THE MEDIA AND ENVIRONMENTAL ISSUES IN HONG KONG 1983–95

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ABSTRACT

This study tests the agenda-setting hypothesis for the environmental issue in Hong Kong from 1983 to 1995. It was found that the agenda-setting hypothesis was supported for the initial period of five and a half years. In the subsequent period of seven and a half years, despite the increased media coverage of the issues, there was a significant drop in the perceived salience of the environmental problem. This may be due to the dilution of public attention as a result of diversity in the news agenda and reporting of local environmental problems as ‘soft’ news. It was also found that the environmental issue failed to compete with other prominent issues directly affecting the public. The mass media played a much less important role in keeping the environmental issue on the public agenda at the later stage.

Hong Kong, being one of the most densely populated places in the world, suffers from a number of environmental problems. Many of the pressures on the environment are by no means unique to Hong Kong. However, what is different in Hong Kong’s case is the intensity of such pressure as a result of limited space for urban development, rapid population growth, and large scale industrialization. The environment, however, has continued to have a low profile on the public agenda. This is mostly due to limited opportunities for consultation and debate on matters of public concern in the former colonial government system, the lack of support for and resources of local environmental groups trying to press for government action, and the public’s preoccupation with day-to-day existence (Lills 1988).

However, public awareness of the environmental problem increased significantly in the 1980s. In two surveys on indicators of social development in Hong Kong, conducted in 1986 and 1988, the proportions of respondents who cited ‘environmental protection’ as the most serious social problem increased rapidly from zero percent in 1986 to 10 percent in 1988. This increasing awareness of environmental problems was thought to be an outcome of visible environmental deterioration, the active involvement of environmental organizations, the attention of the mass media, and the accelerating commitment of the government to tackle environmental problems (Lau and Wan 1991).
Mass media play an important role in environmental protection in Hong Kong. As formal environmental education is limited to schools, the mass media have become the major source of information on the local as well as the global environment. The notion of agenda setting by the mass media would suggest that the public salience of the environmental issue will rise and fall with the salience of the issue in the mass media.

This study attempts to test the agenda-setting function of the print media in Hong Kong using a longitudinal analysis of the salience of the environmental problem in the press and on the public agenda over a period of 13 years. The results will assist an understanding of the agenda-setting function and process of mass media in Hong Kong.

RESEARCH ON AGENDA SETTING AND THE ENVIRONMENT

Over 70 years ago, Lippmann (1922) described an important distinction between the world outside and the pictures in people's mind. He argued that news media, in many ways, influenced their audiences' perception of the world around them. Results have revealed that the most important effect of the mass media is their ability to structure and organize people's perception about what is happening around them. As Cohen (1963, p. 13) remarked 'the press may not be very successful in telling us what to think, but is stunningly successful in telling us what to think about'. Rogers and Dearing (1988) define agenda setting as a process through which the mass media communicate the relative importance of various issues and effects to the public. Simply stated, the agenda-setting hypothesis maintains that the more importance the media give to an issue or event, the more importance the public will attach to it.

The first empirical study to test the theory was done by McCombs and Shaw (1972) during the 1968 U.S. presidential election. They found a nearly perfect rank-order correlation (+.97) between the issues considered most important by voters and the coverage of these issues in the print news media used by the voters.

Four years later during the 1972 U.S. presidential election, the findings of this study were replicated in a middle-sized city, Charlotte, North Carolina. The study used a three-wave panel design to measure the public agenda and a content analysis of two local newspapers and two national TV networks to measure the media agenda (Shaw and McCombs 1977). Results also indicated that the media agenda at previous points in time had a strong correlation with the current public agenda, while the earlier public agenda correlated only weakly with the current media agenda. The findings did not support the argument that the media responded to salient issues perceived by the public.
Funkhouser (1973) tackled the issue that there could be a common source influencing both the news and the public agenda. He introduced statistical indicators of ‘reality’ serving as an objective measurement of actual salience of the issue. Funkhouser (1973) compared time series data of public opinion survey findings, content analysis of news coverage and real indicators of events about Vietnam, campus unrest, and urban riots during the entire decade of 1960s. He found substantial correspondence between public opinion and news coverage. But most important, he found little correspondence between either of these and the objective indicators of reality.

Brosius and Kepplinger (1990) replicated the design of the original McCombs and Shaw study by comparing a content analysis of the major West German television news programs for one year with 53 weekly national opinion polls on the issues considered most important by West Germans. Strong agenda-setting effects were found for five issues: energy supply, East-West relations, defense, the environment, and European Community politics. For other issues, news coverage trailed public opinion, or there was no correlation between the two. Results also indicated that an influence of television coverage on problem awareness was likely to occur when coverage of an issue was intense and when relative variation was large.

Empirical support for the agenda-setting theory has been found in MacKuen’s (1981) study of national issues from 1960 to 1977, in Smith’s (1987) examination of 19 local issues over a period of eight years, and in Eaton’s (1989) study of 11 major national issues between 1983 and 1986.

The agenda-setting role of the news media has also been established in laboratory settings. In a series of controlled experiments conducted by Iyengar and Kinder (1987), participants viewed television news programs that had been edited to reflect the importance of certain issues, such as environmental pollution or national defense. Results indicated that the issues emphasized in the experimental versions of the newscasts were perceived as more important.

Many studies have applied agenda-setting theory to the study of environmental issues. Atwater et al. (1985) studied six environmental sub-issues including disposal of water, quality of waters, hazardous substances, quality of land, quality of air, and wildlife conservation. A moderate correlation was found between the frequency of articles about the sub-issues and their perceived salience among the public. However, the single-wave design failed to address the time issue and make causal determination impossible.

Salwen (1985) analyzed media coverage of seven sub-environmental issues in three Michigan newspapers for 33 weeks and compared it with the public agenda, measured by about 300 telephone interviews in three waves. The peak relationship of the media agenda with the public agenda occurred after eight to ten weeks of media coverage. Salwen (1985) remarked that by simply keeping
an issue alive through reporting on it for some time, the media may transmit
to the public not just information, but also a subtle message concerning the
legitimacy of such an issue.

The agenda-setting hypothesis was supported for the issue of environmental
pollution in Ader’s (1995) longitudinal study of media content, salience of
environmental issues and real-world environmental quality conditions from
1970 to 1990. Results indicated that there was a positive correlation between
the amount of media attention devoted to pollution and the degree of public
salience of the issue. The negative correlation between the media agenda and
the total pollution index, air pollution, and water pollution indicated that,
despite an overall reduction in pollution, there was an increase in media coverage.

Some scholars have sought to identify audience characteristics (including
the need for orientation, audience sensitivity, and attentiveness) that limit or enhance
news media influence on the salience of issues (e.g. Weaver 1977; Erbring et
al. 1980; MacKuen 1981). Some have attempted to explore issue characteristics
as contingent conditions for the agenda-setting function.

Several researchers discussed the obtrusiveness or unobtrusiveness of the issue
as an important contingent condition. Obtrusiveness can refer to the degree to
which an individual is affected by an issue or the degree to which the issue
forces itself into the lives of individuals (Yagade and Dozier 1990) or whether
people have personal experience with an issue which is independent of media
exposure (Zucker 1978; Winter and Eyal 1981). When issues are directly
experienced by the public (that is to say, obtrusive), they are relatively immune
to media agenda-setting forces. For unobtrusive issues, people are facing an
unfamiliar setting and therefore have a higher need for orientation. Consequently,
they may turn more intensely to the news media which adopt their agenda.
Prior research has indeed observed that unobtrusive issues demonstrate stronger
a agenda-setting effect than obtrusive ones (Eyal et al. 1981; Zucker 1978; Behr
and Iyengar 1985). However, there is also evidence that the opposite can happen.
Personal experience with an issue sensitizes the individual’s attention to it and
therefore enhances rather than assuages media effects (Erbring et al. 1980;
Demers et al. 1986).

RESEARCH QUESTION AND HYPOTHESIS

The agenda-setting hypothesis, which has received increasing attention in mass
communication literature, posits a relationship between the relative emphasis
given by the media to various topics and the degree of salience these topics
have for the general public. An agenda refers to ‘a list of issues and events that
are viewed at a point in time as ranked in a hierarchy of importance’ (Rogers
A research question will be asked and an hypothesis will be tested. We will ask: How does the reporting of the environment in the mass media influence the public perception of the environment as a social issue in Hong Kong? And we expect that the media agenda and the public agenda for the issue of environment will be related, with a change in the media agenda being followed by a change in the public agenda.

RESEARCH METHOD

The media agenda was determined in a content analysis of three prominent newspapers. Secondary analysis of opinion surveys provided the public salience for the environment issue. The study covers the period from 1983 to 1995, the time for which the public agenda data series is available.

The data for the public agenda were recorded by the Bimonthly Telephone Opinion Polls' conducted by the Home Affairs Branch of the Hong Kong Government. They were obtained from 61 representative opinion polls during the period from January 1983 to November 1995. The answers to an open-ended question about the problems facing Hong Kong are used to measure the public agenda. Respondents were allowed to mention more than one problem, and all the problems mentioned were coded. The data series is chosen for its long history (dating from January 1983), large sample size (varies from 835 to 1620), the use of random sampling of about 98 percent of Hong Kong households with telephones, high frequency of observation, and the relatively consistent coding system. The use of the data series is limited by the fact that all environmental problems were grouped together. The poll results were available as aggregate-level data only; therefore it was not possible to obtain breakdowns by demographic or media usage characteristics of individuals.

Media coverage of the environment was measured through a content analysis of three leading newspapers in Hong Kong. Newspaper coverage was selected for the study because there are no television indices available in Hong Kong. To form a representative sample of press coverage in Hong Kong, the number of local news stories about the environment in three major daily newspapers between January 1983 and November 1995 was counted. The newspapers studied include the *Sing Tao Jih Pao*, the *Ming Pao Daily News*, and the *South China Morning Post*.

The *Sing Tao Jih Pao* and the *Ming Pao Daily News* were selected because of their high circulation and their elite image. Their readership mainly consists of business executives, professionals, and intellectuals (Survey Research Hong

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1 The opinion polls were normally conducted once every two months but the frequency of polls was only quarterly or half-yearly during the years 1985 to 1989 due to a shortage of resources.
Kong 1993). Alternative mass appeal Chinese newspapers like the Oriental Daily News and the Sing Pao were not studied because these papers have been excluded from the news-clipping archive in some of the years during the study period. The South China Morning Post was selected as it is one of the prestigious English-language newspapers (Willnat and Zhu 1996). The three newspapers selected had a gross total readership of 986,000 in 1995 (Survey Research Hong Kong 1995). Analysis of the media agenda in 1990 showed that the correlation between number of environmental news carried by Sing Pao with that carried by the three selected newspapers were high (all over $r = .9$). The media agenda of the selected newspapers is expected to represent that of the Hong Kong population.

All news items listed under the topic 'environment' in the Hong Kong Newspaper Clippings Index and carried by the three selected newspapers were examined. Environment content was defined as dealing with humans' interaction, whether positive or negative, with the environment. One of the limitations of the Index was that its coverage was not consistent throughout. Before 1980, the Index included local environmental news only. After 1980, both local and international environmental news were included. In order to maintain consistency in news coverage, only local environmental news and international environmental news involving Hong Kong were selected to represent the news agenda. Foreign national environmental news are excluded from the current study. Therefore, reporting of international environmental news not involving Hong Kong is not considered in this study although such stories may help to increase public concern about the environment at home in Hong Kong.

The coding unit was the individual news item. Once an environmental news item was located and reviewed on microfilm, it was coded in various categories, based on its headline and contents. The categories are based on similar studies conducted by Cottle (1993). New categories were added during the coding process to consider specific issues in Hong Kong. The number of environmental news items in Ming Pao Daily, Sing Tao Jih Pao and the South China Morning Post was weighted in the ratio of 2:1:1 in order to roughly reflect their readership sizes (Survey Research Hong Kong 1983 to 1995). The weighted total of environmental news items was then aggregated on a monthly base to form the media salience of the environment issue.

The opinion polls were usually conducted in a week commencing between the 15th and the 22nd of the month. The weighted total of environmental news items was aggregated from the 16th of the previous month to the 15th of the current month. For example, the weighted total of environmental news for November 1995 referred to the weighted total of news items accumulating from

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The Index is published by the Hong Kong Catholic Social Communications Office.
October 16, 1995 to November 15, 1995. This ensures the time points of the media agenda were matched as closely as possible with the time points of polls. The way it was done automatically built in a time lag of half a month in case a correlation between the number of news stories and share of people concerned about the environment should emerge. Similarly, when the stories for October (weighted total of environmental news published between September 16 and October 15) was matched with the poll percentage for November 1995, the correlation built in a time lag of one and a half months.

Correlation analysis is conducted for investigating agenda setting. The telephone poll percentage is correlated with the media agenda for the preceding month, the current month and the following month. This allows for comparison of the public agenda with the media agendas before as well as after the polls.

FINDINGS

MEDIA AND PUBLIC SALIENCE OF ENVIRONMENTAL ISSUES

For the period between 1983 and 1995, a total of 1,134 environmental items were found in the three selected newspapers. The number of news items increased rapidly from less than 50 items a year before 1988 to 143 items in 1989 and then reached a climax of 197 items in 1992. Afterwards, the number of items gradually dropped to 94 in 1995. It is not clear why the news index did not contain any items about the environment during the year of 1984. Table 1 shows the number of environmental news items (unweighted yearly total) for the years studied, with a breakdown of various sub-issues.

Five issues (including water pollution and sewage treatment, air pollution, environmental education, solid waste disposal, and green group activities) were most frequently reported in the press. They contributed to over 50 percent of the total number of items analyzed. Different sub-issues were emphasized by the print media in different years during the period studied. For example, the sub-issue of threats of ozone layer depletion entered the news agenda in 1988, quickly climbed to a peak in 1989 and then faded out gradually after 1990. Nearly all these items were about proposed legislation to ban the use of substances that cause damage to the ozone layer. Items about environmental education and green group activities peaked in 1992 and significantly decreased subsequently. New sub-issues such as environmental impact assessment, green consumerism, and natural resources depletion entered the news agenda in the late 1980s.

Since the launch of the Polls in January 1983, the top three most frequently mentioned problems included the future of Hong Kong, housing, and the problems of the economy. The mean percentages of respondents mentioning
these problems in the 61 polls were 36 percent, 33 percent, and 23 percent respectively. The mean percentage of respondents mentioning the environment as one of the problems was 7 percent.

The environment issue was not among the top five mentioned problems in the past 12 years, except in six polls during the years 1988 and 1989. The salience of environmental issues among the public has shown large fluctuations during the period from 1983 to 1995. It gradually increased from zero percent in January 1983 to a peak of 10 percent in June 1988. It then rapidly decreased to less than 10 percent from December 1990 onwards. Figure 1 displays percentages of those poll who mentioned the environment and the three most frequently named issues—the future of Hong Kong, housing, and the economy—as one of the major problems facing Hong Kong.

Comparing the development of the salience of the environmental issue (the public agenda) and the monthly weighted total number of environmental news
items (the news agenda), it becomes clear that the public agenda followed the news agenda closely in the period from January 1983 to June 1988, when both rose to a peak. After June 1988, the news agenda kept momentum and rose to peaks in July 1991 and January 1993. However, the public agenda did not follow suit (Figure 2). We will therefore divide the period of study into two parts in the further analysis.
Table 2 Correlation between the public and media salience of the environmental issue (Public salience correlated with media salience in the preceding, the current and the following month)

<table>
<thead>
<tr>
<th></th>
<th>Media agenda: preceding month</th>
<th>Media agenda: current month</th>
<th>Media agenda: following month</th>
<th>No. of data points</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1983 to June 1988</td>
<td>0.896***</td>
<td>0.795***</td>
<td>0.572**</td>
<td>20</td>
</tr>
<tr>
<td>December 1988 to November 1995</td>
<td>0.006</td>
<td>0.137</td>
<td>0.116</td>
<td>41</td>
</tr>
<tr>
<td>January 1983 to November 1995</td>
<td>0.301*</td>
<td>0.482***</td>
<td>0.269*</td>
<td>61</td>
</tr>
</tbody>
</table>

*** significant at 0.001 level
** significant at 0.01 level
* significant at 0.05 level

Tests of Agenda Setting

To test the agenda-setting hypothesis, Pearson correlations between the public poll percentage and the media agendas for the preceding, the current, and the following month were computed. Since the telephone poll data did not ask respondents about sub-issues of the environment, only the general issue of the environment was analyzed.

The results of the correlation analysis indicate that for the first period from January 1983 to June 1988, the correlation between the public agenda and the media agenda for the preceding and the current month were both significant at the .001 level. The correlation between the public agenda and the media agenda for the following month was significant at the .01 level. A statistical test indicated that there was no significant difference among the three correlation coefficients, due to the small number of data points (Table 2).

For the second period from December 1988 to November 1995, none of the correlations between the public and the media agenda (preceding, current, and following month) was significant at the .05 level. Therefore, the results of the correlation analysis neither clearly support nor refute the agenda-setting function of the print media. Other methods of data analysis are called for.

The agenda-setting process is conceptualized as a dynamic process in which changes in media coverage lead to, or cause, subsequent changes in problem awareness of issues. Granger (1969) has argued that present beliefs depend mainly on people's beliefs in the past. Similarly, the present issue salience depends mainly on the issue salience in the past. A large amount of variance in present issue awareness can therefore be explained by issue awareness in the past. An additional share of variance can be ascribed to external variables such
as preceding media coverage. The question then is whether the media coverage contributes to present issue salience beyond the contribution of issue salience in the past. To test such questions, Granger (1969) suggested a time-series method of data analysis. This method was adopted by Brosius and Keplinger (1990) in their static and dynamic analysis of television news agenda. Results for the Hong Kong data applying multiple regression analysis are summarized in Table 3. The standard method of regression analysis was used, with all predictors being entered in the regression equation simultaneously.

The levels of public salience of the environment issue were regressed on salience in the preceding months and the media agenda for the preceding, the current, and the following months. For the first period from January 1983 to June 1988, the media agenda for the preceding month stood out as the best predictor of issue salience in the public (Table 3). The contributions of the media agenda in the current and the following month were both non-significant when their effects had been partialled out. The agenda-setting hypothesis was supported for the period when the environmental issue was gaining awareness among the public. The public responded to the media agenda in such a way that increased news coverage about the environment led to a stronger issue salience. The time lag between the public agenda and the media agenda was one and a half months. However, the results of this regression analysis are not necessarily reliable because the ratio of number cases-to-independent variables was low, a problem proposed by Tabachnick and Fidell (1989).

For the second period from December 1988 to November 1995 neither the media agenda for the preceding month, the current month, nor the following month had a significant effect on issue salience for the public (Table 3). The agenda-setting hypothesis was therefore not supported. Once the issue was established, increased news coverage about the environment did not lead to an increase in issue salience among the public.

The same analysis for the entire period showed a significant effect in the preceding month of media salience on public salience. However, the standardized estimates for the current and the following month were both non-significant (Table 3). Therefore, the agenda-setting hypothesis was supported when the total period was considered. The time lag between the public agenda and the media agenda was one and a half months for the entire period.

For all three multiple regression models, the residual analysis indicated that residuals were normally distributed and were not auto-correlated. As the set of predictors were time series data of issue salience and media agenda, the data suffered from the problem of collinearity. For example, the Pearson correlation coefficient between issue salience one month and two months before was $r = .73$. However, the interpretation of the results remained valid as we were examining the additional proportion of variance contributed by the media agenda.
The media agenda and the public agenda for the environmental issue are related, with a change in the media agenda being followed by a change in the public agenda. Agenda setting by the mass media was strong during the initial period of five and a half years, when the environment was first reported as a problem in Hong Kong. Over the next seven years, the public salience about the problem seemed saturated. In spite of an overall increase in news coverage about the environmental problem, there was no further increase in public salience about environmental problems.

**DISCUSSION AND CONCLUSION**

The overall support for the agenda-setting hypothesis for the environmental issue in Hong Kong is consistent with previous findings obtained by several studies (e.g. Zucker 1978, Salwen 1985, Brosius and Kepplinger 1990, Ader 1995).

The environmental degradation in Hong Kong has been happening since the 1970s, and awareness of the need for environmental protection measures was growing among the government, local academics, and other interested individuals in the early 1970s (Hills 1988). Some scholars suspected that international concern about environmental pollution problems in the 1970s played some part in initiating the Hong Kong Government’s response to the deterioration in local conditions (Hills 1988, Jim 1992). The increased public awareness in the early 1980s was coupled with official commitment, resulting in the implementation of various environmental policies. In April 1986, the Environmental

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**Table 3 Predictions of issue salience past salience by media salience (Results of multiple regression analyses, standardized estimates)**

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<tbody>
<tr>
<td>Effects of past issue salience</td>
<td>0.38*</td>
<td>0.68*</td>
<td>0.62**</td>
</tr>
<tr>
<td>one month before</td>
<td>0.06</td>
<td>-0.08</td>
<td>0.05</td>
</tr>
<tr>
<td>two months before</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effects of media salience</td>
<td>0.66**</td>
<td>0.08</td>
<td>0.36*</td>
</tr>
<tr>
<td>preceding month</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>current month</td>
<td>-0.07</td>
<td>-0.08</td>
<td>-0.05</td>
</tr>
<tr>
<td>following month</td>
<td>0.06</td>
<td>-0.01</td>
<td>-0.19</td>
</tr>
<tr>
<td>Model R square</td>
<td>0.93</td>
<td>0.41</td>
<td>0.58</td>
</tr>
</tbody>
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**significant at 0.01 level
* significant at 0.05 level**
Protection Agency was upgraded to a stand-alone Environmental Protection Department as an integrated authority responsible for both formulation and implementation of legislation concerning the environment. In recognizing that it would be unlikely to receive support from the local community unless the majority of the population was informed about environmental problems, the Environmental Protection Department launched a great deal of publicity, including mass publicity campaigns, community talks, and educational programs commencing in 1988. Many of these activities were covered by the news media.

The news coverage rose to a peak of 35 articles¹ in the month from May 16 to June 15 1988. Most of these articles were about various massive publicity campaigns centered around the World Environment Day on June 5, 1988 and a number of pollution issues including noise and sea-water pollution. Public awareness of the environmental problem recorded a climax of 19 percent in its entire history of poll results. The findings suggest that the government's initiative in identifying the environment as a problem enhanced the legitimacy of the issue.

It has been proposed that the major scientific findings about global warming released in a number of international magazines in and around June 1988 may have had an impact on the salience of the environmental problem in Hong Kong. However, analysis of the media agenda indicated that the local print media did not pick up stories about global warming until 1989. Most of the news articles on global warming in 1989 were about the proposed legislation that controlled the use of chlorofluorocarbons (CFCs) that would harm the ozone layer. So, there is no evidence that the public salience about the environmental problem in Hong Kong was triggered by the reports of global warming released in 1988.

For the second period from December 1988 to November 1995, the news coverage increased in both quantity and diversity. However, there was a gradual decrease in the percentage of people identifying the environment as an important problem facing Hong Kong. The decline in the perceived salience of the environmental issue is consistent with the duration principle proposed by Zucker (1978). Zucker argued that after a few years of an issue's being prominent in the media, most people have already made up their minds about the issue and were therefore less subject to being influenced by the media than when the issue first gained prominence. Zucker suggests that, for unobtrusive issues such as pollution and the energy crisis, the public seems to have a limited attention span and becomes bored with an issue even though the problem persists for many more years. In Zucker's study, the salience of the pollution issue deteriorated after five years.

¹ Weighted number.
There may be other reasons why the agenda-setting hypothesis was not supported in the second period of seven and a half years. The diversity in the news agenda and reporting of local environmental problems and related ‘soft’ news may dilute public attention to the issue. In the initial stage, most of the news coverage focused on air pollution, water pollution, and environmental education and policy on a territory-wide basis in Hong Kong. In the second stage, there was increased diversity in the media coverage. New sub-issues such as ozone layer depletion, green group activities, nuclear hazards, animal exploitation, natural resources depletion, and environmental impact assessment were explored and reported. Sub-issues like ozone layer depletion, nuclear hazards, animal exploitation, and natural resources depletion are expected to have a global and regional impact and will therefore have less influence on public awareness of the environment as a problem to Hong Kong. Reports on environmental problems also became more localized geographically. For example, the media coverage during the climaxes in the second stage was focused on less densely populated areas of the territories, e.g. Daya Bay. It is therefore less likely to produce an impact on the general public. Reports on green group activities are usually presented as ‘soft’ or human-touch news that lack a strong impact.

Another possible reason is concerned with the competition among issues on the public agenda in Hong Kong. Zhu (1992) conceptualized agenda setting as a zero-sum process in which the rise of an issue on the public agenda happens at the expense of other issues. McCombs and Zhu (1995) studied the aggregate time series of Gallup Poll from 1954 to 1994 in the United States. Results indicated that there was no significant linear increase in the carrying-capacity of the public agenda in the past 40 years. There was however unambiguously strong evidence for an increase in both the agenda diversity and issue volatility. Issue competition, in the absence of a significant expansion of carrying capacity, leads to a faster rate of issue turnover on the public agenda.

When applying the zero-sum agenda-setting process to Hong Kong, it is expected that the environment issue has to compete with other prominent problems. The Pearson correlations between the percentage of respondents citing the environment as the most important problem with the percentage of respondents citing the future of Hong Kong, housing, and the economy as the most important problem were $r = 0.15, -0.25$ (significant at the .05 level), and $-0.46$ (significant at 0.001 level). This is to say: when housing and economy problems were less prominent on the public agenda, the environment became more prominent. The increasing awareness of the environmental problem during the first period from January 1983 to June 1988 happened at a time of an improved economic situation and little public salience of the economy.

The period which displayed a significant drop in public salience of the
environmental problem, from December 1988 to November 1995, was probably first brought about by a sudden increase in concern about Hong Kong’s future after the June 1989 movement against the opposition in China, and was later (1991 and 1992) coupled with an increased concern about the economy. The salience of the environmental problem was also eroded by an increased concern about housing problems in 1993 and 1994. These observations fit the psychological constraints at the emotional level proposed by Hilgartner and Bosk (1988). They distinguish concern about the problems that directly affect an individual (named ‘master status’) and altruistic concerns about issues less relevant to the person (named ‘surplus compassion’). Hilgartner and Bosk argue that once the priorities of a person’s master status has been addressed, there may be very little surplus compassion left over for social issues with less personal significance. The public salience about the environment was influenced by public salience about other issues like housing and the economy, the affect of which might be more immediately felt by people. When the local economy is in a downturn, there is generally less concern about the environment.

To conclude, although the environmental degradation in Hong Kong has been happening since the 1970s, it was brought to the attention of the news media in the 1980s. The mass media, especially through the reporting of news, triggered public salience about the environmental problem. The government’s initiative in identifying the problem and the reporting of various pollution problems increased its public salience. For the initial stage of five and a half years, the agenda-setting function of the print news was supported. After that, the news reporting of the environmental issue diversified in its coverage and became more localized. There was much ‘soft’ news about promotional and environmental campaign activities. Most of these were positive articles reporting that something had been done to improve the environmental condition. There was also some indication that salience about the environmental problem was drawn away from the public concern to other problems like Hong Kong’s future and a poor economic situation. For the second stage of seven and a half years, an increase in news coverage in the press failed to affect public salience of the problem. The public may have made up their mind about the issue and become less influenced by the news. The mass media played an important role in identifying the environment as a problem at the initial stage, but played a much less important role in keeping the problem on the public agenda later.

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**BIOGRAPHICAL NOTE**

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