office of Natural Resources and Environmental Policy and Planning (ONEP) hired the International Environmental Management Co., Ltd. to conduct a study and prepare the HIA manual to be a guideline for various health projects. The manual was completed in September 2001[1].

However, the manual on the HIA could not be applied by juristic persons on the HIA and it could not be combined with the Environmental Impact Assessment (EIA) of various projects which are needed to prepare the EIA report [2].

This made the researcher be interested in a study on factors effecting the knowledge and understanding on the manual on the HIA of the International Environmental Management Co., Ltd. Results of the study were the basis for the improvement and development of the manual and the juristic persons could apply it for various projects which would be most useful and effective.

1.1 Objectives of the study

This study aimed to do the following:

1. Investigate the level of knowledge and understanding on the manual of HIA of the juristic persons;
2. Investigate factors affecting knowledge and understanding on the manual of HIA of the juristic persons; and
3. Investigate problems and obstacles encountered for the juristic persons to do the EIA report in accordance with the manual of the HIA.

1.2 Expected outcomes

These following outcomes were expected to develop and improve the better HIA manual for the juristic persons to do the EIA report.

1.3 Hypotheses

The following affect knowledge and understanding on the manual of HIA:

- size of the juristic persons responsible for the EIA report;
- number of specialists on public health responsible for the EIA report;
- number of information perception on the HIA from the ONEP;
- number of information sources concerning HIA from the ONEP;
- number of project types which the juristic persons are responsible for the EIA report;
- cooperation on the implementation of HIA with the ONEP;
- implementation of the policy on the HIA of the juristic persons responsible for the EIA report;
- membership of Public Health Associations of the juristic persons responsible for the EIA report;
- awareness of the importance of the HIA of the juristic persons responsible for the EIA report; and
- opinions about the implementation of the manual on the HIA.

1.4 Scope and limitations of the study

1. Respondents of the study were specialists of the juristic persons responsible for the EIA report which was registered by the ONEP; one specialist for one juristic person from the total number of 50 juristic persons (updated data on July 24, 2006).

2. The variables used in this study comprised independent variables, i.e. size of the juristic persons; number of public health specialists; number of perceived information from the

ONEP; number of information sources, number of project types done by the EIA; the cooperation of the ONEP; the implementation policy of juristic persons; membership in Public Health Association; holding the importance of juristic persons; and opinions on the implementation of the manual.

1.5 Review of related literature

The “Health Impact Assessment” as defined by the World Health Organization (WHO) means the process of the judgment on the value of policy, plan, or project in terms of the impact and the distribution of impact which may affect the health of people by using various methods, processes, and tools in the assessment [2].

Five steps of the HIA as appeared in the manual of HIA which is prepared by the International Environmental Management Co., Ltd are as follows: (1) project details that are directly or indirectly concerned with health; (2) gathering information or summing up information on health from the past five years up to the present; (3) conducting the HIA of both results have appeared and disappeared in the project; (4) identifying measures on the reduction on the health impact; and (5) identifying measures or monitoring plan on the health impact [1].

A juristic person who is responsible for the EIA report must be qualified as identified by the ministry’s rules and regulations, 2nd issue (1984) which was issued in accordance with the national legislation on the promotion and maintenance of environmental quality of the year 1976. On July 24, 2006, there are juristic persons who are assigned to do the EIA report for 50 companies.

Knowledge and understanding means the ability to memorize and understand the details of various information which an individual has been accumulating and transmitting information to others, as well as, the ability to interpret and convey meanings or present opinions about various matters after receiving specific information about that matter.

2. MATERIALS AND METHODS

2.1 Population

Population of this study consisted of 50 juristic persons having the right to do the EIA report in which they were registered with the ONEP (updated data on July 24, 2006).

2.2 Research instrument

Questionnaire with close-ended and open-ended was used to collect various data of the population in this study. Before distributing the questionnaire to the respondents, it was tested by using the method of Kuder–Richardson Formula and K.R. 21 formula [3]. The reliability value of the questionnaire was 0.93 in which it was considered to have a high level of reliability.

2.3 Method of analysis

Data analysis was done using the Statistical Package for the Social Sciences: SPSS Version 11.0 [4] to analyze on percentage, mean and standard deviation, including t–test, F–test, and Pearson’s Product Moment Correlation Coefficient were used for the hypothesis test.

3. RESULTS AND DISCUSSION

3.1 Data concerning with juristic persons responsible for the EIA report

Most juristic persons who have the right to do the EIA report had a number of staff of not more than 50 persons (71.40%) and they had no public health specialists (33.30%). There was equally 1

and 2 public health staff (28.60%). Mostly, juristic persons did not receive information about HIA from the ONEP. Others equally received the information through the office once a year (38.10%). Taking consideration on information sources, it was found that most juristic persons perceived information from website of the ONEP (37.00%), followed by news letters from the ONEP (30.40%). Juristic persons prepared the EIA report of each project type in almost the same level. However, most of them prepared the EIA report for housing and community service (22.40%), followed by transportation (21.10%), industry (18.40%), mine and petroleum (14.50%), water source development and agriculture (13.10%), and energy (10.50%), respectively. For the cooperation on the implementation of HIA, it was found that most juristic persons were willing to cooperate every time (47.60%). Most juristic persons had a policy on the implementation about HIA (66.70%) and majority of them were not be a member of Public Health Association (90.50%). In case of holding the importance of HIA, it was found that juristic persons realized its importance in a moderate level (66.70%). In addition, majority of the juristic persons agreed on the implementation of the manual as a guideline for the HIA (61.90%).

3.2 Knowledge and understanding on the manual of HIA

Most juristic persons having the right to do the EIA report had a moderate level of knowledge and understanding on the manual of HIA (57.14%). This was followed by a low level (23.81%) and a high level (19.05%).

3.3 Ways for the implementation in accordance with the manual of HIA

3.3.1 Creation of motivation on the implementation in accordance with the manual of HIA

Most juristic persons believed that the creation of motivation on the implementation in accordance with the HIA of the ONEP would specially be considered on the EIA report or it would be proposed to receive the EIA award. However, majority of them (85.72%) believed that it had no effect on the implementation in accordance with the manual of HIA. Their reason was that the consideration on the EIA report must be in accordance with the regulations and steps of the law. Also, it was the awareness of the project that the project owner must do it and hence it had no effect towards the creation of motivation for the implementation.

3.3.2 Budget for hiring on the investigation of environmental impact

All of the juristic persons (100%) agreed that the budget had an effect towards the implementation in accordance with the manual of HIA. This was because there would have an increase of scope of the study if there was a budget provided for hiring on the investigation of environmental impact. Moreover, the budget would be used for the investigation of basic information on health and sanitation in order to get up-to-date information and also actually be used for the HIA.

3.3.3 Ability in the implementation in accordance with the manual of HIA

More than half of the juristic persons agreed that the ability on the implementation in accordance with the manual of HIA (57.12%) because it should be done as they had specialists on public health and the manual.

3.3.4 Opinion on the training for the enrichment of knowledge about HIA

All of the juristic persons (100%) agreed to have training for the enrichment of knowledge about HIA of the ONEP. This was because they viewed that it would be a basis of knowledge and understanding on the HIA so that concerned agencies had the same and a better understanding on it.

3.3.5 Opinion on having the law of the implementation on the HIA

Majority of the juristic persons (71.44%) disagreed with the law of the implementation on HIA because the law of EIA report preparation also covered the aspect of the HIA.

3.3.6 Opinion on the HIA and the EIA report

Majority of the juristic persons (66.67%) agreed that the HIA should be done together with the EIA report preparation. This was because they viewed that the implementation of the two tasks was similar and it could help reduce steps in HIA.

3.4 An analysis of variable relationship

According to the investigation on factors affecting knowledge and understanding in the manual of HIA of the juristic persons having the right to do the EIA report, the researcher would like to propose the discussion on the results of the study as the following:

3.4.1 Size of the juristic persons

According to the hypothesis test, the size of the juristic persons had found no effect on knowledge and understanding on the manual for HIA. This might be because big juristic persons may be the ones that did various kinds of businesses not only on the aspect of environment; whereas, most small juristic persons were the ones doing businesses concerning environment only, but not the HIA. This resulted in different size of juristic persons had no different knowledge and understanding on the manual on HIA. This was conformed with a study of Wasnonth [5] on the development of human resource in private development organizations that major concepts, guidelines, and activities organization had no difference in terms of size of organizations.

3.4.2 Numbers of specialists on public health of the juristic persons having the right to do the EIA report

Based on the hypothesis test, numbers of specialists on public health who worked with juristic persons had no effect on knowledge and understanding on the manual of HIA. This might be because the law did not force juristic persons to have specialists on public health. It was applicable that juristic persons could hire specialists to implement public health tasks. This made the number of specialists on public health varies depending on the size of projects, which was conformed with a study of Juruwichaipong [6] on water using behaviors and sewerage management of household in Moeng Phetchaburi municipality in which implied a number of members who took care of water using had no relationship with knowledge, understanding and water using behaviors.

3.4.3 Numbers of information perception about HIA from the ONEP

Based on the hypothesis test, it was found that numbers of information perception about HIA had no effect on knowledge and understanding on the manual of HIA. This might be because of the little information distribution of the ONEP. Thus, it made most of the juristic persons fails to perceive information or perceive little information on the HIA. This was also conformed with a study of Emkosa [7] on knowledge and understanding of the president of farmers' organization on the legislation of the fund for rehabilitation and farmer development in Ubonratchathani province in 1999. According to the study, information perception on the fund for rehabilitation and farmer development did not affect knowledge and understanding of the president of farmers' organization on the legislation of the fund for rehabilitation and farmer development.

3.4.4 Number of sources of information perception about HIA from the ONEP

The number of sources of information perception on the HIA was found no effect on knowledge and understanding on the manual of HIA. It might be because the ratios of number of sources of information perception were almost in the same level. This was conformed to a study of Samittanonth [8] on knowledge and implementation of environmental conservation of flight attendants, Thai Airways International and Japan Airlines. The different number of sources of information perception had found no effect on knowledge and the implementation of environmental conservation of the flight attendants.

3.4.5 Number of types of projects which juristic persons had the service on doing the EIA report

Results of the study revealed that the number of types of projects which juristic persons had the service on doing the EIA report had no effect on knowledge and understanding on the manual of HIA. It might be because the ratios of number of types of projects were almost in the same level. This was conformed to a study of Pakcharean [9] on knowledge, attitudes, and behaviors of nurses on infected garbage management of the hospitals of Chanthaburi province. It was found that the number of types of hospitals where the nurses were working did not affect knowledge and understanding on infected garbage management of the hospitals.

3.4.6 Cooperation on the implementation of HIA of ONEP

Results of the study showed that the level of cooperation on the implementation of HIA had no effect on knowledge and understanding on the manual of HIA. It might be because the proportion of juristic persons that had regular cooperation and those who had occasional cooperation was almost the same. This resulted in different cooperation on the implementation of HIA of juristic persons. Also, there was no difference on knowledge and understanding on the manual of HIA. This was conformed to a study of Petrapoonsinchai [10] on the environmental management of jewelry and ornament industry of Grestaste Gold Group Co., Ltd. It was found that the level of cooperation on the environmental management of the company's staff had no effect on knowledge and understanding on the implementation of environmental management in the factory.

3.4.7 Policy on the implementation of HIA of juristic persons having the right to do the EIA report

Having or not having policy on the implementation about HIA of juristic persons had found no effect on knowledge and understanding on the manual of HIA. This might be because juristic persons thought that it was only the information perception on the HIA and there was no implementation on it. This was conformed to a study of Lorrungsilp [11] on factors having relationship with the behavior on electric energy conservation in the ONEP. It was found that policy had no positive relationship with knowledge and behavior on electric energy conservation in the ONEP.

3.4.8 Being a member of Public Health Association of the juristic persons

Being members or not of Public Health Association of juristic persons did not affect knowledge and understanding on the manual of HIA. It might be because the Public Health Association which juristic persons joined was the Occupational Health and Safety on Work Association which mostly focused on industrial projects and it was not directly used for the HIA. This was conformed to a study of Emkosa [7] on knowledge and understanding of the president of farmer association on the legislation of the fund for rehabilitation and farmer development on 1999. It was found that being a committee of an organization or career group had no effect on knowledge and understanding of the president of Farmer Association on the legislation of the fund for rehabilitation and farmer development.

3.4.9 Holding the importance of HIA of juristic persons

Due to the importance of HIA of juristic persons, it was found no effect on knowledge and understanding on the manual of HIA. This might be because there were some other factors which had an effect on knowledge and understanding on the manual of HIA such as the budget for the implementation on the EIA report, preparation of juristic persons and types of projects that juristic persons did on an analysis of environmental impact, as well as, basic knowledge and experience on the implementation of HIA of specialists working with juristic persons. This was conformed to a study of Pornlertwiwat [12] on factors influencing the participation in community forest conservation of members of the community forest organization in Nakornratchasima province. It was found that holding the importance of environmental conservation did not influence knowledge and understanding on community forest of members of community forest conservation organization in Nakornratchasima province.

3.4.10 Opinion on the implementation of the manual of HIA

According to agreement and disagreement on the manual of HIA, no effect on knowledge and understanding on the manual was found. This was because there were some other factors affecting knowledge and understanding on the manual such as budget and period of time on the preparation of EIA report of juristic persons. This also included basic knowledge and experience on the preparation of HIA of specialists working with juristic persons. It was conformed to the results of a study of Chotpreakchookul [13] on factors affecting knowledge, attitude, and behavior on thrifty use of water within a household of housewives in Moeng municipality of Lampang province. It

was found that opinions on thrifty use of water of housewives had no effect on knowledge and behavior on thrifty use of water.

4. CONCLUSIONS AND SUGGESTIONS

Results of the study revealed that factors concerning information perception on HIA of the ONEP had an average of information perception in a very low level once a year or never. To make juristic persons have a better knowledge and understanding on the manual of HIA, the ONEP should add more information provision to juristic persons through website and newsletter. This was because results of the study revealed that, the source which juristic persons perceived on the information was website and followed by newsletter. It was also found that most juristic persons agreed to use the manual for the assessment because they held the importance on the policy of HIA. Thus, to make juristic persons have a better understanding and knowledge on the manual, the ONEP should provide more seminar and training on the manual. This conformed to the results of a study on guidelines for an implementation in accordance with the manual on the aspect of opinions on the seminar and training on HIA. It was found that all juristic persons agreed on the seminar and training. Moreover, to make juristic persons able to implement their tasks in accordance with the manual, it should improve the form of compilation and presentation of the manual should be improved such as sorting of types of project and a specimen of the preparation of HIA in various projects.

Suggestions on the HIA are as follows: (1) there should be an investigation and announcement on type and size of projects in which the EIA report should be done covering on the HIA; (2) there should be a law on the HIA that concerned agencies must practice; (3) there should be an investigation on a pilot project in order to be as a case study on the HIA in various projects; (4) concerned agencies should prepare data base on the HIA; and (5) there should be curriculum development on teaching and learning about the HIA in educational institutions.

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