Environmentally Conscious Behaviour of Industrial Community in Bandung (Survey on Industrial Sentra Shoes Cibaduyut)

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Abstract

Development can influence and change the attitudes, values and behaviour adopted towards the environment. Changes in behaviour of industrial society can create massive impact on the environment that can be benign as well as detrimental. When the environment is adversely affected, its ability to sustain life reduces; therefore, necessitating to study the behaviour of environmentally conscious community, especially the industries as they conduct activities to meet their needs of modern technology. This study is a descriptive survey of the behaviour of matter industry. The participants are from a community in the centre of the shoe industry in Cibaduyut Bandung, particularly the shoe business units that are in the productive age range with the same composition between a total of 270 men and women. Environmentally conscious behaviour assessment is based on an index that is used by the Ministry of Environment. It consists of energy saving behaviour, littering behaviour, water utilization behaviour, carbon emission behaviour and healthy behaviour. The results show the use of electricity-saving lamps is 44.8% and that 58.1% of the participants turn off their lights as well as other electronic equipment when not in use. The main source of water was found to be tap water (89.9%) and 7.5% of the respondents use shower; 85.9% let the water drain when not in use. A total of 87.2% of the respondents have a motor vehicle and 95.3% routinely perform engine maintenance of their vehicle; additionally, 93.9% do not have the habit of turning off the vehicle when not in use. 88.2% of the respondents dispose domestic waste-water through sewers/drains and 95.9% use septic tanks. Consumption of artificial foods is around 99.8% and a total of 91.1% of respondents never buy recycled products. In conclusion, it can be said that the behaviour of energy utilization is moderate, waste processing activities is very less prevalent, utilization of clean water is moderate, carbon emissions is very high, and community health behaviour is

moderate. So the environmental consciousness among public is still relatively low. Efforts to increase public consciousness towards the environment needs to be improved through education, counselling and the use of mass media.

Keywords: Environmentally Conscious; Behaviour; Industrial Society

1. Introduction

Human beings can be categorised as dynamic since they are always subject to change. Higher demand on necessities coupled with scarce natural resources, insufficient job opportunities and limited space in urban areas has called for an equal distribution of development and production cost saving. This has intrigued creation of new things to improve living standard by changing life pattern. The simplest change spatially visible is the shift of function of agricultural spaces into industrial and housing zones, which has certainly made an impact on the transformation of agricultural society into industrial society.

Industrial development, in addition to an increase in the economic value of a commodity, can also open the community to many economic opportunities by creating new jobs. It is widely acknowledged that communities that live and work within the environment is always subject to change. Direct change of one sector would result in changes in others. For instance, improvement in living standard (development) would affect and change public attitude, values and behaviour.

Change of behaviour in the industrial community would have an impact on the environment. Human beings do understand the characteristics of natural environment and adapt their living pattern accordingly, yet they gradually altered the natural community that they reside in. This alteration is more obvious in urban areas compared to the rural ones, especially after the period of industrialization, since urban people are more technologically advanced. Industrialization has both positively and adversely affected the natural environment. Due to the positive changes human beings are benefitted, however, the negative effects may degrade the ability of the environment to support its own sustainability.

With area coverage of 167.61 km^2 and a population of 2,457,686 people (Data from *BPS* in 2010). Bandung is one of the bigger cities well-known for its industry. It has a remarkable economic potential due to its promising industries and commercial activities to develop and ensure public welfare. In Bandung, there are 7 industrial zones: 1) Cibaduyut

Footwear Industry Centre, 2) Binong Jati Knitted Garment Industry Centre, 3) Suci T-shirt and Silk Screening Centre, 4) Cihampelas Jeans Centre, 5) Cigondewah Textile Centre, 6) Cibuntu Tofu and Tempeh Centre and 7) Sukamulya Doll Centre. Development in these 7 zones has changed the lives of their community into industrial areas that certainly affects the environment. In Cibaduyut footwear centre, for instance, there are 828 shoe business units, while the number of stores available is 165 units. Based on explanation above, this study aims to know the description of *"Environmentally conscious behaviour of industrial community in Bandung (survey on industrial sentra shoes cibaduyut)"*.

2. Problem Statement

According to explanation above, the problem in this study is: How is the environmentally conscious behaviour of industrial community in Bandung?

3. Literature Review

According to G. Kartasapoetra (1987), "industry is an economic activity that processes raw materials, basic materials, semi-finished or finished goods into high value goods". Here, community means people that run their activities and earn their livelihood through the means of modern technology. Almost everyone desires to achieve an industrial community, so that the problems can be effectively and efficiently resolved by means of technology. The main requirements for the establishment of an industrial community are considerable amount of assets for research, education and industrial equipment manufacturing.

Work specialization occurs naturally in an industrial community, due to the complexity of sectors in it. This process of differentiation brings hierarchy of prestige and income that eventually leads to a pyramid-shaped stratification. This social stratification determines the class where a member belongs to according to the attitudes and characteristics of each group member.

Kutanegara, et. al. (2014), in his book titled *Membangun Indonesia Peduli Lingkungan*, suggested that environmental issues are complex and related with other issues faced by human beings. One of the essential dimensions in the environmental issues is population, consisting of number, composition, characteristics, and a behavioural aspect which is the main factor related with the quality of environment.

According to Thorndike (in Rakhmat, 1999), behaviour is the result of experience

motivated by a need to maximize pleasure and minimize pain; in other words, it is a response to a stimulus. Understandings of environment and the impact they have if it is neglected should shape the environmentally conscious behaviour. Changing an aspect of unwanted behaviour into expected behaviour can be done through stimuli given in such a way. The stimuli are individual understanding on environment through some processes experienced by each individual.

Understanding of environment is the knowledge related with concepts and facts relevant to organism that affects human life such as land, water, air, plants, animals and the humans. Being cognizant of the environment would lead to environmentally conscious behaviour, as people would be more aware of the importance of the environment that they belong to. So, this environmental understanding shall shape the expected non-destructive individual behaviour towards environment.

Such significance of environmentally conscious behaviour in determining the quality of environment has encouraged the Ministry of Environment to develop simple measure or index to ascertain how human behaviour relates with environment. This index is called *Indeks Perilaku Peduli Lingkungan* (Environmentally Conscious BehaviourIndex) (*IPPL*). IPPL is very important since complex parameter of environmental behaviour can be observed in a more simple way with it and it helps to build up the priority of programs and activities in improving the quality of environment (Kutanegara, et. al., 2014). According to the book titled *Perilaku Masyarakat Peduli Lingkungan* (2012), published by Ministry of Environment, environmentally conscious behaviour index consists of: energy-saving behaviour, waste-disposing behaviour, water utilization behaviour, carbon emission contributing behaviour, healthy living behaviour.

4. Indicators of Environmentally Conscious Behaviour
4.1 Energy-saving Behaviour

Energy has a strategic role in the community. The increasing need of energy supports socio-economic activities. Additionally, energy is also the basic utility for many sectors, such as industry, manufacture, agriculture, hotel and office. Yet, government is still unable to fully provide energy supply that would suffice the increasing demand of the public and thus rolling blackouts. Due to the utmost significance of energy, energy-saving behaviour becomes one of the crucial indicators to determine environmentally conscious behaviour (*KLH*, 2012). Energy-saving behaviour is seen in the usage of energy-saving lamp and the habit of turning off

electronic devices when not in use. It is assumed that the more usage of energy-saving lamp and the more settled the habit the better is the environmentally conscious behaviour in community.

4.2 Waste Disposing Behaviour

Today, waste has become a major issue in Indonesia, due to the imbalance between the quantity of waste and its management. Efforts by government to provide *tempat pembuangan sampah sementara* (temporary landfill) (*TPS*) and *tempat pembuangan sampah akhir* (final landfill) (*TPA*) still lack proper cooperation from public. Waste disposing behaviour is an important indicator because littering can cause negative effects such as clogged drain that eventually results into flood and hence, contaminated and unhealthy environment. Waste disposing behaviour comprises of garbage sorting and treatment of used goods (KLH, 2012).

4.3 Water Utilization Behaviour

Water is indispensable for human life. Yet, nowadays, clean water crisis has started to threaten Indonesia. The crisis is seen by the dysfunction of wells, the main source of water for most Indonesian population, decrease in surface water discharge, decrease of groundwater supply, as well as reduced groundwater recharge area that cause drought in dry season and flood in rainy season. Therefore, water utilization behaviour becomes an important indicator to determine environmentally conscious behaviour in community. Water utilization behaviour consists of the establishment of bath facility and the attitude towards unused flowing water.

4.4 Carbon Emission Contributing Behaviour

Carbon emission has become a serious problem because it leads to increased greenhouse gasses that lead to the soaring of above average earth-temperature, extreme climate change, heatwave, severe drought, devastating flood, and other natural disasters. Within regional domain, carbon emission can be reduced by adding land cover such as tropical forest. Meanwhile, at individual level, carbon emission can be reduced by controlling daily activities, especially the ones that potentially contribute to carbon emission. Indicator of carbon emission contributing behaviour is shown by vehicle emission test and motor maintenance, vehicle operation procedures such as time needed for warming up the vehicle and keeping the vehicle on when unused (KLH, 2012).

4.5 Healthy Living Behaviour

Healthy living behaviour refers to the efforts in maintaining the sustainability of living function both at individual and environmental level. This indicator can be seen by availability of toilet and septic tank, and participation in environmentally conscious behaviour program (KLH, 2012).

4.6 Fuel Using Behaviour

Fuel using behaviour is measured from consumption of fuel per capita. The assumption is that more fuel consumed for motor vehicle, the less is the environmentally conscious behaviour.

5. Research Method

This study is a descriptive survey on environmentally conscious behaviour of industrial persons as samples by providing questions (Zikmund, 1997). Singarimbun (1998) suggested that survey study is a study that takes samples from a population and use questionnaire as the main tool for data collection. Therefore, survey study is a kind of study that collects information/data from a number of samples/respondents by providing questionnaire consisting of representative questions.

The respondents are people who live in the industrial community of Cibaduyut footwear industry centre in Bandung, particularly people from shoe business units within the productive age range with same composition between male and female. The sampling technique used is purposive sampling, and number of samples is determined by Slovin formula on a population of 828 shoe business units, resulting in 270 people.

6. Findings

Based on a survey of people in Cibaduyut footwear industry centre, data discovered on environmentally conscious behaviour show that their conscious behaviour as an indicator of efficient usage of energy is moderate; if seen from the usage of energy-saving lamp installed in the house of almost half of the respondents (44.8%) and from the habit of turning off unused electronic device (58.1%). Meanwhile, indicator of waste disposing behaviour is low, since only 19.7% respondents are engaged in waste sorting and management. As a consequence, garbage

generation is very high, which is evident from the rampant views of piled-up garbage on the side of streets.

In case of the indicator of water utilization, it is seen that the main source of water is tap water (89.9%); however, the number of respondents who use mineral water as the main source of drinking water is quite high (37.1%). Usage of bathing facility is very low since only 7.5% respondents use shower, while the others still use water dipper that waste much more water. Yet, their attitude toward wastage of unused water is already very positive (85.9%). Clean water utilization is moderate. Result of survey on indicator of carbon emission contributing behaviour shows that 87.2% respondents have motor vehicle and almost all of them (95.3%) routinely have maintenance checks for their vehicle. Almost all respondents are used to leaving their vehicle turned on while on standstill (93.9%). Therefore, it can be concluded that carbon emission contributing behaviour is very high.

In the indicator of healthy living behaviour, survey shows that most respondents (88.2%) dispose their domestic waste into ditches. It indicates that domestic waste disposing behaviour is good. Meanwhile, almost all respondents (95.9%) have septic tank. 99.8% respondents are not used to consuming non self-cultivated food, but instead purchase food at both traditional markets and supermarkets. It shows that they tend to be consumptive. Industrial community is also not habituated in purchasing recycled products (91.1%).

7. Conclusion

The result of study shows that environmentally conscious behaviour of industrial community in terms of efficient usage of energy is moderate. Meanwhile, waste management behaviour is in low awareness category since they do not sort or process produced garbage and just throw the garbage directly into the garbage bins. Water utilization behaviour is categorized as moderate and carbon emission contributing behaviour is very high.

The survey also shows that their healthy living behaviour is moderate, because despite most of the respondents already disposing waste into ditches and using septic tank, their environmentally conscious behaviour is still very low, as seen for their habit of consuming non self-cultivated food and instead purchasing foods at traditional markets and supermarkets, indicating that they are consumptive. The industrial community is also not used to purchasing recycled products.

Environmentally conscious behaviour in community is very much dependent on the knowledge and understanding of environment which is affected by education and access to information, as well as other factors. In order to improve it, there are several ways like environmental education, counselling, and delivery of information on environment through mass media.

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