Available online at www.sciencedirect.com

ScienceDirect

Procedia - Social and Behavioral Sciences 91 (2013) 697 – 702

Procedia
Social and Behavioral Sciences

PSU-USM International Conference on Humanities and Social Sciences

Raw material management of community incense production through Sufficiency Economy Philosophy

Wilailuck Suvachittanont[a], Ratsamee Sangsirimongkolying[b]

[a] *Faculty of Mass Communication, Ramkhamhaeng University, Bangkok, 10240, Thailand, Email: wila37@yahoo.com*
b Faculty of Mass Communication, Phranakhon University, Bangkok 10220, Thailand, Email: sratsamee@hotmail.com

Abstract

The main purposes of this research are to study the way of using Sufficiency Economy Philosophy in raw materials production management and the knowledge transfer to the community. Data are collected from in-depth interview, observation, and training session. The knowledge from this research is transferred to the community by narration, demonstration, inquiry and handout. A significant result shows that using local raw materials and ingredients from herb to make sure of sources, safety and cost reducing. Regarding knowledge transfer, two-way communication with personal media or opinion leaders is the suitable way to educate community members.

Keywords: raw material, management, incense production, Sufficiency Economy Philosophy, knowledge transfer

Introduction

Thousand years ago until now, burning incense has been a tradition of the human spirit in Egypt, Middle East Europe and Asia. Incense has been used by many different cultures and religious faiths to produce a wide range of results. In ancient times it was believed that plants were scared and closely associated with the gods. The burning of certain plants was believed to drive away demons and encourage the gods to appear on earth. Egyptians associate incense with the dead. Incense is specially blended with each ingredient selected for its unique magical properties, which carry the soul of the dead to heaven along with the prayers and good wishes of the mourners. In Hinduism, incense made from sacred wood and flowers is burnt to purify the atmosphere and provide worshippers with a clear frame of mind to perform ritualistic worship or meditation. Incense is widely used throughout Buddhism for a number of purposes. It is burned in large quantities at all religious ceremonies and in daily worship. In Tibetan Buddhism, incense is also used in healing and can be used to treat a wide range of symptoms including skin diseases and fatigue. Also, Thai people adopt the tradition of burning incense to their daily lives. Today Thailand has exported incense to many countries.

doi:10.1016/j.sbspro.2013.08.471

Incense traditionally comes from tree resins, but can also be produced from certain bark, flowers, seeds and roots. There are two main types of incense; Eastern and Western. Western incense comes from the gum resins of tree bark such as the sticky gum found on fir trees. The gum hardens to become resin, which is collected by cutting it from the tree with a knife. The pieces of resin are called grains and are sprinkled on burning coal to release their fragrance. Eastern incense is produced from plants such as sandalwood, patchouli, agar wood and vetiver. These ingredients are ground using a pestle and mortar. Water is then added to make a paste along with saltpetre – potassium nitrate – to help the mixture burn evenly. The mixture is then processed in various ways. In Thailand, a typical incense is made from bamboo sticks, resin, saw-dust from furniture industry, jan-kao, colors and essential/synthetic oils.

Even though, people around the world enjoy using incense tradition, researches show that burning incense is harmful to human health. Incense burning produces dust less than 2.5 micron, carbon- dioxide, carbon-monoxide, nitrogen-oxide, methane and others which influence green house effect global warming (Lee and Wang, 2004: 941). In addition, Navasumrit et al. (2008: 19, 23-24) found that there were carcinogen in 3 temples at Ayutthaya, Chachengsao and Samutprakarn provinces—Benzene 41.55 microgram/m^3 (safety standard is no higher than 1.7 microgram/m^3). When they did blood checking of workers in the three temples, they found that works' blood had higher amount of carcinogens after working in the temples.

All above, the harmfulness of incense burning relates to the ingredients or raw materials of the production, especially synthetic materials, furniture's by products which can be environment unfriendly and causing carcinogenicity to human. The question is how can we manage raw material in incense production which help environment and human health in the first step.

This paper explores the trends of the developed way of management through the Philosophy of the "Sufficiency Economy" (SEP) graciously formulated by his Majesty the King Bhumibol Adulyadej of Thailand. The definition of "Sufficiency" involves three components: moderation, reasonableness, and immunization which are underlying conditions of knowledge and morality. Knowledge conditions require breadth and thoroughness in planning and carefulness while the moral or ethical criteria enforce people to reach honesty and integrity with the conductivity of perseverance, harmlessness and generosity (Sathirathai and Piboolsravut, 2004). It is a holistic concept of moderation in consumption and production while acknowledging interdependency among people as well as between humanity and nature. The SEP calls for balanced and sustainable development as its objectives.

Materials and Methods

This research used experimental and qualitative approach in order to collect primary and secondary data. Primary data are collected from analyzing carcinogens in raw materials in the laboratory, in-depth and group interview, non-participant observation, and training session. Secondary data are collected from document, books, text and the internet. Key informants are selected purposively in the area of incense production in the central part of Thailand, Suphanburi and Chainart province. They are 4 manufacturers in the in-depth-interview and 10 members in group interview. All key informants have experienced in the incense business at least 10 years. Data collection from key informants and document are analyzed by content analysis which employed interpretation, instant comparison, synthesis and generalization. The knowledge from this research is transferred to the community incense production at Nunkham District, Chainart Province by narration, demonstration, inquiry and handout.

Results

The result in the lab shows that there is at least one PAHs carcinogen group in the smoke of burning twenty types of raw material using in the community incense production. Three groups of PAHs are found in the sawdust from rubber tree which supported incense burning. Also, Benzo[α]pyrene and Dibenz[α, h]anthracene are found at the highest level in the sawdust from rubber tree.

In the in-depth interview of 4 manufacturers and group interview of 10 members in incense production at Chainart and Suphanburi provinces, most of them stated that:

1. The raw materials that they used were bamboo sticks, glue substance, saw dust, Hantnskaw, colors and essential oils. These ingredients are usually used in Thailand's community incense production.

2. They did not pay attentions to the principle of raw material management. For example, they used raw material from synthetic and unknown sources—sawdust from furniture product. It usually enameled chemical for protecting termite. They did not check the raw material before receiving such as sanitary, contaminant. They have no raw material reserve and safety store. The costs of raw materials are high because the sources are far from their places.

3. They produced by learning from the north-eastern provinces where had been a lot of community incense production in Thailand. Most of their products were standard incenses and the cost of the production largely was paid for raw material. They had no labor cost since they used their families and neighbors.

4. The raw material normally transported by trucks from Bangkok and neighborhoods.

Based on data in the laboratory and the interviews including SEP framework--emphasizes moderation, reasonableness, self-restraint and self immunity system, the ways of raw material management should be:

1. Using local raw materials, especially growing their own crops in order to make sure of sources, safety and cost reducing. This is because the laboratory analysis of herbs shows that there have been carcinogens less than sawdust from rubber tree, plywood and furniture

2. Using essential oils extracted from nature such as roses and jasmine instead of synthetic oils. This would support consumers and producers' health.

3. Supplying suitable storage or container with the sealed lid in order to avoid contamination, humidity and animals

4. Learning toxic from incense production and using protection such as mask and gloves. Community incense producers should be educated basic knowledge about toxic in order to aware of environment pollution.

5. Networking of community incense production especially public raw material storages in order to control long term of raw material supply which is relevant to sufficiency economy principle—requirement for a self-immunity system. To expand across different levels of organizations or activities can be compared to developing a value- chain in production.

6. Developing suitable ingredient formula of incense production concerning local wisdom and materials with minimal carcinogenic according to a more self- reliance and strength of each community while enhancing capacity of community members in creating community social safety net.

Altogether, the result can be concluded in figure 1

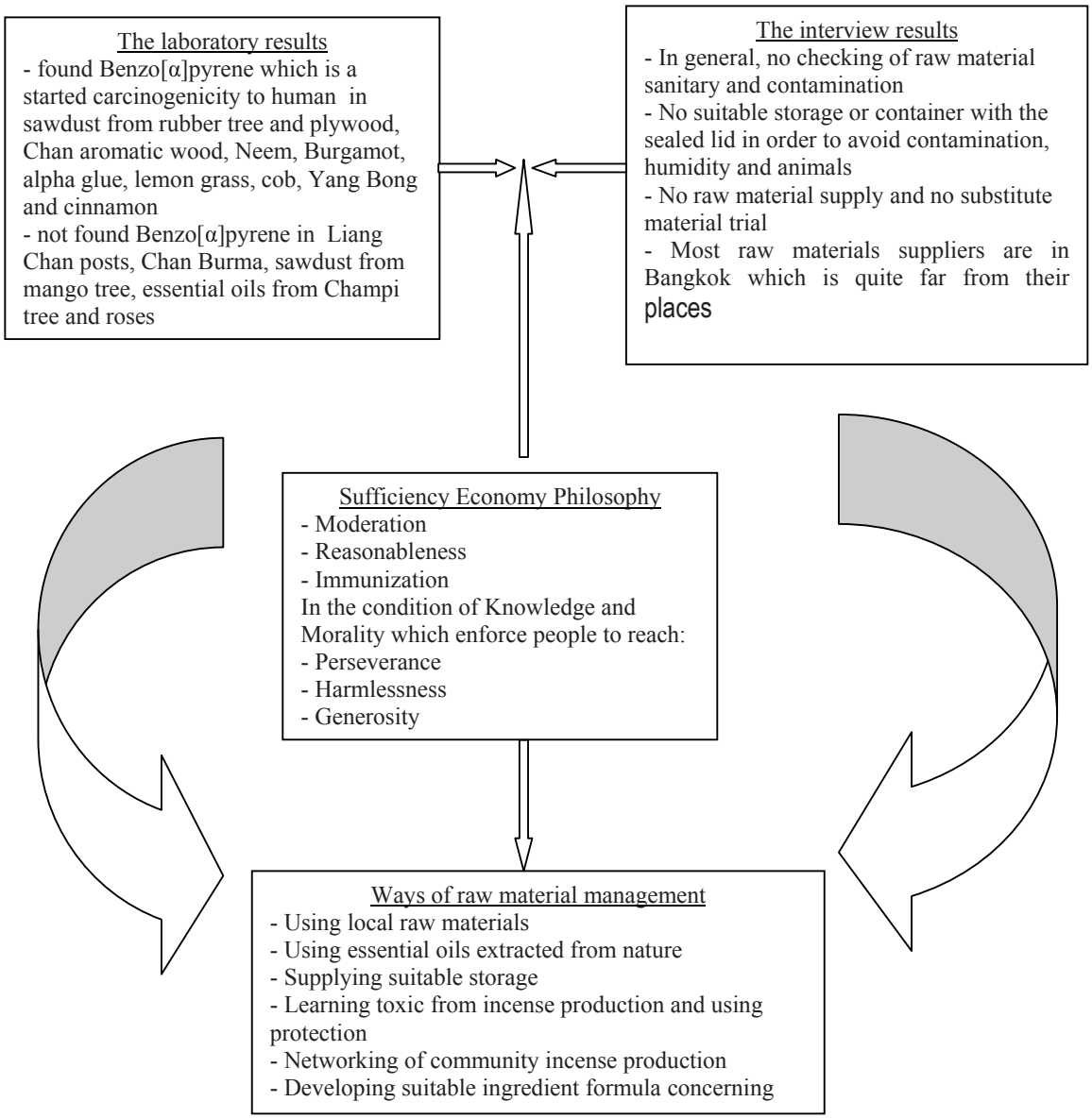

Figure 1 A development of raw material management way regarding SEP framework

In observation and collecting data of the training session—a knowledge transfer, most participants have basic knowledge in incense production but they do not pay attention in the principle of raw material management, especially in self protection from substance touching. Most participants are seniors (40-years up). They are classified in late majority and laggards regarding innovation adoption who are difficult to change their attitudes

and behaviors. However, using a community opinion leader in demonstration and narration is quite successful. Most participants are interested in experiment and listen to their leader who they are familiar and talking to them as a friend not a teacher. Giving all the observations, a way of communicative innovation should be two-step-flow communication by introducing an opinion leader is a medium as a second step of communication process (figure 2).

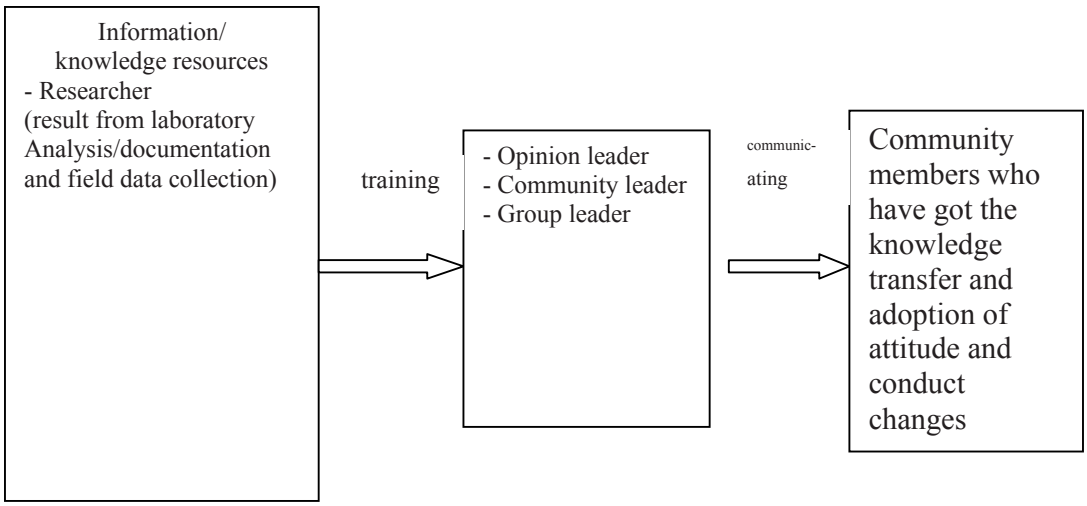

Figure 2 A model of communicative innovation to communities

Conclusion

There is at least one PAHs carcinogen group in the smoke of burning twenty types of raw material using in the community incense production. Three groups of PAHs are found most in the sawdust from rubber tree which supported incense burning.

Most key informants stated that they did not pay attentions to the principle of raw material management. For example, they used raw material from synthetic and unknown sources—sawdust from furniture product. It usually enameled chemical for protecting termite. They did not check the raw material before receiving such as sanitary, contaminant. They have no raw material reserve and safety store. The costs of raw materials are high because the sources are far from their places.

The significant ways of raw material management regarding laboratory data and SEP framework are: 1) educating community incense producers to understand and aware of the important of raw material management regarding sufficiency economy philosophy in order to develop sustainability living of local people, especially using local raw materials such as roses and jasmine by growing their own crops in order to make sure of sources, safety and cost reducing including the toxic in raw materials. 2) developing suitable ingredient formula of incense

production concerning local wisdom and materials with minimal carcinogenic. 3) dissemination of a raw material way of incense production regarding sufficiency economy philosophy to public via various media such as radio, television and brochure. 4) two-way communication with personal media or opinion leaders is important in the process of knowledge transfer to community of local people.

Acknowledgements

This work has been funded by Phranakhon Rajabhat University and National Research Council of Thailand.

References

Lee, S-C. and Wang, W. (2004). Characteristics of emissions of air pollutants from burning of incense in a large environmental chamber. Atmospheric Environment, Vol .38 (7), pp. 941-951.

Navasumrit, P., Arayasiri, P., Hiang, T., Leechawengwongs, M., Promvijit, J., Choonvisase, S., Chantchaemsai, S., Nakngam, N., Mahidol, C., and Ruchirawat M. (2008). Potential health effects of exposure to carcinogenic compounds in incense smoke in temple workers. Chemico-Biological Interactions,173, pp. 19–31.

Sathirathai, S. and Piboolsravut, P. (2004). Sufficiency Economy and a Health Community [Online]. Retrieved September 25, 2012 from http://www.sufficiencyeconomy.org/old/en/