

Intan, QA; Sri Murni; Sri Wahyu Agustiningsih

Article

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The Empowerment of Waste Utilization Industry Based on Greenpreneurship

Intan Novela QA^a, Sri Murni^b and Sri Wahyu Agustiningasih^c

^aFaculty of Economics and Business, Universitas Sebelas Maret, Surakarta, Indonesia

^bFaculty of Economics and Business, Universitas Sebelas Maret, Surakarta, Indonesia

^cFaculty of Economics, Universitas Veteran Bangun Nusantara, Sukoharjo, Indonesia

A B S T R A C T

Recently, global warming has become serious issue and evokes a great challenge faced by humankind. Wastes become one of the contributors to environmental degradation if not managed properly. Independent participation from resident is needed to manage the wastes effectively and efficiently. Problems in this study are how to develop an independent waste management and community empowerment in independent waste management based on greenpreneurship.

This study is gradual development of Yogyakarta. The first year study result shows that Sukunan village residents need training in design and product made from waste, especially Styrofoam and glass wastes to be used as raw material to make brick, concrete buis, and ornaments. The residents also need training in technology model, equipment, greenpreneurship spirit, and managerial concept which are needed to find and seize market opportunities. Thus the researcher develops module and training as well as providing supporting equipments needed by the residents.

Keywords: Greenpreneurship; Managerial; Wastes; Training; Innovation

I . Introduction

Climate change is a quite serious global issue and causes the biggest challenge face by human, currently. Climate change is a long term shift on climate component, such as temperature, precipitation, and wind. Climate change is also commonly known as global warming, which specifically refers to the increase in earth temperature. This warming process will eventually cause climate change.

Even though climate change was caused by natural variation or human activities, scientist conclude that the biggest cause of climate change is anthropogenic or human behavior (National Research Council; Swim et al., in Robertson and Barling (2012). Maloney & Ward state that this environmental problem is viewed as a matter that caused by maladaptive human behavior (Milfont, Duckitt & Cameron, 2006). Only by changing human behavior, this problem will be solved (Kalantari, Fami, Asadi & Mohammad, 2007).

One of environmental problems addressed here is waste management. The developed a country, the higher the economy life, which will make people consumption, increased. The increase in consumption will also affects

† Sri Murni

Faculty of Economics and Business, Universitas Sebelas Maret,
Surakarta, Indonesia

E-mail: murnidj@gmail.com

on the increase of waste in various forms and types. In the end, the poor managed waste will bring negative effects on community health or environment. However, even though it is proven to be harmful and has disadvantages, well managed waste may have some benefits. This is due to the waste can be processed into various value-added goods. The benefit cannot be separated from policies, use of science and technology in waste management.

In reality, waste management is not as easy as envisioned because it requires energy, means, and a big cost. Because of that, community's role to participate in an effective and efficient waste management is increasingly needed. The strategic efforts that can be taken are by engage and encourage community's participation in waste management by reducing waste in its source (household). Community based waste management is important because the activity is performed by the member of the community, in which they independently take the decision related with their own life. This will be more effective if the implementation is adjusted with local need as well as their priority and capacity (Sutandyo-Buchholz, 2005).

A good waste management will not only bring benefit in a better environment quality but also can be used as business opportunity to create added-value products and products with selling power. In current business field, a concept called *ecopreneurship* or *greenpreneurship* is developed. *Greenpreneurship* is defined as 'entrepreneurship through environmental lens'. *Greenpreneurship* is a concept that refers to process in which businessman tries to introduce eco-friendly product and process to the market (Pastakia, 2002). The basic principle for green entrepreneur is the same with the common entrepreneur principles in general. Green entrepreneur is somebody who takes advantage from existing business opportunities (seek for business opportunity) and gain profit from the business (profitability), as well as supported by activities to solve social and environmental problems (socio-environmental). Independent waste management based on *greenpreneurship* will further grow community members' spirit to participate in protecting the environment and gain economic added-value at the same time.

Waste will always become the main problem in densely populated areas. This is exactly what happens in Sukunan village in Yogyakarta. Sukunan village is a densely populated area which is characterized by unorganized housing. However, this village has a unique feature of its own; this village already has a well managed waste

management. Sukunan village people has implemented the behaviors that is environmental oriented by implementing 3R (Reduce, Reuse, Recycle) principle in their waste management. Every house in this village has prepared four different bags to differentiate various types of waste. The wastes are separated into four categories: plastic, paper, metal and glass, and hazardous and toxic materials. By empowering *dasawisma* group, these wastes are collected in temporary shelters, in this case four garbage cans according to the categories. These wastes are then processed to create a more useful product by the people.

Independent waste management in Sukunan village is running well up to this time. However, there are several things that need to be developed so that this waste management can provide more benefits for the Sukunan village people economy. Based on portrait of waste management in the village, we see that the waste management still utilizes simple equipment in processing the waste to produce a more useful product. Most of the people still use their personal tools and there are lack supporting machines to process the waste better. The absence of expert in product design makes product quality and diversification produced is less optimum. Besides that Sukunan village people still not utilize the opportunity and cooperation to develop their products because they have very limited understanding on market opportunities and access. Furthermore, their entrepreneurship skill has not well developed.

By considering the background described above, thus the problems assessed in this study is how to independently manage the waste and to empower the people in independent waste management based on *greenpreneurship*. This study will explore and develop the independent waste management in Sukunan village in order to acquire an overview of independent waste management, to make an inventory and mapping of problems as well as the needs of equipments in independent waste management, and provide recommendation on innovation and technology development for independent waste management based on *greenpreneurship* in Sukunan village, so that the activity can be better managed.

II. Literature Review And Conceptual Framework

A. Waste Management

3R (Reduce, Reuse, Recycle) waste management based on community participation is a new paradigm in waste management. The paradigm is more focused on reducing the number of waste, which is wiser and environmentally friendly. This method stressed on the change in the pattern of people consumptive behavior and awareness on environmental damage caused by the unused objects in the form of waste. Reduce means reducing the use of goods that are not necessary. Reuse means reusing unused goods, either for the same purpose or for other purposes. Recycle means utilizing unused goods after process it into a new products.

In Sukunan village case, the waste management uses Reuse and Recycle concept. The waste can be reduced by reusing or recycling the waste. Recycle is reusing the unused material or goods to produce other products. If reusing is performed without recycle process, it falls in reuse principle. Recycle is a strategy of solid waste management that consists of sorting, collecting, processing, distributing, and producing product from used material. In broad outline, recycle is a process of collecting, sorting, cleaning, and processing materials from waste for production process. This process is reusing the materials for different products. This waste material will be used by empowering the people.

B. Community Empowerment

Power is defined as “ability to get something, to mobilize resources, to get and utilize everything that aimed to fulfill someone’s needs” (Kanter 1977). Power is the main concept of empowerment (Page & Czuba 1999). Empowerment means people managed to gain bigger control over their life, either by their self or with the help from other people. The form of empowered is related with process and result-effort of what is good; an effort to get the ability to affect the world (Staples, 1990). Malliarakis (2010) explains empowerment as an ability to “to be what you can to be” with own confidence, ability, and take action under their own name.

Empowerment can be divided into three categories, individual empowerment focused on what happens on individual level, community empowerment that focused on collective processes and social change, and professional empowerment that sees the empowerment as a professional intervention for social problems solution. The community empowerment program as an effort performed by individual or institution based on community environmental potency with a main purpose to improve quality of life through the utilization of available resources and is focused on social participation principle (Suharto, 2009). The effort to empower a community is succeeds if the community become the driving force that determine the options for a proper strategy as well as increasing their ability and independence. Community is not only an object because they are participating and is involved in the process. The empowerment is considered as a process because it tries to increase community’s ability to gain prosperity and well-being. The purposes of empowerment refer to the level or result that want to be gained by social change, which empower poor people, who do not have power or knowledge and ability in fulfilling their needs, physically, economically, and socially (Anan, 2015).

Community empowerment can be assessed through three cases, first creating a climate that enable the community to develop their potency, second strengthening community’s potency, and third empowering also means that protecting the groups that are vulnerable to get oppressed by strong group, and prevent unbalance competition and exploitation from the strong (Sumodiningrat, 1996). Empowerment is a tool to gain the objectives (means to an end), to strengthen organization/group capacity so that they can change current condition, having power to encourage the changes need in the community.

Community empowerment can be performed by conducting a mapping of problems and basic needs from the community. After that, the steps to solve the problem is taken by providing non-formal training according to the local potency. In line with Kindervatter (1979) opinion, empowering will be defined as: person who get an understanding and control on social, economy, or politic power in order to independently improve their dignity in the community.

C. Greenpreneurship

Businessmen can be identified into three groups: traditional businessmen; the businessmen that encouraged by economic motive (create economic value for business owner), second businessmen encouraged by social motive (create value for community in general), and businessmen encouraged by ecological motive (create value to repair environment). When these three motives exist, then the businessmen are the businessmen encouraged by sustainability motive or sustainability-driven entrepreneurs (Schlange (2006). Ecopreneurship is a combination between the word ‘ecology’ (eco) and entrepreneurship that means innovative creation. Ecopreneurship is known with various terms such as green entrepreneurship (Schaper, 2002), enviropreneurship (Keogh & Polonsky, 1998). Schaltegger (2005) defines as company that supplies products and services which is environmentally friendly, or “entrepreneurship through environment lens”. The activator of greenpreneur in entering this environmentally friendly market is not only searching for profit but also having a strong green values. The other researcher, Isaak (2002) states it was “an existential form of business behavior that committed for sustainability. Bosman (2012) concludes that in his study greenpreneurship is entrepreneurship action that provides contribution to preserve natural environment. Because of that, greenpreneur is the entrepreneur who finds their business based on sustainable principle (Kirkwood and Walton, 2010).

III. Method

This study is a survey study developed through interview and spreading questionnaire, in order to understand the problems and needs of the community in Sukunan village, Sleman Jogjakarta. Survey research design is a procedure in quantitative research in which investigator administers a survey to a sample or the entire population of people to describe the attitude, opinions, behaviors, or characteristics of the population (Creswell, 2012). This study is applicative in nature or can be directly implemented in daily life. The result of this study is a solution that can be implemented in the community.

Questionnaire is employed to understand the needs of

Sukunan village people. The instrument is the questionnaire that contains several questions. This aimed to get the overview of condition, identification of measurable condition as a comparison, as well as determining the relationship of specific condition. As presented in Figure 1 above, the research and development method consist of several stages, problem identification stage, analysis of needs, model development, model and technology implementation, and evaluation.

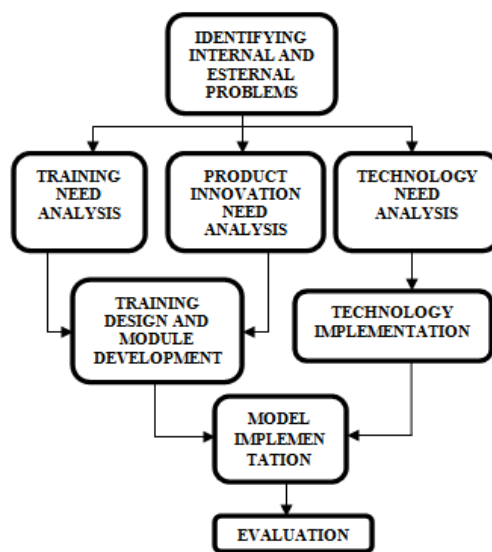


Figure 1. Research & Development Method

IV. Result And Discussion

This study uses interview and questionnaire to collect the data, which consist of four aspects: organizational aspect, financial aspect, production aspect, and marketing aspect. The results from these aspects are as follows.

1. Viewed from the organizational aspect, business coverage and business scale is still relatively small, because the business is still managed personally and do not have business entity. Entrepreneurship function which basically is the development of creativity and innovation, as if disregard management functions. Thus, the smaller the company, the smaller

the management function it implements.

2. Viewed from the financial aspect, the condition of the community is quite potential to be developed. The adequacy of fund is the main consideration in this case. The community has conduct transaction using account and a stable profitability. The barriers faced in the financial aspect are in financial management. Planning and controlling is not performed, this become a potency of disturbance to the business sustainability.
3. Viewed from production aspect, the equipment used is still simple. The renewal or production technique modification in order to improve production quality is still needed, thus the production can be more innovative and is able to compete with the other similar industries.
4. Viewed from marketing aspect, the result shows that the product is still marketed in local area. The products are still having potency to be marketed globally; moreover it is backed by the high number of demand. However, there is no distribution and promotion pattern that can support it.

Viewed from four aspects above, then we can be informed on the problems faced by Sukunan village people in managing the independent waste management based on greenpreneurship as follows: (1) poor management from planning side, organization, coordination or controlling from marketing, financial, production, organization, and organizational view, (2) the lack of expert in product design field, (3) the lack of product diversification, (4) low product quality, (5) the lack of market access and cooperation opportunity, (6) the lack of machines to support the process of waste recycle which makes the people do not able to produce optimum products, and (7) the lack of knowledge on greenpreneurship

Based on the result of mapping of problems faced by Sukunan village, we can make a map of Sukunan village people's needs in the management and development of waste based greenpreneurship, as follows:

1. Training on financial, marketing, production, and human resource and organization management
2. Training on product design
3. Training on the utilization of new technology machines
4. Training on developing and growing greenpreneurship

spirit

After making the map of community's needs, we conduct various activities in order to fulfill Sukunan village people's needs. The activities are as follows: (1) purchase of equipment to develop innovative products, consists of: sewing machine, glass crushing machine, flowerpot mould, manual brick mould, and wall relief/ornament mould; (2) purchase of material for training on product design; (3) training on product design for waste recycle; and (4) training on the introduction of greenpreneurship, marketing, financial (simple accounting), and human resources and organization.

V. Conclusion And Recommendation

Based on the analysis on the program of community empowerment for waste industry based greenpreneurship in Sukunan village, we can conclude that:

1. Develop Greenpreneurship mentality for the people so that they are encouraged to utilize the existing opportunities.
2. Improve people's skill in creating creative-innovative products that able to compete in local and global market.
3. Improve people's ability to manage natural resource, social, cultural, and environmental in utilizing waste as the main medium of their competitive advantage.
4. Introducing technology through machines that can simplify the better products creation that is accepted by market.
5. Develop simple managerial skill to manage community business, so that it can be neatly and professionally managed.

Limitations

The limitations of this study are:

1. The model used in the training has not validated by expert in the associated field, to check the design and format of training which allows the learning

process and knowledge and skill transfer for the management of waste.

2. There is no evaluative study on how far the training given will improve human resource quality in the form of greenpreneurship mentality for the people.
3. There is no monitoring in quality and economy field after this study is performed.
4. There is no evaluation on feedback and result of training provided for the stakeholders as initial step in socializing study model in the wider scope.

Recommendation

The recommendations as a follow-up of this study are:

1. Perform validity test on training model and module by expert in related field to check the design of training format which allows the learning process and knowledge and skill transfer for the management of waste.
2. Conduct an evaluative study on how far the training given improves human resource quality in the form of greenpreneurship mentality for the people.
3. Conduct quality and economy monitoring after this study is finished.
4. Provide feedback and training result to stakeholders as initial step in socializing study model in the wider scope.

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