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Empowerment Improvement of the Scavenger's Identity in Thailand

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Abstract: The objectives of this study were to analyze the scavenger's identity, identify means of constructing empowerment for Solid Waste Management (SWM) and design steps of the empowerment for an experiment on suitable model implementation. To accomplish the first objective, a content analysis, specialists' consultation and non-participatory observation were conducted. Subsequently, an analysis of a survey on a focus group and in-depth semi-structured interviews based on scavengers and stakeholders' voices was conducted to reveal possibilities to identify means that could be synthesized and access possible means of empowerment steps. The results of the study show that former researchers variously identified the scavengers' identity to suit multi-dimensional perspectives. The resistance and uninterest in them reflected their role as a low status in society that strongly took the economic boundary but lightly took other boundaries into consideration. The overall image of perspectives in the past caused unsolvable solutions. Meanwhile, the reengineering of the scavengers' system by applying a sectional approach based on a holistic approach could reveal significant factors which enabled to fit the scavengers into a proper place of the SWM. Needless to say, this means could construct possible steps of empowerment; it was also synthesized for the improvement of the scavenger's identity.

Key words: Empowerment, identity, solid waste management, scavengers, participation

INTRODUCTION

Empowering the SWM to communities in which scavengers participate has been spreading in developing countries as they have been trying to integrate the community's responsibility, grass roots' occupations and environmental awareness to decrease waste problems and alleviate poverty (Sicular, 1992; Christine, 1993; Gauchan, 1997; Bonjean, 2001; Zurbrugg, 2002 and Amponsah and Salhi, 2004).

Part of this paradigm might be applied from limitations and inabilities to imitate the SWM from developed countries. However, the empowering process and its bodies of knowledge seem to be in doubt and should be studied since there have been controversial issues about them, especially the issue concerning details of the empowerment related to the relationship between the community and the scavengers who have been treated as common people of the peripheral edge or people in an informal sector who have to depend on themselves. This reflects a low scale of development standards. Needless to say, evidence and empirical data which can be found everywhere have revealed successful research studies conducted by researchers in the past (Sicular, 1992; Christine, 1993; Mohan and Stokke, 2000; Bonjean, 2001;

Sullivan and Skelcher, 2002; Zurbrugg, 2002; Berthier, 2003; Forsyth, 2005). In Thailand, on the contrary, there has never been any management in terms of either the scavenger's participation or means of empowerment for its argument or acceptance.

In terms of the garbage crisis in Thailand, it seems that the garbage has been disposed and dealt with principal means while the society has been requested for cooperation by the constitution, regulations and various means. Besides, government agencies have been trying to find a way of empowerment as though it were a new public management process. However, the SWM in Thailand still relies on the functional structure and the hierarchical ability paradigm that allows the municipality and technology to manage it in urban areas. Anyhow, these approaches cannot be used to completely manage the environment. It is still bothered. Only a few disposal sites which are operated as sanitary landfills are verified by the environmental standards. Many of them face serious conflicts while surveying sites for waste disposal. It is obvious that Thai people lack interest in separating wastes and they have very little concern about campaigns for this awareness.

Neglected poor people are considered strong labor whose lives are at risk. Because of the inefficiency and

insufficiency of the SWM, the unemployment and poverty, the inefficiency and insufficiency of social welfare and inadequate income from the informal recycling business, there have been more than 100000 scavengers in Thailand; they have taken part in private sectors' informal recycling business which is worth more than 1000 million bath per year (Boonjear, 2001; Wirojanagud, 2004). Most of them have moved from the country; they want to run away from poverty in local areas, so they decide to move from the agricultural sector and a small town to an urban area and lead their lives as scavengers. It is estimated that the number of scavengers has been increasing every year. Furthermore, there has been a difficult dilemma to choose between environmental management instruments of the technological progress of the formal sector and the labor manual waste classification of the informal sector.

An interesting point that should be mentioned is that this business has been applicably run as though there were only one system of the waste recycling markets of the formal and informal sectors dealing with the SWM. However, government agencies, especially the Ministry of Labor and Social Welfare and the Ministry of Natural Resources and Environment that are directly involved in making policies related to labor, productivity and the environment, have never included the informal sector in their definition of shared goals of being partnership. Moreover, there has never been any evidence of achievement showing that scavengers have cooperated or integrated in communities although there are local people taking part in the Grassroot Recycling Network which has been operating the Garbage Bank, the Garbage for Egg Project, the Repairing and Recycling Center and so on.

The empowerment paradigm for scavengers' groups has spread success which can be seen from the empirical evidence whereas Thai scavengers have been neglected. It reflects and creates Thai scavengers' identity that should be known why that is so by identifying means of thinking to adapt their roles and designing steps of empowerment to identify a suitable model to answer the question, What should be done to integrate and develop scavengers in the long run?

MATERIALS AND METHODS

Quantitative and qualitative methods were used in the study: documentary research, descriptive research, non-participatory observation, individual and group interviews and survey research based on a triangulated approach. The first section was an analysis of the scavengers' identity which was collected from conceptual

frameworks and meanings from literature, non-participatory observation and in-depth semi-structured interviews. The second section involved in-depth semi-structured interviews in field work; the validity of the interview questions was acquired from a documentary analysis, an experiment and a specialist team. In terms of the survey research, the statistical procedure and content analysis were concluded from an over two-year period dealing with the scavengers, recycling shop owners, municipality officers and specialists. Nonetheless, for this paper the emphasis was placed on some voices of scavengers and stakeholders accidentally found and from the snowball technique to be applied for an analysis and a statistical test, the Chi-square test, to achieve significant results by the SPSS 11.0 for a Windows program. The sample group was from five provinces in Thailand. The final step was the synthesis and a conclusion of the steps of empowerment required to test the model that could improve the identity of scavengers in Thailand.

RESULTS AND DISCUSSION

The results from the synthesis of the perspective on Scavengers' Identity in the past reveal that former researchers have synthesized the scavengers' identity in a variety of dimensions such as being human capital in the environmental dimension, a marginal group in the socio-cultural dimension, a low-tech group in the SWM dimension, an economic factor in the economic dimension, unconventional persons in the political dimension and a self-dependent group in the informal recycling business (Gauchan, 1997; Mohan and Stokke, 2000; Sullivan and Skelcher, 2002; Zurbrugg, 2002; Forsyth, 2005). That is to say, the scavengers are related to various components and that makes it difficult to define their identity by one particular definition. However, they are seen as those whose role is similar to that of people with low social status because they are dirty, incapable and have no power to negotiate with recycling shops. Former researchers considered this system as a modern patron-client system reflecting their life instability (Sicular, 1992; Boonjear, 2001; Chalermphao, 2001). Although the scavengers are not the poorest group in the community, they are in debt owing it to the recycling shops that want to oblige them as their waste collecting members. Therefore, the scavengers' identity is at the bottom rank of the social hierarchy.

The scavengers' quality of life is related to their circumstances. Thus, the environment and development are terms that should be properly defined for them. In addition, the awareness of the environment and sustainable development which is considered the core of

principles related to the environmental management that can be developed and help the grass-root group to which the scavengers belong was derived from Agenda 21 and 'Rio Declaration' at the UN Earth Summit in Rio de Janeiro in 1992. These concepts seem to be ideals for the improvement of capability by emitting responsibility from government agencies to the concept of participation and empowerment. It is like the government is handing benefit and responsibility down to the grass roots in terms of self-dependency, participation, decentralization and empowerment. The coalition of the community and the private enterprise is considered the basis of these elements.

In fact, on the one hand, some critiques on negative impacts of low standards added to the scavengers' process of the SWM state that they are normal outcomes. On the other hand, there are challenging opposing paradigms-participation, coalition and empowerment-which are believably strong enough to enable the community and scavengers to upgrade the level of the SWM and the marginal group's life in the boundaries of the economic restructuring, social welfare, environmental law, social capital, social relation, good health and well-being and environmental awareness, not to mention the support of high technology of the SWM in developing countries and the transfer of SWM skills to communities and private sectors in the long run (Missionanes, 1998; Wood and Broadhurst, 2000; Kum *et al.*, 2005). These evidences show the parallel dual concepts of success and failure.

In case of success in the improvement of the scavengers' identity, at what level should it be intervened? Due to the fact that the community is a highly integrated unit tied by strong and ancient bonds of kinship, intensive social interaction and strong consciousness of identity (Deakin and Hughes, 1997; Sullivan and Skelcher, 2002), the empowerment of the SWM should be operated at the community level, at the community which is capable of self-management and can improve the scavengers' identity when they are gathered together. This idea is in line with Zimmerman's, (1990) thought. Zimmerman (1990) states that granting the empowerment to a community or an organization is the same as making each individual strong and competent. The systems will naturally coordinate and control behavior to social policies and social changes. Needless to say, the empowerment of the SWM to the community where scavengers participate needs efficiency and adequate tools to solve the waste and scavengers' problems. Thus, the restructuring for creativity and including scavengers in the community for the SWM must come from public policies to integrate various

components on vertical and horizontal directions and multidimensional linkage with the public (Minogue *et al.*, 1998; Apple, 1999; Kaosaard and Winjukpraset, 2000).

The afore-mentioned analysis presents problems of perspectives, some of which is caused by the scavengers' identity that is not directly related to the empowerment approach. Because the scavengers' roots are originally from the relation of several factors: poverty, capability of the social welfare, the recycling system, the weakness of the environmental law, a lack of SWM resources, labor migration, the over-density of communities, the progress of the recycling business, the unemployment situation and so on. These reasons push the scavengers to the work with hazards of waste and endanger their lives with germs and the release of methane and carbon dioxide as though they had no choice. Some documents reveal that the scavengers are ashamed of their occupation; they are exploited by recycling stores and are put under pressure by government officials. Their images are like a group of diseases, thieves, or a group with violence, poverty and disgust due to their circumstances which affect security of human resources (Chalernmpao, 2001).

These pieces of documentary evidence show an unclear relation between the scavengers' identity improvement and the empowerment, which makes it unbelievable that the scavengers' identity could be improved because of the empowerment mechanism. These perspectives are drawn from paradigms of generalization which are similar to a holistic focus. The superficial deconstruction is insufficient for the development of the scavengers' system. Needless to say, due to such perspectives, many factors that are causes of the scavengers' problems occur everywhere and it is hard to include the scavengers in the SWM process.

Conversely, a concept of uninterest emerges from these complex problems on the basis of a long term overall image.

Thus, an investigation by an overall image at the first stage cannot classify complex problems and that can quickly lead to unreliable hypotheses. That is to say, other means should be sought for perspectives and a research design to implement the idea of empowerment to improve the scavengers' identity and be advantageous for communities which have created spaces for marginal groups (the scavengers) to be integrated in sustainable development.

Means of thinking about creating empowerment approaches: The analysis at the first stage and the scavengers' complex problems present problems of thoughts concerning overall perspectives which influence the current uninterest and force the scavengers to become

those with a low status in society. Therefore, an analysis by a sectional approach that can classify significant factors by relating possibilities and holistic approaches should be confirmedly conducted.

In Thailand, in the past 50 years, scavengers were Chinese immigrants, some of whom became recycling shop owners and handed down their business to the younger generation. While going out to buy waste from houses, they would call out, bottles for sale, or anybody who has bottles, sell them. Later on, this means has been copied and carried on to poor Thais, especially the ones living on roads and in slums. Most of these people have moved from local areas. They are popularly known as Saleng or Kon Gep Kaya.

The SWM everywhere is insufficient; the area is crowded and there are many factors causing people to become scavengers (Piaseeki *et al.*, 1999; Berthier, 2003). They collect solid waste from where the waste is thrown away: open areas, roads, litter bins. Some directly go to houses to buy waste. Then they will separate, clean and store it before selling it to a recycling shop which is called Rahn Rap Seu Kong Gao. Some of them even look for food scraps to eat for survival. What these people do is neglected by related authorities. Although their exchange in terms of benefits has made a body of knowledge of classifying waste, they still cannot unite to negotiate waste prices. If the estimated number is close to what is specified, scavengers are able to collect 2000 tons of waste per day, 20 kg each per day. The number is less than the total waste the Thais make which is on the average of 1.1 kg per person per day (Zurbrugg, 2002; Wirojanagud, 2004). In 2003, it was analyzed that there were 39000 tons per day. That means they have high potential in waste classifying. Provided that the situation does not change, the capacity of this job can support many more scavengers.

Actually, the scavengers are proud of their self-dependence as researchers have proved it in spite of their low education, poverty, sickness, facing direct danger of occupation with diseases, risk taking in the situation of methane and carbon dioxide and being exploited by recycling shops.

Deconstruction of the scavengers system: The sample group consisted of 369 scavengers (231 males and 138 females) from the cities of Khon Kaen (69), Bangkok (95), Prachuap Khiri Khan (79), Petchabun (67) and Nakhon Rachasima (59). These provinces are big and can represent each region; two provinces are in the Northeast (Fig. 1).

74.5% of them have spouses and they live together; 24.4% are not married or divorced (Four of them



Fig. 1: Locations of samples' provinces

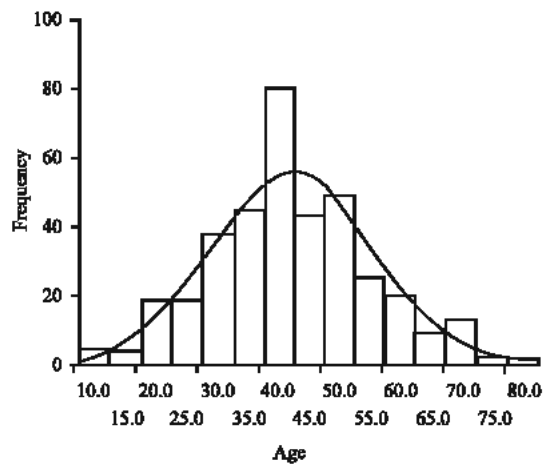


Fig. 2: Histogram of the scavengers age distribution

did not give an answer to this item). Most families consist of 3-5 members (60.7%), 2 members (14.4%), 6-8 members (12.2%) and more than 9 (1.9%). Moreover, 10.6% of them live alone. Their ages are between 10 and 81 (Means = 42.12, SD = 13.085). The youth group (= 18 years old) consists of 9 youths (2.4%) while the senior group (= 60 years) consists of 38 elderlies (10.2%). There are more scavengers in the middle-aged group than in other groups (Fig. 2).

Their levels of education vary from being uneducated and the elementary level (290 = 78.6%) to the bachelor's degree level. Besides, many families have the disabled who are unable to help themselves, the aged, the young ones, the sick, the alcoholic or drug addicted. Some of them live alone. This indicates that not only the age, sex, educational levels and family problems do not

affect this activity, but these scavengers also do not pay attention to such factors.

Scavengers in some urban areas are originally from the same village, so they bring with them marginal cultures. When they are in the city, they mix them with urban culture and develop the one which is necessary for their city life, not to mention a different culture which occurs.

Over 70.7% of the scavengers do not have any right to a place for living; they live under the freeway, by the railway, on the roadside, etc.; some even commit illegal conduct while living in some areas. Most of their living areas do not fit in with their regular means of living. The inefficiency of city planning also contributes to the difference between being homeless and the orderliness. Thus, the scavengers live together in clusters or disperse according to the features of the area and undeniably, they cannot avoid conflicts. It is a difficult task to create cooperation between the scavengers and the empowerment scheme because places can influence behavior in terms of demands for creativity or expectations (Barris *et al.*, 1985).

These scavengers used to have a variety of occupations. The majority of them were farmers, traders, construction laborers and workers. Some are not full-time scavengers, they do it together with their regular jobs; some are, for example, municipality workers, cleaners, motor tricycle (Tuk Tuk) drivers, tricycle drivers, garland sellers, etc. Some act like scavengers trying to collect waste, but in fact they are beggars looking for food scraps in the litter bins. This indicates that to the marginal group's knowledge, scavengers' action is better than that of beggars'. In case of these latent scavengers, they receive social capital as help more than beggars who are unemployed. Such social capital helps their lives not to get worse. Though many scavengers work on several occupations at the same time, they still cannot pull themselves away from poverty.

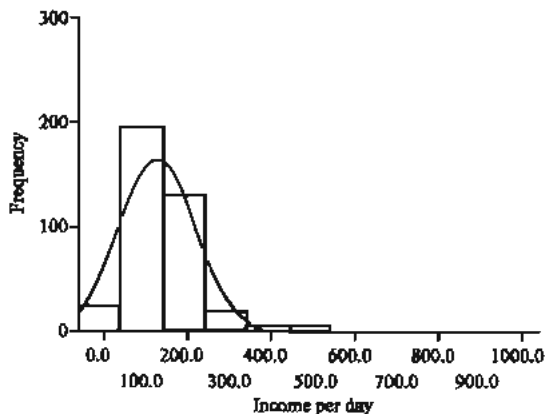


Fig. 3: Histogram of scavengers' income statistical distribution

The scavengers' income ranges from 20 to 1000 bath (US\$ 0.5-25) at the average of 136 bath per day (US\$ 3.4). The average income varies according to city sizes-big, medium and small-at the average of 175, 130 and 90 bath per day, respectively (Fig. 3). The insufficient income pushes them into debt. Nonetheless, some of them can develop themselves to be owners of small recycling shops.

Scavengers' activities involve various components similar to a system comprising collecting waste, preparing for utility, cleaning the waste, analyzing composition of the waste, storing, transferring and selling to make the highest benefit for them and their families (Fig. 4).

The scavengers use basic knowledge necessary for an analysis of physical quality, chemical properties and moisture of the waste. These means are risky for not only their health but also the environment. One out of four in the sample group (36.6%) answered questions about health that they had a skin disease, tetanus, car accident and diarrhea. Most of them did not go to the doctor because of some economic reasons. 78.3% had never had any knowledge about how to prevent danger from the waste from any work unit. Over 78.9% said they had never seen anybody from government departments visit their areas though over 58.3% said they wanted them to.

Most scavengers cover the face and body because the weather is hot; they are embarrassed and they want to protect themselves from dirt. They usually use empty hands, crutches, or hooks which are called Sa Gao Meu (Fig. 5). These tools are also used to protect themselves from dogs or thugs, to hold up things and to separate waste into big bags.



Fig. 4: Waste classifying process



Fig. 5: Sa Gao Meu

Some scavengers use a bicycle (a), a two-wheel pushcart (b), or a pushcart (c); some use a pick-up truck (d) or a tricycle (e) which can be rented from a recycling shop for 150 bath per day (Fig. 6). These vehicles can classify the scavengers into groups relating to their daily earnings. In addition, their earnings can be estimated from their tools. In the like manner, their being accepted in the group also depends on the tools. It is estimated that a scavenger walking with a big bag or a bicycle can collect waste worth 20-50 bath per day; a scavenger walking with a pushcart can earn 60-100 bath per day; the one with a tricycle can earn 150-300 bath per day and 300-700 bath for the one with a pick-up truck. A scavenger owning a small recycling shop can earn about 1000 bath per day. It can be said that most of these scavengers are not the poorest.

Such earnings are relevant to vehicles, volume, weight and distance of collecting or buying (Table 1). The earnings are from daily classifying and selling waste to recycling shops or when they are ready to sell their accumulated waste. These phenomena show that this informal and patronizing business is still a mystery even if it can be brought into a manageable system.

Although it is merely trash, it can create the sense of belonging and cause many conflicts. In terms of their work period, the scavengers in the sample group said they would work between 1 to 50 years (Means = 7.7). They could be categorized into 5 groups: daytime, nighttime, adequate collecting, waste collecting after regular work and co-regular work collecting. Time, however, did not have any relation to their earnings. Some spent only a little time collecting waste, but could earn high income because they had experience, tools, relationship with

customers and investment which was more important than other factors. Nevertheless, periods of time were significantly and statistically related to ages ($\chi^2 = 69.952$, $p < 0.01$). This is normal, but the scavengers' thought of holding the job is unstable, for most of them have no hope in their lives. 47.2% of them are the elderly who tend to stick to the job as long as they can. They reasoned that they cannot survive doing other occupations though 30.9 % of them thought differently while 33.9 did not have any idea about it.

The scavengers' system cannot be separated from Rahn Rap Seu Kong Gao or recycling shops. Thus, the development of the trading system and technology can increase productivity and value of waste in the long run can be divided into three sizes: small (a), medium (b) and large (c). For each size, there are about 25-40, 30-50 and 40-100 scavengers as regular customers, respectively. Moreover, big recycling shops have about 5-10 medium and small ones as their members (Fig. 7). These sizes are controlled and defined by the amount of waste or quota during the period specified by the recycling shops. So, the medium and small recycling shops cannot directly sell their waste to recycling factories.

The scavengers' process is part of a liberal approach, but it reflects waste prices which are not guaranteed. There is a big gap between the prices at the factories and those at the recycling shops. The scavengers cannot negotiate the prices fixed by the recycling shop owners. In addition, most of the scavengers have got into the dependent system and become debtors of the recycling shop owners or non-formal lenders who can control and dictate prices to the scavengers in the long run. This seems to give credit to and create a patron system. In this



Fig. 6: Scavengers' vehicles in Thailand

Table 1 The comparison of recycled waste collecting vehicles in terms of capacity, weight and distance

Tool	Capacity (M ³)	Weight (kg)	Distance (km)
Walking with big bags/bicycle	0.5-1.5	5-10	3-7
2-4 wheel pushcart	1.5-5.0	10-30	2-7
Tricycle	4-10	15-50	7-15
Pickup truck	20-50	150-1500	10-30



Fig. 7: Sizes of recycling shops in Thailand

Table 2: The relationship between the province and the scavengers' ability to assemble: the result of a χ^2 test

Parameters	Province					Total
	Khon Kaen	Nakhon Rachasima	Bangkok	Prachuap Khiri Khan	Petchaburi	
The ability able to assemble	18.0 26.1%	30.0 50.8%	23.0 24.5%	14.0 17.7%	14.0 20.9%	99.0 26.9%
Unable to assemble	35.0 50.7%	6.0 10.2%	58.0 61.7%	48.0 60.8%	38.0 56.7%	185.0 50.3%
Unknown	16.0 23.2%	23.0 39.0%	14.0 13.8%	17.0 21.5%	15.0 22.4%	85.0 22.5%
Total	69.0 100.0%	59.0 100.0%	95.0 100.0%	79.0 100.0%	79.0 100.0%	369.0 100.0%

$\chi^2 = 49.924, p < 0.001$

Table 3: The relationship between the zoning need and participation need: the result of a χ^2 test

Parameters	Zoning need			Total
	Need	No need	Unknown	
Participation	9.0 21.4%	79.0 37.8%	17.0 14.4%	105.0 28.5%
Need not interested	25.0 59.5%	107.0 51.2%	58.0 49.2%	190.0 51.5%
Interested	8.0 19.0%	23.0 11.0%	43.0 36.4%	74.0 20.0%
Unknown	42.0 100.0%	209.0 100.0%	118.0 100.0%	369.0 100.0%

$\chi^2 = 40.336, p < 0.001$

case, 50% of the scavengers thought they were exploited. It was related to their want of participation at a statistical significance ($\chi^2 = 9.651, p < 0.01$). However, they were unable to assemble by themselves. Their ability to assemble in different areas was different. There were data showing that their ability to assemble and the province were significantly different (Table 2).

In terms of area management which focused the work cooperation in the area boundary called zoning, most scavengers did not want it. It was significantly and statistically related to the variables of participation (Table 3).

In terms of rights and laws, it is found that the scavengers were confused about their rights and the law. The data show the ratios of 1:5 and 1:3 that they did not know whether they had the rights or whether it was legal to hold this occupation. The confusion brought them various injustices while the scavengers' awareness in terms of rights and laws was significantly and statistically related to their thoughts of the SWM participation ($\chi^2 = 34.756, p < 0.001$ and $\chi^2 = 21.7666, p < 0.001$ when factors of right awareness and that concerning laws were, respectively compared to factors of participation needs).

Being worthy and poor and having sufficient earnings and freedom are the scavengers' awareness of their identity. Most of them thought their occupation has no boss though 11.1% said, I have no choice; I need help; I don't want to be like this; I'm disgusting; They look down on me as though I were a dog. These reflect their necessity to hold on to this occupation even though they are looked down. Nonetheless, these scavengers have the same values and attitudes as other common people do, except that they do not have any other choice. It can be compared to an old perspective expressing that an occupation can dominate people holding it to shape behavior and attitudes of their identity; rejection from society and isolation can badly affect their mental health (Piasecki *et al.*, 1999; Sullivan and Skelcher, 2002). Thus, patterns of behavior with many different symbols and some of the scavengers' negative identity are the results of their deeds as thieves, alcoholics, drug addicts, thugs, dirty people and so on. Certainly, their deeds influence the children in their families; such behavior gives other common people lessons to treat them with disgust, fright and push them as though they were hazardous substances. They are considered different in terms of psychological factors when compared to municipal officers whose identity is to collect waste as their duty even though both groups gain advantages in the informal SWM nowadays.

The survey findings show that local and urban scavengers with little income want to participate in the SWM process more than those in urban areas with sufficient income. Moreover, a variety of tools can create principles of interrelationship among city sizes, structures of municipalities' authority in the SWM, social surroundings and wants of the scavengers in the area. That is to say, levels of the SWM, city sizes, social surroundings and the amount of earnings in each area are related to each other and they can affect the scavengers' decision to participate. In other words, from these data, a variety of data can emerge as well as means of thinking which can emerge from means of classification to be used in the boundary related to a holistic approach. They are significantly related when a scavengers' system is developed.

Design for steps of empowerment: The issues of the afore-mentioned data confirm that the scavengers gave full attention to the economic dimension. On the contrary, they did not pay attention to the social, political, environmental, health and other dimensions. Additionally, mechanisms to support survival in various dimensions to develop better quality of life and to improve the scavengers' identity were missing. Even their skills,

potential and opportunity for management were revealed, not to mention various problems which were obstacles. These outcomes revealed problems of holistic outlooks and necessity to use means of classification in the process of the scavengers' identity improvement. In the same manner, voices of the scavengers and stakeholders to specify suitable groups should be considered in terms of components of scavengers who really want to participate in the SWM and standard characteristics of various dimensions for the scavengers' participation.

These issues can construct means of thinking for the empowerment of the SWM to the marginal group (scavengers). The principal reason is that when the scavengers' system is considered with a holistic perspective as a priority, biases against the scavengers' complex problems-living risks, lack of power, being unemployed, holding a job lower than the level of education and capability, lack of basic education, family average income lower than the poverty line or areas, etc., -can lead to an immediate shut out of their negative impact. Therefore, their problems cannot be solved in a short time-until a priority of means of thinking is constructed by listening to the scavengers' and stakeholders' voices. It can be considered by incorporating means of thinking and a holistic approach to pinpoint their potential and positive means to incorporate at a proper point of participation in the SWM and to pinpoint negative means that should be ignored so as to construct an obvious process of empowerment.

Steps of empowerment: Nonetheless, an explanation of the scavengers' participation in the SWM, problems, characteristics, voices and so on is not enough for the empowerment if the activities of participation and empowerment are not possibly accepted by specialists involved, the public policy and society. That is to say, there should be a balance of benefits of each section: stakeholders, interdisciplinary specialists and possible means of duties of several work units related to the government sector. Thus, what is needed is the cooperation among government agencies at the national level, the regional level and the local level and communities to construct sustainable development for the communities as well as the deconstruction and reconstruction in various dimensions that are involved and related to both the empowerment and improvement of the scavengers' identity.

So, means of thinking and research design-the preliminary research instrument for participatory scavengers and the empowerment-had to take a variety of components into consideration by means of a systematic thinking on the basis of holistic means and classification

for synthesis, indication and brainstorming to form a suitable design. The means of thinking and a research design for the improvement of the scavengers' identity from the process of empowerment included the following steps:

The research step: A research study was conducted on activities of the scavengers' participation by triangular examination data from documents relevant to voices of the scavengers and stakeholders, specialists and related policies to draft a body of knowledge of possible participation means.

The deconstruction and reconstruction step: A survey was conducted without biases of related boundaries on the understanding of the scavengers' ways of life and their irregularities, but with perspectives on structure classification.

The synthesis step: This was analysis and assessment by qualitative and quantitative methods with the goals of synthesizing wants of stakeholders and abilities of scavengers.

The holistic step: This step synthesized groups wanting scavengers and communities and the possibility of the brainstorming of specialists and stakeholders on the basis of a holistic approach.

The implementation step: An experiment was conducted with suitable groups who were from Step 3 and 4 to synthesize an appropriate model.

The adaptation step: This was conducted to examine changing situations and insignificant problems of related components on the basis of participation.

The sustainable development step: This step was intended to reform a suitable model which could intervene the process of development in Step 6 and to develop an appropriate model according to the changing situation as a cycle from Step 3 to Step 7 for a sustainable development model.

The distribution step: This approach could distribute the body of knowledge and simultaneously intervened significant factors of necessary situations to needed groups so as to raise the level of standards as a restart from Step 4 to Step 7.

To follow these steps, there was a direct and careful implementation of participation and empowerment to improve the scavengers' identity and to raise the

environmental awareness in communities. The implementation was confirmed in Khon Kaen Province (Sila Tambon Administrative Organization). It has been found that there is a necessity to develop and adapt related factors in various dimensions, especially in the communities with their own values, standards of behavior and expectations. In several areas, the related factors are the same as those in the areas with a relationship among their social groups. Finally, the phenomena are strong enough to make it believable that this temporary experiment can specify a desirable process to create good conditions of the environment, social progress and economy, from waste to everybody. This method seems to be self-dependency of the community's waste management by its SWM which needs a wide network of both internal and external communities on the basis of shareholders and an integration paradigm. It is necessary to combine a variety of components more than the vertical function of the SWM in the present Thai government agencies.

CONCLUSIONS

The scavengers in Thailand take only the economic boundary into consideration while ignoring the social, environmental, health, ecological and political boundaries. The price guarantee of recycled waste, ignorance and several significant factors do not support insurance and reflect the scavengers' instability to negotiate with the recycling shops. Such problems are too complicated to create the coalition of responsibilities to the improvement of the scavengers' identity through the overall perspective of means of thinking in the past which covers possibilities as though they were impossible to be transformed for the scavengers.

The transformation of structures for the scavengers who are appropriate groups and really want to participate in the SWM depends on several components, can improve their identity in dual between the SWM and unemployment solutions which are related to multidimensional boundaries. It can offer a chance for life quality development by reforming new identity in society on the basis of the scavenger' potential to create a different model for social integration. The afore-mentioned empowerment steps should be considered to create a suitable model in each area. It is necessary to implement means of classification to indicate significant factors that must be related to the implemented holistic approach which has revealed confirmed success.

However, Thailand should change its concept to concurrently construct and support the process of the scavengers' participation and the transfer of the

environmental technology on the basis of possible perspectives of the empowerment approach. It should immediately construct and support self-discipline and self-control for the scavengers in the community. Besides, various projects should put more emphasis on skill development, for the insufficiency of the scavengers' skills does not integrate with the communities when compared to the present standards that can be deconstructed and reconstructed in the scavengers' system to develop them so that they can have better quality of life in the long run.

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