

# RECYCLING ENDEAVOURS AMONG THE P.P.R RESIDENTS IN KUALA LUMPUR: A QUALITATIVE APPROACH

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Received: 1 November 2017

Accepted: 25 December 2017

## ABSTRACT

*The involvement of households in the recycling activity in the last decade has been perceived as an effective way to reduce the amount of solid wastes in the landfill areas as well as to reuse the materials. The recycling practice among the public is very crucial in order to reduce the problem of overwhelming landfills and energy. The ever-increasing flow of household waste is an enormous environmental problem in many countries. By looking at the tremendous amount of solid wastes, Malaysia needs public participation in solid waste management by recycling the unused materials. Thus, the present study explores predictors that lead households to participate in recycling activities. A qualitative approach is employed in this study where key stakeholders were interviewed in order to get their different perspectives with regard to recycling activities among households. This study is vital as it supplements the information to the existing body of knowledge on households' recycling activity in Malaysia.*

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**Keywords:** Environment, Households Recycling, Solid Waste Management.

## **INTRODUCTION**

Solid-waste management becomes a major challenge for a country, especially in urban areas. Urbanization has led the development to scarce land space, causing difficulty in providing space for solid waste disposal (Moh and Latifah, 2014; Kaosol, 2009; and Mahar et al., 2007). Besides that, the generation of waste has a direct relationship with the expansion of the rapid population growth (Agamuthu and Fauziah, 2011; and OECD, 2008) which resulted in the generation of wastes at a rate of 90 percent in every 10 years (Abdul Jalil, 2010).

Increased solid waste generation creates more environmental problems in almost any country, as many cities are not able to manage it due to institutional, regulatory, financial, technical, and public participation problems (Visvanathan and Glawe, 2006). Without an effective and efficient solid-waste management program, the wastes produced from various human activities may lead to health hazards and bring a negative impact on the environment (Asian Productivity Organization, 2007) and causes degradation of the natural resources (UNDP, 2010).

Low-cost flat residents are among the group of people who are vulnerable to major health hazards due to their improper ways of waste disposal (Wahid Murad and Siwar, 2007). Additionally, there is a high tendency for the residents to contract severe diseases such as diarrhoea, food poisoning, and typhoid. There is a need for residents to practise a proper method of waste disposal, so that they can participate in waste management and be able to prevent the spread of diseases.

## **LITERATURE REVIEW**

### **Recycling Among Households**

The involvement of households in the recycling activity in the last decade has been perceived as an effective way to reduce the amount of solid wastes in the landfill areas as well as being able to reuse the materials (Bruvoll, Halvorsen and Nyborg, 2012). In realizing the importance of households in recycling activity, Dahlen et al. (2009) contend that it is

advisable to encourage households in different parts of the world to engage in recycling activity by segregating the unused materials. Among the unused materials that can be recycled include papers, bottles, plastic bags and cans (Davies, Foxall and Pallister, 2002).

One of the reasons why many countries intended to increase the amount of household recycling is because it was stated in the countries' policy goals (Halvorsen, 2012). This is explained by the fact that such practices may bring positive consequences towards the environment, health of society and the economic development of the country. In addition, it has been widely agreed that recycling is one of the solid waste management methods as it is able to minimise the cost of disposal, wastes transportation as well as ensuring the sustainable life spans of landfill areas (Suttibak and Nitivattananon, 2008). The majority of people believed that the primary reason why people recycle is to help preserve the environment (Oxford Brookes, 1999).

The ever-increasing flow of household waste is an enormous environmental problem in many countries (Refsgaard and Magnussen, 2009). In Malaysia, the amount of solid waste in 2012 has exceeded 30,000 tonnes a day (Carol Boon-Chui Teo, 2016). This phenomenon has happened due to rise in the population, current lifestyle and dietary changes among urbanites (Mohapatra, 2013). By looking at the tremendous amount of solid wastes, Malaysia needs public participation in solid waste management by recycling the unused materials. According to Siwar et al. (2000) and Chan and Bishop (2013), the recycling practice among the public is really crucial in order to reduce the problem of overwhelming landfills and energy.

However, the percentage of recycling practices among Malaysians is still at the infancy stage (Azilah et al., 2014). According to Carol Boon-Chui Teo (2016), the amount of recycling rate among Malaysia is only at 11 per cent and the remaining waste goes into the landfill sites. Such phenomenon will bring a negative impact on the environment. Moreover, although the Malaysian government has taken various measures to promote recycling activity among its citizens, but little has been achieved due to the lack of participation from households (Omran and Gebiril, 2011). Therefore, research is needed in order to explore factors that influence the household to participate in the recycling activity (Goh et al., 2013).

This study is conducted at Flat PPR Sri Pantai, Kuala Lumpur because according to Nur Nazlina (2012), there was a poor solid waste management in Flat PPR Sri Pantai Kuala Lumpur. There is a need to study the recycling intentions among households at Flat Sri Pantai so that it helps the local authority to formulate a sound recycling program. Fitriyah Razali et al. (2017) believed that the newly launched Separation at Source Initiative (SSI) under Solid Waste and Public Cleansing Management Act 2007 (Act 672) will become the game changer that prompt for the needs of fostering waste separation behaviour among the households. However, they added that the SSI still received resistance from the households.

### **Determinants of Households Recycling Intentions**

This study explores whether the determinants such as attitude, subjective norms, perceived behavioural control, perceived policy effectiveness have direct control over households' recycling intentions.

The individual's attitude is based on his or her evaluation of the activity being right or wrong, good or bad, useful or not useful, desirable or undesirable, pleasant or unpleasant and interesting or boring (Ramayah, 2012). Meanwhile, attitudes are determined by beliefs about the consequences of the behaviour, such as the cost and benefit of the behaviour (Miafodzyeva, 2012; and Lange et al., 2014). In other words, a person will make an assessment about recycling activity and it includes whether the activity is right to do, good and useful to him or her, other persons as well as the environment.

Subjective norms refer to a social injunctive norm because it is concerned with perceived social pressures from important persons (family, friends and neighbours) to perform certain kinds of behaviour (White et al., 2009), in this case, recycling. Several empirical studies found that individuals' subjective norms influenced their intentions to participate in recycling activity (Valle et al., 2005; Ramayah, 2012; Siti Nur Diyana and Kamisah, 2010; Taylor and Todd, 1995; Ittiravivongs, 2012; Fielding et al., 2008 and Tekkaya et al., 2011).

Besides, in terms of perceived behaviour control, Ramayah et al. (2012) categorized perceived behaviour control into two elements which

are convenience of available recycling infrastructure and cost of recycling. Inconvenience is continually cited as a major barrier towards recycling and convenience a major motivator for recyclers (Perrin and Barton, 2001). On the other hand, Siddique et al. (2010) classified cost of recycling into several elements such as time available for recycling, space and ease of recycling.

The perceived policy effectiveness of a measure refers to an individual's favourable or unfavourable perception of a specific policy measure (Wan, Shen and Yu, 2014). According to Wan and Shen (2013), an individual will be motivated to have a higher level of intention to perform certain behaviour if the policy formulated by the government is being perceived as effective. In the Malaysian context, the Malaysian Urban Wellbeing, Housing and Local Government has implemented a mandatory solid waste separation at source at various stages covering Federal Territory of Kuala Lumpur, Putrajaya, Pahang, Johor, Melaka, Negeri Sembilan, Perlis and Kedah on September 1. Many residents, especially those living in non-landed and high-rise properties claim ignorance about the new requirement (Carol Boon-Chui Teo, 2016).

## **METHODOLOGY**

The present study employs qualitative approach in exploring factors that trigger the households to participate in recycling activity. Several interview sessions had been carried out consisting of semi-structured questions. All interviews were recorded and transcribed verbatim. Questions in the interview covered their thoughts on the factors that led them to participate in recycling. This study also employs a purposive sampling technique (judgment sampling) in order to obtain the information from the respondents. The judgement sampling technique is used in this study because the persons selected in this study were interviewed based on the justification that they are in the best position to provide the information required. Besides that, they have expert knowledge by virtue of having gone through the experiences themselves.

The household is selected in this study because the household is the essential group of people in elevating recycling rates (Perrin and Barton, 2001) and households' participation is expected to be the influential factor

towards the success of recycling activity (Goh et al., 2013). Since this study employs qualitative method, thus, the views of key informants such as Member of Parliament of Lembah Pantai, YB. Nurul Izzah Bt. Anwar Ibrahim, the DBKL officer in charge of residents at PPR Sri Pantai, Mr. Farhan and the Chairman of Resident's Community, Mdm. Saadiah Bt. Baharuddin and the head of household, Mr. Murugiahtheva, and two residents of PPR, Rozaidy Ridzuan and Chew Jian Shin were interviewed in order to gain their views with regards to household recycling intentions in that area.

**Table 1: Profile of the Interviewees**

No.	Name	Position	Venue
1.	Mr. Murugiahthevar.	Head of Household.	Flat PPR Sri Pantai.
2.	Mdm. Saadiah Bt. Baharuddin.	Chairman of the Residents Association.	Pantai Bazaria, Pantai Dalam.
3.	Mr. Farhan Bin Mazlan.	DBKL Officer (in charge Flat PPR Sri Pantai).	DBKL Office
4	YB. Nurul Izzah Bt. Anwar Ibrahim.	Member of Parliament at Lembah Pantai.	Parliament, Kuala Lumpur.
5	Rozaidy Ridzuan	Resident A	Basement
6	Chew Jian Shin	Resident B	Basement

## RESULTS AND DISCUSSIONS

### Results

#### ***Attitude and Recycling Intention***

Attitude refers to a household's favourable or unfavourable evaluation of recycling. The household is asked whether they have positive or negative feelings about recycling. The findings are exemplified below.

*"I have positive attitudes towards recycling as this activity may bring so many positive consequences to me and to the environment. I do not see any negative consequence of performing recycling. If we recycle the household wastes, we can protect the environment. If all people collaborate and*

*participate in recycling, we do not need to cut off all the trees. If not (if not recycling), the producers or industries need to cut off so many trees in order to produce papers. This can bring negative impact, especially for the future generation. On top of that, recycling also can be a source of income to us. We can sell the recyclable wastes to the itinerant buyers who came to our house. Besides that, we can also sell the recyclable wastes to the recycling collection centres. That's why we have a positive attitude towards recycling as this activity is able to protect the environment and at the same time, it will generate income."*

Head of Household.

*"Sometimes there is a guy that comes to every floor and collect the recycle materials. I also saw others do the same thing at this flat. They sold recycle materials such as old newspapers to the collector. I could not comprehend why people easily throw the rubbish if we know that we can make money from it".*

Head of household.

Based on the explanation given by the head of household, it is believed that the recycling activity not only can protect the environment, but it can also generate household income. This statement is further supported by the Chairman of Residents' Association at Flat PPR Sri Pantai. She contends that;

*"I believe the residents here recycle their household wastes and sell them to the recycle center near this flat. Besides that, the collector of the recycle materials will come to this flat by bringing their lorries. Normally, they will come thrice a week and the recycler can sell all their recycle materials to the collector. This situation is more or less can help the residents here to earn some money. There are lots of residents here that have low income or no income at all. The majority of residents on the first floor until third floor has very low and some no income at all. They are among the vulnerable group of people such as the elderly, retired people, Orang Kurang Upaya (OKU) and so on. So, this kind of activity is believed to help them earn some money."*

Chairman of Residents' Association.

The Member of Parliament at Lembah Pantai views that;

*“We need to establish a proper system. I agree with the suggestion to provide recycling bins in this area. Other than that, it needs to be supplemented with incentive. The incentive needs to be provided since the majority of the residents here are low income group. If we provide incentive for them, they will be motivated to perform recycling. I am wondering about the way to give incentives to the residents as an exchange for their recycling efforts”.*

Member of Parliament at Lembah Pantai

### **Subjective Norms and Recycling Intention**

*“I believe that the family, especially the parents are among the powerful people who encourage an individual to recycle. This is because, recycling is a culture and the culture needs to be inculcated since young. As long as their parents recycle, then, he or she can influence their children to recycle. If their parents do not recycle, the children also will do the same thing. Sometimes, the individuals will be influenced by their neighbours to recycle. Because they saw their neighbours can earn income by selling the recyclable materials to the itinerant recyclable collectors.”*

Member of Parliament at Lembah Pantai.

*“Family members play a crucial role in moulding their children to have recycling intentions. This is due to the fact that recycling is a culture. We need to inculcate the practice of recycling since the persons are young”.*

Member of Parliament at Lembah Pantai.

An interviewee explains that;

*“I believed that parents, family members and neighbours are the important persons that influence an individual to have recycling intentions. At home, parents, especially mother play a crucial role in educating their children to recycle household wastes. I think, the mother is the powerful person in the house. Children are more incline to conform to their mothers’ instruction rather*



*than their father. Hence, I believe the mother is the person who encourages the children to engage in recycling”*

Head of household.

### **Perceived Behaviour Control**

*“There is not much effort needed in order to recycle the household waste material. We just need to separate the recyclable wastes according to its type of waste. We also can see the advertisement about recycling on the television. For example, we separate papers, tins, plastics etc. After we separated the reusable wastes, we sell them to the reusable collector center. It is about half a kilometre from this area. But at other places, there are several recycle bins provided to the residents. But, since the recycle bins are not available, we have the option whether to sell them to recycle collector centers or to the itinerant recycle collectors”.*

*“We know that, here, there is no recycling bin provided to us. That explains why some residents here do not participate in the recycling activity. For those who are looking for money, they still want to recycle. But, for those who are not money oriented, they will still keep their recyclable materials and wait for somebody to collect the materials. If the government conduct recycling programs, educate the residents that recycling is good, give incentives to us, provide recycle bins, make a big promotion for recycling programs, I think there will be more residents that will participate in recycling activity. The DBKL should come out with the recycling program if they want the residents to participate in recycling activity. If the number of residents who recycle is high, we will not hear the problem of wastes at this flat”.*

The Head of household.

### **Perceived Policy Effectiveness**

*“There are no recycling bins located in this housing area. However, we do have the big green bins which are located at the trash house over there. But the wastes are mixed and dumped in one place where the bottles, tins, papers and so on are located in one place. But as far as I am concerned, there are no recycling*

*bins here. But, it might be good if the DBKL provides us with recycle bins.”*

Head of household.

*“There is a program whereby the representatives of the Lifeboy company came to this place and placed the waste bins at every floor. But they were not recycling bins. They were just ordinary bins. For several days, it was found that the bins were stolen by irresponsible residents. However, the idea to place the recycle bin is a good idea since there is no recycle bin in this housing area.”*

The Chairman of Residents’ Community.

*“Yes, I must admit that there are no recycling bins provided in this housing area. But we can try to put the bins in this housing area”*

The DBKL Officer.

*“Yes, there is no recycling bin located there. This is because the Alam Flora has set the criteria to locate the recycle bins to certain area. There must be a specific volume of wastes that need to reach before the Alam Flora can provide recycle bins. By the way, it is a good idea to put recycle bins in this house. I will try to ask Alam Flora about the recycle bins. But I think, we need to supplement it with incentives.”*

Member of Parliament at Lembah Pantai.

As explained by the interviewee quoted below;

*“Normally, we (our family) will be collecting all the items that can be recycled, especially plastic bottles, glass and aluminium cans. There is no recycling bin provided for plastic, glass, paper and others in the flat’s basement area. If there is a recycling bin in the basement, it is easier for us to place the recycled materials. As I mentioned before, we do not have recycle bins. What we have is the normal green trash bins where all the household wastes are mixed together. Since there are no recycling bins in the basement of this house, we decided to collect and keep the recyclable materials. When we felt that the collected recycled wastes were many, we will send them to the nearest recycling*

*center. The closest's recycling center is located about 500 meters away. We sell them to the center and as a return, we get money. Apart from that, we also give the recyclable materials to an aunty cleaner. Every morning, the aunty will clean the corridor areas and she will collect the recyclable materials from house to house and sell them to any recycling center. If the DBKL provide us with recycle bins, it is easier for us. But if not, we will send the materials to recycle centers”.*

The Head of Household.

Based on the explanation above, it is believed that the residents in Flat PPR Sri Pantai, Pantai Dalam still have intentions to recycle their household wastes, despite the fact that there is no recycle bins provided to them. This is because; they still have the option to send their recyclable materials to other places such as the recyclable center or collectors. This situation can be explained by another interviewee, who contends that;

*“As far as I am concerned, there are no facilities for community members to recycle. I mean, there is no recycling bin in this area. But we have a normal waste bin where all household wastes are dumped into the bin. As president of the residential association, I do not request anything from the authorities. This is because, before this, the representatives of the Lifeboy company had visited this place and they held a hygiene program because they were aware of the unhygienic environment in this area. In the program, the Lifeboy program had provided bins for the residents and the bins were located on every floor. However, the bins were stolen by other people. So, I prefer not to demand anything from Dewan Bandaraya Kuala Lumpur (DBKL) including recycle bins as I am afraid the problem will happen again. Although there is no recycle bin, I noticed that there are some residents who do recycle their household wastes. A collector of recyclable wastes will bring his lorry and collect recyclable wastes thrice a week. It is believed that most residents have intentions to recycle because they always want to earn some money. This is explained by the fact that there are so many unemployed, retired, and single mothers who have no fixed income. Hence, it is believed that the*

*residents prefer to sell the recycle items rather than place them into the recycle bin”.*

The Chairman of Residents’ Community.

*“I don’t even know the government has introduced a law in ensuring the citizens separate their household wastes at source. For me, there is no need to formulate a law to force people to obey it. It depends on the attitude and the moral obligation of the people. But if the government introduced a new law (recycling legislation), the enforcement of it must come together. It is because as far as I am concerned, none of the government officers are issuing fines to those who disobey the law. Besides that, I think, the government should invite people and educate us on ways to separate the household wastes. I believed, in other places, yes, the government did, but not at this place yet”*

Resident A.

*“Yes, I am aware about the law introduced by the government that is related to recycling. I watched it on the television through commercial breaks (advertisement). It is a good effort as it can make more people separate their household wastes. I realized that, through law, people will be afraid to disobey it as punishment will be given to those who breach or disobey it. However, I did it (recycling) because it has become one of the sources of income. Working as a guard in one of the banks in Kuala Lumpur, what do you expect (income)? Through separation of household wastes like bottle, tin and papers, I am able to earn between RM 50 to RM 80 in a month. Alhamdulillah, it helps me to support the petrol costs”.*

Resident B

## **Discussion**

### **Attitude and Recycling Intention**

Households at Flat PPR Sri Pantai believe that recycling is a good thing to do, useful, sensible, it is a responsibility, have positive feelings towards recycling, pleasant, save energy, protect the environment, a good idea and preserve natural resources. Among these reasons, the main reason

the households have a positive attitude towards recycling is they believe that recycling can protect the environment. This finding is in line with the study carried out by Wahid Murad and Siwar (2007). In the Wahid Murad and Siwar (2007) study, it was found that the majority of the residents at low-cost housing at Datuk Keramat have high recycling intention because they believe that recycling can protect the environment. It is further highlighted by Martchek (2000), who contends that recycling is indeed important to environmental protection (Martchek, 2000; Ewing, 2001; and Halvorsen, 2010). Apart from protecting the environment, the qualitative finding of this study found that the households have a positive attitude towards recycling because they can earn a supplementary income to finance their daily lives (Halvorsen, 2010). This finding is parallel with the findings of the study by Wahid Murad and Siwar (2008). In their study, it was found that the majority of the low-cost housing residents at Jinjang Utara, Sentul, and Datuk Keramat have a positive attitude towards recycling because they believe that they can receive payment for materials that they have recycled. It is concluded that households have a positive attitude towards recycling because they realized that recycling can protect the environment and generate household income.

### ***Subjective Norms and Recycling Intention***

According to White et al. (2009), subjective norms will be more important for those individuals with a strong sense of collective self. In other words, the cohesive household members will have high subjective norms as they will encourage other household members to recycle. Besides that, subjective norms also are found to be crucial in several studies. For example, recycling intentions are encouraged by household members or friends or neighbours (Ewing, 2001 and Taylor & Todd, 1995), block-leader (Hopper & Nielsen, 1991), and peer support (Schultz et al., 1995).

Meanwhile, Ewing (2001) in his study found that the important persons such as friends and neighbours influence households to only recycle newspapers and cardboard. In addition, Ewing (2001) in his study reveals that, except the single parents who are living alone, about half of the respondents agreed that their recycling activity was influenced by the opinions of household members. Meanwhile, McCullough and Cunningham (2010) have carried out a study among youths during a weekend-long youth baseball tournament. The findings revealed that social pressures in

a social setting outside the home (i.e. Attending a sport event) can lead to stronger recycling intentions.

### ***Perceived Behavioural Control and Recycling Intention***

The findings of the study does not align with the findings of the studies carried out by Siti Nurdiyana (2010), White et al. (2009), Knussen et al. (2004), Wan et al. (2014), Lam et al. (1999) and Kraft et al. (2005). Siti Nurdiyana (2010) had carried out a study among form four students and she found out that the variable perceived behavioural control was the salient factor of behavioural intentions to recycling. White et al. (2009) found that PBC was correlated significantly with households' recycling intentions. In addition, Knussen et al. (2004) revealed that perceived behavioural control indeed influences residents' recycling behaviour.

It is believed that the findings of this study found that the perceive behavioural control does not significantly influence PPR Sri Pantai household recycling intentions because the majority of them have a low monthly income or no income at all. The availability of the recycle bins does not significantly influence them to have recycling intentions. This is because they have the options to send the recyclable materials to the recycling center, where they can earn money.

### ***Perceived Policy Effectiveness and Recycling Intentions***

When a policy is effective, it will not necessarily encourage the citizens to participate in specific behaviour like recycling. According to Steg et al. (2006), in spite of numerous policy efforts, the energy consumption among household is still increasing. In the Netherlands, the usage of fuel and electricity has increased steadily from 1990 due to an increase in possession and use of electric appliances. In other words, although the government has introduced a policy in order to improve the use of energy in the Netherlands, the rate of energy used in that country has still not improved. From this example, it is believed that the public policy does not necessarily influence the citizen in the Netherlands to save energy. The situation above might be caused by several reasons such as lack of citizen participation in the policy. Abdelnaser (2008) had carried out a recycling study in the main towns of the East Coast and North in Malaysia and he contends that the government has promoted recycling programs through various campaigns. However, little has been achieved due to the lack of participation and lukewarm attitudes of the households.

In addition, it is realized that the Malaysian government has introduced a law to make it compulsory for all households to separate their household's wastes at source. But, based on the interview sessions with residents of PPR, it is found that there is a lack of enforcement to monitor the implementation of the law at this housing area. According to Muhamad Azahar Abas and Ta Wee (2014), the issue of ineffective policy monitoring and law enforcement is not a current problem in most developing countries, including Malaysia. For instance, the Act 672 has been enacted since 2007, however it has only been officially implemented in 2011. Besides that, based on the interview sessions conducted with two residents, it is found that not everyone is aware about the existence of the recycling legislation. Even though some residents are aware about the law, but the purpose of recycling is because of economic motives, which is generating income as most of the people who are living at PPR Sri Pantai are among the low income group.

## **CONCLUSION**

In sum, it can be concluded that the majority of PPR Sri Pantai residents are involved in recycling activities as they believed that the activity brings positive consequence towards the environment. In addition, it is interesting to note that they recycle the household wastes because it becomes one of the sources of income as they can sell the recyclable wastes to the recycling centre. Besides that, the majority of them participate in recycling because their friends, neighbours and family members influenced them to do so. Besides that, it is salient to mention that not all households are aware on the existence of the recycling legislation in Malaysia. Even though some of them are not aware of it, but they still recycle the household waste due to the fact that they participate in recycling in order to earn income to finance their daily lives. This study suggests that more educational campaigns on recycling need to be held in order to elevate the households' awareness on recycling. More research is needed especially on matters pertaining to recycling and the newly established recycling legislation in Malaysia.

This study offers several benefits to several parties, especially to the local authority. It would enable Dewan Bandaraya Kuala Lumpur to formulate a sound recycling policy, especially for households at PPR Sri Pantai. Previous researchers proposed that policy makers need to have an

intensive understanding of people's attitudes and perceived difficulty to recycle to ensure the success of recycling programs (Knussen et al., 2004; and Tonglet et al., 2004). Meanwhile, according to Nixon and Saphores (2010) and Robinson and Read (2005), it is vital to examine people's motivation to engage in recycling activity in order to ensure that the recycling policies and programs are implemented successfully. Examining and understanding the factors that influence household recycling intentions as well as understanding public perception of policy effectiveness can help the government to formulate comprehensive recycling policy and programs (Wan et al., 2014 and Amir et al., 2013). Therefore, it is hoped that this study will benefit several parties such as researchers, students and government.

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