



## PROPAGATING OCCUPATIONAL SAFETY AND HEALTH PROGRAMMES AMONG SMALL SCALE FARMERS AND ENTREPRENEURS IN ESSENTIAL OILS INDUSTRY

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### ABSTRACT

*The production of essential oils as the end product entails the phases of planting, harvesting, production and marketing. Small scale farmers engage herein the field of essential oils industry is concern with planting, marketing what they produce or agricultural services while entrepreneurs are concern in the production and marketing of essential oils. Workers at the workplace faced a variety of hazards for instance chemical hazards, biological hazards, ergonomic hazards, psychosocial hazards and physical hazards. The outcome is work related accidents and occupational diseases at the workplace. Thus, this paper will look into hazards at the workplace and propagate the importance of cultivating the culture of safety, health and welfare of persons at workplace vis-à-vis the Occupational Safety and Health Act 1994.*

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**Keywords:** Essential oils, Hazards, Accidents, Safety issues, Health program, Law.

### Contribution/ Originality

This study is one of the very few studies which have investigated the associated hazard in the essential oils business environments, the responsibility for implementing safety and health program and the remedial action to be taken to ensure the safety, health and welfare of all persons at the workplace.

## 1. INTRODUCTION

Essential oils crop in Malaysia are planted on a small scale by small scale farmers especially in the Cameron Highland valley. The activity of obtaining essential oils as an end product, consist of 4 phases that begins with the process of planting, harvesting, production and marketing end

products of essential oil [1]. Small scale farmers engage herein the field of essential oils crop is concern with planting, marketing what they produce or agricultural services while entrepreneurs are concern in the production of essential oils. To implement the aforesaid activities, workforces and machinery are essential element at the workplace. Hence, from planting phase till the production phase, workers at the workplace of the essentials oils business faced a variety of hazards (mechanical, electrical, biological, chemical, ergonomics and psychological hazards) and in addition the obvious unsafe act and unsafe work conditions [2]. The outcome is work related accidents and diseases prevail at the workplace. Thus, both the employer and self employed employer have to provide basis requirements in respect of safety, health and welfare of their employees as specify in the Occupational Safety and Health Act 1994.

### 1.1. Objectives of Study

The objective of the paper is to highlight the associated hazard in the essential oils business environments and the remedial action to be taken to ensure the safety, health and welfare of all persons at the workplace

### 1.2. Problem Statement

Workforces and machineries at the workplace are the ingredient for the production of essential oils. A high rate of industrial accident was reported to occur among farmers and workers engage in this aforesaid field. The main causes of accidents are caused by steam hazards, workplace transportation accidents, falling from height, agricultural machinery, noise, exposure to dangerous substance etc. The reason for the said accident at the workplace is because most employers and small scale farmers of essential oils business was said to put less emphasis on the workers' health and safety issues [2] Does it indicate that the laws which are currently put in force are ineffective? The laws spell out the responsibilities of both employers and employees with regards to the implementation of a favorable work environment. However, some of the frequently heard reasons for non compliance to the laws as expressed by both the employer and employees are:

- a. Employers who alleged are not aware of the law with regards to the occupational safety and health matters and also feel occupational safety and health matters are not important and have no time to think about such matters and do not have enough allocation of funds on the issue.
- b. Employees on the other hand said that they are not aware of the safety rules and regulations in force. The employees too have the notion that complying with some of the rules and regulations causes discomfort and are also difficult to follow

## 2. LITERATURE REVIEW

The work of obtaining essential oils as an end product varies from wholly mechanized to the manually strenuous labour. Conversely agricultural work is associated with a variety of safety and health problems. Working environment at the workplace entail exposure to the physical hazards of

weather, terrain, fire and machinery; toxicity of pesticides, fertilizer and fuel; and health insults dust [3].

Statistic from SOCSO (Social Security Organization) Malaysia on workplace accident in 2012 indicate that there 61,552 [4], reported cases. Agriculture ranks among the most hazardous industries in Malaysia. In 2012, there were 2,267 reported accidents in the agricultural sector in Malaysia. Farmers are at very high risk for fatal and nonfatal injuries. In United States for example, in 2010, there were 476 [5] farmers and farm workers who died from a work-related injury, resulting in a fatality rate of 26.1 deaths per 100,000 workers.

## 2.1. Safety and Health Issue at the Workplace

From Planting Phase till the Production Phase, those who are involve in the essentials oils business faced a variety of hazards which lead to workplace accidents and occupational diseases. In the Planting Phase of Essential Oil Crops, the activities include planting or sowing of crops; fertilizers application; spraying of pesticides; weeding; watering and irrigation; and compound maintenance.

Source of hazard are:

- a. Physical hazard such as unsafe tools and equipment, uneven surfaces, fatigue, noise, dust, vehicles, exposed moving machinery parts and obstacles etcetera.
- b. Biological hazard such as plant allergy, hazardous substances, insects and snakes etcetera.
- c. Ergonomic hazard such as inappropriate use of tools/equipment, poor manual handling, environmental etcetera.
- d. Psychological hazard such as dealing with emergencies, working alone and isolation etcetera

In the Harvesting Phase Essential Oil Crops, the activities include harvest of essential oils crop manually or using machinery; collecting or gathering of the yield; sending yield for processing for essential oils product; preparation of machinery, tools and equipment for harvesting and compound maintenance. Source of hazard inherence may include physical hazard, biological hazard, ergonomic hazard and psychological hazard.

In the Production, Essential oils are generally extracted through steam distillation, chemical extraction or CO<sup>2</sup> extraction [6],[1]. Potential source of hazard are:

- a. Physical hazard such as sharp point and edges, overload or force tools beyond its capacity, electrical cord insulation damaged, machinery without proper guard
- b. Chemical hazard such as exposed to carcinogen chemicals, gases, vapors, fumes, sanitizers and corrosive chemicals
- c. Ergonomic hazard such as wrong design work station, tools and task, repeated exposure to unnatural movement
- d. Biological hazard such as plant allergy, hazardous substances, insects, snakes
- e. Psychological hazard such as dealing with emergencies, working alone and isolation.

In the Marketing Phase activities include promotion and advertisement; distribution and selling. Selling Essential Oils although the most beneficial oils but can prove harmful under certain condition of usage since it is Photo toxicity, Sensitization and Dermal Irritation.

## 2.2. Remedial Action

Responsibility for safety and health in the workplace lays with those who create the risks (employers) and those who work with the risks (employees). The employer and self employed employer have to provide basis requirements in respect of safety, health and welfare of their employees as specify in the Occupational Safety and Health Act 1994 so as to solve or minimize the safety and health issues in the Essential Oils Business Environments. This requirement is stated in Part IV of the Occupational Safety and Health Act 1994 under the theme “General Duties of Employers and Self Employed Persons to Their Employees”. The duties of the Employers and Self Employed Persons to Their Employees are highlighted in Section 15, Section 16, Section 17 and Section 18 of the said Act.

Hence, some of the Occupational Safety and Health Programs that can to be implemented at the workplace as follows: [7-10]

- a. Carry out hazard identification, risk assessment and risk control (HIRARC) at the workplace so as to determine action to address hazard through the process of Eliminate, Substitute, Isolate, Engineering *Control*, Administrative, or usage of Personal Protective Equipments.
- b. Provide occupational safety and health education especial on the need to wear personal protective equipment during work activities.
- c. Provide safety training to workers at workplace
- d. Conduct medical surveillance and medical examination on a regular basis on employees so as to guarantee a healthy workforce at the workplace.
- e. Substance use for work is safe and without risks to health
- f. Employers have to establish communication channels to enable the workers to communicate with regards to Occupational Safety and Health agenda at the workplace.

## 3. CONCLUSION

The paper has identified the profiles of the Essential Oil business environment and its inherence issue of occupational safety and health at the workplace. To have an efficient safety and health system at the workplace, both the employers and the employees have got to play their roles and responsibility as required by the Occupational Safety and Health Act 1994 The focus of occupational safety and health is towards elimination of condition which will cause injury and occupational diseases at the workplace. Hence, Occupational Safety and Health Programs must to be implemented at the workplace by the employers.

#### 4. RECOMMENDATION FOR IMPROVEMENT

Based on the discussion aforesaid, to enhance the safe and healthy workplace the following measures are suggested:

- a. Intensification of drive to enhance awareness and education programs on safety and health at workplace by the employer towards employees.
- b. Intensification of drive to propagate and instill awareness on laws at workplace, chemical hazards through Special training courses for employees at workplace.

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