

## Guidelines for the development of accident prevention training courses in crude palm oil extraction industry

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### ABSTRACT

This research aims to study guidelines for developing accident prevention training courses in crude palm oil mill industry. Being studied from Professionals consist of the following positions. 1 Industrial President, Surat Thani Province 2 professional engineers 3 Head of Industrial Group 4 Professional factory inspectors Managing Director of Kanchanadit Palm Oil Company 6 lecturers in the field of materials technology and production 7 Instructors in Occupational Health and Safety 8 lecturers in the field of educational measurement and evaluation 9 lecturers in research and curriculum development programs, which are used to collect research data. (Semi-Structured or Guided Interviews) is an open-ended question. Apply theory concept of the British Columbia, Institute of Technology, Vancouver, or the BCIT (Raschke, & Nerrolyn, 2002) is the point of determining the structure of each question. The findings suggest that training, education, manuals should be reviewed. Work process study Use of protective equipment, dressing, physical readiness and processes to participate in the improvement and correction of the right and wrong processes. There should be studies and patterns that will be used in the development of the training course must be responsive and comprehensive about worker behavior to cover problem solving and cause of work behavior of workers.

### Keywords

Training, courses, Oil, Industry

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### Introduction

In this present, the demand of palm oil processing for consumption, (Jermittiparsert, Sriyakul, Sutdeuan, & Singa, 2019) renewable energy and food are increasing. From the study of the statistics of hazards or illnesses due to working in the industry, classified by the standards of the Office of Industrial Standards (TSIC). (Leecheethaun, 2006) Palm oil is classified as food production and beverage (0200). (Sutthichaimethee, & Tanoamchard, 2015) The data of occupational injuries or illness due to work being ranked 4<sup>th</sup> out of 16 enterprises. Investing in prevention of accidents is cost-effective, which reduces the cost of production in one industry and increases productivity. Issues problem of study Accident Prevention in the industrial plant Palm Extraction Training Accident Prevention Framework development (Asan, & Akasah, (2015). Training Improvement center (Lira, Okutsu, Zhang, Greene, Laker, Breen, D. S., et al. 2013)

Research studies in the country and abroad including concepts of accidents to industrial workers found that the variables that cause accidents in the industrial sector are 1) management, 2) machinery and equipment, 3) environment and factory layout, and 4) work behaviors of workers. (Sanders, Oomens, Blonk, & Hazelzet, 2011) All of them cause accidents that have varying levels of severity in each accident. Including the study of variables that cause accidents by evaluating factory managers and supervisors in the crude palm oil extraction industry to find out the true variables and to be used as a guideline for the development of prevention training courses. Accidents in the crude palm oil extraction industry the sequence of guidelines that are

important to the most are as follows: No. 1 in the work behavior of the workers, the second in the environment and the layout of the plant, the 3 in the management and the 4 in the machinery and equipment The results of the research show that work behavior variables of workers are the most appropriate and important variable that will be used as a guideline for the development of accident prevention training in the crude palm oil extraction industry in the future.

### Research objective

To study guidelines for developing accident prevention training courses in crude palm oil extraction industry.

### Litterateur review

Development is meaning operation performance of promoting personnel has more knowledge, ability, attitude and experience. (Kraiger, 2003) working in the current position efficiently. And ready to progress Growing into the future. The work standard Practice guidelines Testing Various and duties Correct and Safety in factories (Özden & Görgülü, 2012) the standard of structure Machine stepping of Performance to Various Inside factories Correspond to Material properties (Guo, Zhao, Sun, & Zhang, 2018) this track practice worker's (Scourfield, Maxwell, Zhang, de Villiers, Pithouse, Kinnersley, Metcalf, & Tayyaba, 2019) Research various materials Structure Use of safety machines (Aghamolaei, Rahmani, Zare, Ghanbarnejad, 2004) Educational Research about body

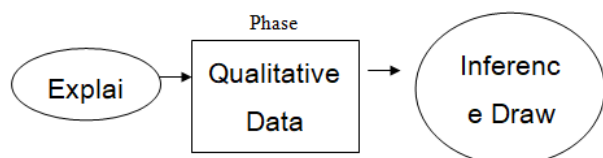
Workers and relationships During the state ready condition Of the body work (Bellingan, Tilley, Batista, Kumar, & Evans, 2020), Study Relationship between Human mind Work with An accident In work (Alali, Braeckman, Hecke, De Clercq, Janssens, Wahab, M.A.(2017)Educational By collecting information of research trends birth Accident point much as possible (Höglinger, Knöfler, Schaumann., Scholz, & Eichler,2020) teaching Engineering Safety In university And factory industry ( Ismail, Hashim, Zuriea, Ismail, Kamarudin, Baharom, 2012) training all workers in charge to ensure the safety work possible. (Barrett, & Connell,2001).

### Research related

Mitigation of 3-MCPD and gly-cidyl esters within the production chain of vegetable oils especially palm oil. Matthäus, & Pudel, (2003) The impact of job training, job satisfaction and alternative job opportunities on job turnover in Libyan oil companies. Dardar, Jusoh, & Rasli, (2012) Decision-making tutor: Providing on-the-job training for oil palm plantation managers. Amalathas, Mitrovic, Ravan, (2012) Development of Palm Oil and Related Products in Malaysia and Indonesia. Rasiah, Shahrin, (2006). Training, development and employee performance in the oil and gas industry in Nigeria Hamilton, D. I., dan A. O. Oparanma. (2008) The introduction of oil palm in northeast Thailand: A new cash crop for smallholders? Asia Pacific. Relevant research is an important part of the Palm Oil Company Development training process Somnuek, Slingerland, Grünbühel. (2016) It is in an interesting network that studies literature before being developed and published in this research. Nesadurai, (2018).

### Research framework

The variable related to the development of the accident prevention training program in the crude palm oil extraction industry was the work behavior of workers



(Creswell, & Plano Clark,2007)

Research scope Study of guidelines for the development of accident prevention training courses in crude palm oil extraction industries Data sources, consisting of experts, comprised of the following: president of Suratthani Province industry, professional engineer, chief of industrial group, professional factory inspector, managing director of Kanchanadit palm oil company, lecturer of materials and production technology program, lecturer of occupational health and safety program, lecturer of the educational measurement and evaluation program and lecturer of the department of research and curriculum development. The variables studied are guidelines for the development of

accident prevention training courses in the crude palm oil extraction industry Research Methodology The instrument used for collecting research data was a semi-structured interview form. Semi-Structured or Guided Interviews is an open-ended question. And the concept of the British Institute of Technology, Vancouver, Columbia, or the BCIT (Raschke, & Nerrolyn,2002) Curriculum Development Model is the issue in determining the structure of each question.

Data Collection The researcher collected data by appointment, date, time and location to interview each expert. Data Analysis The researcher analyzed the data from the interview by analyzing the content.

### Research Results

Problems / causes and solutions to reduce the mistakes that cause accidents to workers in the palm oil extraction industry, it is found that there should be a review of training, study, manual Work process education Guidelines for implementation to create an accident prevention training course for workers in the crude palm oil extraction industry, it is found that there should be a study and the formulation that will be used in the development of training courses must be responsive and comprehensive. About true work behavior of workers including the need to be a model that is accepted in the industry in the country and at the international level., which is to write the objectives of the course. There must be priorities, beginning with the workers to have knowledge, understanding, skills, and attitudes. Including the application to apply to solve various problems in concrete. The content of the training course should be divided into issues regarding work behavior such as training, education, manuals work process of protective equipment, clothing, physical condition and processes involved in the improvement.

It was found that the training course objectives should be specified in accordance with the course content and the development process of learning was identified, starting with knowledge, understanding, skills, and attitudes. Training activities the problems and causes of the work behavior of workers. (Mahamud, & Suksaskawin,2020) Training course objectives, course content and course objectives including in each activity, there must be a clear media identification, duration, and number of days. Evaluation and training evaluation that will check various results of the accident prevention training course for workers in the crude palm oil extraction industry, should be clear whose is theory. In each learning activity,

### Discussion of Findings

Based on the findings with interesting issues, should be discussed as follows:

From the interviews with 9 experts, it was found that the study of guidelines for the development of accident prevention training courses in the crude palm oil extraction industry has two issues should be discussed. Issue 1 is about the components of the curriculum that must be in the guidelines for the development of accident prevention

training in factories. The crude palm oil extraction industry is the objective of the training course. Course content, course objectives, training activities and evaluation of training which is in line with Tyler's curriculum composition and process development process. However, in this research will apply the model of the British Institute of Technology, Vancouver, Columbia or the BCIT Curriculum Development Model. This is because the model has a context that is relevant to workers. Including industrial establishments more than other forms of use. Issue 2 Experts have commented that, once the components and process development of the curriculum must be provided in the guidelines for the development of accident prevention training courses in the crude palm oil extraction industry. Another important thing is the evaluation of accident prevention training courses in crude palm oil extraction industry uses the form or theory of any academics in this regard, obtaining the form of evaluation for such courses must be appropriate for the work behavior. From the evaluation of training courses in research, most of which use Kirkpatrick's model. The following aspects are 1.) reaction evaluation 2.) learning evaluation 3.) evaluation of behavioral changes after training 4.) Results Evaluation. Is this research, we want to evaluate the training program to be consistent with the steps in the curriculum development process based on the idea of the British Columbia Institute of Technology's BCIT Curriculum Development Model. Therefore, we applied the training course evaluation concept of for the evaluation of outcomes for agencies and used the American Standard of Industrial Injury Rate model, which calculates the accident rate for agencies, consisting of injury frequency rate (IFR) and injury severity rate (ISR) to ensure that the assessment results are in line with the organization's guidelines Implications

1. There should be a training program on accident prevention in the behavior of workers in the palm oil mill in terms of the work behavior of workers.
2. There should be a study of the components that must be provided in the guidelines for the development of accident prevention training courses in the crude palm oil extraction industry in terms of the work behavior of the workers.
3. There should be a study of the evaluation form of the accident prevention training program for the behavior of workers in the crude palm oil mill in terms of the work behavior of the workers

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