

F.3 Liberal Studies Project

Final Report

Assessing the effectiveness of the Plastic Bag Levy Scheme in Hong Kong

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Advertisement of the scheme on TV.

Introduction

The Plastic Bag Levy Scheme that has been carried out since last year is now familiar to every one of us. This policy had been discussed in the past way back in 2002 or even a few years before over and over again but it didn't come up to any conclusion or measurements until 2009 July.

As we all know, the Plastic Bag Levy Scheme is about paying \$0.5 for taking a plastic bag in shops or supermarkets. However, the public question about the effectiveness of this scheme due to lack of promotion from the government and the unawareness of Hong Kong citizens.

Besides, this levy is only carried out in some stores when some do not. The uneven popularity of the Plastic Bag Levy Scheme may also leads to inefficiency.

Therefore, our group decided to investigate in about the effectiveness of this policy. The topic of our project is *Assessing the effectiveness of the Plastic Bag Levy Scheme in Hong Kong*.

In order to get an ideal and factual result, we decided to investigate by surfing the internet, doing field observations and questionnaires.

Will people still take plastic bags under the scheme?

Do they bring their own bags more often than before?

What are their opinions on the plastic bag levy?

These are all the interesting issues we would like to find out and analysis.



We are very lucky that most interviewees are nice and informative.

Data Collection Method

Enquiry Questions

In order to find out the effectiveness of the Plastic Bag Levy Scheme in Hong Kong, we set up three enquiry questions to guide us through the project.

Firstly, why does the government carry out this levy?

Secondly, how effective is this levy?

Thirdly, how can this scheme be improved?

Therefore, we surfed the internet, which we found useful information in both search engines and governmental websites, conducted two field observations and one questionnaire survey.

Field Observations

For the field observations, we want to compare the number of plastic bags people take with and without the Plastic Bag Levy Scheme. We decided to carry out field observations in Wellcome which is under the scheme, and The Commercial Press which does not carry out this scheme in Causeway Bay.

Questionnaire Survey

For the questionnaire survey, questions were set mainly about the habit of the public using plastic bags and the public's views on the scheme. (For details please refer to Appendix A)

We did a total of 90 surveys. 45 surveys were done by asking people found in 3 MTR stations, including Tai Koo, Causeway Bay and Mong Kok; and the other 45 were done by asking F.3 students of True Light Middle School of Hong Kong.

By random sampling, 15 passers-by in each MTR station (3 stations in total) were selected for the surveys. By systematic sampling, one out of every 4 student in each F.3 class was asked to complete a survey (4 classes in total).

Data Analysis

Stage One – Surfing the internet

1) Wikipedia¹

- Plastic bags are durable and degrade very slowly.
- They are also highly resistant to natural processes of degradation.
- In order to help to decompose plastic bags, people often burn them. However, burning plastic releases toxic fumes which is harmful to nearby regions and pollutes the air.
- The manufacturing of plastic bags also creates large quantities of chemical pollutants.

2) Wenweipo²

- It takes hundreds of years to decompose one plastic bag.
- If plastic bags are poured into rivers or water channels, they may block the water and create stored water or even flooding.
- As plastic bags are not natural products, if they are poured into the sea, thousands of marine life will be threatened.
- If plastic bags are burnt, they release toxic gases and threaten human body.

➡ The danger of using too many plastic bags are proved.



The logo of the scheme.

¹ <http://en.wikipedia.org/wiki/Plastic>

² <http://paper.wenweipo.com/2007/05/17/ED0705170008.htm>

Please also refer to Appendix B

Stage One – Surfing the internet

2) The website of the Environmental Protecting Department³

- The government points out *'the landfill survey indicates that some eight billion plastic shopping bags are disposed of at landfills every year'*. It can be calculated that 3 plastic bags are used per person per day in Hong Kong. The usage of plastic bags in Hong Kong *'apparently goes beyond our needs'*.
- The objective of carrying out the Plastic Bag Levy Scheme is *'to provide a direct economic incentive to discourage the indiscriminate use of plastic shopping bags'* and *'help change the public's habit and lead to a sustained reduction in the use of plastic shopping bags in Hong Kong'*. The public are encouraged to bring their own shopping bags to avoid the levy. In our understanding, it means to reduce the number of plastic bags used and to change the habit of taking plastic bags of the public. **This is the answer of our first enquiry question and it is also the index for us to access the effectiveness of the scheme.**
- It also claims that in the first phase, the levy scheme would only cover *'chain or large supermarkets, convenience stores and personal healthy and beauty product stores'*, which means some other stores, such as boutiques and restaurants, are not under this scheme in the first stage.
- For the level of levy, the government decided to collect \$0.5 per plastic bag because *'it is based on public opinion survey as well as previous voluntary campaigns'*. It is believed that *'a levy of 50 cents would create sufficient incentive to reduce the use of plastic shopping bags on the one hand, but not exceeding a level generally accepted by the public on the other'*.
- There are some exceptions besides the levy, such as *'plastic bags that do not have a handle'*. In our understanding, this refers to fruit bags in supermarkets⁴.

³ Environmental Protection Department + Website featuring the Levy Scheme
<http://www.epd.gov.hk/epd/eindex.html> + <http://www.epd.gov.hk/epd/psb/en/index.html>

⁴ Please refer to Appendix A

Stage Two – Field Observations

Knowing that the Plastic Bag Levy Scheme is not carried out in all stores in Hong Kong, we further discussed and decided that we would do three field observations. Two would be done in supermarkets, namely Wellcome and City'Super, which are under the scheme. The third one would be done in a book store, namely The Commercial Press, which is not under the scheme.

A Little Obstacle

However, after recording data in the City'Super near the cashier for only 10 minutes, we are told that any researches without permission in written form in their supermarkets are restricted. The manager politely requested us to register before doing the research because it may annoy their customers.

Change of Plan

Due to limited time and resources, we are not able to ask for permission. Therefore, we decided to cancel City'Super from our field observations. The data analyses are as follow.



The Wellcome that we went to.

Stage Two – Field Observations

Date: 4th April 2010

Venue: Wellcome and The Commercial Press in Causeway Bay

Job: Standing near the cashier of the two places for one hour and record data

Figure 1

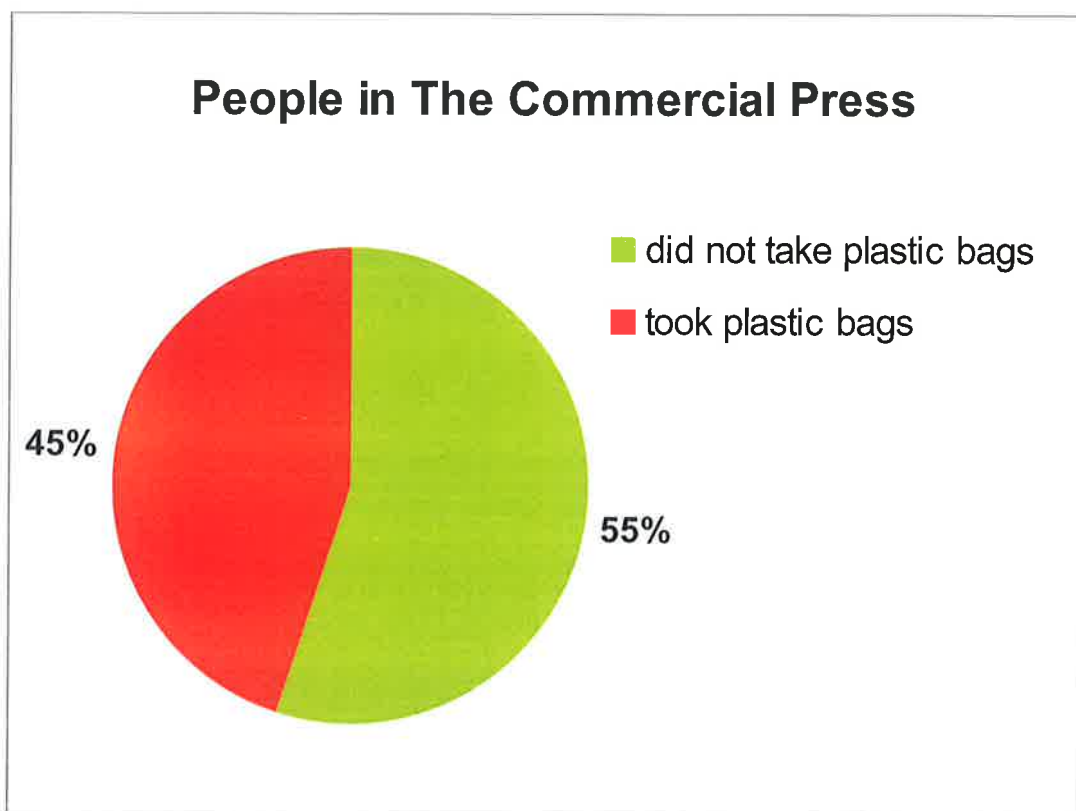


Did not take plastic bags	79
Took plastic bags	11
Delivery	6
Took fruit bags instead	5

The findings show that more than three quarters of people in Wellcome did not take plastic bags. It was far more than that the people who took the plastic bags, which is only about 10% among all. 5% of people did not take ordinary plastic bags, but took fruit bags themselves as container for the goods they bought.

Stage Two – Field Observations

Figure 2



Did not take plastic bags	22
Took plastic bags	18

The pie chart show that in The Commercial Press, the numbers of people who did or did not take plastic bags are near. The number of people who did not take plastic bags is only 10% more than those who took plastic bags.



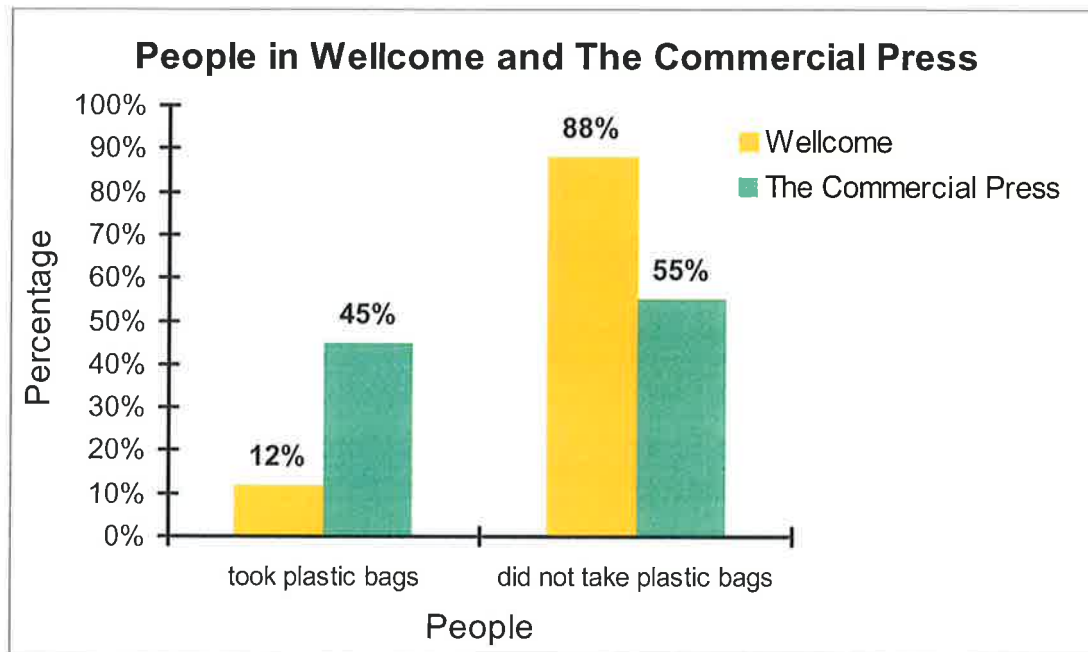
The Commercial Press that we went to.



The Wellcome that we went to.

Stage Two – Field Observations

Figure 3



The bar graph shows that the number of plastic bags people took by people in Wellcome and The Commercial Press were quite different. In Wellcome, most of the people did not take plastic bags and only a few people took plastic bags. In The Commercial Press, the number of people took and did not take plastic bags are quite similar.



Angeline at The Commercial Press



Elizabeth at Wellcome

Stage Three – Questionnaire Survey

Date: 4th April 2010

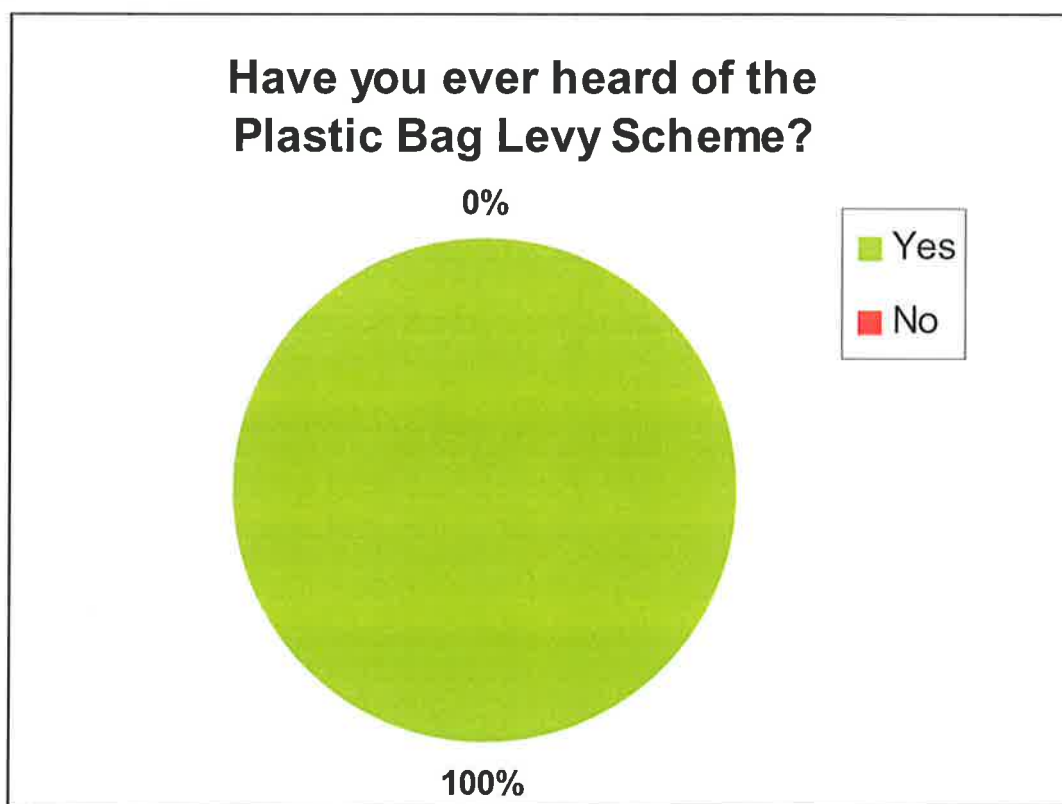
Venue 1: 3 MTR Stations, including Tai Koo, Causeway Bay and Mong Kok

Method: Random sampling

Venue 2: TLMSHK

Method: Systematic sampling

Figure 4



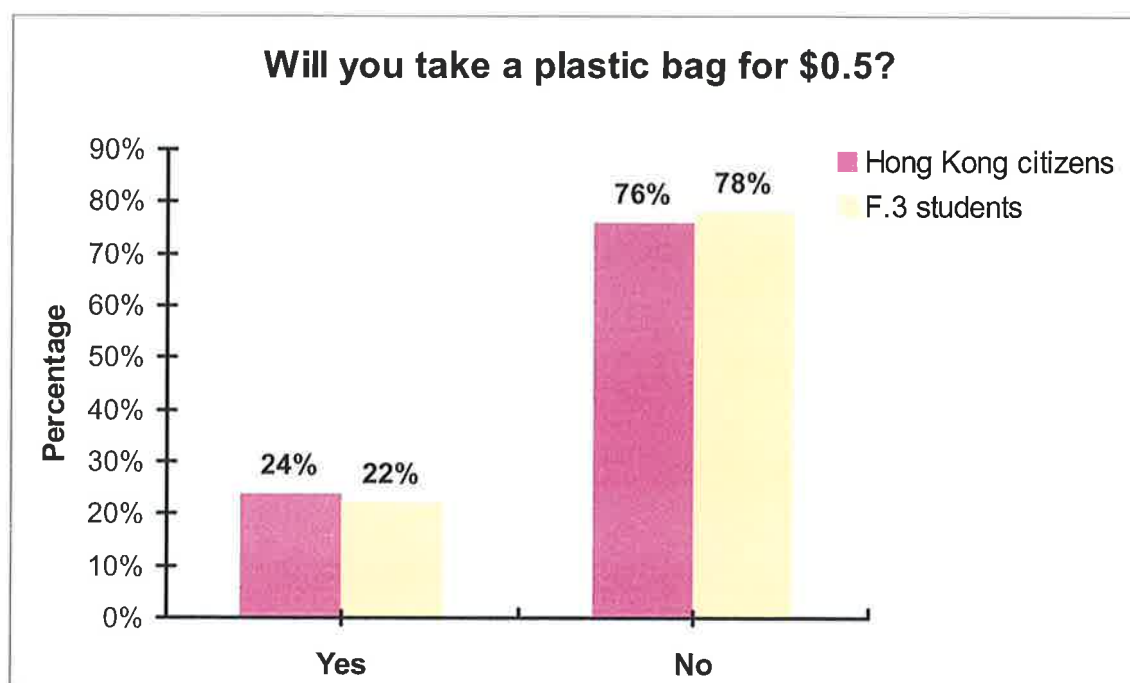
Question 1: Have you ever heard of the Plastic Bag Levy Scheme?

	Yes	No
Hong Kong citizens	45	0
F.3 students	45	0
Total	90	0

The survey results show that all of the interviewees have heard about the Plastic Bag Levy Scheme.

Stage Three – Questionnaire Survey

Figure 5



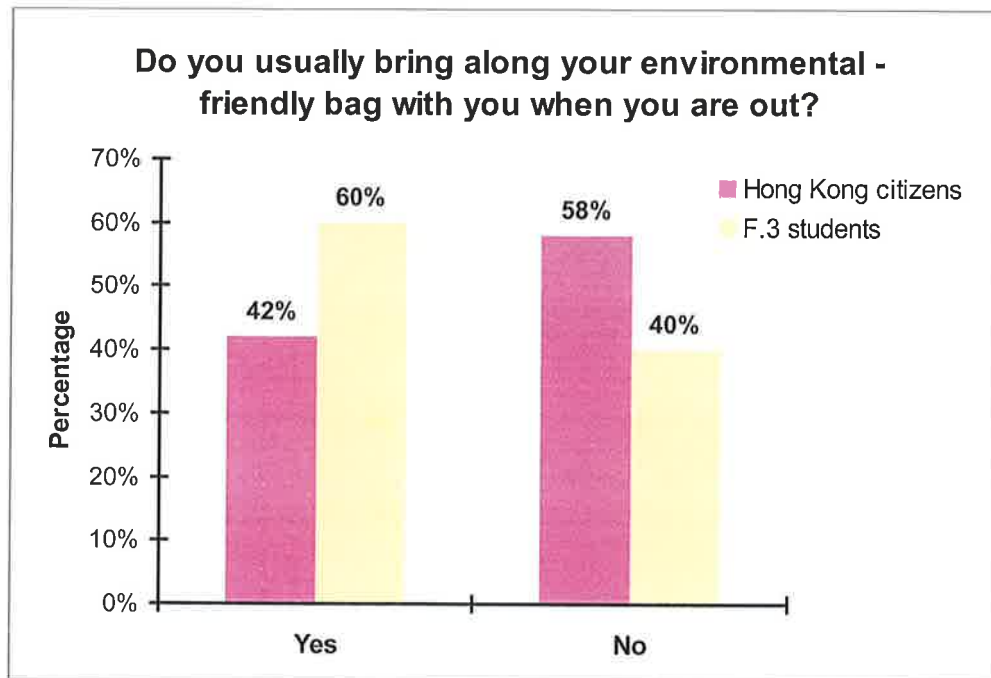
Question 2: Will you take a plastic bag for \$0.5?

	Yes	No
Hong Kong citizens	35	10
F.3 students	34	11
Total	69	21

The survey results show that the habit of taking a plastic bag for \$0.5 under the scheme of both Hong Kong citizens and our schoolmates is very similar. People that will not take a plastic bag of \$0.5 outnumber the others who will. About 75% of Hong Kong citizens and about 80% of our schoolmates will not take a plastic bag for \$0.5.

Stage Three – Questionnaire Survey

Figure 6



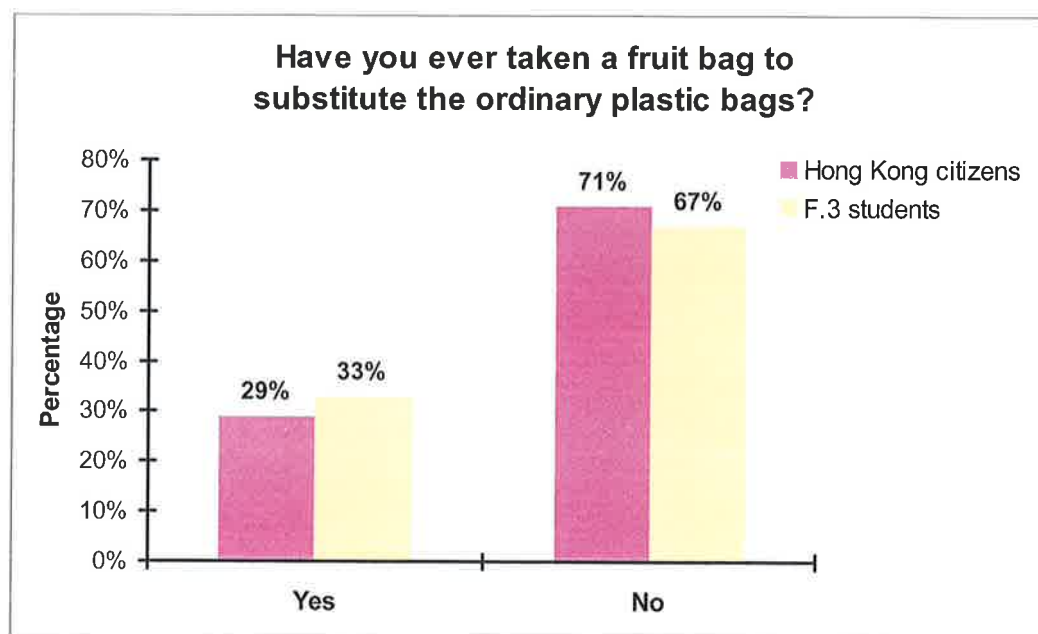
Question 3: Do you usually bring along your environmental – friendly bag with you when you are out?

	Yes	No
Hong Kong citizens	19	27
F.3 students	26	18

The survey results show that the habit of bringing their environmental friendly bag of both Hong Kong citizens and our schoolmates has a difference. About 60% of the students of our school usually bring their own environmental friendly bag when they are out while only 40% of the selected citizens do so.

Stage Three – Questionnaire Survey

Figure 7



Question 4: Have you ever taken a fruit bag to substitute the ordinary plastic bags?

	Yes	No
Hong Kong citizens	13	32
F.3 students	15	30
Total	28	62

The survey results show that the habit of taking a fruit bag to substitute the ordinary plastic bags of Hong Kong citizens and our schoolmates are similar. About one – third of F.3 students have taken fruit bags to substitute ordinary plastic bags while about the same amount of Hong Kong citizens do that.

Discussion

Definition of 'effectiveness'

From the data analysis in P.6, we decided to define 'effectiveness' as successfully reduced the number of plastic bags used and also helped to build an environmental – friendly habit of the public.

After analyzing the findings, we have the following conclusions:

Number of Plastic Bags Used Is Lowered

First, the Plastic Bag Levy Scheme can reduce the plastic bag used in Hong Kong. According to *figure 3*, people in Wellcome, which is under the scheme, took less amount of plastic bags than those in The Commercial Press. The people in Wellcome who did not take plastic bags are 30% more than the people in The Commercial Press. Also, referring to *figure 5*, about 80% of people refuse to take a plastic bag for \$0.5, which, as we can estimate, the usage of plastic bags will be greatly reduced under this scheme. This reaches our definition of effectiveness.

Bringing Environmental – Friendly Bag

Second, the Plastic Bag Levy Scheme helps to remind people to take their own bags with them when they go out. Before the scheme was carried out, bringing an environmental - friendly bag with us is clearly not a necessity. People sometimes make their choice of taking plastic bags or not when they already buy their goods. However, under the scheme, we need to pay \$0.5 for taking every one plastic bag. With the consideration of the value of a plastic bag, people are encouraged to think twice of taking an environmental - friendly bag with them or not. With reference to *figures 6*, about half of the total of people expresses that they have a habit of keeping an environment - friendly bag with them. We think the Plastic Bag Levy Scheme shows part of its effort in this effect.

Rising Awareness of Environmental Issues

Third, the Plastic Bag Levy Scheme can raise the awareness of people towards environmental issues in Hong Kong. With reference to *figure 2*, the people that did not take plastic bags in The Commercial Press outnumber those who took plastic bags. Although there isn't a clear and sharp difference between the two kinds of people, it is shown that some people still do not take plastic bag even they do not need to pay for them. We think that this shows that the scheme is working in helping Hong Kong citizens

to create a habit of not taking plastic bags, thus successfully raising the awareness of them about the environmental problem in Hong Kong.

Usage of Fruit Bags

Last but not the least, we also found some interesting results. According to *figure 1*, other than ordinary choices such as taking plastic bags, some people chose to take fruit bags instead of ordinary plastic bags. We believe that is mainly because of the levy of plastic bag. With reference to our data analysis in *Surfing the internet*, fruit bags, since they do not have any handles, they are not treated as ordinary plastic bags and are not under the scheme. Therefore customers do not need to pay \$0.5 for a fruit bag.

With reference to *figure 7*, we surprisingly found out that about one - third of our interviewees have at least once taken those fruit bags to substitute ordinary plastic bags. It shows that *saving resources* is not the only reason of people taking less plastic bags. Price, or formally as levy, is also an important factor. It seems that the government needs to promote the message of *saving the environment* harder.



Angeline with one of our interviewees
at Mong Kok MTR station.

Recommendation

Through this project, we have some interesting findings about the Plastic Bag Levy Scheme. Here are some recommendations for the scheme.

The Scheme Should Spread Widely

First, the Plastic Bag Levy Scheme should be carried out in more shops in Hong Kong. From the discussion, the Plastic Bag Levy Scheme is proved to be effective. The government should launch this scheme to different variety of shops such as book shops and boutiques in the second and third stage. This can help to reduce the number of plastic rubbish in Hong Kong.

Advertisements should be done

Second, the Hong Kong government can advertise more about the Plastic Bag Levy Scheme and about the negative impact brought by excess plastic rubbish. The government can advertise through different medias, such as giving out posters, promoting in television or radio, organizing seminars, etc.

The Real Meaning of the Scheme

Third, the Hong Kong government should focus more on keeping the awareness of Hong Kong citizens on environmental issues rather than earning profit from the levy. From the result in *figure 3*, the number of people who did not take plastic bags was due to the presence of the Plastic Bag Levy Scheme instead of sense of environmental friendly. People did not take plastic bags probably because they do not want to pay an extra \$0.5.

A New Problem – Fruit Bags

Fourth, besides creating loads of plastic rubbish, which cannot be dissolved easily, there is another problem created by plastic bag levy - the using of fruit bags as substitute. As it is shown in the field observation results, 5% of people took fruit bags to replace plastic bags. However, fruit bag is also made of plastic. People seldom reuse fruit bags as they are easily damaged after use. As a result, the amount of fruit bags used may increase. To solve this problem, we recommend two measures that can be carried out in stores:

1) *Only give out fruit bags at the cashier*

Fruit bags should not be placed near the fruit-picking area and let the costumers take freely. Instead, fruits bags will be provided by the cashier when you buy fruits or meat. This can ensure that every single fruit bag is used properly and greatly reduce

the chance for people taking fruit bag to substitute the original plastic bag.

2) ***Provide paper bags at the same time***

Since paper bags can be recycled and degrade easily, it can be a good substitute of plastic bags. We suggest that stores can also provide paper bags and plastic bags at the same time while paper bags cost less money than the plastic ones. Of course, we do not encourage any further usage of non-environmental friendly bags; however, the habit of Hong Kong people using bags provided by stores is not easy to be changed in short term. Therefore, when there is still usage of plastic bags, why not use paper bags instead to reduce plastic rubbish?

Conclusion

The Hong Kong government should emphasize the purpose of this scheme is not getting money from them but to raise the awareness of them on environmental issues. It should also explain the reason behind this scheme is to: reduce the amount of plastic rubbish in HK as it takes hundreds of years for the plastic bags to fully decompose. Plastic bag levy is just a way to help Hong Kong citizens to get a habit of saving resources and understand they are responsible for the environment in Hong Kong. In long term, the purpose of this scheme is to make every one in Hong Kong to take action to protect the environment and to make Hong Kong a better place to live.

Reflection

After doing this LS project about Plastic Bag Levy, we found out some mistakes that we should not have made.

Firstly, due to lack of time, we did not interview enough people in the questionnaire survey we did in 3 MTR stations and at our school. If we interviewed more people, our findings would be more persuasive and we may find out more interesting facts.

Secondly, about the field observations, we should have gone to more shops. The type of shops should be the same and have more common characteristics. Result will be more precise when fair test is done.

Thirdly, time management is something we lack in this project, too. If we have managed our time to go for visits and observations, we would be more prepared and can show a clearer finding.

However, after all, we all think we did a pretty good job because our division of labor is clear and every member in our group is willing to help and fit into this project. We also formed great team spirit because we always cooperate with each other. We listened to each others' opinion during discussion thus less we had very few conflicts.



Christie with one of our interviewees.

Appendix A – Fruit Bags

In this project, we defined ‘fruit bags’ as small rolls of plastic bags that can be found in supermarkets near the fruit - picking areas. They are often free of charge and are not counted as ordinary plastic bags under the scheme.



This is a roll of fruit bags.



People often use them to store fruits.

Appendix B – Article from Wenweipo (excerpt)

膠袋爲我們帶來一時方便，卻會令環境污染。根據環境保護署資料顯示，香港人每日「生產」超過 1.7 萬公噸固體垃圾，當中有 3,300 萬個是膠袋，平均每個港人每天棄置 5 個膠袋廢物，驚人的棄置量正不斷蠶食本港堆填區，加上膠袋屬不能分解的物質，對生活環境確實會造成嚴重破壞。爲了紓緩問題，本港環保組織曾發起「無膠袋日」，卻仍未能徹底控制膠袋廢物的數量，因此政府將在本年度提出立法徵收五毫膠袋稅的建議，減少市民使用膠袋，引起社會對環保的關注，也正好讓我們思考如何有效減少使用破壞環境的膠袋。

有環保人士曾指出膠袋可怕之處在於其「打不死」的特性，無論人們用盡甚麼殲滅方法，包括揉碎、埋葬、燃燒，也不能令其消失，並且可能於數百年後仍不能分解。膠袋對環境的禍害甚多，若讓毫不透氣、難以分解的膠袋飄落水渠中，便會容易造成阻塞，引致積水或水災，影響環境衛生；膠袋流出海上、河面，更會污染水中生態，甚至因此而殺死成千上萬的魚類、鳥類及其他海洋哺乳類等動物；以焚燒方式處理膠袋，又會弄巧反拙，令膠袋釋出致癌化學物質，損害人體健康及污染空氣。

Appendix C – Our Survey Questions

1. 你有沒有聽過膠袋稅？

Have you ever heard of the Plastic Bag Levy Scheme?

2. 即使膠袋要收費，你會不會照拿？

Will you take a plastic bag for \$0.5 (in case the Plastic Bag Levy Scheme is carried out) ?

3. 你平日會帶環保袋出街嗎？

Do you usually bring along your environmental - friendly bag with you when you are out?

4. 你有沒有試過用超市的生果袋代替膠袋？

Have you ever taken a fruit bag to substitute the ordinary plastic bags?