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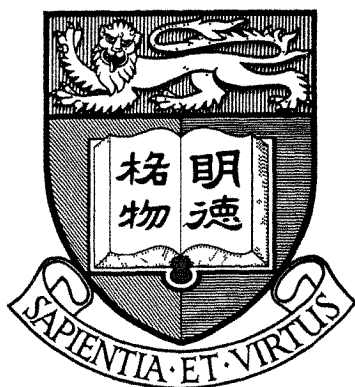
Community
Mobilization
and the
Environment
in Hong Kong

Edited by
Peter Hills and Cecilia Chan
The University of Hong Kong



The Centre of Urban Planning and Environmental Management
The University of Hong Kong

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Community
Mobilization
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Preface

In 1993, we published an edited volume entitled *Limited Gains: Grassroots Mobilization and the Environment in Hong Kong*. The principal objective of the book was to document some of the community-based environmental initiatives launched in Hong Kong since the early 1980s, something, which, to our knowledge, had not been attempted before. We felt at that time that there was a need for a volume that could act as a source of reference material for practitioners in a variety of fields, including social work, urban planning and environmental management, as well as individuals and groups involved in community mobilization efforts. The book, which was well received by both students and practitioners, tried to draw attention to the double-edged situation that had developed in Hong Kong, whereby, as we noted in the Preface (p.viii):

Local communities have tended to make only very modest gains as a result of their own efforts.....[and] low income communities have often failed to benefit from the territory-wide environmental policy initiatives launched by the government. The areas occupied by these communities are often scheduled for redevelopment in the near term and government is typically unwilling to upgrade the environment of such areas given the short term nature of the benefits.

Thus, we chose the title *Limited Gains* to focus attention on the plight of low income, disadvantaged communities in Hong Kong.

Clearly, much has changed over the past four years. On the political front, sovereignty over, and administration of, Hong Kong have been restored to China. This has already resulted in changes in the local political system and its institutions. The economy has continued to develop and to restructure around the service sector as Hong Kong's indigenous manufacturing base has relocated, primarily to Mainland locations. Massive infrastructure projects, most notably those associated with the Airport Core Programme, have transformed many parts of the territory. The environment remains under great pressure, not just as a result of new infrastructure projects, but also from a rapidly increasing population, which will probably reach 8-8.5 million by the year 2011.

While the government has continued with its efforts in the field of environmental protection, its own data confirm that Hong Kong's environment is facing multiple threats and could easily deteriorate further in the absence of concerted efforts to mitigate the negative impacts of future development. Marine water quality continues to decline in many parts of the territory. Air

quality is being seriously affected by the growth in vehicular traffic, particularly diesel vehicles, but the government has made little progress in its attempts to encourage a switch from diesel to petrol for taxis and light goods vehicles. The quantities of waste requiring disposal continue to increase, and with the territory's massive landfill sites filling up rapidly it is clear that new options must be explored to reduce waste arisings. Hong Kong's remaining areas of high ecological and landscape value (such as Mai Po) are also under threat from new developments, as indeed, are particular species, such as the Chinese white dolphin. The overall picture is, therefore, no brighter than it was several years ago, and, in some respects, may be even gloomier given the new administration's determination to tackle the housing problem, which must inevitably mean opening up new areas to development, and its desire to encourage the development of new industries in the territory.

While some members of the community and parts of the mass media continue to direct attention to these problem areas, for many people in Hong Kong, the environment is still an issue that provokes only limited interest. To many, it is still seen as an issue that brings sharply into focus the trade offs that are associated with individual livelihood concerns and broader social goals of environmental protection and conservation. The activities of 'green groups' - environmental non-governmental organizations - are still treated with a certain degree of scepticism by many ordinary citizens who regard such activities as a direct threat to their jobs and living standards. Even though environmental awareness has undoubtedly increased since the early 1990s, this has not been matched by a commensurate increase in participation in environmentally-related activities by the community at large. Furthermore, the period immediately prior to the return of Hong Kong to China was marked by a preoccupation with political and legal matters on the part of the outgoing colonial government and many issues, including the environment, were marginalised in the debates concerning Hong Kong's future.

While environmental conditions in Hong Kong may not have changed a great deal, the relevance and significance of community-based environmental initiatives remain, in our view at least, worthy of renewed academic attention. Although the environment as an issue may have been marginalised during the years between 1994-97, the debates concerning Hong Kong's political system during the final years of colonialism and in the immediate post-colonial era are themselves a reflection of a changing political culture. Whether one agrees or not with the political changes introduced under the Patten administration, there seems to be a widely held view that the political culture of Hong Kong has indeed changed in a quite fundamental way. Clearly, these changes may not be felt throughout the community and many groups have certainly not been 'empowered', but there has been a clear shift towards greater transparency and accountability in government, and the experience of greater participation in the

political process itself will have long term impacts, even if the reforms through which it was made possible have been rolled back.

Our decision to produce a substantially revised and extended version of *Limited Gains* was prompted in part by the favourable response which it generated and a view that a number of areas had not received sufficient attention in the original version. Thus, we have restructured much of the book, strengthening the coverage of theoretical issues and comparative aspects of community mobilization, adding new chapters on Hong Kong issues and focussing explicitly on the area of environmental education. The book has been a long time in preparation, due largely to our own heavy commitments, and we would like to thank our contributing authors for their patience and support throughout this process.

We should also explain that most of the chapters were originally submitted, and subsequently revised, well before 1 July 1997. Consequently, a number of authors refer to what was at the time, the impending change in Hong Kong's political status, and its implications for the future. The transition to Chinese rule has now been completed, but we feel that the substantive points made in the chapters of the book remain valid.

We hope that this book will find an appropriate place in the literature on environmental issues in Hong Kong, and that readers will find that it offers insights and ideas that help them to understand how the community at large is affected by environmental problems, and how this community can play a more prominent role in shaping the future of the Hong Kong environment.

Peter Hills and Cecilia Chan
Hong Kong
September 1997

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Chapter I

Community and the Environment in Hong Kong

Cecilia Chan and Peter Hills

HONG KONG: A CITY OF CONTRADICTIONS

Hong Kong is an affluent society. With economic growth averaging over five percent a year in real terms, by 1997 the SAR's per capita GDP had reached US\$23,892, a figure exceeding that of Britain, Canada, Italy, and Australia (*Asiaweek*, February 14, 1997, p.59). In 1994, Hong Kong was the world's busiest container port, eighth largest trading economy, and fourth largest banking centre (Government Information Service, 1995, p.13-14). In 1996, it had the world's second highest per capita foreign exchange reserves. Hong Kong's economic success has attracted world-wide attention, all the more so since the Region is almost completely lacking in natural resources and has had to rely entirely on the dynamism and skills of its population.

There is, however, a dark side to this Pearl of the Orient which shines so brightly for the rich and powerful. While the rich get richer through asset inflation and the high salaries commanded by many of those working in the increasingly service-based economy, the man-in-the-street is getting poorer. The Gini-coefficient increased to a historic high of 0.518 in 1996 (0.435 in 1976 and 0.481 in 1981) (Perkin, 1997, p.4). The living conditions of the poor are quite unacceptable. There may be more than twenty elderly persons living in bed-space, caged-accommodation sharing a kitchen and a toilet (Fung, 1993). A single mother on welfare is only given US\$200 a month subsistence, even in 1997. New immigrants from the Mainland, who cannot afford high rents, have to live in remote temporary housing areas, squatter areas or congested cubicles in urban slums (Government Information Service, 1995, p.223). Children living in squatter areas and low-income communities often develop allergies or chronic respiratory illnesses due to environmental pollution (Cheung, 1993; Hung, 1993). Many construction workers suffer injuries and occupational illness (Chan, 1993; Chan and Chui, 1997).

In short, Hong Kong is a city of contradictions, a city renowned for its conspicuous consumption but also home to many thousands of people living in intolerable conditions.

THE ENVIRONMENT

There are nearly 1,000 people per hectare in urban Hong Kong (EPD, 1997, p.2). Living in the world's most densely populated city, Hong Kong people are vulnerable to a variety of environmental risks. Fires in multi-storey buildings and squatter areas in Hong Kong have often received wide coverage in the international media. There are still 200,000 persons living in squatter areas and most of them are situated in rural areas of the New Territories, where the government does not yet have plans for redevelopment.

As the Environmental Protection Department pointed out in the introduction to *Environment Hong Kong 1996*:

"...the territory suffers from many of the pollution problems that are encountered in conurbations elsewhere in the world. Vehicle emissions are of particular concern, especially those from the large number of diesel-engined vehicles on Hong Kong roads. Other problems include noise and dust from many construction projects that reflect the territory's rapid development, noise generated by air, road and rail transport and air conditioners, water pollution blackspots in typhoon shelters and the degradation of many of the territory's streams by pig and other livestock wastes" (EPD, 1997, p.2).

Hong Kong is a very noisy city. The heavy traffic, both air and land, construction work and piling cause severe noise pollution. Teaching in schools along the airport flight path is interrupted every three minutes when a plane flies in. Residents living in areas close to major roads and rail transport corridors are disturbed by the noise of traffic, even after midnight. Respiratory tract infections in industrially polluted residential areas are everyday health events (Chan, 1997; Cheung, 1993).

Water pollution is also a serious problem. The government admits that 60 per cent of the city's sewage flows into the sea without being treated. Many areas are little more than open sewers: "...[In] the worst of these, such as the Kowloon Bay typhoon shelter alongside Hong Kong International Airport, foul-smelling and toxic gases emerge from the polluted water" (Government Information Service, 1995, p 411). Swimming at polluted beaches places local people at risk from bacterial infections. Five beaches were re-classified from

'good' to 'fair' and 'poor' condition in 1994 (Government Information Service, 1995, p.413).

Owing to the lack of effective land use control and planning, environmental conditions in the New Territories have deteriorated rapidly.

"In many part of the New Territories, the rivers and streams are still experiencing severe pollution, with some of the streams being no better than open sewers. This pollution poses a serious health risk to the public when it passes through towns" (Government Information Service, 1995, p.413).

Fighting pollution is a long battle. It takes continuous efforts and long-term commitment. The government published its first White Paper on the environment in 1989 and started to increase its investment in environmental protection. As priority goes to territorial projects, few resources are made available to improve conditions in low-income neighbourhoods. The central issue as we see it is, therefore, what kind of approach is needed to sustain local efforts and initiatives in low-income communities over the long-term, and how can we ensure governmental commitment to improving quality of life for the poor? (Chan, 1994; Chan and Hills, 1993).

Concerns of the Environmentalists

Environmental groups such as Green Power, the Conservancy Association, Friends of the Earth Hong Kong, and the World Wide Fund for Nature Hong Kong have been actively promoting the environmental agenda in schools and to the public. However, these groups tend to take a territorial and international perspective on environmental issues and have failed to develop significant links with grassroots organizations. Furthermore, many local people perceive them to be anti-livelihood in orientation, too willing to place the environment before jobs and incomes. Public support for many of their activities has, consequently, been limited. Although Green Power run a Green Farm and have been actively promoting a 'Green Life-style', citizens may still regard environmental consciousness as a preoccupation of the better-off members of society.

When asked about the the environment, most Hong Kong respondents would usually refer to problems of noise pollution, poor access and

transportation, safety, and most important of all, housing conditions. The broader environmental concerns of the green groups hardly ever reach the grassroots in the community.

Concerns of the Environmental Protection Department

The environmental problems faced by Hong Kong over the past three decades have been related primarily to air, noise, water pollution and sewage disposal, arising mainly from the rapid growth of industrial and commercial activities and, to a lesser extent, from livestock farming. In earlier days, the major environmental concerns centred on the insanitary living conditions of much of the population.

Associated with rapid industrial and commercial development, there arose a large number of pollution problems in the densely populated territory (Bidwell, 1990). In 1974, the government commissioned an overseas consulting firm to study the existing conditions and to make proposals for necessary legislative policy and structural changes. This three year study led to the establishment of a new Environmental Protection Unit (EPU) in 1977.

✓ The EPU was reorganized as a free-standing Environmental Protection Agency (EPA) in 1981 (EPA, 1984). The EPA was upgraded to the Environmental Protection Department (EPD) in 1986, its responsibility being to recommend policy initiatives, prepare waste disposal and sewage programmes, enforce the main provisions of environmental protection ordinances and carry out environmental monitoring and supervise the conduct of environmental impact assessments (Government Information Services, 1982, 1987; Downey, 1988).

The comprehensive programme to protect the environment comprises five complementary elements:

- (i) planning against pollution;
- (ii) environmental legislation;
- (iii) provision of facilities and services for the collection, treatment and disposal of waste;
- (iv) environmental monitoring and investigations; and,
- (v) environmental education.

Planning against Pollution

The government's approach to environmental protection was traditionally based on problem-solving rather than prevention, until the mid-eighties. Since 1985, an "Environment" chapter has been incorporated into the Hong Kong Planning Standards and Guidelines to guide new development and land use plans. Environmental considerations are now taken account of at different levels of planning; the importance of "preventing" problems at the planning stage has been recognised (Hills, 1988).

An Environmental Impact Assessment Ordinance, requiring assessments for all major development projects was enacted in February 1997. Since 1992, all submissions for capital projects undertaken by government submitted to the Executive Council and the Legislative Council's Finance Committee have required the inclusion of an environmental implications section.

Environmental Legislation and Pollution Control

Legislation to control pollution in Hong Kong includes ordinances on waste disposal, water pollution, air pollution, noise control, chemical waste disposal, livestock waste, ozone layer protection and dumping at sea. The EPD is responsible for implementing most of the provisions contained in the respective environmental protection ordinances.

There are pro-active programmes to implement the Green Manager Scheme among government departments as well as in the private sector. There is also cross-border liaison on Environmental Impact Assessment and monitoring programmes involving the Hong Kong Government and Guangdong Province, especially with regard to the Deep Bay area (Government Information Service, 1996, p.373; Menagh, 1991).

Provision of Facilities and Services

Hong Kong produces two million tonnes of sewage and 8,500 tonnes of municipal solid wastes every day. A US\$1.5 billion investment programme to improve sewage treatment is currently in progress. The Chemical Waste Treatment Centre on Tsing Yi Island processes about 280 tonnes of chemical wastes per day. Domestic waste as well as commercial/industrial solid wastes are forecast to increase by 3.4 per cent and 4.8 per cent respectively, per year over the next 12 years (Government Information Service, 1995, p.427-429). Strategic landfills and numerous refuse transfer stations have been developed but the waste disposal is under enormous pressure and the large landfill sites may

be exhausted before their previously anticipated life expectancy. Since 1995, the government has started to apply the 'polluter pays' principle to recover the cost through a charging scheme since 1995.

Environmental Monitoring and Investigations

The Environmental Protection Department is responsible for monitoring and investigation. It runs monitoring networks on rivers and in marine waters, for air quality and noise levels, as well as collecting information on local waste recovery activities.

Some 8,500 tonnes of municipal solid waste are disposed of at landfills and incinerators every day. The waste avoidance and recovery effort seems insignificant. Only 600,000 tonnes and 544,000 tonnes of waste paper, metals, plastic scrap and glass were reprocessed locally in 1995 and 1994 respectively (Government Information Service, 1995, p.431; 1996, p.384).

Public Education and Awareness

It is widely assumed that an environmentally-aware and well informed community would contribute to the development of a better environment. The government, together with private organizations, launched an Environment and Conservation Fund totalling \$100 million in 1995, to sponsor environmental education programmes with the goal of raising professional and public awareness about environmental protection through formal and informal education channels (Government Information Service, 1996, p.367).

Environmental education is provided to the public in various forms, including publicity campaigns, promotion of the World Environment Day on 5 June each year, talks and environmental education packages made available to all secondary schools, in-service courses and seminars for teachers, offers of financial support to organizations providing environmental education, and the establishment of Environmental Information Centres, where information and teaching resource material is made available.

The current system includes no formal provision for public participation. The government's consultation process is very limited, being mainly confined to the Advisory Council on the Environment (formally known as the Environmental Pollution Advisory Committee) and the Environmental Campaign Committee, which comprises a small group of elite representatives from the business community, academia and other interest groups. Details and reports on

many environmental issues are not normally released to the public and they are only discussed at the Legislative and Executive Councils. Although the public's opinions and interests may be channelled through the Districts Boards, it is nonetheless a one-way traffic (Hung, 1993).

The responsibility for environmental protection among government departments remains fragmented. Enforcement of environmental ordinances has been delayed due to slow formulation of regulations. In the past, this was largely attributed to the overwhelming representation of industrial interests on the two decision-making Councils. In such a structure, it is not surprising to see environmental considerations being over-ridden by other concerns, such as cost of production in industries. This has changed somewhat over the past ten years as more of Hong Kong's industry has relocated to China and the power of the traditional manufacturing industries has waned. Nonetheless, many policies and legislation are not geared towards the interests and needs of residents in low-income communities. Their participation in environmental planning and educational programmes is minimal.

Concerns of the Rich

The rich own land, the means of production, and exercise considerable control over the economy in general. They are more concerned about land for golf courses or country parks, and want to protect their privileged life styles. The corporate sector, while professing a concern about the environment, lags far behind its counterpart in Western countries in terms of levels of environmental awareness and the integration of environmental factors into corporate decision-making. Again, unlike its counterpart in the West, big business in Hong Kong has come under little public pressure to improve its environmental image. Most consumers are unwilling to pay extra for environmentally-friendly products. A store which sell fertilizer-free products in Lamma Island had to close down because it was not economically viable. The rich continue to exploit the environment while creating environmental problems, especially in the New Territories.

The image of the 'Green Business' is, therefore, not well established in Hong Kong. For example, there is little innovation in energy conservation in government, public or private commercial buildings. Large companies in Hong Kong, including the Hong Kong Bank and the Swire Group have formed a 'Private Sector Committee on the Environment' to contribute to environmental

protection. The Committee removed rubbish from Victoria Harbour to improve the public image of Hong Kong. This kind of private investment is devoted to Hong Kong's general image and not to tackling the key source of the pollution in Hong Kong, which is industrial pollution (Menagh, 1991). The poor continue to suffer from environmental hazards despite these cosmetic gestures. Other private sector initiatives, such as the Caltex Green Fund, have quietly faded away. This fund, set up by the Caltex Oil Company with proceeds from the sale of unleaded petrol, funded many environmental projects in the early 1990s but was terminated in the mid-1990s with minimal publicity.

Concerns of the Poor

The poor feel that they have no influence on the environment. They live from hand to mouth and unemployment has been the key issue in the 1990s. Poor people in Hong Kong live and work in a variety of sub-standard conditions: poorly ventilated caged-accommodation with bed-spaces of 3' X 6' on three levels of a bunk bed, lacking a proper toilet and cooking facilities, squatter huts of 80 ft² by the side of heavily polluted streams, elderly persons sitting under flyovers and breathing in exhaust fumes from vehicles, factory workers injured by poisoning and accidents (Fung, 1993; Chan and Chiu, 1997). There is a strong sense of helplessness among the poor as regards the environment.

Throughout Chinese history, peasants were threatened by floods, droughts, plague, war, exploitation by landlords. Survival was a continuous war of man against nature. Pollution was seldom mentioned as there was no indigenous Chinese concept of pollution. There were concepts of 'feng-shui', the connection of man and the environment, as well as the sky-earth-man continuum. Man has to learn to 'respect', 'adore' and 'cope' with nature (Chan, 1997). However, the cultural imperative was dictated by man's need to get the most out of the environment for his own survival. The Cultural Revolution in China promoted the idea that man will triumph over nature. We only have to fight. Pollution, in some senses, was taken for granted and regarded as a necessary cost of economic prosperity and human existence (Hills and Barron, 1990).

POLITICS AND THE ENVIRONMENT

Rapid urbanization, industrialization and commercialization has resulted in rapid degradation of the environment in Hong Kong and adjacent areas around the Pearl River Delta. Economic development has been given top priority in almost all policy decisions in Hong Kong. The pro-growth mentality has been prevalent among politicians and policy makers in Hong Kong, which is characterized by a society that emphasises non-interventionist capitalist strategies of management.

Politics, history, consumer preferences and economic forces are the key determinants shaping the direction of environmental policies. In Chapter II, On-Kwok Lai discusses key concepts of sustainable development in the context of environmental concerns in communities. As a city with no hinterland, many of the people of Hong Kong are packed into small rooms and flats in tall multi-storey building. Noise, heat, congestion and pollution are key source of stress and tension. William Barron succinctly describes the quality of the environment and the development of environmental policies in Hong Kong in Chapter IV.

Legislative changes and the enactment of new bills are often determined by economic interests and political preferences rather than peoples' choices. Environmental legislation is a relatively recent development in Hong Kong. Political parties do not have a clear stand on environmental policies. Wing-Tat Hung and Peter Hills provide the reader with a sense of the politics of the environment in Hong Kong in Chapter V.

A CONFLICTING CULTURE OF CONSUMPTION

As Hong Kong has evolved into a consumer society, there has been increasing emphasis on advertising, packaging of products, marketing and sales figures. The economic affluence and promotion of consumption have resulted in 23,000 tonnes of garbage production a day (EPD, 1996). People regard an increase in consumption as an important indicator of social and economic achievement. Goods, such as paper handkerchiefs, bottles, lunch boxes, underwear, plastic bags, clothes and contact lenses, are thrown away after being used once. In this consumerist era, being able to afford luxurious consumption is a social aspiration. Wasteful habits and life-styles are being promoted. People may throw away clothing which has been worn only for a few times. It is assumed the only the under-achievers live a simple life-style. We have moved into a culture of extravagance.

Most of the population in Hong Kong (98 per cent) are ethnically Chinese. In the past centuries, Chinese experienced civil war, poverty, hunger, material deprivation, political prosecution and environmental turmoil. The older generations survived on rice, wheat and vegetables, and could only afford to have meat during major Chinese festivals. Clothes were passed on from older children to younger ones. Containers such as wooden boxes, bottles and tin-cans would all be collected and re-used. Elderly people would finish the last grain of rice in their bowl at every meal. Food was usually scarce in times of economic or political hardship, which persisted during the previous centuries in China. No food and other re-usable materials would be wasted. In the era of poverty and material deprivation, conservation and the careful use of scarce resources was a survival tactic and a necessity of life. We can still find Chinese leaders using glass bottles as cups in their offices today. These are components in our culture which supports environmentally-friendly concepts (Lam, 1982).

TRADITIONAL PRO-ENVIRONMENT CULTURE

The consumer culture that we see today is very different from traditional Chinese values. In times of uncertainty and natural disaster, farmers save up for the rainy days. Chinese are heavily influenced by Buddhist and Taoist philosophies. According to the Buddhist philosophy of 'all living things being equal', people should not kill. The respect for living creatures is the rationale behind staying vegetarian for Buddhist followers. The Buddhist preaching of giving up lust and desires also encourages a simple life-style and respect for other living creatures. Concepts of reclamation deter people from being cruel to animals. Buddhists have to respect life and perform good deeds in order to be born into the human race again in the next life.

Taoist philosophy promotes the harmonious integration of people with 'nature'. People should go along with the demands of nature and be relaxed about changes. Life is unpredictable and full of challenges. Tolerance of environmental hazards and times of difficulty is regarded as an important virtue. People should be respectful and not ruin the environment nor exploit the land. Taoist practice *chi-gong*, a Chinese form of meditation. Chi-gong promotes a selfless presentation and helping other people without the expectation of reciprocity. The Taoist preaching of being easy, virtuous, respectful to forces in nature and so forth fosters a sense of fatalistic acceptance of misfortunes in life (Chan, 1997).

The traditional ethic of thrift encourages the population to save and recycle. Being wasteful might be regarded as being disrespectful to nature. People should not show off material wealth and should remain humble. Being able to accept hardship is regarded as fundamental to becoming a virtuous man.

TRADITIONAL ANTI-ENVIRONMENT CULTURE

However, there are components in the Chinese culture which foster an anti-environment sentiment. In times of hardship and poverty, people were also taught to be self-centred. These selfish instincts were described by the old saying that 'each family sweep the snow from their own front yard and never mind about frost on others' roof'. There was a strong tendency of trying not to make trouble, minding your own business, never intruding into the affairs of another household. The household was the unit of identity and the boundary of concern. The sense of loyalty, commitment and sense of purpose in life all centred around the domestic sphere.

Beyond the household is the lineage. In rural China, relatives and kin live in the same neighbourhood. The villagers might share a common ancestor and surname. As a very close network of interpersonal relationships, individuals were expected to contribute towards the wealth and well-being of the kin. Competition and conflict with neighbouring villages for natural resources, such as access to well water, rights to the use of river water, etc. were common. The environment was to fulfil the purpose of providing livelihood to the people, with little reciprocity in return. People were not aware of the fact that they had to invest into irrigation and sewage projects. The quality of their land deteriorated. Flood and drought became a yearly event.

TOURIST CONSUMERISM: PATTERN OF EXCESSIVE UTILIZATION

Under the capitalistic pursuit of material well-being, a commercially-promoted style of life can be described as a tourist consumption pattern. When people move into a hotel room, they may use all the towels on the rack, take a hot bubble bath with a full tub of water, turn on all the lights and TV, tear open complementary tea and coffee bags (even if they are not thirsty) all to maximize the value that they feel they should get from paying for the room. In guided tours to shops, tourists tend to buy discounted souvenirs which will often be thrown away shortly after their trip. While shopping is a major activity for

many, people buy things that they do not really need. This tourist consumption pattern is very wasteful and not environmentally-friendly at all.

In order to escape from the past image of thrift and material deprivation, people order more food than they can consume in restaurants. Most people do not take the left-overs home. This 'couldn't care less' attitude and behaviour are mistaken as a life-style for the rich and famous. Large amounts of food are wasted in restaurants and fast-food shops in Hong Kong and in the cities of China.

The commercialization of love and affection on Valentine's Day and Mother's Day, promotion of gifts for everyone during Christmas and New Year, are forces which pushed people into endless consumption. If people do not receive something during Valentine's Day their self-esteem might be hurt. Gifts are taken as a form of emotional compensation for love.

GREEN IDEOLOGY: CHANGING VALUES

In the midst of conflicting values, green ideologies are also being promoted through the government-sponsored Environmental Campaign Committee, green groups and the private sector. The Conservancy Association, Green Power, Friends of the Earth Hong Kong, and the World Wide Fund for Nature Hong Kong are all working very hard to promote an environmentally-friendly mentality among the population of Hong Kong. They participate actively in environmental campaigns and reach out to students, children and youth centres, community groups, political parties. May Ng and Francis Wong discuss the contribution of these four local environmental groups in consciousness-raising in Chapter XII.

People in Hong Kong cannot understand nor appreciate why Green Peace activists risk their lives trying to stop pollution or whale hunting. Green groups are usually taken as idealistic and un-pragmatic people. With increasing public education and promotion, the concepts of environmental protection and the environmental movement are beginning to take root among the younger population, but not among the old.

ENVIRONMENTAL AWARENESS AND ECONOMIC PROSPERITY

We take care of our car by having it regularly checked, select good quality oil and add lubricants to the engine to ensure its smooth functioning. We are law-abiding, put on safety belts, use unleaded petrol, and so on. However,

we care much less about the emissions that our cars produce and what harm these do to the environment. Environmental concepts are not included in the driving test, so why should we bother? We relax in air-conditioned apartments benefitting from a cool and comfortable room temperature while we forget the impacts that our air conditioning may have on our neighbours. We pull down old buildings and put up new ones in a very efficient manner without realizing that our cultural heritage, once demolished, can never be restored.

In the midst of the push for high-tech and speedy 'development', the human side of the environment is often forgotten. Some 10 per cent of the population of Hong Kong live in poverty and yet it is one of the most affluent cities in the world (Oxfam Hong Kong and Hong Kong Council of Social Service, 1996). Parents have to work long hours, leaving their children locked up and unattended at home. A five year old boy was severely burnt in October 1996 when his parents locked him in their public housing apartment. Domestic and industrial accidents are major causes of injury, disability and death in Hong Kong. The number of deaths from industrial accidents increased by more than 10 per cent in 1996 over the previous year.

MOBILIZATION OF THE COMMUNITY AND THE GRASSROOTS

The second section of the book encapsulates community initiatives and responses to environmental management. In order to change policy and improve people's lives, multi-level intervention in the mobilization of the community for environmental management will be essential. This book documents effective community efforts in improving the living environment in Hong Kong.

Michael Douglass provides readers with a model of community activation, especially in the context of grassroots urban environment. Half of our population is living in government housing. A green housing policy will affect all households living in the concrete jungle of Hong Kong. Rebecca Chiu sets the scene of housing and the environment in Hong Kong. She discusses the emergence and implementation of greening housing policies in Hong Kong.

Some low-income communities in Hong Kong have been active in protecting their local environment. Chi-Fai Li and Hang-Sau Ng use the experience of the mobilization of residents of Tsing Yi Island to discuss models of grassroots mobilization against the environmental hazards presented by an oil storage depot and the disposal of hazardous waste. Cecilia Chan discusses cases

of grassroots mobilization of residents in squatter areas to improve their own living environment.

Conserving the historical heritage of the New Territories in the midst of conflicting interests is discussed in the chapter by David Lung and Ann Friedman. Ignatius Yu and Kan-Kam Chan discuss the situation of neglected environmental concerns in the workplace, especially in the area of occupational health and industrial safety. The local initiatives adopted by the Hong Kong Workers' Centre are discussed. The workplace environment definitely deserves more public attention in Hong Kong.

REBUILDING A HOME: ENVIRONMENTAL EDUCATION AND ATTITUDE CHANGE

There is a Chinese saying that "it takes ten years to grow a tree, and a hundred years to develop a person". It may take a generation, decades and even centuries, to change attitudes and public behaviour. Environmental protection is much easier said than done. Most urbanites have no difficulty paying lip-service to vague ideas of environmental protection. When it comes to changes in behaviour or habit, especially when it involves personal sacrifices, it is much more difficult to actualize.

An environmentally-friendly ex-Governor of Hong Kong, Sir David Wilson, pointed out rightly in his address to the Legislative Council that, "until recently, far too many of us in Hong Kong were not aware of the threats to our environment. We placed far too little importance on protecting it" (Wilson, 1989). Despite the determination of the Hong Kong Government to protect the environment since the 1989 White Paper, there is still a long way before the grassroots population in Hong Kong is ready to take part actively in environmental protection.

ENVIRONMENT AS EVERYBODY'S BUSINESS

The third section of the book focuses on environmental education and its development in Hong Kong. Cecilia Chan introduces models relating to changing attitudes and behaviour on environmental issues. It is important for us to cultivate a social norm of respect for the environment. Impacts of consciousness-raising programmes and activities are discussed in this section. Green groups and youth organizations are running activities in Hong Kong with considerable success. Wing-tat-Hung and Peter Hills discuss the work of the

Environmental Campaign Committee which orchestrates environmental education in Hong Kong

AFFIRMING ENVIRONMENTALLY-FRIENDLY CULTURE AND NORMS

Besides policy endorsement, it is important for environmental groups to disseminate workable and feasible solutions as well as alternatives in environmental education. The business community and corporations are also contributing to environmental concerns in Hong Kong. Sarah Howroyd critically appraises the contribution of the private sector in environmental policy and management in Hong Kong.

In building a warm and loving environment for our community we should start with our young people. Yu-Cheung Wong and Wing-Hoi Lai analyse the strategies and roles of children and youth centres in the promotion of environmental awareness.

SUMMARY

The purpose of this book is to promote public awareness of environmental protection and community action. The social norms and culture in the complex niche of Hong Kong which are facilitative and destructive to environmental protection are discussed. Detailed analysis of the politics, dynamics and mechanisms of public education is presented in the chapters that follow.

In order to change environmental behaviour, we shall have to change attitudes, public policies, and social norms, as well as cultivating viable alternative desirable behaviour patterns and options for individuals and corporations to follow. The documentation of effective community environmental management projects and innovations represents a first step towards a better world in which to live.

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Chapter II

Community, Environment and Sustainable Development - A Socio-Political Interpretation

On-Kwok Lai

INTRODUCTION

The quest for sustainable development in the post cold-war era has become one of the most important issues on the global development agenda. This is not only true of the developed nations, but also the developing economies. Given the extent and scope of environmental problems, governments and societies are being prompted to respond to the global challenge with different policy and local initiatives. To highlight the environmental concerns and the issues pertaining to sustainable development, this chapter attempts to delineate certain analytical dimensions and perspectives on global environmentalism. After this introduction, I focus on the differential social science discourses on environmentalism and their relevance for sustainable development, and note the importance and complexity of the nature of environmental problems. In particular, I address the consequence of the modernity project, namely, the de-coupling of the pre-modern integration between people, technology and nature. With reference to societal responses to environmentalism, the chapter also examines the relevance of social science concepts for understanding environmental protection in the community. This chapter ends with critical remarks on the trends of environmentalism in the 21st-century.

MODERNIZATION AS THE DE-COUPLING OF PEOPLE, COMMUNITY AND NATURE

Industrialization is historico-structurally coupled with urbanization, which in turn shapes the changes in social life: transforming the communal life form (*Gemeinschaft* - Community) to a functionally organized modern society (*Geschellschaft* - Society), with no exception of the genesis of environmental problems. In the transformation process, there are synergetic relations between industrialization, urbanization, production, consumption, and environment. The following paragraphs focus on the synergetic relationship of nature, community

and sustainable development. I examine the specificities of the synergy: industrialization and environmental issues in the modernization process, and the environmental impacts of the modern mode of consumption and production.

Mis-interpretations of Environment and Modernization

Environmental problems and catastrophes are people-made, e.g., hazardous industries, nuclear energy, production of CFCs, noise and air pollution associated with traffic, as well as the wastes produced at the end of the products' life-cycle. To understand the genesis of environmental problems, it should be pointed out that socio-economic development and environmental quality (as a condition of the natural world) are structurally linked in the modernization process. The process began two hundred years ago when the natural sciences had established their supremacy over nature, at least via their interpretations of the natural world. Hence, the very notion of modernity is in fact the rational attempt of people (as a species in the natural world - *Homo Sapiens*) to control and overcome the difficulties, predicaments and limitations as conditioned by the physical, biological and chemical environment (*Nature*). The nature of the *modernity project*, if any, is the control of the natural environment via technology - the rational organization of people, capital and their synergetic product (Habermas, 1981, p.9). The sense of 'in control' is manifested in the ideology of pro-growth development.

In the pre-modern era, people's impact, via primitive technology, on nature was very limited. Accidents, for example, fires are very limited in scope when compared with the nuclear and chemical catastrophes that have occurred in the last two decades of this century. Hence, the replacement of the natural environment by the built environment in human history is in line with the modernization (in the name of development) trajectory. Notably, more and more environmental problems (e.g. global warming, greenhouse effect) reflect the impact of people rather than nature. For this course of development, intellectually informed conceptualizations on social transformation in the 19th century modernity merely highlighted the *de-coupling*, for example, in Emile Durkheim's social differentiation in and with the division of labour, Max Weber's concern over rationalization of social life, and Karl Marx's conception on commodification of labour and nature. Yet, the 19th to 20th century social scientists' worldview and their conceptualizations are undoubtedly unecological (cf. Catton and Dunlap, 1980), this (social) scientific worldview mirrors the

trajectory of social development at the expense of natural resources. Not until recently, when the state and society demonstrated their inability to deal with the environmental crisis, did social scientists' worldviews attempt to take into account the challenges of the *Green, Environmentalism and Sustainability, Risk, and the Nature* (cf. Dickens, 1992; Beck, 1986; Luhmann, 1993; Pepper, 1993). For this, Reiner Grundmann (in 1989, p.45) rightly pointed out the inadequacy of social science understanding on the ecological debate:

"The ecological debate only recently became a topic for social theory. There have been many works which were directed, instead, against some dominant paradigms in economic and social theory, like those of Mishan (1967), Meadows (1972) ... Gorz (1977, 1980, 1983). There have been "ecological" analyses from economists like Georgescu-Roegen (1971), Daly (1973); works from moral philosophers like Feinberg (1974), Passmore (1974); works from technic-philosophers like Mumford (1977), Rapp (1978) - but no outstanding contribution from sociology "as such". There are exceptions represented in works on a meta-theoretical level, inspired by the sociology of knowledge, like Van den Daele (1987) There are also works from organizational sociology, most notably Perrow (1984). The works of Bühl (1987), and Luhmann (1986) also have an organizations and systems theoretical background."

Social science theories in general, and the Marxian one in particular, have often neglected the fact that people function within ecological systems, within the people-made built environment under a set of technological institutions (for example, physical infrastructure, mass media). Or, sociological interpretations on people's intelligence and their related actions are usually expressed in terms of the nature/nurture or agency/structure distinction, which are in fact not dealing seriously with the domain of *People-in-Nature* and the associated *Nature* (as experienced by) in *People*. Only recently has the role of *Nature* in [affecting] people's world-view become important.

In the 1980s, more social scientists have been attempting to understand the relationships between society, people, ecological issues and global sustainability. For instance, Ulrich Beck's (1986) *Risikogesellschaft - auf dem*

Weg in eine andere Moderne (now translated as *Risk Society - Towards a New Modernity*, 1992a/b) has not just brought the ecological debate back in social scientific mapping of global sustainability, but is also challenging the very problematic aspect (which exacerbates environmental crisis) of our modernity project. This new and emerging academic concern is in fact refocusing on the crisis embedded in the scientific-technological global market system (cf. Habermas, 1985; Lash, 1992; Lash and Wynne, 1992; O'Connor, 1987).

The crisis of our time is shaped by two different sets of variables and phenomena. Obviously, it is the collapse of the ideas and structure (for example, developed around the duality of capitalism and socialism, Fordism and post-Fordism, modernism and post-modernism, material and post-material society) which has defined the contour of social and political life throughout much of the 20th century (cf. Atkinson, 1991, Ch.1). On the other hand, it is in response to the irreversible development of, say, the macro issues - global warming and ozone layer depletion - the meso issues - cross-border pollution, the dying of forests - and at the micro level, the increase of toxicity in the food chain and water cycle. Therefore, there is a critical quest for environmentalism and global sustainability (including *Homo Sapiens*) in our historical time.

Following this development, it is obvious that the search for an alternative social development and socio-economic-political praxis must take environmentalism and sustainability into account (cf. Beck, 1986; Johnson, 1993). The prelude of the most recent explorations into the history of modernity has taken the form of a critique on the *Enlightenment* or, the doubt cast upon the reflexivity of the modernity project; and more importantly, they have pointed to the de-coupling process between *People* (transformation from community to society: in Ferdinand Tönnie's terminology: *Gemeinschaft* to *Gesellschaft*), *Technology*, and *Nature* in the last two centuries. In particular, environmental issues are so crucial for a new, post-cold war, world order. Francis Fukuyama (1992, p.7) rightly pointed out that:

“The fantastic economic growth made possible by modern science had a dark side, for it has led to severe environmental damage to many parts of the planet, and raised the possibility of an eventual global ecological catastrophe.”

A reflection on the trajectory of our civilization is indeed called for in recent (Western, particularly in European) sociological discourse, namely, academia's consensus on the importance of *Nature* and its derivative, the 'environmental' as an avant-grade concept is quite often used in the last decade. This is also mirrored in our fashionable discourses using the adjective *environmental* before many nouns, e.g. environmental products, audits, planning, factors, awareness, behaviours, etc.

From what we have analyzed, there is no doubt that the de-coupling process between *People* and *Nature* is historically embedded in, and is in line with, the trajectory of modernization. The manifestation of the de-coupling process is referred to in two arenas. First, in the name of liberation of *Homo Sapiens* (people) from natural (environmental) constraints, the project of modernity, technological advancement and the associated socio-organizational set-up are fully-fledged in exploiting the natural sphere as if natural resources could be reproduced via technological development. In short, it is the hegemonic domination of people and technology over *Nature* and the associated ideologies which supports a greedy exploitative system of people over *Nature*. Second, in the course of positivistic modernization, the modern form of organizing "scientific" knowledge has neglected concerns about the natural world (its logic, its capacity and limits to growth). This development owes much to the *mix* of Anthro-centric and Techno-centric *Weltanschauung* (worldview) of our modern society. For the specificity of this set of *Weltanschauung*, Durkheim, Weber and Marx had, respectively, highlighted different yet inter-related spheres of dominance in their writings when the *de-coupling* took place (cf. Beck, Giddens and Lash, 1994).

Environmental degradation and the associated risks at the global scale - the unintended consequences of the modernity project- are quite detrimental to both socialist and capitalist states. State interventions only demonstrate their inability to manage these crises, regardless of ruling ideologies in both systems. Within their sovereign territory, they cannot control pollution because of the pro-growth economic development strategy adopted. Externally, they have less control over cross-border pollution, the greenhouse effect and global warming. In other words, the irreversible and the *de-coupling* progression of the global environmental crisis demand not just a set of technological solutions, but also a compatible set of environmental ethics and morality.

At this historical conjuncture, there is a general consensus as represented in recent explorations. In socio-political philosophy, the problematique is being thematized as: the moral justification for environmentalism (Katz, 1983), environmental ethics and justice (Cooper and Palmer, 1992; Nash, 1989), the rationality and *Realpolitik* of the Greens' socio-political strategies for not just environmental protection, but also beyond that (cf. Atkinson, 1991; Goodin, 1992), the search for alternative forms of society, say, eco-socialism (Pepper, 1993), and the reflexive modernization in the *Risk Society* (cf. Beck, 1986). Yet, this orchestrated academic attempt is problematized by the natural sciences' breakthrough in reproducing the very conditions of *Naturalness*, namely, the bio-genetic and material science engineering through which objects, animals and people could be, in theory and in some praxis instances, *re-created*.

To recapitulate, the socio-theoretical explorations are not isolated only in discursive terms but are also supported by a praxis-oriented approach in developing the conditions for eco-sustainability. Laska (1993) has rightly pointed out the importance of social science knowledge in the environmental problem solving process. This can be seen in recent studies on the green parties formation (cf. Kitschelt, 1989), the new form of socio-political articulation (cf. Dalton and Kuelcher, 1990), and the developmental direction for *Ecological Modernization* (Simonis, 1989). In praxis, attempts are made for the socio-ecological sound development of the city (cf. Hahn *et al*, 1992).

To examine the theoretical discourse and empirical explorations on the synergy of *Nature*, *People* and *Technology*, the following section draws upon the sociological interpretations of global environmentalism.

The Environment-cum-Risk Paradigm

Environmental concerns have been articulated by those involved in the advancement of the natural sciences, as most of them tend to agree that there is a limit-to-growth. Following the limits-to-growth thesis of the *Club of Rome*, it is argued that the rate and extent of environmental degradation is unacceptable by scientific, economic and societal standards (Meadows, et.al. 1972, 1992; WCED, 1987). People's awareness on the thesis is in fact a re-juvenation of the neo-Malthusian conception on the relationship between natural resources and population/economic growth, development versus urbanization. The very notion of this awareness is the actual and projected *scarcity* underpinning the global

market. The thesis was also reinforced by the global *oil crisis* in 1973, and later contextualized in the urban fiscal crisis. Seemingly, the consequence of the oil crisis is the emergence of a *New Ecological [Environmental] Paradigm*, coined by Catton and Dunlap (1978, 1980; cf. Milbrath, 1989), in the developed countries.

On the other hand, the crisis of Western sociology in the early 1970s (cf. Gouldner, 1980) fostered the new social science's conceptualization on the relationship between society and nature, which marked a major theoretical watershed, with sociological discourses from the *old* and *traditional* socio-polity to the *new* one (cf. Bell, 1973; Inglehart, 1977), from the class to non-class based society (Gershunny, 1978; Gorz, 1980), from traditional class politics between capital and labour in the production, to the new politics of production (cf. Conrad, 1987; Dalton and Kuechler, 1990). The new politics, supported by the New Social Movements (NSMs), questioned both production and consumption processes in our modern world. Whilst, in the Eastern Bloc, the development of green movements within a socialist polity has provided a certain academic-cum-praxis utopian orientation and an opportunity to experiment with a Red (socialist) plus Green (environmental) approach in eco-social compatible community development projects (cf. Bahro, 1986; Ely & Heinz, 1989; Opielka, 1985).

Global socio-economic change, juxtaposed with the environmental crisis, was quite obvious in the 1970s. More specifically, the environmental crises and catastrophes were a direct consequence of the *normal* modern production of by-products (e.g. CFC against ozone layer), hazardous exposure (in Bhopal and Chernobyl), and industrial and domestic wastes. In short, technological advancement has changed the ecological system. One of the detrimental effects of modernization is the multiplication of risks on a global scale and the penetration of techno-environmental risks into everyday social life, coupled with the limitations of the state and market mechanisms to deal with global risks (cf. Beck, 1986; Daedalus, 1990).

The new configuration of risks, in contrast to natural disasters in the pre-modern time, involves people and new technologies. In the pre-modern time, natural disasters and the related human casualties were interpreted (and also reinforced by religious belief) as a result of the actions of a spiritual agency. Obviously, *normal accidents* in the modern era can rarely be explained in spiritual terms, but only by the actions of people. Yet, the differential

conceptions of risks and the communication of them are very much embedded in the time and locationally-specific cultural and community context (cf. Douglas and Wildavsky, 1982), and, in the modern world, the state agency's definition of risk acceptability (Clarke, 1989). In short, risks and people-made disasters are the inevitable outcome of the modern production and consumption system.

Specifically, the historical idea of risk was a probability of the losses and gains in a given condition. The present concept of environmental risk is associated with the omnipotence of dangers, threats to survival, even to the next generations of people, animal and ecological systems. For example, the nuclear decay rate of some radioactive substances is thousands of years. More importantly, the risks embedded in our modern world system are real and long lasting if compared with those in pre-modern times. In some instances, the risks generated are beyond the rational control (for example, in terms of cost-benefit analysis) and measurement within one's life span. In short, uncertainties over the level and prevention of risks are becoming an integral part of community life. In actuality, our present society faces more dangers than ever before. If the worst scenario occurs, for example, the further depletion of ozone layer, our civilization and eco-system could terminate permanently. In short, the very powerful scientific and moral threat of risk is the apocryphal notion of the end of all things.

Risks, in most cases, are embedded in the modern technologies which are structurally shaped by societal linkages and community dynamics. More problematically, risks are characterized by the so-called "interactive complexity" and "tight coupling" (Perrow, 1984, p.75-92) synergy which has the inclination for system failure as has happened in many disasters. In short, the techno-accidents are being normalized and embedded "in an industrial society that has some parts, like industrial plants or military adventures, that have interactive and tightly coupled units. Unfortunately, some of these have high potential for catastrophic accidents" (ibid, p.8).

These normal accidents (insightfully coined by Charles Perrow, 1984) and technology disasters can only be explained and managed within a set of rational and scientific modellings in this phase of modernity. Yet, the related assumptions in managing environmental disasters on the one hand, and the technological risks on the other, are still set within a paradigm full of *a priori* assumptions and reasoning. On the other hand, environmental consciousness reflects the doubts over technology. For the uncertainty and doubts, deep

anxiety and perplexity with technology are becoming a fact of life. But they are institutionally expressed in mathematical terms, juxtaposing the fact that more accidents are developed in line with the trajectory of technological advancement. At this historical conjuncture, it is appropriate to describe our present form of civilization (i.e. modernity) as 'technology-cum-risk society'. The contours of the new environment-cum-risk paradigm are in fact characterized by the *technology-risk-environment (TRE) syndrome* which reflects the invisibility, penetrative power and global nature of risks, plus the multiplication of the techno-risks at a geometrical rate and on an exponential scale (Beck, 1986). With the synergistic effects of technological development, associated risks are further exacerbated by the reportage of the mass media.

Equally problematic is that our knowledge on environmental crises in general, and risks in particular, are much shaped by the competitive mass media, which usually dramatize, if not exaggerate, the extent of disaster. The crisis is chaotic and catastrophic when the political system cannot provide answers on the causation of the modern *normal accidents*. In short, the exposure to ever-increasing technological accidents has been disastrous for individuals as well as the political system (cf. Renn and Burn *et al*, 1992). The management of the hazardous exposure and its aftermath are therefore quite controversial (cf. Gow & Otway, 1990). Obviously, apart from its dependency on technological systems, society is rediscovering how dependent it is on natural systems and how vulnerable people are in the face of global risks in everyday life. More importantly, this rediscovery has significant implications for the socio-political mobilization of societal forces on the one hand, and the state's governance on the other. The critical issue in this phase of modernity is not just how to promote a fair, just and equitable distribution of wealth, but also the acceptable allocation of eco-technological risks to individuals. The distribution of risks loading onto each constituent (say, animal, people, plant, even rock) of our Earth will be politically controversial and life threatening in the future.

The quest for environmentalism has obvious implications. The most important one is the concern for the distribution and re-allocation of environmental quality and risks in our society. Societal responses to environmental risks are quite diverse. Different forms and manifestations of environmental movements can be seen in the last two decades, ranging from the collective social actions of the ecological protests to the global environmentalism-driven supra-national agencies' policy on environmental

protection. For the ecological protests, the emerging greening forces have been strategic in articulating public involvement, e.g., the collective social actions with reference to the community and locational specific appeals of Not-In-My-Back Yard (NIMBY, cf. Mowrey and Redmond, 1993), Not-In-Other's Back Yard (NIOBY, cf. Heiman, 1990) and Best-Appropriate Back Yard (BABY, cf. Wang, 1993). For the international agencies' initiatives, programmes under the framework of the United Nations and European Community are becoming important (cf. McCromick, 1989).

On the other hand, the market responds to the global environmental crisis with the greening or cleaning of production and consumption. Seemingly, there is a fashion in favour of a cleaner or environmentally-friendly consumption pattern. Obviously, there are many underlying reasons and dynamics in the collective actions in the greening of the global market. The dynamics of the greening of the market may be attributed to the individuals' commitment to saving the world - under the motto of *Think Globally and Act Locally* - for their individual health and quality of life, or for their maximization of (consumer's) utility and profits (for producers). Under a new global green fashion, the quest for environmentalism and sustainable development has shaped the market conditions significantly (cf. Lai, 1995).

To recapitulate, the emergence of new politics, the impact of the New Social Movements and new interpretations of production-consumption relationships, have all had the effect of multiplying the variety of eco-isms: eco-consumerism, eco-socialism, eco-capitalism, eco-anarchism. In spite of their differential interpretations on environmentalism, their collective strength and socio-political appeals, coupled with the re-alignment of political powers, will likely reinforce the quest for a sustainable future (cf. Pepper, 1993).

Differential Perspectives on the Synergy

Since the configuration of the problematique on environmental issues is structurally embedded in the domains of ecology, anthropology and technology, their synergetic effects and the differential interpretations of environmentalism(s) should be emphasized here. From what we have discussed, it is logical to classify different conceptualizations on environmentalism in accordance with their epistemology: whether they are: (1) eco-centric, (2) anthro-po-centric or (3) techno-centric. Their distinctive epistemological foundation is much aligned with not just the differentiated scientific tradition, but also the worldview of

respective discourses (cf. Bramwell 1989; Drengson, 1988; Martell, 1994; Milton, ed. 1993; Naess, 1989; Pepper, 1984, 1993).

The eco-centric perspective in the reasoning and conceptualization of the synergy refers to the intrinsic importance and vitality of nature. For instance, it is symbolized as the *Gaia* [Earth Goddess of the ancient Greeks], which conceives of the Earth as a single and self-regulating mechanism. From this perspective, natural entities in, or finite elements of, environment (e.g. rock and micro-organism) are worthy of moral respect and therefore there is a strong case for environmental ethics (cf. Attfield, 1991; Katz, 1983; Pepper, 1993; *Topoi* 1993). For those holding the perspective of an eco-centric worldview, like those eco-fundamentalists or the eco-anarchists, it is quite logical and legitimate in praxis terms for them to fight for the ultimate elimination of all forms of domination and hierarchy (cf. Bookchin, 1990). Obviously shown in the New Social Movements, it is not unusual that the eco-centric conceptualizations and interpretations have provided cognitive ammunition to different socio-political groups (e.g. anti-establishment, communist, anarchist, fascist, avant-garde and feminist) for their differential "revolutionary" projects against the dominant pro-growth hegemony.

According to the degree and strength of the eco-centredness, the eco-centric perspective can be further classified in terms of the *shallow*, *deep*, and *deepest ecology* (cf. Miller, 1991, Ch.1; Naess, 1989). The shallow ecology, with its limited concern on incrementalism, focuses on how to deal with environmental pollution and resource depletion within the status quo; this perspective is usually associated with the dominant mode of environmental governance of the state and quasi-state organizations with support from natural scientists. In contrast, the thesis of *deep ecology* articulates the intrinsic values of nature (say, animal or rock rights) with the notion of anti-domination, anti-hierarchy, and against the dualistic conception of people and nature, and that the former is superior than the latter. In many senses, the latter approach resembles a revolutionary mode of environmentalism, for individuals as well as for the socio-political system at large.

As *deep ecology* concerns the totality of nature and the related equality among different species, it attracts certain sympathy from the socialist community. With a collective orientation, eco-socialism attempts to complete the unfinished project of the modernity - a utopian promise for rational, equitable and equal distribution to all concerned species, as well as coping with the

emerging environmental crisis - the depletion of the conditions for (re)production. Given the anti-domination and anti-establishment essence of the differentiated eco-centric theses, it follows that gender issues and socialist proclamations come back into the ecological debate, respectively, under the flagship of the so-called *eco-feminism* and *eco-socialism*. In eco-feminism, the history or civilization of *Homo Sapiens* is interpreted as men's domination over women (and children to a lesser extent), and their domination over the natural environment via technological hegemony. Against the historically-developed dominance, eco-feminism advocates the necessity of women re-positioning themselves in the overall eco, anthropological and technological development.

The eco-centric perspective on the nature and origins of environmental problems has been significantly shaping the new configuration of social thoughts and ethics - socialism, anarchism and feminism in particular. For instance, one of the eco-centric conceptualizations being put into practice is the advocacy for *bio-regionalism* (which is in fact difficult to define in the present mode of scientific know-how, in spite of its emphasis on the role of the community) in which the community strives for its own survival: to have basic food and water supplies yet handling all the waste by recycling within the community. As a form of ecological commune, the bio-regionalist's utopia is the sustainable development of the community, without much inter-community exchange (such as global trade).

The bio-regionalists argue that functional specialization for each community within the global system of the division of labour and trading in most cases will lead to domination, exploitation and hierarchy of the developed and developing localities; all these eventually lead to environmental degradation. Their alternative formula is quite simple if not primitive: only when people realize their resources and waste problems in their own community (i.e. no *exit* option available) will they care about their environment. In other words, the real socio-spatial unit for the bio-regionalist is the very existence and survival of the community (*Gemeinschaft*) and hence, the advocacy is for back-to-community movement (cf. Sale, 1985, Pepper, 1993, p.176-194). To a large extent, the movement of bio-regionalism resembles the advocacies of the anarcho-communism and libertarian environmentalism. Yet, the apolitical and over-romanticized nature of some variations of Deep Ecology have limited their real power in actual socio-political articulation and mobilization.

To recapitulate, the eco-centric environmental perspective argues that the project for the ecological sustainability, *vis-a-vis* the interests of people *per se*, is not negotiable. Rather, people's material interests and spiritual ideals should in most cases be subsumed under the call for Nature as the latter has both ontological and epistemological supremacy.

Alternatively, the so-called anthropo-centric conceptualization is referred to as a set of theses which focus mainly, if not solely, on the primary concern of people's survival and their gratification of needs rather than taking the relationship between *People* and *Nature* holistically. In other words, the former has a primacy and the nature only serves as a means for the people's self-actualization. In short, the anthropo-centric thesis likely accounts for how to promote the best interests of people via the appropriation (in some instances, in sustainable terms) of Nature. In actuality, this orientation of scientific discourse is in line with those of the modernity project - the best appropriation of Nature by different forms of socio-technological set-up. The anthropo-centric reasoning is also applicable for most liberals' ecological discourses (cf. Meadows *et al*, 1992).

One obvious case of the anthropo-centric perspective is shown in the management of the local built environment. In the city environment, an extension of the urban question might be considered as an environmental problem. Collective social action might also be considered as part of the so-called environmental movement (cf. Chan and Hills, 1993). Similar logic follows that issues such as over-population within a locality can be viewed as an environmental problem. Yet, the problem manifestation is not just a part of the urbanization process, but is also embedded in the project of the anthropo-centric development of capital and technology within a given locality.

For the accurate and precise elaboration of the environmental problem, it is useful to make the distinction between the eco-centric conception on ecological system (*Nature*), the anthropo-centric conception (*Built-Environment*), and the techno-centric conception of the physical world in terms of its physical, chemical and biological properties (cf. Mckibben, 1990, Ch.1). Hence, it is not surprising that, given the prominence of the survival issue for people, socio-environmental analyses in many instances focus upon those issues which have positioned the primacy of people over the environment. Therefore, they are still insisting on the domination of people over *Nature* and, in other words, the latter is only instrumental for people's survival and their needs for gratification.

For almost two centuries, and aided by natural scientific hegemony, the most developed perspective is the techno-centrism mode in environmental discourse (cf. Thayer, 1994). Given its historical relationship with the modernity project, the techno-centric interpretation usually gives us the impression of a vulgarized technical analysis (in mathematical or computer-modelling terms) as if the manifestation of the environmental problem is nothing more than technical faults. Gifted by the technology revolution, this techno-centric orientation is shared among natural scientists in general and the so-called environmental engineering professionals in particular (cf. Dietz and Rycroft, 1987). Institutionally, this perspective has received most attention and funding from the political sub-system, in spite of its contradictory findings, solutions and analyses offered.

The dominance of the techno-centric offerings in environmental protection, particularly its engineering approach in protecting the environment with the 'technology fix' solution, are problematic. This is shown in their contradictory manifestations: (1) internally - for the environmental technologists, the controversies over which technical option is better, safer or sustainable, and (2) externally, the arguable acceptance of the recommended set of technological options in the socio-political arena. For instance, the policy option of limited treatment of sewage and the use of long sea outfalls that discharge well away from Hong Kong shores where the waste water can be broken down, over a period of time by natural processes (Hong Kong Government's Environment Protection White Paper 1989, Para.3.20) is a typical techno-centrist approach. As highlighted in many studies (Kunreuther and Ley, eds.1982), the internal controversies [in (1)] are around the contradictory findings among experts on the technological options, e.g. the indeterminacy in risk assessments on nuclear and hazardous installations; and the external constraints [in (2)] are much shaped by the socio-political configuration of risks and environmental issues in a collective of subjectivities. (cf. Daedalus, 1990; *Journal of Social Issues*, 1992; *Social Problems*, 1993; Topoi, 1993).

Obviously, the logic behind the techno-centric reasoning and solutions in the environmental discourse is in fact derived from, or is an extension of, the fully-fledged development of technologies in most aspects of human social life. Yet, by offering a technological promise over the degraded environment, technology and people have not yet begun to confront the inevitable coming of the global crisis, as the nature of the crisis is more socio-political than technical.

Hence, the techno-centric solutions offered were criticized as a further reinforcement of the trajectory towards The End of Nature:

“The momentum behind our impulse to control nature may be too strong to stop.... If we now, today, limited own numbers and our desires and our ambitions, perhaps, nature could some day resume its independent working, though not in our time, and not in the time of our children, or their children”
(McKibben, 1990, p.198-9).

Following our delineation of the trilogy of the eco-, anthropo- and techno-centrism perspectives on environmental discourse and policy initiatives, there are many ways in which different orientations come together for the possible formation of a coherent set of environmental initiatives (WCED, 1987). For this, the next section will address the relevance of the community (and its context) in the environmental initiatives.

PUTTING SUSTAINABILITY INTO THE COMMUNITY CONTEXT

Our discussion so far has highlighted different, yet inter-related aspects, domains and perspectives of environmentalism: they challenge everyone, both institutions and communities. As environmentalism and the search for sustainable development take many different forms, the following section will highlight five aspects of their relevance in the community context.

Responses to the Environmental Crisis

The predominant growth trend of capitalism was challenged by the *Club of Rome* (cf. Meadows, *et.al*, 1972). In particular, the seriousness of environmental problems is manifested at three levels, namely, (1) the catastrophes of Bhopal, Chernyobl (cf. Bogard, 1989; Medvedev, 1990; Czada, 1990); (2) the expanding scope of the environmental policy of states (cf. WCED, 1987; McCormick, 1989); and (3) the global advocacies for sustainable development, especially by the deep ecologists (cf. Dobson, 1990; Attfeld, 1994, p.203-240). This development mirrors much of the observation of environmental conditions - the degradation of the external conditions of production - during the early phase of industrialization by Marx and Engels. However,

“they underestimated the degree to which the historical progression of capitalism as a mode of production has been based on the exhaustion of resources and degradation of nature.... They did not (and could not) foresee the importance of social movements within liberal democratic political systems in preventing damage to nature and/or restoring harmed nature” (O'Connor, 1989, p.8-9).

In other words, traditional Marxist interpretation *per se* cannot give us a plausible answer nor solutions towards the environmental question.

On the other hand, it should be recognised that technological advancement alone cannot solve the environmental problem, as the problem is more political than technical, more social than statistical, and is constituted by people and social agencies. Instead, through protest movements for global survival and the New Politics, society and the state have to reform themselves for a pro-environmental developmental path. Yet, the political reform processes are not smooth but controversial in many cases.

What is important is that in response to the environmental crisis, there has emerged a new paradigm, namely, the *New Environmental Paradigm* (NEP), which fosters a sustainable way of socio-economic development and a cultural shift towards the post-material values (cf. Milbrath, 1989, p.118-134, p.85-87; Inglehart, 1977, 1990; Bell, 1973). This paradigm is being articulated by the environment-oriented thinkers and activists who constitute a kind of vanguard against the traditionally dominant paradigm which stressed only economic growth. Hence, the major differences between the two paradigms are found in their respective value orientation towards the (existing) production-consumption pattern, the steering role of the state and civil society for sustainable development.

In addition, the actual articulation of the NEP in the political arena is through the strong community forces for a green way of life which has changed the political landscape and cultural contours since the 1970s (cf. Dalton & Kuechler, 1990). Along with this development, the deep ecologists also articulate the holistic concern for nature, contrasting the dominant anthropocentric (people-centred) orientation for socio-economic growth which jeopardizes sustainable growth (cf. Naess, 1989; Dobson, 1990).

Ecological Modernization, Risk Management, and Reflexive Modernity

On the way to the 21st century, the quest for ecological modernization in the developmental approach on the one hand (Simonis, 1989; Milbrath, 1989; Meadows, *et.al*, 1992), and the containment of technological risk on the other (Kunreuther & Slovic, 1996), will be a major socio-scientific challenge. This convergence in scientific exploration is reflected in the discourse on *Reflexive Modernity*, societal and policy initiatives for ecological modernization (Beck, Giddens and Lash, 1994), and critical works on communication and management of risks, technology, nature and society, development and sustainability (cf. Atkinson, 1991; Bromley and Segerson, 1992; Cutter, 1994; Dickens, 1992; Goodin, 1992; Lash, 1992; Lagadec, 1990). All of these initiatives bring ecological sustainability back onto the socio-economic development agenda.

To put it briefly, the new environmental discourse is a partial negation of, if not totally against, the modernity project in general, and offers a critique of technology in particular. The new critical rethinking about the modernity project in conceptual terms is pioneered by sociological theses on the problems of modern society, like the Habermasian notion of communicative reflexivity and rationality, and Anthony Giddens' *Modernity* (1990, 1991). In spite of their different theoretical emphases, what they have in common is the highlighting of the contradictory trajectory of our modernity in which modern society undermines its stability and sustainability via the biased technological advancements and the continual exploitation of *Nature*. Most of these intellectual endeavours provide a powerful reflection by highlighting the paradoxes of the over-rational control over the natural world (Beck, Giddens and Lash, 1994).

Collective Actions and the Community Environment

The behavioural repertoires of people in the environmental movement have also been associated with different collective actions ranging from collective social actions of protests, like the Not-In-My-Backyard (NIMBY), Not-In-Anybody's-Backyard (NIABY), to the search for the Best and Appropriate Backyard (BABY). In addition, it seems that people are more sensitive about their exposure to environmental risks in the community in which they live: for instance, people are less likely to settle in the community where an excessive level of hazardous and high risk industrial installations is known

to exist. In spite of the global environmental crisis, the actual articulation of ecological concerns have been mostly locality- and community-specific. That is, people respond to the global environmental crisis through the actual realization of the worsening environmental quality or the explosion of risks in their local community.

More importantly, ecological protests within the framework of the NSMs are a form of vested interest-free, social mobilization (cf. Dalton and Kuelcher, 1990). Those involved in the NSMs, in most cases, are not the direct beneficiary of the political struggle. An active participatory mode of social mobilization is another characteristic which transcends the survival issue of all species in the ecological world. In short, the collective actions are not self- or people-centred, nor do they mainly appeal to class and interest-group politics; hence, they are considered as an integral part of the ecological modernization project (cf. Lai, 1997a/b).

To recapitulate, the actual articulation of the NEP in the political arena is linked with the strong forces of the NSMs. Both of them have changed the political landscape and cultural contours since the 1970s. Along with this development, the deep ecologists also articulate the complete concern for nature, contrasting the anthropo-centric (people-centred) concern for socio-economic growth which jeopardizes sustainable growth (cf. Naess, 1989; Dobson, 1990). Furthermore, the New Politics and Greens' cultural praxis in the NSMs have insightfully generated wisdom and knowledge for sustainable development. More recently, they indicate that there is much to be learnt in the field of non (vested) interest groups, non class-specific and non organizational-based form(s) of political articulation and mobilization in a new emerging socio-political arena (cf. Dobson, 1990; Goodin, 1992; Kitschelt, 1989; Rüdiger and Lowe, 1993).

The Environmental Nexus of Production and Consumption

Production and consumption are linked in the reproduction of the environment, as both of them influence the way in which environmental degradation or conservation takes place (cf. Liefferink, Lowe and Mol, 1993). In other words, the interplay between production and consumption determines the conditions under which environmental sustainability develops.

The production-consumption and environmental quality nexus has major implications for community life. First, it is believed that by changing the community consumption patterns, say, consuming less and using recycled

materials, the depletion rate of natural resources can be reduced in the long run; or at the very least, the problem of domestic waste can be contained. For this, the environmental policy to foster the 'green' sector of production-consumption is thus advocated. Second, environmental problems, as argued, could largely be controlled by the use of ecology-driven market mechanisms, such as government imposed pricing, or the indirect means to reduce the demands for non-environmentally-friendly production and consumption (cf. Lai, 1995).

The globalization of the production mode is mirroring the change in the political meaning of production: from the politics *in* production - class politics, to the politics *of* production in which the major issue is to determine what and how to produce ecologically. Following the emergence of Environmental Impact Assessment (EIA), impact assessments are more widely used in all production and consumption processes, such as the product's Life-Cycle-Assessment (LCA). This advocacy for a green way of organizing production and consumption will have significant implications for everyday life. It follows that the change in technological and social behaviours in accordance with ecological criteria is expected, if not fully realized, in a new regulatory regime. For this, the state's role in environmental governance to promote such change will be a very crucial factor in shaping sustainable development. By the same token, supra-regional (like the European Union) strategies on consumption and in dealing with global environmental and technological risks are thus called for (cf. Czada, 1990; Paehlke and Torgerson, 1990; Switzer, 1994).

In the societal arena, the particular role of consumption in social development, as well as the formation of the individuals' identity, should be noted (cf. Bourdieu, 1984; Campbell, 1987). Paralleling the coming of the NEP, the development of green consumerism is apparent. For the latter, the specificity of green consumption should be analytically identified:- whether the symbolic meaning of the labelled (environmentally-friendly, green, eco-) products has an important function in bringing back the individual's cosmological responsibility to protect the Earth?

Similarly, leisure activities in general and tourism in particular have recently been captured by environmentalism. Environmental quality of a particular community and locality is the most important question for many tourists. The influence of the mass media for alternative natural tourism has been strong. Tourists are mobilized in search for the originality of *Nature*. So-called 'eco-tourism' is becoming fashionable for many people. For instance, the

tropical rain forest tours organized by green groups are well received in both developing and developed economies. Obviously, there is a cultural shift towards post-material values in appreciating the very essence of *Nature* (Inglehart, 1990; Urry, 1990).

To recapitulate, the link between peoples' behaviour and the environment is interwoven with production-consumption relations. In the production-consumption relationship, the level of productivity shapes the types of goods and services that can be consumed, which also in turn affects environment quality. In other words, consumption to a large extent, has to follow what the production sector offers, though in some instances, the former could make certain contributions in affecting what, or in what way, the products are to be supplied. Given a particular level of socio-economic development, (mass) production patterns influence the course of (mass) consumption and its culture. In other words, consumers cannot organize collectively as the producers do, nor do they have full knowledge about the market conditions (cf. Otnes, ed., 1988; Wiesenthal, 1993). In spite of these, there are still many ways in which people can be supportive and involved in developing an ecologically-sound community.

The New Concern for Quality of Life

Scientific and technological advancements contribute not just to a better quality of material life, but also increase the level of risk exposure people have to live with at the community level (Beck, 1986). Environmental movements reveal the limit of the biased technology development and the politics of disasters (Gerlach, 1986). This has led to the emergence of the NEP and a set of post-material values which both constitute an integral part of environmentalism. The manifestation of environmentalism is mediated via the new (or alternative) concern about the 'quality of life'. In line with this development, it is the change of value orientation and lifestyles which shapes the quest for a personal healthy lifestyle on the one hand, and the political pressure upon the state to regulate and promote better environmental health on the other. In addition, the emerging concern for global survival in general, and environmental (living) quality in particular, have highlighted the importance of local (individual) actions and their implications for sustainable growth (Cf. McCormick, 1989; WCED, 1987).

The new concern for 'quality of life' has two dimensional claims, namely, one's satisfaction as derived from consumption, and the question of global sustainable development. The co-existence of these (sometimes contradictory) two claims has pushed the consumption pattern to be more symbolic and substantial towards ecological friendliness. That is, people concern themselves more with the form and way of consumption which influence the depletion rate of the remaining natural resources. What is becoming increasingly more significant is the concern for the quality of life. This is a broad concept that encapsulates both the characteristics of the uncertain and dangerous living conditions people experience, and the normative judgment that evolves. The struggles for a better quality of life should thus be interpreted in terms of not just the improvement in wealth one community has, but also the externalities that people are exposed to.

The emerging NEP should be understood here in conjunction with the so-called post-modern lifestyle (cf. Fine, 1993; Wernick, 1992). Here, the new concerns are both symbolic and differentiated. Yet, there is the likelihood that, because of improved living standards, people can return to their private sphere for pleasure seeking activities. The recent flooding of personalized, tailor-made consumer products onto the market enables individuals to be more detached from community life, in spite of their understanding of collective responsibility for sustainable development. The phenomenon that the recent increase of mass consumption on high-tech consumers goods, such as CD-players and satellite antenna, and the home-work with computer for profits, might support the premise that people are retreating from the public domain, adopting an apathetic attitude towards communal and societal issues, or not engaging in pro-environmental collective actions. The 'exit' and back-to-the-private-sphere option might be good for maximizing individual gains, but the collective action of such behaviour will have a detrimental effect on global environmental conditions.

In particular, the new cultural configuration of the 'quality of life' is in line with individuals' historical search for a better quality of life and societal sustainability in the future. Environmental quality is increasingly instrumental and becoming substantial in many cultural and ethical considerations. Katz (1983, p.550-51) argued that "in a modified, enlightened form of anthropocentrism (as in environmental ethics) the concept of ecological [inclusive of people] *health* forces the human decision-maker to evaluate human action in

terms of ecological structure of the entire-human and non-human- community". For instance, one variation of the ethical concern is on the condition (the state regulation) of both public and private health.

With increasing emphasis on the quality of life, the governance of the built environment and public health is becoming more political. This is obvious and historically shown in many studies on the relationship between health conditions (and policy initiatives) and the physical living environment. For a better quality of life, many policy initiatives have been in operation for decades, e.g., the WHO Healthy Cities Project (WHO, 1986, 1992; cf. Hall, 1990; Wan, 1992). Similarly, major concerns in this area are the exposure to hazards in domestic and working environments, the associated remedial and preventive measures for better health conditions against hazardous exposure, and the state's responsibility for creating a safe and healthy environment

At the individual level, the impact of the scientific 'discovery' of more chronic illnesses- which might be embedded in our genes- is very significant. People are more concerned about their health and are more focused on their physical - i.e. *body* - survival chance in a risk society, in particular, the ontological significance of the *body* (Turner, 1984, 1992). In addition, the major fault line of the high-tech society is on the bio-technology (for example, *in vitro fertilization* and *embryo transplantation*) which challenges the very distinction between nature and the society. Obviously, this is very much a result of the cutting-edge bio-medical know-how from which more controversies are developing. The advancement of bio-medical science and its control over the conditions of living of all species have indeed changed the political governance over the distinctive aspect of lives: between nature and technology-made.

For instance, the distinction between diagnosis and therapy in medical science has been questioned by the fact that there is a dramatic increase in chronic illness. On the other hand, the medical profession is being challenged by biological, scientific breakthroughs in the "quality control of embryos" of all species (Beck, 1992a, p.204-212). In other words, it is the situation whereby "anything and everything is 'sick' or can actually or potentially make one 'sick' - quite independently of how a person actually feels" (ibid, p.205). Coupled with the technological advancements in bio-chemistry, energy, information and material technologies, human society is being challenged by the changing nature of the distinction between nature and nurture: "life is no longer equal to life, and death is no longer equal to death" (ibid, p.211).

It is clear that eco-systems are threatened by our socio-economic development, and within a new ecological modernity that individual action can save (or alternatively, destroy) our Earth. The nexus between global sustainability and human development is in fact a synergy of nature, people, and technology. What makes social science exploration significant are the ethics and epistemology of knowledge, as well as their implications for sustainable development, shaped by the trilogy of eco-, anthropo- and techno-centrism.

EPILOGUE

Envisioning a New Community for Environmental Governance

To end this interpretive paper, a synoptic sketch of the contours of the human community- which should be a self-learning one- is provided here to visualize the inter-related domains which affect the pursuit of sustainable development. For this, a reminder of the nature of our modernity is necessary, specifically that "most modern writers have recognized that the only secure thing about modernity is its insecurity ... Modernity, therefore, not only entails a ruthless break with any or all preceding historical conditions, but is characterized by a never ending process of internal ruptures and fragmentations within itself." (Harvey, 1989, p.11-12). This dynamic condition affects state regulation and societal responses on environmental issues. On the way to the 21st century, it is obvious that our community feels the impact of a globalization of economic activities with an explosion of environmental risks.

In a global market, green issues are also exacerbated by the mass media, especially in the strategic warfare against the state and corporate polluters by organizations such as Green Peace (cf. Eyerman and Jamison, 1989). The political articulation of environmental issues and the mobilization of people in their immediate community are quite obvious in the last two decades of environmental movements. On the other hand, the historical challenge of environmentalism is also on the limitations of dominant people-centred politicking (i.e. majority rule in a representative democracy) which, in some instances, ignores the environmental impact on the eco-system.

In response, many regional policy initiatives have been taking shape. For instance, the environmental policy and directives of the European Union over its member states will have major implications in shaping ecologically-sound, socio-economic development. As the Declaration of the Earth Summit at Rio highlighted, sustainable development is the most important developmental

agenda on the way to the next millennium (cf. Johnson, 1993). Hence, an ecologically-informed and involved public at the local level is an important building block.

At the community level, two distinctive processes are taking place. First, there is participatory environmental governance, protest movements in particular. This is expressed in the form of a confrontational, non-institutionalized politicking process. To defend for one's interests and survival, protests against the modern high risk technologies are quite obvious - like the NIMBY and NIABY community protests (cf. Armour, 1991; Haas, 1992, p.59-86; Heiman, 1990; Petts, 1986). More specifically, the quest is for the mutual development of people and nature (Melucci, 1989; Scott, 1990). Secondly, and perhaps more worrying, is that, given the increasing purchasing power of the middle class, they are returning back to their private sphere in the search for a better, high-tech and tailor-made quality of life. The individualization of the living experience might act against the communal efforts to battle for sustainable development.

The further sophistication of the EIA and related modelling procedures is likely to be beyond the comprehension of ordinary people. As found in controversies over EIA and the siting of hazardous industries (like the local case of Tsing Yi Island), residents' opposition to EIA findings are not just related to their perception and knowledge of technological risks, but also reflect the trust, credibility, reliability and regulation of the state and its agencies (cf. Armour, 1991, p.68; Stallings, 1990). For future environmental governance, there is a strong need to develop and enhance the mutual trust among the various parties involved.

Furthermore, environmental movements and environmentalism have been evolving in three arenas, namely, on the socio-cultural, the political and the cosmological interpretations of the future. The socio-cultural interpretation of environmentalism is on the 'sense of belonging' of a community to its environment. The political one is the quest for pro-active policy initiatives of the state (Inglehart, 1990, p.378-85; Offe, 1985a/b). The cosmological one reflects an individual's worldview on the nexus of the natural world (cf. Chau and Fung, 1990; Worcester, 1993).

From a historical perspective, controversies over risks are only part of the evolutionary process of modernity. More precisely, the awareness of the crisis of the existence of people, animals and the nature, is a consequence of the

social learning process from technological mistakes. And the debates on environmental sustainability are focused upon the normative aspect, like values, and worldview, of local and global development. What will be decisive for global sustainability are the 'self-creative' societal forces which advance the boundary and creation of new public spaces beyond the technologically-structured and defined society, and revitalize the old democratic forms (Cohen, 1983; Hegedus, 1989). Accordingly, people can foster a new capacity to invent and realize their future, to politicize green issues and engage in socio-political activities for the protection of nature, because every political decision has green relevance (Naess, 1989, p.130-162).

The politicization of technology (with and without risks) critically re-examines technology against criteria of the environmental impacts and inter-generational effects. The process is a revitalization of the ideals of the modernity project; namely, not just to defend, but also to extend the public sphere of people and eco-systems, vis-a-vis the state control and the market economy's hegemony. In Cohen's words:

“Indeed, they [ecological movements] can be seen as attempts to draw on the beleaguered cultural tradition of modernity to new forms of cooperation and meaning outside the province of economic and political steering mechanisms”. (Cohen, 1983, p.109)

To conclude, ecological movements are a set of fragile and heterogeneous social constructions which create 'new' meanings and identities for the collective actors (Melucci, 1989). In other words, the movements foster a new post-humanist consciousness, a response to the challenge to rescue the One World from the wild economic growth (Hegedus, 1989; WCED, 1987). However, it should be pointed out that the moments are fragile and subject to socio-political cyclical development (cf. Frank and Marta, 1987; Offe, 1990). Because of this peculiarity, the impact of ecological movements might be transient and short-lived. The rise and fall of the movements are thus contingent on community dynamics. Nevertheless, the appeals of the ecological movements are universal values (e.g., harmony between nature and people), with alternative lifestyles and beliefs (e.g., communal, self-help, and gender issues) which mostly do not correspond to any traditional techno-centred environmental

governance. They are therefore revolutionary and emancipatory in an historical sense. Obviously, through these movements, a new set of definitions on the future - environmental values and justice, quality of life and other normative considerations - are being reconstituted (Inglehart, 1990; Melucci, 1989; Milbrath, 1989; Naess, 1989). For the future, the challenge for people and their community is: what should be (re)produced and consumed individually as well as collectively to ensure sustainable development?

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Chapter III

Urban Poverty and Environmental Management: A Comparative Analysis of Community Activation in Asian Cities¹

Mike Douglass

Variations in development experiences in Asia are great; yet some patterns are so commonly observed throughout the region that they are often represented as ineluctable consequences of economic growth. Among such patterns is the conjuncture of severe deterioration of urban environments with concentrations of people in low-income slum and squatter settlements in large metropolitan regions. With only a very few exceptions, major cities throughout Asia have experienced severe decline in air, water, and land quality, particularly over the last three decades. In all of these cases, this deterioration falls most heavily on the urban poor. Locations where the poor are able to find land for shelter in these cities – in flood-prone areas, near major arterial road systems or factories – are also the areas where untreated waste, inadequate and contaminated water supplies, and air and land pollution are usually substantially worse than in other parts of the city (Douglass, Lee, and Lowry, 1994; UNESCAP, 1993).

In an effort to begin to address urban poverty and environment issues, researchers and community-level practitioners have joined together in a programme of participatory action research on urban environmental management with low-income neighborhoods in seven Asian cities: Bangkok, Bandung, Bombay, Colombo, (Hong Kong), Manila and Seoul. This Community-Based Environmental Management (CBEM) project, which was initiated in 1991, is concerned with improving the capacity for environmental management

¹ This is a revised version of M. Douglass, "Environmental Management at the Grassroots in Urban Asia: Toward a Theory of Community Mobilization" (Honolulu: East-West Center Program on Environment, Working Paper, 1995)

in economically poor urban communities in Asia². In contrast to current practices of community-level development often initiated by government and non-government organizations, the research program intends to go beyond the focus on quantifiable inputs, such number of standpipes per capita, waste collector sites per community, or inoculations per child, in two ways. First, it intends to better link project inputs with identification of actual beneficiaries.³ Who benefits is not only an important question for evaluating projects, but is also linked to the second contribution intended by the project, namely, to explain why some households and communities are better able to engage in successful environmental management efforts than others. Such explanations of successes or failures cannot come from assessments at the community level alone, but must place the urban poor and their settlements into the larger social, political, and economic context. The research is therefore organized to assess relationships at each scale, from the household to neighborhood, community, city, nation, and international arena.

Similarly, in contrast to much of academic research, which has earned the reputation of appropriating local knowledge without either sharing research findings with communities or working toward applying it toward ameliorative actions, the intentions of the project are to be involved in a long-term process of mutual learning with communities. Accepting the reality that there is no one-time-only solution to poverty and environmental degradation, the project seeks to establish collaborative efforts to create the organizational and institutional capacity to generate knowledge and innovative solutions for alleviating poverty through improving community environmental management.

The project thus seeks to overcome the limitations of conventional approaches to both academic research and planning by linking each together through a participatory process of social learning and action in order to improve environmental management capacities in low-income communities. Although

² Funding for the project has been provided by United Nations Development Programme (UNDP); Program on Environment, East-West Center; the Government of Indonesia; the Government of Korea; the Centre for Urban Planning and Environmental Management, University of Hong Kong; and personal contributions from colleagues in each city and the Department of Urban and Regional Planning, University of Hawaii.

³ In the Kampung Improvement Program (KIP) in Indonesia, for example, it is widely assumed that everyone in the community benefits from infrastructure improvements. Studies by Dharmapatni and Hastu (1994) and others (Silas 1989) show, however, that such benefits are both geographically and socially uneven, with areas of communities better positioned near outside access roads and better-off community members more likely to receive benefits than other areas or households.

outside actors such as academics, community planners, and advocates can be seen as “enablers” who bring resources and technical knowledge to communities, the spirit of participation in this project is intended more toward empowering communities and their constituent households to enhance their social, political, and economic capacities to make decisions and assume greater control over their individual and shared resources, including those normally provided by governments.

All of these elements of the project on community-based environmental management are consistent with the concept of participatory action research and the precepts put forth for the establishment of a “new social science” (Hollnsteiner, 1987; Douglass, 1990). Among the key elements of these approaches are:

- bringing extra-community, technical, and other expertise into dialogue with people’s own understanding to analyze, explain, and improve the conditions of their lives;
- respecting and enhancing the people’s own capability and potential to produce knowledge and analyze it;
- ensuring that communities have access to research findings, are engaged in interpreting them, and are able to affect decisions on courses of action to be recommended and taken that are based on such research;
- demonstrating the possibilities of alternative forms of social action;
- encouraging critical consciousness among the people of their own situation, including an understanding of social, political, and economic macrostructures and their local implications in research, community dialogue, and proposals for taking action; and
- broadening the basis for social mobilization at the grass-roots through participatory comparative research that includes organizational arrangements for communities to learn from each other and to be principal initiators in creating and expanding horizontal networks among communities.

With this approach in mind, the purpose of this paper is to take stock of what has been learned from research in Asian cities and, further, to draw lessons with regard to the prospects for poverty alleviation with improved environmental management in the communities and cities included in the research. The major macro-structural features, as well as the levels and severity of poverty and environmental conditions in each city and community involved

in the research, have been discussed in previous research documents and publications and are not rehearsed here (AJEM, 1994; Douglass, 1992; Douglass, *et al*, 1992). Rather than looking from the top downward, the focus in the discussion that follows is on the community and how low-income households currently manage environmental issues.

ENVIRONMENTAL MANAGEMENT VIEWED FROM BELOW

Households and Intra-Household Allocations of Labor and Resources

Poor people working outside of the market and without government assistance continue to account for the largest share of housing construction and community habitat formation throughout urban Asia.⁴ In these communities, and despite much conventional wisdom to the contrary, low-income households also attempt to manage environmental resources and the quality of their neighborhoods in the face of often daunting countervailing forces. Seen from a household and community perspective, explaining current practices as well as potentials for community-based environmental management requires an integration of key social and institutional scales of analysis. Among the most important scales are the household and its economy; inter-household networks of reciprocal exchange; the community as a whole and its leadership; localized non-governmental organizations; local and central government organizations and policies; and bilateral and international financial assistance agencies. While capacities available at each scale are critically important to all community efforts, many of these cannot be reached unless there are clear, supportive linkages with other scales.⁵ The intention here is to reverse the usual top-down view of these linkages by beginning with the household and building a view of contested and cooperative action from below.

Throughout the world the household is a basic social institution for nurturing human development. This includes the pooling and allocating of labor and resources. As such, the household is the basic unit for reproducing society in its material as well as nonmaterial aspects. In cities in Asia, poor households

⁴ In Indonesia, for example, more than 80 percent of urban housing is built by lower-income households through reciprocal and self-help means. The private housing development sector supplies no more than 15 percent of the total.

⁵ Thus mobilizing households for refuse collection within the community would not be sustainable if citywide systems of waste removal are not in place. The converse is also true. Throughout Asia, city governments are generally unable or unwilling to pick up waste along lanes within communities or at the household level. In many instances, lanes are too small for government vehicles, with governments often unwilling to use smaller vehicles.

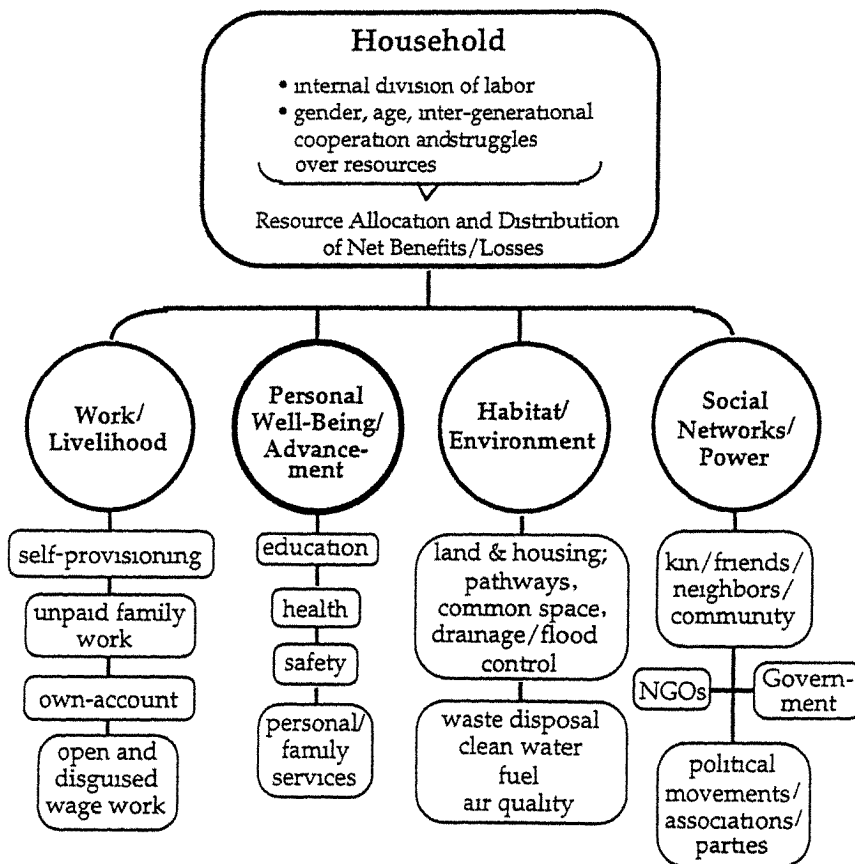
expend considerable amounts of physical, economic, and social energies for maintaining access to usable environmental resources, particularly water, land, and fuel, and managing these resources in an effort to minimize the negative impacts of their use on household members as well as improve the conditions of daily living. In some contexts, simply getting daily supplies of potable water or fuel may absorb the energies of several family members who are compelled to allocate their time to these tasks at the expense of seeking income-generating work. In other situations, piped water supplies and relatively cheap supplies of fuels such as kerosene may allow for households to devote more attention to other environmental concerns such as waste management and neighborhood sanitation. Whatever the actual allocation, since managing the environment is a necessary condition for sustaining an existence in the city through time, there can no *a priori* assumption that the poor are "too busy being poor" to be worried about the environment. Environmental management writ large is neither necessarily subordinated to, nor privileged over, economic and other concerns, but is itself a composite of many tasks and sub-tasks with variable degrees of priority and resource commitments. In other words, the actual capacity for environmental management is embedded in a struggle to cope with and improve upon individual and shared conditions covering a host of demands that, among the poorer members of society, amount to a daily struggle to sustain life and livelihood.

Figure 1 summarizes the key types of demands that households seek to manage. The household is viewed as a basic social unit for nurturing and sustaining the psychological, social, and other non-material conditions for human existence (Smith, 1984).⁶ It is also conceived of as a crossing point for webs of social relationships that provide crucial linkages between producing and maintaining access to the material means of sustaining life, managing environmental resources, and passing on life chances to succeeding generations. As such, it is also a setting for intense conflict over the pooling and uses of income and resources as well as the allocation of labor, time, and energy for at least four types of activities: (1) work and livelihood; (2) investments in advancing the well-being and skills of its members; (3) producing and sustaining the habitat for the household, including neighborhood and community space; and

⁶ Household formation is dynamic, changing, and adjusting over time. The size and composition of households as residential units—composed of fictive kin, work groups living together, or people befriended by the household head—rapidly shift along with opportunities for pooling income and jointly engaging in income-generating activities.

(4) engagement in social networks that, in part, support the other areas commanding household attention (Douglass and Zoghlin, 1994)

Figure 1 Household Strategies and Environmental Management



In adopting a household perspective, there is no assumption that household members either act in complete harmony with each other or that decisions taken by it are necessarily just with regard to gender, age, or other characteristics of its members. Indeed, much of the understanding of gender and inter-generational equity issues in any society would benefit from closer analysis of household decision-making. Accepting these caveats, the focus on the

household here is intended to recognize that the formation of households composes the basic social level of decision-making that often prevails over that of individuals and is an arena of cooperative, as well as contested efforts, in managing life in the city. With regard to environmental management, case studies reveal that decisions about who will be involved in it and how much energy will be devoted to it is part of household strategies aimed at securing both short-term and long-term benefits through divisions of labor, pooling of resources, and task sharing.⁷

Evidence from community research is consistent with the framework in Figure 1. To clarify the relationships involved and the major findings from this research, the remainder of this paper is organized as a series of propositions and corollaries, each of which is intended to identify key points explaining current environmental management practices as well as avenues for enhancing them. The first proposition places environmental management on a plane with livelihood opportunities:

Proposition 1: Environmental improvements and successful environmental management complement rather than diminish income-earning opportunities for the poor

A useful point of departure for discussing the relationship between the household economy and the environment is to counter a view commonly expressed by policy-makers and other observers that environmental improvements follow from, rather than lead, economic growth. There are several reasons why this view does not hold. Among the most important is that a very substantial share of the income (in-kind and money) of the urban poor is generated in their communities and neighborhoods. This includes self-provisioning outside of the market as well as self-employment (own account or individual enterprise), unpaid family labor, and wage work. Studies show, for example, that the material provisioning of households outside the market, such as housing construction, vegetable and fruit growing, and household maintenance – often referred to as “women’s work” – needed to reproduce conditions for daily life can compose 20–30 per cent or more of the household income of the urban poor and almost wholly take place in the community

⁷ Thai Khadi (1987) shows that in Bangkok, for example, the balance between the allocations for self-provisioning and income-earning work tends to shift with a husband’s income from wage work. When his income is sufficient, wives may withdraw from wage work and devote more time to self-provisioning and householding activities, including child rearing.

(Evers, 1989; Evers and Korff, 1986)⁸. More generally, studies in a variety of urban settings in Asia show that one of the strongest motivations for continuing to live in urban slum and squatter settlements is the variety of economic activities found in or near them. These motivations are so central that efforts to relocate low-income households in areas with better housing and environments at the urban fringe often fail, as migrants sell or abandon such locations in favor of returning – often illegally – to older slum areas in the city.

For women in particular, the physical environment of the house, neighborhood, and community is also the environment for productive activities. In the study in Bandung, for example, approximately three-fourths of the women said that they worked entirely at home, and 54 per cent of the respondents said that proximity to the workplace was the principal reason for living in the *kampung* (urban village) (Dharmapatni and Hastu, 1994). Improvements in community environment are therefore critical to the overall sustenance of the household, and they represent betterment of the daily life space for a very large proportion of low-income people. Dividing this life space into “production” and “consumption” is artificial from a household perspective.

In fact, environmental management can generate economic opportunities as well. First, a clean environment enhances the health of household members and enables each to be more productively active. More directly, as evidenced from the experience in Wat Chonglom in Bangkok, community campaigns to create such environmental infrastructure such as pathways and drainage, have led to a proliferation of such commercial enterprises as food stalls, beauty salons, and general stores in slum communities (Ard-am and Soonthorndhada, 1994). Similar results have been noted in other communities (Douglass and Zoghlin, 1994). Such findings illuminating the contribution of environmental improvements to the economy of low-income communities inverts the usual assumptions that income gains must come before environmental improvements and, as such, represents one of the most profound findings of community studies.

⁸ Most government and international assistance programs take little account of these activities, and the programs they support may even be inimical to them. Forced rehousing into high-rise apartments, for example, often neglects the critical importance of land for growing food and areas for storing tools and other assets used for productive activities.

Proposition 2: Success in managing basic environmental resources and problems (water, drainage, solid waste disposal) at the household level depends upon the capacity to maintain a complex intra-household division of labour

As noted, environmental concerns are among many that households try to address. In this context, failures to manage environmental conditions and resources are more related to household size, composition, and type rather than to an assumed prioritization of other household needs over habitat and environment. It is well known, for example, that the poorest of poor households are those with only one adult or parent and thus lack the wherewithal to cover the many types of tasks needed to sustain basic levels of existence.⁹ Among the most salient variations among households are those related to levels of income, education and skill attainment of household members, and strength of social networks, which not uncommonly extend back into rural regions of origin. In the Cibangkong community in Bandung, for example, higher-income households located along the main roads were found to be more likely to contribute money for community-wide projects, while poorer households tended to contribute labor time instead of money (Dharmapatni and Hastu, 1994). Research in Bangkok and Bombay also confirms that household income and other characteristics, such as household structure, size, work status of main household income earners, gender roles, and conflicts in the household, become significant determinants of the spectrum of activities and the ways in which environmental management questions become part of household strategies (Ard-am and Soonthornhdada, 1994; Sengupta, 1994). Interestingly, the Bangkok study found that the more-developed community actually had a larger average household size (five compared to four) than the less-developed one, suggesting not only that relatively higher levels of prosperity allow for larger household size, but also that household size may actually allow for higher levels of household welfare.

In conceptualizing about the household, care must be taken to avoid equating it with "family" based on kinship relations. As summarized by Friedman (1984, p.39), households are neither necessarily composed of kin nor physically housed under one roof. Instead, the household should be seen not as fixed set of people at a place, but rather "as a set of relationships that impose a mutual obligation to pool resources from a multiplicity of labor forms." This

⁹ In the study of two communities in Bangkok, the one which was more successful in environmental management also had households with higher levels of permanent or full-time work. In the poorer and less well managed community, grandparents and daughters (together with sons-in-law) were found to play very important roles as income earners, suggesting a lower ability of these household members to engage in traditional roles of householding and environmental management tasks (Ard-am and Soonthornhdada 1994).

would presumably allow for migrants who send remittances from another region to be included in the concept of the household. Limiting the definition of household to those living under one roof and sharing the same pot, Jellinek (1991), in her study of a low-income kampung in Jakarta, identified at least four types of households: (1) only mother and children (or brother and sister); (2) nuclear family (mother, father, children); (3) extended family (mother, father, and married children and offspring); and (4) many breadwinners living together without their families in communal lodging houses. Each was found to be extremely fluid in size and composition, with new faces appearing overnight and others departing with high frequency.

An important corollary to the second proposition focuses on the linkages between the household and the larger urban, national – and increasingly globalized – economy.

Corollary 2a: The internal division of labour within the household is contingent upon the (changing) structure of the (urban) economy as a whole

Poor households, contrary to much of the literature on an imagined “informal sector,” are neither disconnected from the economy as a whole nor engaged only or even principally in small-scale, non-wage activities (Hettige, 1990). They not only are tightly integrated into the economy, but also seek to diversify their income-earning and -pooling activities by having different family members engage in different types of activities and sectors of the economy (Douglass, 1993). In Bombay, for example, much of the energy of households is devoted to obtaining wage work for male household members, while in Bangkok and Indonesia, much of the new demand for industrial labor places women into wage work. In Hong Kong and Korea, both men and women seem to be engaged in petty commodity production, vending, and wage work. In all cases, the occupational mixes of lower-income households are reflective of broader economic trends as well as cultural practices toward age and gender divisions of labor. It follows that the allocation of labor to environmental management tasks within a household will be directly affected by the profile of economic opportunities available to its constituent members. As noted, in the case of industrialization processes under way in many cities, these opportunities are also the source of new types of household formation.

Whatever the context set by the national and urban economy, not all households are able to achieve the degree of internal cooperation in allocating labor and pooling resources to allow for attention to environmental management

concerns. Although even the poorest or least-diversified household is compelled to allocate minimal effort to securing fuel and water and cleaning the immediate household area, there are great variations beyond this level. Another corollary to the second proposition underscores one reason for these variations:

Corollary 2b: The less diversified the household, the less likely that significant attention will be given to environmental management; greater reliance will therefore be placed on extra-household sources of management

Size may not be the principal factor in the degree of diversity in allocation of household labor. Large households composed, for example, of working men who rent bed spaces but have no significant pooling of resources may be less able than a small nuclear family to commit labor to environmental management tasks. For whatever reasons, every low-income community has at least some households that are unable to reach the level of intra-household cooperation and division of labor to attend to environmental management. In such instances, the community as a whole would probably be expected to directly assist or otherwise compensate for the households that do not have the wherewithal to actively contribute to environmental management. To the extent that current processes of accelerated industrialization are creating new types of households that lack the diversity and capacity for collective decision-making, the high economic growth being achieved by the countries involved may well be matched by decreasing community capacity for effective environmental management. If so, compensating mechanisms would be needed to improve and manage community environments.

A third corollary related to household capacities is that the stability – whether real or perceived – of the household in the community is a critical factor in determining both the willingness and ability to allocate resources to environmental management.

Corollary 2c: The degree of engagement in household and community environmental management is positively related to household stability and sense of community membership

Recent literature on low-income urban households reveal how their size and composition is often unstable. There are many aspects of this lack of stability, including individual personalities, diversity of employment opportunities, as well as cultural and other institutional arrangements and

practices.¹⁰ One indicator of stability is the length of time that household heads have lived in the community. Research consistently finds that the people who are most involved in organizing for environmental management at the community level are those who are from households that have long-term residence in and therefore more readily identify with the community. There are, of course, many exceptions to this truism; newcomers can also be motivated to develop a stake in the community through participation in community activities. Moreover, length of residence is also related to fundamental questions of land ownership and tenure that affect attitudes of the community as a whole about stability and incentives to engage in community improvement programs. Nonetheless, willingness to devote time and energy to community investments in environmental management is at least partially dependent upon a feeling of long-term belonging and commitment to the community.

In this regard, one of the most surprising findings from the community studies is that neither outright ownership nor legal tenure status seems to explain the propensity for participation in cooperative community activities. The reasons for this unexpected finding can be expressed in a fourth corollary:

Corollary 2d: Personal and household involvement in planning and management efforts is contingent upon a sense of community stability, which is a function of the perception – rather than actual legal status – of security of land tenure

No government in the market-oriented economies of Asia has yet to adopt a land policy capable of accommodating the tens – in some cases hundreds – of thousands of low-income people that search for housing in major urban areas each year. In lieu of such a policy, and in face of the great magnitude of urban population increases, governments have instead developed ambiguous de facto land policies with regard to slum dwellers, a large proportion of whom are found to be living on land that is nominally owned by the state. On the one hand, official policies often declare slum and squatter settlements to be illegal and potentially subject to eviction without warning. On the other hand, at least in selected areas, governments have given implicit recognition to such communities by providing them with basic services and limited infrastructure. This ambiguity is often resolved one way or the other by private-sector land

¹⁰ Jellinek's (1991) study of a household in a kampung in Jakarta, for example, the number of people who counted themselves as being members of the household fluctuated between two and nine and did so not in relation to the income-generating and -pooling opportunities centering on the business operated by the female head of the household.

development. In areas, particularly central city locations, where land values increase precipitously, governments may sell off land or otherwise develop it for nonresidential purposes. Where the poor live either as tenants or squatters on privately owned land, governments are generally more direct in supporting landowners' rights and evictions. But even in these instances, as has recently been the case in Bangkok, governments may facilitate land-sharing agreements to divide land between tenants and owners.

The ambiguity in housing tenure and land relations emerges in striking ways within communities. The study of Cibangkong found, for example, that while 80 per cent of the respondents said they owned their houses, only 54 per cent claimed to own the land under them, and even the latter percentage was thought to be difficult to substantiate on the basis of land certificates. Furthermore, most houses were built without building permits and could, therefore, be subject in the extreme case to demolition by the government. In addition, while most of the respondents live in a house with a single household, two-fifths share their house with one other family, and another one-fifth share with two or more families. These variations occurred in a kampung in which three-quarters of the surveyed households said that they have lived in the kampung for more than twenty years. Such insights from community-level analysis reveal how difficult it is to establish a clear measure of community stability in relation to access to land and housing. It may also follow that households themselves have shifting or variable perceptions of their stability in the community as external forces shift in intensity. In general, however, it appears that perceptions of stability minimize the possibilities of severe disruptions. This, in turn, may well contribute to the sense of moral outrage when evictions are initiated.

At a higher scale, the dissonance between actual and perceived conditions is likely to be manifested in different ways in each country and in different areas of an urban region. In the already highly urbanized, newly-industrialized economies of Asia (Asian NIEs)—Hong Kong, Korea, Singapore, and Taiwan—large-scale, low-rise slums in urban core areas have already been substantially removed through varied combinations of private land development and public housing construction. Slum and squatter settlements remain either as pockets of older communities, as is the case of Diamond Hill in Hong Kong, or are “disguised” in high-rise buildings built during the past several decades.¹¹ In

¹¹ Problems of “vertical” environmental management in high-rise, low-income apartments in such cities as Hong Kong remains a much-neglected focus of research and policy.

contrast, in the core urban areas in Southeast Asia, where rates of urbanization are now the highest in Asia, low-income communities with decades or more of existence are now experiencing rapid land price increases and intense activities by land developers to displace slum and squatter settlements for high-rise commercial development. This situation contrasts in turn with low-income communities in South Asia, which appear to be in much less jeopardy of either private-sector or state-initiated redevelopment programs.¹²

The overall result of the mixed messages arising from *de jure* and *de facto* land tenure and state policies and actions is that residents of low-income communities without tenure may look to other indicators of stability, such as the length of time that the community has existed, the household's position in the ethnic or religious mix of the community, the appearance of significant numbers of new migrants representing new rural origins or household types,¹³ the extent of government investment in community infrastructure and services, or whether previous efforts to avoid eviction have been successful. Although no single case study can by itself establish that perceived stability is more important than actual land tenure conditions, a view across studies suggests that unless there are overt acts of large-scale evictions from communities, the households in them act on other evidence of stability.

With regard to community stability, the impact of transformations of household structures and land relations on the urban fringe is one of the most neglected topics in all research and policy studies on Asian cities, including those concerned with poverty and the environment. Particularly in large urban regions in East and Southeast Asian countries that are experiencing rapid industrialization, erstwhile rural villages on the edge of expanding built-up areas are being transformed by large-scale real estate investments, massive construction of manufacturing and processing industries, and steady migration of young unmarried workers into neighborhoods and large pockets of their communities. New slum and squatter settlements are also being constructed on

¹² A little-discussed feature of the famous Orangi Pilot Project (OPP) in Karachi, which has absorbed more than a million poor migrants, is that it was essentially a spontaneous mass invasion of public land. It would be difficult to imagine the OPP success without this underlying feature of that city. Few, if any, other cities in Asia have such an abundance of underutilized public land.

¹³ Studies of urban communities have consistently noted the very high degree to which various neighborhoods are closely linked to specific rural regions and even villages. Such linkages are also vital to the sense of continuity of the urban household and its willingness to invest in the community not simply for its own sake but also for the longer-term sustenance of the rural place of origin, which expects remittances from the city in return for the support it gives to migrants.

the urban fringe by petty land developers who, like their large-scale counterparts, also take advantage of the absence of clear land titles and nominally state-owned land that can be developed through off-the-record agreements with central or local officials. The mix of these forces is creating the most chaotic of all conditions in community stability in Asian cities. The situation is exacerbated by the continuing rural classification of most of these areas and the attendant low levels of government administrative attention given to them. In such turbulent circumstances, engaging communities in longer-term environmental management efforts may prove to be the most difficult of all. Understanding these variations across countries and within cities is a crucial element in understanding the capacity for mobilizing households to invest time and resources in environmental infrastructure and long-term environmental health of their communities. And while perceptions of stability appear to be more important than the legality of land occupation, care must be taken about what kinds of conclusions can be drawn from this observation. Specifically, it should not be taken to mean that land security issues can be ignored. To the contrary, one of the most critical needs in cities throughout Asia is a coherent land titling process for the poor and low-income communities. If, as seems to be the case throughout Asia, capitalist land relations favoring private ownership are to be privileged over all other forms of landownership and management (common property, "customary" land use, or public ownership)—then the longer-term stability of low-income communities depends upon the ability of households to gain clear title to land for housing. If it is to avoid the chaos that is currently resulting from private land development by households and developers alike, a land titling policy would also require a parallel set of policies for radically accelerating the provisioning of serviced land, particularly with environmental infrastructure, for housing.

Gender and Environmental Management

Proposition 3: Where women have greater decision-making roles and access to outside sources of support, environmental management is greatly improved

With regard to household gender divisions of labor and the environment, women invariably carry most responsibilities for daily environmental management tasks: collecting household garbage, obtaining and storing water, and cleaning toilets and other facilities. Men are frequently charged with larger-scale tasks such as hauling waste, building toilets, digging wells, and constructing drainage ditches. Whatever the allocations, the studies conducted in collaboration with the CBEM project show that the head of the household

tends to be identified as the person who makes final decisions about them. In Cibangkong, Bandung, two-thirds of the respondents in a household survey said that the head of the household was the one who decides whether the family should participate in community environmental management activities (Dharmapatni and Hastu, 1993, 1994). In Shivneri, Bombay, women and female children are responsible for virtually all cleaning tasks, fuel collection for cooking and heating, and water collection, filling, and storage, but men as household heads make most decisions about all household matters.¹⁴

Since women (children as well as adults) are the principal managers of the household environmental resources, infrastructure and services, they are usually more knowledgeable about environmental conditions, issues, and possible approaches toward managing them. Although men continue to be placed in key decision-making positions in most settings, particularly with regard to community-government relations, throughout Asia women have mobilized to form activist groups, cooperatives, and other forms of association that have had positive impacts on improving household and community conditions, including those related to the environment (Wignaraja, 1990; SPARC, 1991; Momsen, 1991). In Kanpur, India, for example, women have formed neighborhood committees that, among other activities, locate sites for hand pumps (Schenk-Sanderger, 1987, as reported in Sengupta, 1994). In Shivneri, women are not included in such decision-making even though they know from their own experience as the household water gatherers that the locations selected by men for water taps are both inconvenient and unclean. Their voice in decision-making would clearly save time and be more environmentally sound. In the five cities covered in the research program, Hong Kong seems to be the only exception to the general case that men are the principal decision-makers. Chan, Chang, and Cheung (1994) found that most respondents there believed that there is no significant difference between men and women in community participation. In both the Diamond Hill settlement and Sheung Yuen Ling Village, women were found to be principal organizers of many environment-related action groups.

¹⁴ In the Bombay context, environmental management involves exceptionally time-consuming chores. With regard to fuel, kerosene queues are often very long. Bringing water from public taps also requires special effort because the supply of water by the Municipal Corporation comes only twice a day at specific hours. Women must begin to make preparations to join the first queuing as early as 3:30–4:00 a.m. Except for gutter or pipe cleaning and house repair, men do not appear to engage in environment-related activities, although they are the ones responsible for attending meetings called by the community's elected committee (Sengupta 1994).

Changes in environmental awareness as well as successes in community planning and management can, however, result in new household practices and more permeable boundaries around traditional roles within the household. In Bombay, for example, increased requests for household contributions of labor to dig trenches for sewage lines, maintain drainage ditches, clean community common areas, and related tasks have resulted in increasing participation of men in environmental management projects. The increasing participation of women in wage work or trading activities outside the household has challenged traditional role patterns even more. As noted by Sengupta (1994), these and the factors mentioned above combine to make the household an important analytic focus for describing and understanding the environmental management behavior of the urban poor. Research on community-based environmental management confirms that an understanding both of the household as a resource-pooling and -allocating unit covering livelihood, personal advancement, habitat, and environment and of social networks of exchange and support is critical to explaining current practices and identifying potentials for improvements at the community scale.

Gender relations in households also shift through time and place as other parameters of household formation and the household economy shift. In East and Southeast Asia, for example, the advent of export-oriented industrialization has reversed past patterns of male-dominated, rural-urban migration and, in recruiting young rural women into the urban textile and labor-intensive factory system, has filled neighborhoods and low-income quarters of the city with households composed of young, usually unmarried, women (Standing, 1989). These households might be seen as the female counterpart of those composed of men who circulate between countryside and city as construction workers. In either instance, household formation represents a departure from the idealized extended or nuclear family living under one roof and sharing the same cooking pot. They also have direct implications for environmental management. In the case of Bandung, for example, the in-fill of dormitory-like households comprising young female textile workers in the kampung studied by Dharmapatni and Hastu (1994) has increased the already high degree of variation in neighborhoods and lanes, and at least initially it represents heightened difficulty in securing household involvement in community-level environmental management.

Inter-Household Reciprocity and Cooperation

Proposition 4: Maintaining inter-household networks of reciprocal exchange is of critical importance to household efforts to manage their habitat and environment

Households extend their capacity to manage tasks in livelihood, habitat, environment, and individual advancement by entering into a variety of reciprocal exchange relations with neighbors, fictive and actual kin, and others. Such relations are of vital importance in managing shared or common spaces, caring for children, constructing houses, and carrying out many other activities directly or indirectly related to the environment. The inability of an individual household to manage production and consumption relations on its own is often partially compensated for by the existence of these inter-household forms of reciprocity and mutual obligation.

The case of Shivneri (Bombay) is illustrative of low-income communities. Many households in this community are by themselves unable to put aside enough money for expenditures, such as house repairs, mosquito nets, or other unexpected seasonal needs. In such instances the expenses are often met through borrowing from neighbors or relatives. In the same community, the absence of such household facilities as piped water connections, toilets, and trash receptacles means that cooperation in sharing standpipes and communal toilets and disposing of daily waste is essential to basic household sanitation.¹⁵ The same circumstances appear in even high-income countries, such as Korea. Intense crowding in squatter settlements in Seoul has necessitated the construction of common washing and toilet facilities (Kim and Jun, 1994).

Corollary 4a: Sustaining inter-household networks depends upon the capacity to minimize free-rider problems

A concern often raised about cooperative efforts such as those necessitated in habitat management in Bombay and Seoul is that they are easily undermined by "free riders", namely, those who benefit from the efforts of others but do not contribute to these efforts themselves. Unless this problem is eliminated or substantially minimized, active participants lose the incentive to devote energies that are taken advantage of by non-contributors and they begin to withdraw from the efforts. There are, however, a number of substantial

¹⁵ Among the households surveyed in Shivneri, 48 percent either use a neighbor's or public bathroom, and 28 percent share a neighbor's toilet or use public toilets; 30 percent have to obtain their water supply from neighbors or public taps. In each instance a higher proportion relied on neighbors than on public facilities.

reasons why the free-rider problem does not usually become a serious concern in community environmental management in Asian cities. First, small-scale social organizations have many mechanisms, ranging from gossip to shunning and acts of violence, that are actively used to censure non-conformers and compel cooperative behavior.

Secondly, some cultures may actually tolerate a certain degree of non-compliance, particularly if it is known that non-contributors have special circumstances, such as extreme destitution or mental or physical handicaps, that prevent them from taking an equal burden with others. In some communities, such as those in Bangkok, religious ethics may encourage such tolerance. Finally, members of the subgroups or networks may adopt innovative ways to actively reduce access to resources by potential free riders. In Shivneri, where much of basic environmental infrastructure is outside the household and therefore requires constant fostering of inter-household cooperative arrangements, standpipes are padlocked by groups of households to limit free access. This is necessitated not because of the scarcity of standpipes, but rather because of the scarcity of water, which is available at only specific hours during the day. Without such measures, some households could take more than their fair share and, as a further outcome, the lack of access rules risks generating an uncontrolled rush to get as much water as possible before others do (Bromley, 1989).

In sum, while the free-rider problem is potentially a divisive one, evidence from the community studies suggest that inter-household reciprocal assistance has many key dimensions that work toward limiting it and its impact on the willingness to engage in managing shared spaces and participating in cooperative management efforts.

Community Organization and Leadership

Proposition 5: Sustaining community-level environmental management requires the establishment of hierarchical but inclusive community organization and leadership

Most communities, including low-income settlements, in Asian cities have some form of community organization. The exact nature of these organizations varies greatly, however. In some cases, such as in Seoul, community organizations have emerged through struggles with the government and have therefore been anti-statist in posture, at least in their initial phases of existence. In others, such as in Hong Kong, squatter communities are often composed of semi-official committees organized around specific functions or

interest groups. In Indonesia, community leaders have official status recognized by the government, and at the highest community level (lurah), they receive government salaries.

Whether leadership emerges from within the community, is imposed from above, or is a combination of both, matters greatly to the type and degree of community mobilization with regard to a wide range of community affairs, including environmental management issues. The least-effective situations are those in which there is either no leadership or leadership that has no community roots. Most communities seem to lie between these two extremes. In the Wat Chonglom experience, success in mobilizing households for clean-up campaigns and constructing cement walkways through the community rested in part on the resolution of the community chairmanship that had potentially divided the community. In Wolgoksa-Dong, Seoul, leadership emerged from a Christian church and not only was limited by the absence of recognized legitimacy in community affairs, but also subsequently shifted dramatically as the key leader left the church in favor of working with labor rather than community issues (Lee, 1993).

Hierarchy, manifested in the authority vested in the community leader, is crucial to community-wide action in a number of ways. First, it can serve to mediate and resolve conflict by allowing higher levels of decision-making to adjudicate disputes or differences among community members. Deferring to selected leaders can offer a "face-saving" way out of stand-offs with neighbors. Leadership can also play a redistributive role of pooling and reallocating resources within the community to serve a variety of needs and objectives, including collecting money for community projects. One of the most important roles of leadership is the synaptic one of linking and mediating internal with external affairs.

Such hierarchies of administrative and decision-making power within communities are not necessarily inclusive, nor are powers always used for the general good. Elites taking leadership to serve their own interests at the expense of the community is not uncommon. Even where community organizations are more inclusive than others, it is rare that all strata of the community will participate equally. In a study of the Kampung Improvement Program (KIP) in Indonesia, for example, the nominally inclusive process of community decision-making was found to systematically exclude the poorer kampung households (Silas, 1989). The existence of a totally inclusive, homogeneous, and harmonious community is, it seems, only to be found in the "romantic" literature

on community development rather than in the real world. Nonetheless, some arrangements are more inclusive than others, and where leadership is either absent or highly exclusive, community-wide mobilization of households for cooperative efforts is unlikely.

But even in the context of unequal access to decision-making, all of the studies show that organization and leadership above the level of the household and small groups of households is essential for larger-scale activities, especially if they involve linking with government.¹⁶

Corollary 5a: Community mobilization for political action is often generated by perceptions of shared crisis; successes will depend upon enlarging political solidarity through "moral high ground" issues

Many studies observe that people do not mobilize around community problems until a crisis of substantial effect on a majority of households is experienced. Whether it is a flood, an attempted wholesale eviction, a sudden increase in pollution from a nearby factory, or some other major event, such as the sudden drying up of groundwater, the sense of shared catastrophe is a common element in galvanizing community energies for cooperative action. Several elements of these actions are important to environmental management. One is that actions begun in one realm, such as an anti-eviction drive, can form the basis for actions in others, such as the environment. In other words, the experience of solidarity can carry over into many other activities. Second, enlarging solidarity above the specific concerns of a segment of households requires the identification of "higher order" values that all parties can not only agree upon but also use as ideology in either demands made on the state or struggles against other outside forces (Apter and Sawa, 1984). As environmental issues throughout the world become the moral high ground, low-income communities may increasingly use a newly perceived right to a clean environment as a means for activating individuals and households for involvement in community activities and affairs.

¹⁶ In some instances, NGOs may either fill the void of community leadership or even supplant existing leadership functions and roles in the community.

Corollary 5b: Household and community self-management arises from systemic failures (notably, market and government); conversely, where markets and/or governments provide services to a significant portion of the community, community self-management declines

Although community activism is often seen as being desirable in and of itself, care needs to be taken with regard to imposing such a view on the community. Studies suggest that, in fact, households and communities do not necessarily want to devote time and energies to environmental or other types of community management, but must do so out of necessity (necessity, however, may be an insufficient criterion for community management). Where governments and/or markets are able to manage environmental problems even moderately well, community organizations devoted to these purposes have tended to demise. Whether this is because this is preferred or, alternatively, governments and markets undermine community organization is not clear, however. Nor is it necessarily true that governments or markets are successful in reaching all or even a majority of households. But whatever the reason or outcome, the case studies suggest that provision through government or market tends to weaken community efforts. In Cibangkong, Bandung, the KIP program was found to have weakened community organizations even though it did not serve the entire community in the construction of basic infrastructure. In Hong Kong, residents essentially petition government for assistance rather than attempt to build environmental infrastructure or manage environmental services on their own. In Bangkok, the community hired daily-wage workers to clean waste from under its houses, and in Bandung the community hires men to haul trash.

There is thus no intrinsic reason why communities should be expected to forevermore manage all aspects of their environment. Rather, in the current context of most Asian cities, promoting community-based environmental management is needed for practical concerns, namely, that in most aspects and on a broad scale, the market is inimical to improving the environment and the state has not shown itself to be capable of intervening to improve environmental conditions or management in low-income settlements.

Corollary 5c: The general pattern of household type and composition appearing at the community scale will have a decisive relationship to environmental management propensities and capacities

As discussed above, the capacity to carry out even basic environmental management tasks is related to the structure of the household. In many cases,

certain household types tend to be more predominant in one community than another, thereby suggesting that the community as a whole will have different environmental management propensities based on these differences in household patterns. In Wat Chonglom, for example, the general pattern is that of nuclear and extended families, which, as previously argued, are better able to devote labor time to environmental concerns than, for example, are dormitory-type households prevalent in one of the adjacent living compounds.¹⁷ Other types of household patterns can exhibit similar difficulties in reaching community scales of environmental management. Ethnically or religiously divided communities, or communities that are so homogeneously poor that they lack a stratum of better-off households that often take on leadership functions, might fit into this category.

Household patterns are among the many differentiating features among communities and their capacities for environmental management. In the Bangkok study of two communities, the one with higher levels of development across an array of indicators was also the one thought to be more capable of launching community-wide programs for environmental and habitat improvements. Average length of residence, relative levels of household incomes and expenditures, general attainment of primary education, and relative absence of crime, violence, and drug abuse are also likely to be related to levels of community activism in environmental and other affairs. Ard-am and Soonthorndhada (1994) show, for example, that the community thought to be less able to manage its common problems also had a higher percentage of single-headed households.

Corollary 5d: Cultural and/or religious institutions are important sources of community organization and mobilization

Leadership at the community scale is often associated with cultural and religious institutions. In Wolgoksa-Dong, Seoul, leadership emerged from a Christian church. In Wat Chonglom, the chairman was selected in part because of his reputation as being a strong Buddhist. In Bombay, much of the political organization is along religious lines. In Cibangkong, Bandung, religion-related activities were found to be very prominent and influential in mobilizing community activities, including nonreligious ones. As noted by Dharmapatni

¹⁷ Separated only by a fence from Wat Chonglom is a privately owned compound composed of housing occupied by groups of men who are day workers. Neither the landowner nor the residents seemed to have interest in organizing for the type of improvements that its neighbor, Wat Chonglom, has so successfully done.

and Hastu (1994), information or instructions from the community (kelurahan) office or head of the local administrative unit (RW or RT) are announced more effectively through the loudspeakers of the mosques or through religion-related meetings than by the official leadership itself.

Corollary 5e: Environmental management cannot be sustained without a clear sense of efficacy by the participants

One reason why the poor are perhaps mistakenly thought to be either dependent upon the state or “too busy being poor” to devote energies to environmental management (Gozun, 1994) is that they perceive or have experienced that such efforts either do not bear fruit or are beyond their capacity to influence. Environmental management issues involve various scales of social action; many are clearly beyond the capacity of most households and communities to significantly influence. City-wide air and water pollution are two typical examples. In addition, many actions are dependent upon complementary ones taken by outside actors. If, for example, the city government is unable to pick up trash from community collection points on a regular basis, the incentive to bring trash to those points is severely diminished. These observations underscore the proposition that households and communities can only be expected to engage in those activities through which they can produce results. For related reasons, residents in Cibangkong were found to be more willing to participate in the maintenance (cleaning) of the facilities than in their construction and repair because the former required only labor contributions, which the households could provide, while the latter called for financial donations. Moreover, participation in construction and repair activities was more likely if the local government provided materials and instructions.

Similar findings were derived from Shivneri, Bombay, where people were most likely to participate in cleaning the latrine, gutter, and wells. More difficult and costly tasks, such as road building in the community or other activities requiring community-wide efforts, were generally undertaken in collaboration with the local politician. In Cibangkong as well, projects were more likely to engage household willingness to contribute labor if community leaders were actively promoting them. More specifically, higher-income households were found to be more likely to be willing to contribute money for larger community efforts, while poorer households were willing to contribute only labor rather than money.

In sum, the view from below suggests that poor households are concerned about the environment and can take actions to manage environmental resources. The degree of effective concern and range of actions vary greatly depending upon combinations of relationships within and among households and the characteristics of communities and their leadership. Relationships with entities outside of the community are equally important. The next section explores these relationships from above.

**Community Environmental Management
Viewed from Above: State and Community**

Proposition 6: The market alone has been ineffective in either sustaining improvements in environmental conditions in low-income communities or ameliorating the housing and habitat problems facing the poor even under very high rates of economic growth. Where improvements have been made, government intervention has been critical, although the results have been partial

One of the persistent myths of the “miracle economies” of East Asia is that both their stellar economic growth and capacities to reduce poverty were produced by the market trickle-down mechanisms assumed to accompany them. More rigorous studies have shown, however, that the state was powerfully involved in both dimensions of economic growth. Not only was state intervention used to get prices “wrong” rather than “right” (Amsden, 1989) by protecting infant industry against international competition, it was also used to implement massive public housing projects and, over time, other community upgrading and social welfare programs. With private enterprise able to externalize the costs of environmental degradation, market mechanisms likewise fail to fully value environmental resources and the long impacts of environmental deterioration on health and welfare of individuals. Governments throughout Asia have increasingly realized that if there is to be an environmentally sustainable development, they must be involved in regulating private activities with regard to environmental impacts, provide basic environmental infrastructure, and make specific efforts toward low-income communities.

Government interventions have been instrumental in ameliorating some environmental problems in poor communities. Such basic infrastructure as piped water and electricity, and such services as water treatment and solid waste collection from the community, are generally seen as public-sector activities. Through KIP in Indonesia, kampung received basic drainage and other infrastructure. In Bombay the municipal government has provided latrines and

standpipes to slum and squatter settlements. In relation to the larger social and economic processes generating the current urban transition in Asia, these efforts are, however, generally inadequate. The reasons for the inability of governments to keep pace with urban poverty-environment problems are not difficult to find. From the most generous perspective, it can be acknowledged that the sheer magnitude of the pace of urbanization now underway would be daunting for any government, and more so for those in Asia with inadequate staff and institutional capacity to cope with even the backlog of existing problems.

Other reasons for the inability of governments to adequately address poverty-environment conditions are more deeply embedded in the political-economic relations. One is the tension between the state securing its own economic existence by fortifying the political and legal basis for accumulation through profit motive and private enterprise versus securing sufficient levels of political support to remain in power by responding to popular demand for action to attend to such problems as urban housing conditions. The result is great ambivalence between, for example, removing slums to make way for more profitable commercial land uses and winning the hearts of the poor through public works and other community development activities. The government plays this out through selective, often seemingly capricious, interventions that, in the end, fail to reach the level of the problems at hand on a city-wide basis.

Corollary 6a: Where governments take over community leadership and organization or inhibit their development, community mobilization will change from active management to political pressure, either through spontaneous forms of political agitation or through more organized means such as political parties (where they are allowed)

The degree to which community power structures are replaced by the state or otherwise inhibited from emerging from within communities by state actions is one of the most salient factors underlying community responses to the problems it faces. In some instances, such as in Indonesia, the state permeates urban communities through networks of elected and appointed officials reaching all the way down to the neighborhood level in municipalities. Here the lines between community leadership and government officialdom are blurred.¹⁸ This

¹⁸ The head (lurah) of an officially demarcated community (kelurahan) is a paid government official, while the RWs and RTs are informal administrative units headed by unpaid appointed officials. As noted by Dharmapatni and Hastu (1994), the RW links top-down with bottom-up planning and management.

has a tendency to foster a mini-bureaucratic process of implementing government programs in a "soft" top-down fashion through various municipal agencies and local line offices of central ministries, with compliance gained by campaigns and encouragement through government officials to community and neighborhood representatives to enlist the support of their constituents to contribute labor, land, and money to government projects. Public meetings are often a part of this. Neither spontaneous organization outside of official lines nor the establishment of non-government organizations is encouraged or facilitated by this system of management. As previously noted, however, many community organizations do exist, and they often play an indirect role in addressing community development issues. In the main, however, citizens are expected to work through the official system to plan and manage their communities.¹⁹

Hong Kong represents another mode of state-community relations that, while effecting a similar level of community presence to that of Indonesia, uses a system of government social work to act as mediators between various community groups and the state apparatus. In this situation, rather than undertaking community programs through a unified community organization, households organize into groups to make requests of the state for various government improvements. And while improvements have been made in infrastructure and services, contradictory views within government about the status of squatter communities and the absence of official community leadership structures has also meant that planning and management is more a matter of case-by-case negotiation rather than being conducted through an institutionally recognized "partnership" between community and state.

State-community relations in the poor settlements of Seoul and Bangkok have a more episodic character than in either Hong Kong or Indonesia. Until very recently at least, community-state interaction in Seoul has been more adversarial than collaborative, with organizations emerging from within the community to contest state actions and make demands for improved conditions. Over time the government has shifted from outright confrontation and razing of slum and squatter settlements to a more accommodating position, including the

¹⁹ As concluded by Dharmapatri and Hastu (1994): In the late 1970s the government recognized the need for more community participation in development activities at the local level. Two semi-governmental organizations, the LKMD (Village Community Resilience Institution) and PKK (Family Welfare Movement), were activated. These organizations are intended to mobilize village leaders to motivate participation of the people in government programs. Numerous government programs have recently been successfully implemented with the help of kaders who are usually members of the PKK. However, it is obvious that most of the successful programs are achieved under command and control approaches which leads to increased dependence on external resources and leadership.

provision of piped water, electricity, and common wash and latrine facilities. In this context, the households do not seem to be oriented toward organizing to plan and implement their own community programs, but are instead more directed toward trying to convince government to take action in their favor. In Bangkok, relations between slum communities and government are perhaps among the least defined and, as a consequence, are much less routine or predictable. While community leadership is recognized when it appears, it is not a part of an official apparatus of the Indonesian type. The result is that government attention to the more than one thousand slum areas of Bangkok is sporadic and partial, often on an issue-by-issue rather than a programmatic basis. At the same time, the absence of a strong state presence in the community may allow for more authentic grassroots organizations and leadership, as suggested by the Wat Chonglom experience.

In Bombay, the state appears bureaucratically through administrative and planning agencies as well as politically through political parties and the election process. As one of the few democracies in Asia that have a multi-party system with locally elected governments, political parties provide arenas for community mobilization to voice concerns about all matters of community life. The proliferation of parties does not necessarily produce a unified voice, particularly in communities that are divided along ethnic or religious and therefore political party lines. As such, whether these political linkages unify or divide communities depends to a large degree on the composition of the specific community in question. Nor is it certain whether the parties enhance or undermine leadership from within the community. There is a sense that while the politics of local government have rewarded poor communities with certain levels of services, they have not focused on generating autonomous community institutions. Recently, however, the government has created chief community development officer positions to establish a presence at the community level and motivate people to form cooperative societies in order to benefit from various programs (Sengupta, 1994). Other government-sponsored community-based programs in health and education that are coordinated by the various municipal government departments also exist in selected areas. Overall, however, governmental efforts to advance community participation in environmental management remain ad hoc, isolated, and indirect in nature.

The relationships between state presence and community capacities for generating its own forms of collective action are diverse. Each interface has generated its own set of dynamics that often has further variations even within

a single city. Moreover, it is not clear which mode delivers a better community environment. Yet, if a common pattern can be identified, it would be that extensive state bureaucratic involvement leads to increased reliance on the state to provide community infrastructure and services. Contrary to the commonly presented view that the poor are somehow “naturally” inclined to depend on the state for investments for collective consumption, the case studies show that such dependence, where it does occur, is a product of a longer history of state-community and, on a larger scale, state—civil society relations that could have produced much more active community involvement than is indicated by current practices.

Corollary 6b: Trends toward democratization will benefit community management efforts

State-community relationships are dynamic. Although not necessarily moving in an unidirectional “evolutionary” manner, they shift through time as societies themselves develop and change. In this regard, the renewed interest in decentralization, democracy, and citizen participation prevalent throughout Asia represents a potentially major shift in state-community relationships in cities in almost all settings. This has already been partially reflected in more open attitudes by governments toward communities, non-government organizations, and political association outside of the state. Whatever concrete manifestations these changes may have will, of course, continue to differ among the various national and local contexts in Asia, but most governments have already come a long way from the anti-slum policies and eradication drives of the 1950s and 1960s. It is now more common for governments to implicitly recognize the existence of squatters and, to varying degrees, enter into dialogue about redressing the concerns of poorer communities and provide some forms of government assistance to at least a select number of locations.²⁰ Whether they will now take the next step toward validating the legitimacy of poor people to reside in the city by recognizing their rights to have access to land and housing,

²⁰ Bombay is one of many experiences that have followed this pattern. Whereas the 1971 Slum Areas Improvement, Clearance and Redevelopment Act emphasized slum clearance as the solution to the city’s environmental problems, legislation with more emphasis on slum improvement was adopted in Maharashtra Slum Improvement Board Act of 1973. By 1983, the government initiated a new Slum Upgradation Program (SUP) as part of the World Bank—sponsored Bombay Urban Development Project (BUDP) for the period 1983–93, with security of land tenure, loan assistance, and participation among its principal features. This has been paralleled by a one-billion-rupee scheme under the Prime Minister’s Grant Project (PMGP) announced by the former prime minister during a visit to Bombay (Sengupta 1994).

organize and select leaders, and become equal counterparts in political and planning affairs is one of the most important issues of the current decade.

As it reflects on the plight of poor people, the general evidence from this ongoing "discovery" of civil society in Asia is that accountability of government even through relatively weak and indirect forms of democracy brings positive (if limited) attention to slum and squatter settlements. Where government officials must stand for election in poor sections of the city, palpable evidence of representing the voice of the people must be given. In Bangkok, for example, local elections led to promises of piped water and electricity to a squatter settlement that were later realized (Douglass and Zoghlin, 1994). In Bombay the agitation for betterment through political parties has an even clearer relationship in gaining state attention to the poor (Sengupta, 1994). This is not to say that democracy, particularly in its limited and often token and co-optive forms, is a panacea for eliminating poverty or improving the environment. Regimes in power still tend to be located within a range of authoritarian, paternalistic, and non-democratic modes of governance. The ideal of authentic state-community partnerships that is currently being put forth in development plans throughout Asia is, in most instances, still in search of a real-world experience. Even within the realm of democratic action, much also depends on class relations and how the emerging urban middle class in Asia will either support or move against slum and squatter settlements. Conversely, much may also depend on whether the poor can tag their political agendas onto what is predominately a middle class movement for political liberalization.

The many possible combinations of community-state interaction notwithstanding, some general observations can still be posited. Many governments have made substantial contributions in basic services, such as health and education. However, success in providing environmental infrastructure - standpipes, drainage, trash collection areas/bins and pickup - has been more varied, and efforts to link livelihood with community development have been even more limited, particularly where women have not been given an equal voice in community decision-making and government program and project formulation. The most-limited and least-consistent successes have been in coming to terms with land issues and in anticipating the need for quantum increases in the provision of serviced land for housing and community formation for low-income households as the great cities in Asia continue to double in population every 10-15 years. Cutting across all of these arenas, there is also a tendency for government initiatives to diminish local

initiative. The reasons for these patterns are not difficult to locate. The least-difficult and most-successful activities have been in areas that do not confront the most entrenched political economic issues of landownership and private-sector land development, that do not overtly confront issues of workers' rights and conditions of work made available to the poor, and that are channelled through bureaucratic or showcase projects rather than through a devolution of decision-making powers to communities.²¹

Above all of these observations is the conclusion that government is and will remain an important actor in community environmental management efforts. The quest at the interface between community and government is to find ways in which community efforts are enhanced rather than frustrated by government programs. Much of this quest will proceed as part of ongoing shifts in political structures and institutions in each nation and city and will, in part, focus on the role of non-government organizations in linking community with external interests.

Linking Below and Above: NGOs as the Answer?

The appearance of non-governmental organizations (NGOs) in the politics of development planning over the past few decades has generated a vast literature on their expected and real roles, typologies, and orientations in addressing poverty and environmental questions. As noted by Lee (1992), there are at least four types of NGOs: charitable, service, participatory, and empowering. Moreover, NGOs also operate at different scales, ranging from individuals and households upward to community, locality, nation, and international arena. There are NGOs that are genuinely involved in selfless endeavor for the poor, but there are also ones that are thin disguises for charlatans to exploit the poor. Some are completely autonomous from the state while others are de facto arms of the state. The variations are thus great, and generalizations about NGO—community relations must be treated with care. The following proposition is put forth with this understanding:

²¹ Land issues also dampen community interest in participating in government projects. In Bandung, community willingness to join government programs was lowest in activities that required giving up even small portions of land, such as road widening or dumpster siting.

Proposition 7: Without some form of outside non-governmental support, sustaining community management will encounter severe, often-insurmountable difficulties

Although the ideal type of NGO might be the “empowering” type described by Lee,²² it can also be allowed that circumstances will dictate which approaches work best in a giving setting. In several countries, for example, the emergence of NGOs is still severely limited by governments that remain entrenched in top-down, non-participatory approaches to development planning. In these situations, the role of NGOs is also necessarily limited to small-scale, charitable activities rather than open advocacy of, for example, squatters rights. In others settings, such as in the Philippines, Thailand, and in South Asia, NGOs have appeared in almost astounding numbers and play a much wider variety of roles.

Research on NGOs in the case studies in the CBEM project suggests that although variations are great, few NGOs seem to have focused directly on urban environmental problems in low-income communities. Environmental NGOs still tend to focus on global and rural environmental issues, and when they do focus on cities, they do so at the urban rather than community level (AJEM, 1994). Community-based NGOs, on the other hand, tend to focus either on immediate crises such as housing rights and eviction threats, or on health and education programs. Yet whether through political action, health, or education, those NGOs that do work with low-income communities must invariably deal with environment-related issues. In communities in Bangkok, NGOs have been sources of information about the environment and environment-related programs (Douglass and Zoghlin, 1994). In Bombay, people in the Dhavari slum joined with a local NGO to try to stop noxious smoke pollution from a factory located in its midst.²³ In this same community, one NGO (PROUD) has organized households into 133 chawl committees that each take up a variety of issues, including protesting against polluting industries, and notifying municipal

²² Namely, those that “help poor people develop a clearer understanding of the social, political and economic factors affecting their lives, and . . . strengthen their awareness of their own potential power to control their lives” (Lee 1992, 5).

²³ The strategy that was adopted was one of “polluting in exchange,” which entailed spitting betel-nut juice, scattering groundnut shells, and throwing garbage around the main office of the company to make the company feel the effects of pollution. The issue was resolved when the municipal government decided not to renew the license of the company, which then had to move operations out of the community (Sengupta 1994). Sengupta notes, however, that most NGOs in Bombay do not have any regular training program that involves participation in environmental management at the community level.

authorities about clogging of drains, garbage accumulation, and lack of latrine facilities in the localities (Sengupta, 1994).

Empowering communities to manage the environment thus appears to be more a potential rather than an actual role of NGOs in most cases. Focusing NGO attention on enabling communities to tackle environmental issues is likely to become more important and vital in the future as the unprecedented expansion of cities continues in most Asian countries. Environmental deterioration and the persistence of poverty will be registered in terms of larger numbers of people facing life- and livelihood-threatening environmental conditions. Moreover, as governments become more open to the positive contributions that NGOs can play, opportunities to act as sources of relief, advocacy, resource mobilization, and empowerment can also be expected to expand. Given the limitations of the scale of possible activities taken on by communities, as well as limitations in access to information, high-level decisionmaking, and authority, realizing these opportunities will be vital to the environmental future of low-income communities.

International Lending and Aid Agencies

Proposition 8: International lending and aid agencies have, over the past decade, become less rather than more instrumental in addressing urban poverty-environment issues despite the growing magnitude of these issues; for community-level actions to reach levels of sustainability in Asia's urban future, these agencies need to redirect their efforts toward supporting organizational and institutional innovations focusing on the community scale

Despite the severity of existing situations, the linkage between environmental deterioration and poverty remains one of the most ignored in international assistance programs. Ossification of ideologically-driven policies of major lending and aid agencies (notably the IMF, World Bank, Asian Development Bank, and USAID) around market-oriented solutions to all development problems has accentuated this neglect. The IMF—World Bank program of “structural adjustment” imposed on poor, indebted countries has compelled many governments to cut back on poverty programs, including slum upgrading and community site and service activities. As noted by Stewart (1991, p.1851), more than 60 per cent of the countries undergoing structural adjustment have also experienced substantial cuts in per capita health and education expenditures. The main lesson from both positive and critical assessments of structural adjustment programs is that their inherently anti-poor biases require counterbalancing programs to directly support low-income households through

employment and wage maintenance, nutrition, health and education services, and community-level provision of basic infrastructure. Similarly, they require direct interventions to regulate the environmentally hazardous practices of economic activities. Efforts in this direction are, however, in contravention of the spirit of market regimentation.²⁴

These and other reasons, such as the bureaucratic nature of international agencies, have led more than a few observers to agree with Korten's (1990) conclusion that the major reason why "the poor do not benefit under existing economic and political structures" is that the "development industry" composed of large-scale international assistance agencies is not capable of significantly addressing problems of poverty and environmental deterioration. They focus on relief of the worst symptoms rather than engaging in constructing the social and institutional infrastructure and transformations needed for longer-term solutions. From this critique, hope is then placed with great social movements of contemporary society, including the peace, environment, women, and human rights bureaucracies. The social project from this point of view is to awaken civil society to spontaneously mobilize and organize grassroots efforts that are more dedicated to and capable of establishing a more authentic process of development.²⁵

While compelling in broad outline and consistent with general experiences throughout Asia, such views have major weaknesses. First, they tend to discharge external agencies from responsibility to engage in more

²⁴ For most of the 1980s, however, the IMF and World Bank structural adjustment programs treated poverty alleviation as a secondary issue to be resolved either through internal political processes or, preferably, by trickle-down processes generated by economic growth. In the latter half of the 1980s, efforts were launched to add an explicit equity dimension to these programs and to thereby put a "human face" on structural adjustment (Cornia 1987). Although official attitudes have changed, the programs continue to stress macroeconomic discipline over equity and social justice, and compensation to a few over increasing the productive income-earning opportunities of the poor (Van der Hoeven 1991). Where World Bank-sponsored programs have been devised for poverty reduction, they have been principally targeted at what it calls the "new poor": namely, those who have fallen into poverty as a result of public-service employment cuts, rather than the chronically poor who may have experienced worsening and more extreme poverty conditions. Thus major program initiatives have focused on compensations and severance payments for former civil servants that only reach a fraction of the poor at best. Programs directed toward the chronically poor—public work schemes, health and nutrition programs for pregnant women and children, basic services—have been treated as "add-ons" in an ad hoc manner (Stewart 1991; Douglass 1993).

²⁵ Stating that "Governments are now more likely to engage their armies against their own citizens than against a foreign power" (p. 15) and that the international assistance industry is "dominated by professional financiers and technocrats" who "deal in money, not in the social processes that are key to institutional change" (p. xii), Korten concludes that the only hope for the future of most inhabitants of the world lies with "the great social movements of contemporary society" (p. ix).

positive forms of assistance and intervention and thereby place the burdens of achieving poverty alleviation and slum improvements onto the poor themselves. To the extent that this view would also allow these same sources of political and financial power to further devote societal resources to the processes of accumulation that have exacerbated poverty-environment problems, it is untenable from both a normative and practical point of view. Second, the rejection of international involvement also rejects possibilities of learning from the more positive contributions that have been made. Some well-regarded programs, such as the Kampung Improvement Program (KIP) of Indonesia, have had been heavily supported through external assistance.

Third, those who champion the community and NGOs without reserve have a tendency to romanticize these entities as the only source of poverty alleviation and environmental sustainability (Korten, 1990). They generally ignore the existence of social cleavages in society at large and, in so doing, implicitly place immense trust on the selfless interests and capacities of Asia's emerging urban middle class—many of who are business operators and private property owners—to somehow champion the rights of workers and the poor as well as reverse environmental decline. The record to date is much more mixed than this view would allow. Experience has shown, too, that the world of NGOs is fraught with immense difficulties, including inflexibility and unwillingness to cooperate with each other, social agendas that are intent on imposing certain world views or beliefs onto the poor as a price for their services, conflict with communities over leadership and goal setting, undermining rather than enhancing community organization, and elitism favoring only a few community members. This is not to say that many organizations are making significant contributions, but rather that reliance on NGOs and community-based organizations must go beyond populist rhetoric to closely examine such questions as who benefits and who is empowered by these organizations.²⁶ International organizations can potentially play a useful role as autonomous sources of critically evaluation of government and non-government initiatives and by using their substantial influence in more incisive, community-supporting ways.

In sum, there is much to be lost by excluding international institutions from responsibility for the actions they take in the name of development

²⁶ It must also develop sharper conceptual and analytical tools concerning such overused concepts as participation and empowerment. Both need to be defined in terms of degrees of decision making power and control over the allocation of personal and societal resources rather than as "involvement" or "solidarity."

assistance. All societal forces, including international agencies, need to be engaged in and held accountable for actions taken toward alleviating poverty and improving the environmental circumstances facing the poor. Given the record to date, much of the pressure for these efforts and accountability will have to come from grassroots and community-oriented non-governmental organizations. Creating and mobilizing these kinds of organizations are already under way in most countries, but the evidence clearly indicates that much remains to be done.

CONCLUSIONS

Much needs to be done by all parties at all scales in understanding the potential for community-based environmental management in Asian cities. Among the revelations from community-level research is that the gap between theory and practice remains exceptionally wide (Douglass, Lee, and Lowry, 1994). While those involved with theories of development continue to operate in abstract realms high above the ground (yet are often called upon to direct policy formulation), those engaged in community planning practice often seem unconcerned with either evaluating their own programs or trying to conceptually explain why an adopted approach either works or fails in a particular context. The purpose of this paper has been to bridge theory and experience through a comparative framework that places community-based environmental management in the context of household strategies and linkages between household, community, NGOs, government, and international agencies. The device chosen to highlight this theory-experience relation is a series of propositions and corollaries that go beyond the single case but are still grounded in experience. While the propositions are not intended to produce high theory about societal processes underlying urban poverty and environmental degradation, they are intended to begin to engage people who are concerned with community-based environmental management in linking knowledge to action through understandings and, more importantly, explanations concerning three questions: how are poor people coping with and managing environmental problems; why are some communities better able to manage environmental resources than others; and how can extra-community sources of power, knowledge, and support be better directed toward enabling community-based environmental initiatives and practices.

The answers to these questions that have been drawn from ongoing research on community-based environmental management are both discouraging and encouraging. Discouragement can be found in the statistics of the day showing that despite positive increases in per capita income throughout Asia, the

numbers of people living in poverty and severely degraded urban environments also continue to grow as Asian countries experience accelerated urban transitions in the late twentieth century. It can also be located in market and public-sector failures to seriously counter these problems at a scale sufficient to generate an environmentally sustainable development. Finally, it can be derived from a certain cynicism about the nature of the state and large-scale bureaucracies, including the class interests they serve and rent-seeking behavior.

Encouragement is found in equally important ways. First, the evidence counters assertions that poor people are uninterested and uninvolved in environmental management or that they naturally have a propensity to rely on the state for such "non-productive" activities. In every city, communities have been mobilized either on their own or with external organizations to manage critical environmental resources. Though limited by the scale of organization, even at the household level there is clear evidence that such management is vital to its sustenance. Secondly, the evidence shows that no single model or method is required to achieve improvements in environmental conditions. In some settings, communities have organized impressive environmental improvement activities with no or relatively little outside intervention. In others, organizing to make demands on government has been the principal means available. The opportunities to improve community environmental management are thus diverse and can be activated from many directions. Finally, the sweep of societal demands for greater government accountability and rights of citizens to organize for political purposes is pervasive, and most governments are either moving or being pushed toward creating more inclusive political processes giving greater voice to all segments of society, including the poor.

Whether discouraging or encouraging views will prevail cannot be easily generalized, but if the propositions put forth in this paper have merit, certain worst-case/best-case scenarios can be constructed as a means of beginning to assess potentials and the room for maneuver. Table 1 shows these two extremes as ends along an "empowerment-disempowerment" continuum. Assessing individual cases from this perspective locates urban poverty and deteriorated community environments within the broader question of social power (Friedmann, 1992; Douglass, 1996). Poverty is thus seen not simply as a case of inadequate material welfare, but is more centrally an outcome of household-state-economy relations that effectively deny institutional support and resources to the poor. In this same context, degraded environments are seen not as products of poverty per se, but rather as part of the process of impoverishment.

That is, the poor are not only directed toward living in locations that are naturally or have already been made environmentally unsound for human habitation; they are also unable to mobilize sufficient resources and to make claims on society at large to improve environmental conditions. Further, to the extent that a deteriorated environment contributes to illness, loss of work time and opportunities, and a further strain on the household allocations of labor and resources, environmental failures become sources of continuing impoverishment.

Based on this assessment, the worst-case communities would have the following characteristics: a dominance of households that are incapable of organizing minimum divisions of labour and resource pooling necessary to allow for attention to basic environmental management requirements; severe social cleavages that inhibit inter-household reciprocal support; high perception of instability and lack of security in land and community membership; absence of synaptic leadership capable of organizing community-level actions or giving voice to community concerns to government and outside entities; authoritarian governments that suppress community and other forms of civil organization; and situated in countries that have been compelled to follow the regimentation of structural adjustment without compensating programs targeted toward the poor. Few settings may have all these debilitating characteristics, and as the analysis suggests, variations are also to be expected even with cities. In Asia, perhaps Manila's erstwhile Smokey Mountain, where the poorest of the poor, including children without parents, once existed at the absolute bottom of society, comes close to matching this profile. But it must also be acknowledged that Tondo, the larger slum area in which Smokey Mountain is located, does not on the whole share all of these characteristics, and images of dependency derived from Smokey Mountain (Gozun, 1994) do not necessarily apply even to the same slum area.²⁷

²⁷ Drawing on impressions from Smokey Mountain, Gozun (1994, 1) states on behalf of the World Bank's Metropolitan Environmental Improvement Program that "Faced with more pressing day-to-day problems arising from their poverty, most [of the urban poor] simply look to government to solve what they perceive as their environmental problems; be it lack of potable water or the absence of sanitation facilities or ineffective garbage collection."

Table 1
The Localization of the Urban Process: Constellations of (Dis)Empowerment

RELATION	EMPOWERING	DISEMPOWERING
Household	Able to pool resources and manage internal division of labor for livelihood, personal well-being and habitat maintenance.	Unable to sustain intra-household division of labor across subsistence task areas.
Gender	Women are included as key decision-makers in allocation of household resources and in community affairs, including relations with government and political association.	Women are excluded from decision-making inside and outside of the household.
Social Networks	Strong networks of reciprocal exchange provide assistance to individuals and households.	Few social linkages exist outside of the household.
Community Organization	Existence of an inclusive community organization with accountable leadership widely trusted by community members.	No community organization or one with state appointed leadership with exclusive decision-making powers and low level of community trust.
Community Stability/Security	Community well-established with high sense of security of land and housing tenure validated by government recognition and assistance. Government gives <i>de jure</i> recognition of the community's right to exist and to negotiate equally with, e.g., land developers.	Extremely insecurity inland and housing tenure. Governments support the commodification of land without regard to pre-existing property regimes or rights and work with developers to build "Manhattan" skylines without providing for the expansion of low-cost housing/ community formation.
State-Civil Society and Mediating Institutions	Democratically elected governments that recognize rights of citizenship and allow for a high degree of openness to the formation of collective associations in civil society, including non-government controlled political parties. Cultural and religious associations enhance community solidarity. NGOs enhance community decision-making capacities and synaptic role of community leadership.	Authoritarian regimes that use police and other powers to prevent the appearance and expansion of mediating institutions in civil society. Divisive intra-community cultural and religious cleavages prevent cooperative association. NGOs usurp community decision-making and undermine the synaptic role of community leadership.
Community Programs	Governments actively support community development initiative and facilitate rather than replace community decision-making over community affairs.	Governments deny assistance to "illegal" settlements or implement standardized projects with no community involvement (other than supply of free labor).

Source: Douglass, 1997.

If the logic holds, the most encouraging settings would fall on the opposite end of the spectrum: households capable of pooling resources and dividing labor into complementary tasks; strong inter-household support networks; security of tenure; leadership arising from within that is also recognized by the state; the presence of NGOs that seek to empower rather than undermine community organizations; democratic regimes; and community-oriented support from international assistance agencies. While this exact profile is difficult to find in Asia, many of the elements either exist or are appearing.

At this juncture it would be easy to conclude that the "meta-task" is to move every community away from the worst-case scenario and toward the best-case one. Such a "modernist" conclusion would call on every actor and stakeholder to join in this project. The real world does not, however, readily allow for such orchestration. Rather, the more realistic approach is to accept that forces of change unfold in different constellations from setting to setting. Accepting the historical contingency of socio-economic processes at play, choices become more strategic than universal. And while the ultimate direction may be the same, the room for maneuver is not. From this perspective, the point of departure for thinking about opportunities to enhance local capacities for environmental management is to recognize that the major limitations in this regard are neither economic nor technical, but are instead institutional. The further implication of this view is that rather than looking for universal "models" of community organization, a more useful approach would be to search for institutional innovations at each level of environmental management, using tools and skills relevant to the particular setting and seizing opportunities as they are created or manifested. This search will necessarily entail a broadening of the social basis for collective action and would be strategically viable only to the extent that it is cognizant of the multiplicity of forces at play and relationships between each scale of action. The comparative framework put forth in this paper is intended as a beginning outline for such a strategic approach toward community-based environmental management. In this context, the propositions presented are not put forth as definitive statements about how the world works, but are instead presented as a vehicles for initiating exchanges of ideas and insights to allow for a more conscious linkage between explanations of successes and failures with proposals for actions to be taken.

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Chapter IV

Decision Making, Community Values and the Environment in Hong Kong

William F. Barron

A PERSPECTIVE

Environmental awareness is typically described in terms of an *individual* taking greater responsibility for the consequences of his or her own lifestyles in general and for the pattern of material consumption in particular. Yet, a moment's reflection makes clear that while personal lifestyle choices obviously have important implications for environmental quality, many of the most basic decisions about the environment require *collective* rather than individual choices. Individually we might choose to use more *environmentally-friendly* soap but the level of sewage treatment is a public (i.e., collective decision). Hence, the question arises *is the collective decision-making process on the environment sufficiently participatory to adequately reflect community values?*

For without such participation, the quality of the environment experienced by society as a whole will be determined largely on the basis of the interests and concerns of a few regulators (and those persons and organizations exerting strong influence on the regulators). This chapter first reviews the environmental situation in Hong Kong noting in what ways the problems are growing, in what ways things are improving, and the environmental management steps being undertaken. It then moves on to consider Hong Kong's environmental situation and what is and is not being done about it in the context of governmental decision-making processes in and the channels for community participation in it.

When we consider - even briefly - the relative balance of individual versus collective choice in determining various basic parameters of environmental quality the significance of the collective is striking. For example, the quality of in-shore marine waters is affected in some ways by how much trash boaters throw overboard, but far more basically it is determined by the extent of industrial wastewater discharges and sewage treatment by the near-by population centres. Likewise, transport-related air pollution is affected by

commuters' individual choices about which form of transport to take. Yet more basically, the benefits and costs as seen by those individuals of selecting one transport mode over another are largely determined by governmental policies regarding such things as how to finance rail and roads systems and restrictions on the use of certain types of vehicles in specific places and times. Even more basically, the concentration of air pollutants experienced by residences from industrial sources and the significance of noise from various sources depends largely on zoning decisions (or the absence of them) made by government. The existence of open space and the survival of natural habitats near population centres depends far more on governmental policy and its implementation than it does on individual decisions. Obviously, the list could go on much further.

Yet, if the collective decision-making is so important for the quality of the environment we get, why is it that virtually all of the 'environmental awareness' campaigns stress personal consumption decisions? While some people might see a deliberate effort to mislead the public, it may well be that individual actions are simply an easier target. Focusing on collective choice inevitably leads to assessment of the adequacy of the public decision-making process and -- if this is found wanting -- then changing it raises far more basic issues than the specific environmental quality decisions themselves. The point raised here is that however difficult that step may be, it is an ultimately vital one for effective environmental decision-making in a mature society.

THE ENVIRONMENTAL SITUATION IN HONG KONG

In the Foreword to *Environment Hong Kong 1995 (A Review of 1994)* Anthony Eason, then Secretary for Planning, Environment and Lands of the Hong Kong Government, writes,

"The special circumstances of Hong Kong, including the speed and scope of its infrastructure development, make our battle for a better environment a particularly challenging one. The fight continued in 1994; and the year ended with new achievements behind us, and fresh challenges ahead" (EPD, 1995).

In the interests of a more fully accurate position statement Mr. Eason might have noted that the infrastructure development of which he speaks stems largely from government's own priorities and is not somehow exogenously

determined as he seems to imply. The government's Port and Airport Development Strategy (PADS) is one of the world's largest infrastructure projects involving some 2160 hectares of filled-in harbour. In addition, the government's Planning Department is proposing extensive 'further reclamations' between Hong Kong Island and Kowloon involving another 400 hectares. These projects have massive direct immediate impacts (e.g., on marine water quality) and long-term fundamental indirect impacts (e.g., on the scale and type of economic activity and population densities). It is disingenuous of Mr. Eason to fail to note that it is the Hong Kong government which is the driving force behind these developments. By failing to make this connection he also fails to take the opportunity to defend such development even with an open recognition of the environmental costs. Mr. Eason might also have noted that in addition to facing new challenges, a number of long standing ones remain unaddressed (e.g., transport-related air pollution).

This is not to say that the achievements Mr. Eason refers to (i.e., those related to reversing specific forms of environmental degradation in Hong Kong) have been unimportant. Clearly, the first years of the 1990s have seen a number of noteworthy gains (e.g., greatly reduced industrial air pollution, creation of improved landfills) and programmes are underway which promise some long-overdue steps to address the embarrassing quality of the local marine waters through further sewage treatment and stricter controls on industrial liquid waste. In addition, the government has been pressing on a number of fronts for environmental initiatives which, if implemented, will have long-term benefits (e.g., measures to further protect the integrity of the Mai Po Marshes, proposals to switch light vehicles from diesel to petrol with catalytic converters). These gains and on-going initiatives are quite important and without them the environmental quality in Hong Kong would be far worse than it is today.

Yet, whether, on balance, the government is doing a 'good job' on the environment depends on one's own personal values with regard to what he or she believes Hong Kong can and should be willing to pay for. Unfortunately, decisions about what Hong Kong people can and should be willing to pay for in terms of environmental quality improvements are ones largely made by government itself with only highly restricted opportunity for participation by those outside of government.

A Balance Sheet

In certain important respects, specific aspects of Hong Kong's environmental quality have improved since environmental protection became a major government priority in the late 1980s. Indeed, there is now much more of a 'track record' of environmental improvements compared to that described in Hills and Barron (1990). Nonetheless, by generally accepted international standards (e.g., indices of average pollutant concentrations) Hong Kong's environmental quality is far from 'acceptable' (i.e., where health risks to most of the population are minimal). While Hong Kong has avoided most of the severe situations existing in most major urban centres in China and in other parts of the region (e.g., Bangkok, Manila), environmental conditions as measured through a wide range of indicators remain 'poor' or only 'fair' despite incomes levels among the highest in the world.

Air Quality

From 1988 to 1994 average levels of sulphur dioxide (SO₂) and nitrogen dioxide (NO₂) have generally improved (EPD, 1989 through 1995). Yet particulate levels over this period have increased with average annual concentrations of the dangerous respirable suspended particulates (RSP) exceeding or barely meeting minimum air quality objectives in five out of eight stations (EPD, 1995). In other words, most people living in the urban areas breath air day in and day out which is hazardous to their long-term health (Barron *et al*, 1995). Added to this is the effect of frequent short-term exposure to far higher concentrations of RSP in congested areas. Ad hoc measurements of RSP at street level by EPD and others often show alarmingly high levels (EPD, 1995; Ng, 1996).

Diesel transport vehicles, which dominate transport in Hong Kong accounting for about two thirds of all vehicle kilometres travelled, are the major source of RSP here. Traffic projections show far higher levels of vehicle movements in coming years (Transport Branch, 1990). To counter the increases in RSP due to more vehicles on the road, the government has introduced requirements for higher quality diesel fuel and stricter engine emission standards (EPD, 1995). More basically, government is proposing that vehicles under 4 tonnes (which constitute the majority of vehicles on the road) be scrapped over a five year period and replaced by ones with engines using unleaded petrol and catalytic converters. Petrol engines emit few particulates and catalytic converters

greatly limit the emission of a number of other pollutants, such as hydrocarbons. The government argues that it is only with the full and quick implementation of this scheme that projected RSP levels can be brought within the air quality objectives (Hong Kong Government, September 1995).

It might be noted here that essentially the Hong Kong government is focusing on what are termed 'end of pipe' solutions and largely bypassing (at least for the time being) basic source reduction 'process change' type approaches. Essentially, government is attempting to make the vehicles on the road cleaner without addressing the more fundamental issue of how to have fewer of them on the road in the first place. This goes beyond the matter of restriction on the vehicles themselves. Government has refused to seriously consider altering the financing schemes for mass rail transit. The present requirements to operate on 'prudent financial principles' in effect restrict service to areas of extremely high density where load factors and high profits from building rights near stations allow adequate operator income without the need for direct government subsidies. This accomplishment of self-financing rail systems, while laudable in a narrow sense, is one which comes at a high hidden price. By failing to account for the positive externalities associated with reduced traffic congestion and associated air quality impacts, the government's financing scheme for passenger rail service precludes such service to the many relatively large population centres (e.g., Tuen Mun, Ap Lei Chau) where the non-market benefits to the people of Hong Kong might be quite large. In the case of goods transport, much of the projected increase in vehicle kilometres travelled stems directly from the government endorsed plan for a four fold increase in the size of the container port and the resulting vast increase in the number of containers being trucked by road through Hong Kong to and from mainland China.

Water Quality

Hong Kong has relatively little in the way of fresh water streams and these tend to be in either in controlled watersheds and used for municipal water supplies or are at least partly tidal and heavily polluted. Within the fresh water systems water quality in 1994 in 50% of the rivers and streams was designated as 'excellent' or 'good' compared with only 27% in 1988. Meanwhile, over this same period, the number of 'very bad' rivers and streams fell from 27% to just under 10% (EPD, 1995). These improvements were largely the result of controls on livestock farming and in some cases of tighter controls on industrial

effluent. However, even in 1994 nearly one third of all fresh water courses were still classified as 'bad' or 'very bad' compared to about half in 1998. Remaining fresh water course problems are in some part due to continued inadequate livestock waste controls in rural areas, the still limited coverage of sewage collection.

While fresh water systems are obviously important anywhere in the world, in Hong Kong it is marine water quality which is the major focus of attention for 'water quality'. In contrast to the relatively few and short fresh water courses within the Territory, Hong Kong is surrounded by marine waters on three sides and much of the land area consists of islands

As with air quality, the picture for marine water quality is mixed. For some areas and for some parameters things have been improving, while for others it has remained bad and getting worse. And like air, overall water quality is far from acceptable, particularly considering the Territory's wealth. Marine waters in the eastern and southern portions of the Territory are generally within the government's water quality objectives. In the western waters quality drops but here at least part of the problem can be blamed on contamination coming down the Pearl River and from elsewhere in Guangdong, over which Hong Kong arguably has little real influence. However, for the worst polluted waters, those of Victoria Harbour, the problem is obviously one of Hong Kong's own failures in terms of industrial emissions, inadequate sewage treatment, and the effects of government's reclamation activities. Levels of dissolved oxygen and e-coli in Victoria Harbour are generally 'very poor', and the trends show a worsening over the past decade (EPD, 1995). Indeed, exposure to such water (e.g., an accidental fall overboard) would likely represent a health hazard simply from a water quality standpoint.

The extensive reclamation in Victoria Harbour and nearby areas has created several types of impacts. Before an area can be safely filled-in, old sediments must be removed so as to provide a firm foundation for new fill material. Old sediments in Victoria harbour are often highly toxic containing relatively large concentrations of heavy metals (EPD, 1995). The dredging up and redumping of this material in special pits inevitably results in the re-release of some of this material into the environment - and potentially back into the food chain.>

Another basic problem is that the new fill material often comes from other marine areas and the drawing up of this material and its dumping at the

reclamation site inevitably adds suspended solids to the local water. This cuts down light penetration making the area less able to support a variety of marine life. In some cases the amount of material simply smothers the plant life. Finally, the new land created in this way alters the course of the water flows and may reduce the flushing effects of the tides in certain locations and make the surface waters choppy. As a result of even the partially completed reclamation, Victoria Harbour is now much smaller with the same level of shipping crowded into a smaller space in which surface waters are far choppy than they were previously.

The marine water quality problems are not confined to Victoria Harbour nor to rather exoteric measures of 'quality'. Given Hong Kong's marine heritage, proximity to sheltered marine waters, and a warm climate, swimming in the sea has long been popular. However, beach water quality has been declining during the 1990s. In 1994 the number of beaches rated as 'poor' or 'very poor' was 16, up from 8 in 1990. Meanwhile, while the number of beaches rated as 'good' fell from a high of 27 in 1991 to only 17 in 1994 (EPD, 1995).

Solid Wastes

While air and water quality are things which most people tend to notice and think about when discussions of environmental quality arise, one of the most pressing concerns of Hong Kong's environmental managers has been their attempt to stay ahead of solid waste arisings. Indeed, bringing new large well-designed landfills on line in time so that there is someplace to dispose of the growing volumes of solid waste has been a major problem.

In the past Hong Kong's landfills' have been poorly designed and managed with resulting severe environmental and health impacts (e.g., from methane gas and toxic leachate leaks) even after the old small landfills are closed. Hong Kong's three new landfills are state-of-the-art and expensive. The three taken together have a capacity of 135 million cubic metres (capable of taking a cube of compacted trash over half a kilometre on a side), and cover an area of 273 hectares (a flat area of more than 1.6 kilometres on a side). The capital cost for these three facilities (SENT, WENT, and NENT) is \$HK 4.1 billion (EPD, 1995).

In part, the solid waste problem in Hong Kong has been one of failing to develop an adequate means of limiting construction wastes, much of which

could in fact be recycled and hence is really unnecessary. In addition, increasing affluence and more 'Western' lifestyles in terms of consumption patterns has added to the problem from the domestic side. While recycling levels for some materials (e.g., paper, some types of plastics and metals) are very high in the industrial and commercial sectors, the amount actually recycled from the residential sector is only a disappointing 8%, well below its potential (EPD, 1995).

A number of residential trash recycling schemes have been undertaken with government and private voluntary organization help, but in general the results have been disappointing. In some cases it may be a lack of adequate government support while in others it has been the difficulty in generating sufficient sustained interest on the part of local citizens.

The Hong Kong government has commissioned a comprehensive solid waste management strategy study, and presumably this will lead to new initiatives to reduce the inputs into the landfills so that they will in fact attain their projected 13 to 25 year lifespans. Over the long term, continued land filling in a mountainous place such as Hong Kong clearly has its limits. A more sustainable means of disposing of solid wastes – even if a successful waste reduction programme is implemented – will need to be developed. Presumably this scheme would involve a renewed role for incineration and much greater separation of construction wastes from the municipal waste stream. ↘

Land Use Changes

In addition to the various environmental media (e.g., air, water, land) by which changes in environmental quality are felt, it is also useful to consider the importance of how land uses affect the quality of the environment for those who live in or frequently visit particular places. In Hong Kong this local *environment of place* has three major dimensions. The first is the amount of (and nature of) open space in close proximity to where people live there. The second is the on-going transformation of the New Territories from a largely rural and agricultural setting to one of poorly managed quasi-industrial and commercial activities. The third is the changing balance of land, sea and the built environment stemming from the on-going reclamation and the plans for much more.

Access to open space is typically a matter of local *common areas* or urban parks in which people may gather close to their homes. In a different –

but perhaps not less important - way access to open space is also defined by proximity to (or ease of transport to) a country park or other undeveloped natural environments. While urban planning in Hong Kong is supposed to encourage the wider separation of buildings and the creation of more common areas, these efforts are having only limited effect and indeed, in some areas (e.g. Western District) re-development seems to be resulting in increased densities rather than lower ones. Throughout most of the urban area of Hong Kong densities remain extremely high. One fiction that has been maintained by government is that spaces under flyovers and in otherwise inhospitable places are acceptable for designation as recreation areas, particularly by the elderly and children. In effect, this policy encourages some of the most vulnerable groups to spend long periods of time in areas of poorest air quality (i.e., immediately adjacent to congested roads and streets).

Access to natural environment is under increasing pressure in Hong Kong, not only due to the absence of additions to the country park system as population continues to grow, but also due to the loss of undeveloped areas outside the country parks. Much of southern Hong Kong Island, for example, was undeveloped only a few decades ago, with the land under some form of vegetation. Today, large tracks have been developed as new buildings are added and roads up-graded to accommodate increased traffic.

With rising affluence and education people's appreciation of and desire for access to open space (both man-made and in natural settings) is coming at a time of a decreasing resource base to provide such amenities due to rising population and the more extensive use of the mountainous areas of Hong Kong. Yet, there still seems rather little appreciation on the part of government that the on-going land use changes in both the urban and the rural areas are leading to a lower quality of life and few recreational/amenity options for the people of Hong Kong. One telling feature of this is the fact that although numerous proposals and plans exist (and have long existed in some cases) for specific additions to the country parks, government has so far not moved to expand the system in an appreciable way. Meanwhile, government recognizes the possibility of much higher population levels in coming years.

The second major aspect of the loss of a sense of open space is the conversion of vast areas in the western New Territories, from agriculture to sites for the storage and maintenance of shipping containers. With the increase in international trade to and from China being routed by road through this part of

Hong Kong and the shortage of sites for storing containers, the market naturally found its own solution – the price-induced conversion of land from farming to containers storage without waiting for government approvals. Such conversions were expedient but they also resulted in a number of important environmental externalities. Not only are the storage sites ugly by almost any definition (and hence lower the visual values of this relatively underdeveloped area), they have also altered rainfall runoff patterns and made the area more flood prone.

Although the situation with regard to land conversion in the western New Territories appears to have stabilized, it has levelled off in a sad state for environmental quality in this area. Since the western New Territories are no longer 'rural', one option is to gradually replace the low density haphazard development with more carefully planned higher density development which would not only free-up other parts of the local area for a return to a more natural environment, but also relieve some of the pressure on the core urban area and reduce the need for further reclamation in the already much shrunken harbour.

The third aspect of the *environment of place* in Hong Kong is the government's plan for a greatly expanded urban core area built around a much reduced harbour and for a four-fold increase in the capacity of what is already among the largest container ports in the world. As noted above, the PADS projects would add over 2,000 hectares of open land by filling in adjacent to the shorelines of Kowloon and northern Hong Kong Island and by filling-in much of the space between the western tip of Hong Kong Island and the eastern end of Lantau. These projects along with the proposed 'further reclamations' in Central, Wan Chai and Kowloon Bay would significantly reduce the amount of marine water with a commensurate increase in the land area into which the urban area would expand. An increased population in the urban core area would bring with it the need for more transport and other services with resulting additions to the pollutant loading on the local air and water systems which are already at unacceptable levels.

In broad outline, the visual impacts of such are obvious. Hong Kong would become much less a 'harbour city' and far more like the sprawling flat urban places so common in the rest of Asia. Further, with an expanded flat land area on which to build, the mountains, which still provide the visible long-distance backdrop in most of the present urban area would become much less visible for much of the population.

In addition, the reduced water area might well significantly reduce winds created by the thermal differentials between land and water. If that were to happen at the same time as the expanded land area allowed population increases in the urban core area, then more people in Hong Kong would be exposed to stagnant, polluted air.

Where do we Stand?

Despite a number of specific areas of improvement, overall the quality of Hong Kong's environment is decreasing in a number of important ways as particulate levels are high and continuing to rise, as water quality in Victoria Harbour is very poor and failing to improve and as much of the New Territories is lost to unplanned development with major visual and drainage impacts.

In the face of these problems the government has underway, or is planning, a number of major initiatives: a programme to centrally collect and treat much more of Hong Kong's sewage, tighter controls on industrial water pollutants, and proposals to make motor vehicle transport less environmentally damaging (e.g., cleaner diesel fuel, the diesel to petrol switch). Yet, it is essential to recognize that in other respects governmental decisions are directly or indirectly likely to result in a far poorer quality environment than it would otherwise be.

The port development will not only destroy a large area of the western Victoria harbour, it will also lead to much greater goods traffic and consequent air pollution and congestion. The further reclamations would exacerbate the water quality, water flow, visual and air current problems resulting from the airport reclamations in Victoria Harbour. By failing to add now to the country parks, the government is in effect saying the present country park system is adequate even as population expands to over seven and a half million people and possibly even higher and far less land outside the country parks remains undeveloped.

Hence governmental decisions lessen environmental damage on the one hand and add to it on the other. Environmental quality is, of course, only one of a number of important items on the government's agenda and trade-offs among agenda items is inevitable. Yet, the question arises, how do we know we have achieved the most appropriate balance, given the values and resources of Hong Kong's people?

OPPORTUNITIES FOR PARTICIPATION AND THE QUALITY OF THE ENVIRONMENT

Issues of the extent to which and the manner in which Hong Kong people are to take over responsibility for running Hong Kong are, of course, quite basic to the change in sovereignty from British Crown Colony to Special Administrative Region of the People's Republic of China. This evolution, whatever specific form it takes, may be considered from two perspectives: (1) that of the process by which local people take control of governmental decision-making, and (2) the extent to which that decision-making is made more broadly inclusive than it has in the past. It is the second point which is most relevant for the quality of the environment in Hong Kong. The Hon. Christine Loh King-wai, elected Legislative Councillor, has summed up the situation at the end of the colonial regime as follows:

"Massive infrastructure projects ... channel vast resources into specific directions which irreversibly impact the environment. These developments are evaluated, designed, and launched with virtually no public consultation. Such an approach to government means that decisions are made according to the priorities and values of a few individuals. These decisions pay little attention to environmental sustainability or the long-term liveability of Hong Kong. A sustainable model of development for Hong Kong and its people can only be realized with greater involvement of the public in the decision-making process" (Loh, 1994).

The assessment process for weighing environmental impacts is highly judgemental in part because of uncertainties, and in part simply because the value an individual places on the environment is personal and subjective (e.g., as reflected in his or her *personal willingness to pay*) (Barron, 1996). Hence, when the process is as described by Ms Loh above, one of the decisions made "... according to the priorities and values of a few" government officials, there is no assurance that the type of environmental quality these persons are willing to have the people of Hong Kong pay for is the same as a more participatory decision-making process would provide. To conclude: environmental awareness and the quality of the environment are inexorably intertwined with the process

of public decision-making. In Hong Kong this inter-connection is perhaps more obvious because of the relatively extreme situation under the colonial administration, and the considerable attention paid to aspects of democratization in the closing years of that administration. As Hong Kong moves into a new system, the quality of the environment for its people will be determined not just through the specific decisions about particular problems (e.g., air pollution) but more basically within the context of the whole participatory process is for evaluating what the level of air quality should be and how to attain that goal.

What might be the nature of such greater opportunities for participation? Most basically, it would involve greater information being provided to the public and to independent bodies within government at each stage in the decision-making process. For example, when government decides to evaluate a range of options for a particular activity (e.g., a reclamation project) it now defines the terms of a study to design such a project (and perhaps includes a look at ways to mitigate some of the resulting environmental impacts) and then invites bids from consultants to carry out that assessment. At present the terms of reference for that study would be to determine solely by a few persons within government (e.g., within the Planning Department) and hence only issues of particular concern to those persons are assured of being included within the scope of the data collection and analysis. As any consultant knows, a skillful bureaucrat may write the terms of reference in such a way as to largely determine the answers which come out of any particular study.

If the terms of reference for the harbour reclamations had been reviewed by independent bodies within government or had the public been able to comment, it is almost certain that the outcomes would have been much different because issues left out the actual assessment (e.g., the cumulative effects of the full series of reclamation projects, a fuller assessment of how the development aims might have been achieved in ways other than reclamation) almost certainly would have been added to the consultant's brief. More basically, if the consultants' terms of reference had been more widely reviewed, environmental impacts would probably have been made part of the basic decision to proceed or not proceed with the project, rather than used merely as a means of identifying targets for mitigation measures and final design specifications following project approval.

The Hong Kong government usually conducts its assessments behind closed doors (the consultants reporting only to government). The government

itself selects its preferred option and only then is the public invited to comment. This approach tends to result in government officials using the 'consultation' exercise primarily as a means of explaining and defending their preferred choices, rather than as an opportunity to seriously reconsider those choices in light of the public's comments (Barron, 1996). If public consultation were invited soon after the consultants made their report and before the relevant government department had virtually reached its final decision, then the public comment could be used to help guide the government decision-makers.

It should be noted here that dissatisfaction by various groups which comment on government environmental policy with regard to the role of the public in the process is so high that even when the groups agree with government on a particular proposal (e.g., the diesel to petrol switch), they often take pains to stress the inadequacies of the process by which that particular proposal was developed. In the end, the present government approach to developing and selecting environmental proposals tends to alienate concerned groups and needlessly lessens opportunities for consensus-building.

In addition to greater and more meaningful opportunities for public consultation, it would help if the decision-making within government were broadened so that the views of others within government with less of a vested interest or those outside of it reporting in confidence to it, would receive more consideration. One way to achieve this might be to have a Commission (e.g., for planning, transport, and environment) which would be more than an advisory board. For such a Commission to be effective, it would need to have at least a small permanent staff so that it could carry out some level of independent assessments of plans, programmes and projects proposed by particular implementation agencies (e.g., the Planning Department, the Environmental Protection Department).

While Hong Kong is to keep its system for fifty years after 1997, the change in sovereignty will inevitably bring about changes in the manner in which government operates. Hopefully, one aspect of this change will be a more participatory assessment and decision-making process for matters affecting the quality of the environment in Hong Kong.

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Chapter V

The Politics of the Environment in Hong Kong

Wing-Tat Hung

INTRODUCTION

The environment of Hong Kong has always been in a process of change but in recent decades the rate of change has been particularly significant. In 1977, when the Environmental Protection Unit (EPU) was set up under the Environment Branch, little information was available concerning air quality, noise levels, sewage discharges or solid waste disposal. Early monitoring exercises conducted by the EPU showed that the average yearly SO₂ concentration ranged from 24 µg/m³ (Causeway Bay) to 42 µg/m³ (Tsimshatsui) in 1982 (EPA, 1983); the solid waste generated was 1.9 million tonnes in 1980 (EPA, 1981), and there was only one reported occurrence of red tide in 1975 (EPA, 1984).

More than a decade later, air quality data released by the Environmental Protection Department (established in 1986, replacing the former Environmental Protection Agency) indicated that the SO₂ level ranged from 10 µg/m³ to 51 µg/m³ (EPD, 1994). There were 2 exceedances of hourly air quality objectives (AQO) for SO₂ in Mong Kok. NO₂ ranged from 40 to 88 µg/m³. Total suspended particulates ranged from 78 to 158 µg/m³; seven out of the eight monitoring stations had annual averages exceeding the annual AQO. Respirable suspended particulate ranged from 50 to 69 µg/m³; five out of eight monitoring stations exceeded the AQO. It was estimated that 1,000,000 people suffered from traffic noise level exceeding an L₁₀(1 hour) of 70 dB(A) and that 380,000 people suffered from aircraft noise level of NEF 30 in 1995 (EPD, 1996a). The solid waste generated had reached 8.2 million tonnes in 1995. The water quality objective set for all bathing beach sub-zones in water control zones is that "the level of *Escherichia coli* (*E. coli*) bacteria should not exceed 180 per 100 ml. 19 of the 56 monitored beaches in Hong Kong were classified as poor and very poor conditions in 1995. The *E. Coli* counts ranged from 50,000 per 100 ml at Causeway Bay to over 200,000 per 100 ml at Kwun Tong.

These figures clearly indicate that the environment of Hong Kong has been deteriorating. The economic growth in Hong Kong in the past three

decades is thought to be a main reason. It appears that the achievements made in economic development has been at expense of the environment.

The former Director of the Environmental Protection Department, Dr. Stuart Reed, claimed, however, that "great progress has been made on the environment front in Hong Kong since the EPD was established on 1 April 1986" (EPD, 1996b). Perhaps he meant progress in strengthening the legal and administrative framework to fight against pollution but not to stop it. There are key milestones which reflect this progress: for example, the passing of the Water Pollution Control and Waste Disposal Ordinances in 1980; the upgrading of the original Environmental Protection Unit to the Environmental Protection Agency (EPA); the passing of the Air Pollution Control Ordinance in 1983; the upgrading of the EPA to the EPD in 1986; the passing of the Noise Control Ordinance in 1988, and finally, the enactment of the Environmental Impact Assessment Ordinance in 1997. It took twenty years to set up the five essential pillars of environmental law and the environmental institutions to implement these laws.

Although there has been progress, its beneficial impacts are not always obvious. Perhaps, the rate of environmental deterioration has slowed down, although the quality of the water and air does not seem to have improved dramatically. There is still a long way to go to achieve the objective of safeguarding the health and welfare of the community, not to mention achieving a sustainable community. The success of environmental protection efforts hinge on many factors, such as economic growth, and the geographic location of Hong Kong. The human factor in the politics of the environment is one of the key elements.

The politics of the environment can be defined as the interactions between various parties which have interests in environmental issues. Understanding the political context helps to predict possible outcomes of Government plans of action for specific environmental matters. Parties which are involved in the politics of the environment are the victims of pollution – the polluters, the adjudicators (usually the court), environmentalists and the Government. The role of Government is complicated; it is a polluter, it represents the victims to regulate the polluters, but it also has obligations to protect polluters, as polluters are usually important elements in the economy. The Government is therefore pulled in various directions during the formulation

of environmental policy. Decisions reflect the impact of different forces which themselves reflect the political power and influence of the protagonists.

The politics of the environment in Hong Kong are characterized by (i) diversified demands for a better environment among citizens; (ii) the environmental groups with weak community roots; (iii) the existence of some environmentalists with individual charisma; (iv) an executive-led government with increasing intervention from the elected bodies at three administrative levels (i.e., local, municipal and territorial), and, (v) a small but very influential community of big 'hongs' who are willing to address the problems of pollution.

This paper explains these characteristics with examples of current environmental issues. The change of sovereignty in July 1997 further complicates some of the issues, especially those extending well beyond 1997.

CITIZEN EXPECTATIONS

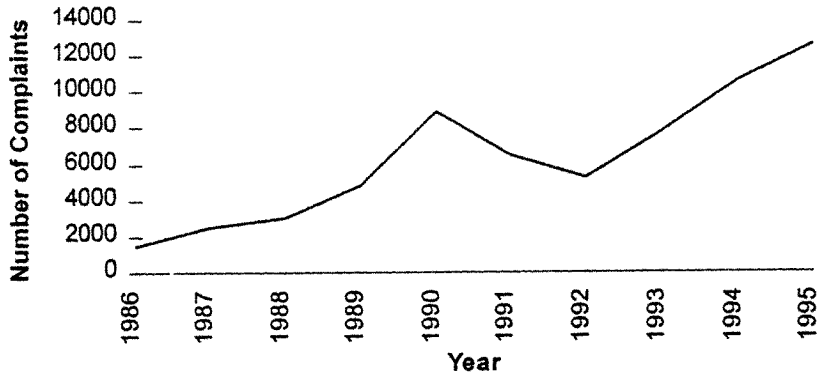
Public attitudes towards the two important environmental events that occurred in 1995 may very well reflect people's awareness. The French Government announced the resumption of nuclear weapons testing in June 1995 and this immediately aroused protests from governmental and non-governmental organizations around the world. Environmental groups in Hong Kong mobilized Hong Kong citizens to protest at the French embassy and at the celebration banquet on the French national day. The majority of people who joined in were, however, expatriates: few local Hong Kong people participated¹. At the second event, which occurred after restaurant owners were charged sewage disposal fees from 1 April 1995, thousands of owners and employees of restaurants petitioned the Government to protest against the charge.

Obviously, the citizens of Hong Kong are very much concerned with local issues rather than global environmental issues (as reflected by the increase in number of pollution complaints in recent years, as shown in Figure 1). One of the main reasons may be that the people of Hong Kong are very 'calculating' regarding the benefits to be derived from their actions, i.e., returns from investment of their efforts. Protesting against world environmental pollution issues, such as the French nuclear weapons testing, appears to be simply a gesture and would have little effect. For that sort of event, most people would not waste their time and effort to participate. However, when the time and

¹ See South China Morning Post, 15 July 1995

effort involved are limited, people do not seem to mind making such a gesture; an anti-nuclear signature campaign could probably collect tens of thousands of signatures.

Figure 1: Number of Pollution Complaints



It is clear that citizens are not satisfied with deteriorating environmental quality and accept that they are responsible for contributing to the problem. Nevertheless, most people expect the Government to do more to alleviate this situation and not many appear to accept that they themselves have to help. A survey on the public attitudes towards the 'polluter-pays-principle' (PPP) and pollution charges conducted by the Conservancy Association² revealed that 91.1 per cent of the 1031 respondents agreed that both Government and polluters are responsible for pollution. 81.4 per cent of the respondents agreed that sewage charges should be imposed on the industrial sector, but only 41.5 per cent agreed that the charge should be imposed on residents as well. As regards other pollution charges, only 39 per cent of the respondents accepted surcharges on excessive wrapping; 15 per cent agreed to pay for plastic bags in supermarkets and 41 per cent agreed that personal taxes should be raised to combat pollution.

² The survey was conducted in April 1995 and reported in Sing Pao, 3 June 1995.

Another survey conducted by the Social Science Research Centre of the University of Hong Kong for the Environmental Campaign Committee³ found that the majority of people agreed that environment pollution is "very serious" or "serious", in particular, plastic bag disposal (94.9 per cent of the respondents); marine pollution (94.5 per cent); air pollution (91.8 per cent) and noise pollution (85.3 per cent). Most respondents (98.4 per cent) agreed that individuals have a responsibility to protect the environment and that the private sector should bear the responsibility too (94.4 per cent). The respondents claimed that the private sector has not done enough (72.3 per cent) and that the Government should spend more money on the environment (80.7 per cent). As regards citizens' participation, only 13.4 per cent of the respondents have participated in environmental activities, and 13.9 per cent have tried to look for environmentally-safe products. Also, there were fewer people willing to spend more on environmental products when compared to the results of a similar study in 1993.⁴

Indeed, citizens who are willing to accept responsibility to protect the environment tend to be those who are younger and have a higher level of education. A 1991 survey (Ng, 1991) found relationships between environmental consciousness and education level ($R^2 = 0.41$ at 99.9 per cent significant level) as well as age ($R^2 = -0.37$ at 99.9 per cent significant level). Therefore, those who are willing to participate in environmental protection activities are most likely to be well-educated, young people. And indeed, the strongest support for environmental groups comes from the young elite.

ENVIRONMENTAL GROUPS

There are four major environmental groups in Hong Kong - the Conservancy Association (CA), Friends of the Earth Hong Kong (FOEHK), Green Power (GP) and the World Wide Fund for Nature Hong Kong (WWFHK). Each group has its own niche and target groups although there are inevitable overlaps. The CA and FOEHK have been involved more in general community education, as well as responses to Government policy initiatives. The GP was long associated with the 'green-living' ideology simply because one

³ The survey was conducted from 29 March to 13 May 1995 and sample size was 5744

⁴ The citizens' purchasing power has been declining in the first three quarters of 1995 due to the unfavourable economic conditions.

of its founders, Dr. Simon Chau, is himself a devoted advocate for 'green-living'. He has attracted a number of followers, especially middle-class citizens. After Dr. Chau's departure from GP, the direction of the organization appears to have switched to a similar perspective to that of FOEHK and the CA. Similarly, WWFHK, which was originally concerned primarily with the protection and conservation of wildlife, has become increasingly concerned with broader environmental issues. There is one thing in common between these groups: they are led by groups of well-educated elites. Two of them (CA and WWFHK) even have a strong academic 'flavour'.

It may be due to these reasons and also due to the difficulties of identifying suitable target groups that these groups have weak links with local communities. Apart from WWFHK which has constant visitors (mainly bird-watchers and students) to their education centres (one in Mai Po and another in Tai Po), these groups do not have regular contacts with local residents. Although the three groups have been trying hard to establish visitor centres similar to WWFHK, it is unlikely that they can enjoy the same privilege as the WWFHK⁵ and can manage visitor centres without making financial losses. Also, these environmental groups do not operate as trouble-shooters. Few citizens approach them for help. In fact, the majority of the local pollution complaints are handled by various elected bodies and Government departments (Hung, 1993).

The environmental groups function more like interest groups than community-based organizations. Although they may be able to recruit considerable numbers of students to participate in their educational programmes⁶, their ability to mobilize the public to support their campaigns on environmental issues is, in general, low. The influence of these environmental groups on Government policy does not, therefore, reflect mass support but rather merits of their opinions. These opinions by and large reflect the expectations for a better environment on the part of the educated population. For a number of years, these groups have been acting as watchdogs of the Government's environmental policy. They have been very critical of the

⁵ The Government granted the management of both pieces of land to WWFHK so that they can establish the visiting centres

⁶ This is especially true for occasions where environmentalists like Dr. Simon Chau (who has personal charisma) appear

Government's policy which encourages economic growth at the expense of the environment, in particular, the Government's non-action on the deterioration of water quality in the Tolo Harbour and rivers in the New Territories in the 1970s and 1980s. Since 1989, these groups have been formally represented in the Government's establishment; their members are appointed to sit on various policy advisory boards, such as the Advisory Council on the Environment (ACE) and the Environmental Campaign Committee (ECC).

This is not without consequence as these environmental groups appear to be quieter and less critical. Some of them even actively support Government policy on certain issues. For example, FOE supports the Government's recent proposal (PELB, 1995) of switching small diesel vehicles to petrol, although it can be argued that they have not been able to grasp the key issues behind the proposal (more discussion in the later section). This is really a dilemma for the environmental groups because they do not usually have the full background information behind a policy proposal and are not able to establish a second opinion through an independent policy assessment (mainly due to financial constraints). At the same time, they are involved in the advisory committees which endorse the policies. Once the policy is adopted, they appear to be obliged to toe the Government line.

GOVERNMENT RESPONSES

The reactions of environmental groups and the citizens to environmental issues depends very much on the Government's responses to these issues. If the Government chooses to take no action as in early years and allows the environment to deteriorate, the opposition can build up momentum and the reaction can be strong, as in the case of the mobilization of the residents against environmental hazards by the Tsing Yi Concern Group (Ng, 1993). If, however, the Government chooses to make positive responses to social expectations for a better environment, such as absorbing all environmental groups into the Government consultative bodies, the social dissatisfaction becomes internalized in the Government establishment and the public actions die down, as in recent years.

The response of the Hong Kong Government to the deteriorating natural environment over the years has changed from a passive reactive response in the early years to a more positive response. It is, however, an uphill battle simply because industrial and commercial influences are very strong throughout the

community. In the early years, before the 1960s, Hong Kong was both a fishing port and an entrepôt of China. The economy of Hong Kong started to thrive in the late 1960s when Hong Kong developed its own industrial base, especially in manufacturing industries. Pollution then emerged as a problem. Not until all the rivers in the New Territories turned into sewers and started to smell, did the Government respond to these consequences of unplanned and uncontrolled industrial development.

Environmental protection and pollution abatement work commenced in the 1970s and early 1980s. The Country Parks Ordinance, which aims at protecting the unspoiled land, and the first set of pollution control ordinances, for example, the water and air pollution ordinances, were introduced at that time. An 8-man Environmental Protection Unit was established to oversee environmental matters in the Government in 1977. The Unit was upgraded to the Environmental Protection Agency in 1981 and further upgraded to the current Environmental Protection Department (EPD) in 1986. There are now over one thousand staff in the EPD.

Hong Kong has always been an economically-oriented city since its development in the late 1960s. The politics were simple then. The entire Government, including the highest decision making bodies i.e., the Executive Council and the Legislative Council, were appointed by the Governor. Influential people, who were mostly big businessmen, were appointed to these councils and matters were settled behind closed doors. The Government worked in harmony and there were few disruptive noises in these councils. This was "consensus politics". The consensus has always been seen to benefit the commercial and industrial sectors.

The basic philosophy of the Government when faced with the question of development and the environment appears to be that protecting the environment cannot be at the expense of development. None of the Hong Kong laws can stop public or private sector developments because of public objections. The Hong Kong environmental protection laws do not empower the controlling authority to stop development. The main objective of the laws is to minimize adverse environmental effects. The environmental impact assessment practice (made statutory in early 1997 after twenty years of tedious negotiations) is simply one of the many requirements for development projects. As long as the development is not in extremely sensitive areas (for example, Mai Po

Marshes), the developer can usually satisfy the environmental requirements by providing facilities such as wastewater treatment plants or noise barriers.

Perhaps the attitude of the Government has to be understood in the light of the development over the years. The biggest problem for the Government has always been the shortage of land for commercial, industrial and residential development. Public pressure to develop the very limited land resources is huge. The Government simply cannot slow down the development. The only measure that the Government can adopt is to try to protect the environment to some extent in the context of development.

Therefore, the Hong Kong Government does not and cannot have a goal statement for the environment whereby it targets itself to achieve certain objectives within a certain time frame. It provides itself with the maximum flexibility to implement pollution control. The legislation empowers the EPD to set pollution control standards, which appear as conditions in permits and rules in technical memoranda, and can be changed from time to time in response to the economic situation. "Examples of such flexible features include: the enlargement or diminution of control areas; varying the standards in terms of water or air quality objectives; amending the types of discharges which are prohibited under the Water Pollution Control Ordinance or processes which are controlled by virtue of Air Pollution Control Ordinance and amending conditions relating to licenses or permits in order to reflect the desired degree of control" (Downey, 1988).

As the Hong Kong Government is not an elected government, there seems to be no reason for it to implement policy to please the people of Hong Kong. Indeed, no pressure group or individual can actually pressurize the Government to do anything if the Government chooses not to do so. There are no cases involving the resignation of a Government officer because of faulty decisions in the 156 years of the British rule of Hong Kong. The apparent incentive for the Government to administer Hong Kong well is to maintain its international image. It is probably for this reason that the Government complies with international obligations, of which protecting the environment is one. The setting-up of the then Environmental Unit (EU), the Environmental Protection Agency (EPA) and the current Environment Protection Department (EPD) is to a great extent fulfilling this obligation. Of course, the Hong Kong people and the environment benefit in the meantime.

The setting-up of the environmental bodies within the Government has tipped the balance from the absolutely pro-development view to a more balanced policy. Previously, the EU and the EPA, and now the EPD, by its bureaucratic nature and individual enthusiasm, has had to expand in order to survive. The EPD has been assuming more and more responsibilities and, because of that, grows larger and larger.

There are objectives for the EPD. The Government sets out air and water quality objectives which vary from place to place and from time to time, as baselines to safeguard human health. The EPD has to ensure these objectives are being met. In the context of development pressures, it is neither a simple nor easy task. Although most of these objectives have been set ten to twenty years ago, they are still constantly being exceeded at various locations in the region.

In order to discharge its responsibilities, the EPD has done two things: a) it formulates feasible control strategies to suppress the waste discharges (in the forms of solid, liquid and gas) to acceptable levels such as those strategies listed in the White Paper on Pollution (PELB, 1989), and, b) it solicits and mobilizes sympathetic organizations, such as the environmental groups, to support its actions. The setting-up of the Environmental Campaign Committee (ECC), for example, is part of this effort.

The determination to meet the objectives is so keen that some of these strategies may not be the best ones to protect both human and environmental health but are the optimum strategies to achieve the objectives at the minimum costs and in the shortest time possible. The dumping of contaminated mud, generated from digging the seabed for reclamation for the port and airport projects, is a typical example of such a strategy. It is clear that this mud should be stabilized (in order to limit its adverse impact on marine life) before dumping, if time and costs allow. Transferring all the solid wastes to landfills may solve the solid waste disposal problems for fifteen to twenty years but it does not appear to provide any clue to solutions beyond this period when large landfills will be almost impossible to develop.

The EPD sees the environmental groups as partners in its policy. From 1989 onwards, it has formally recommended representatives from these groups to sit on advisory bodies such as the Advisory Committee on the Environment (ACE) and the ECC. The ECC started a new era of co-operation on the working level between the Government and the environmental groups, but it also created conflicts between the two.

IMPACTS OF REPRESENTATIVE BODIES

According to the Sino-British Joint Declaration, China resumed the sovereignty of Hong Kong on 1 July 1997 and Hong Kong will be allowed to enjoy a high degree of autonomy from China. Since the signing of the Joint Declaration, the Hong Kong Government has become more open. In 1982, the Government introduced directly elected local District Boards (DBs) for the first time. Directly elected seats were then installed in the Urban Council/Regional Council (UC/RC) as well as in the Legislative Council (Legco) in subsequent years.

Although this three-tier political structure has very limited jurisdiction at each level⁷, the main thrust of this change is that public opinion can be directly channelled to the administration from the local to the territorial level. The conventional rules of politics based on consensus among an appointed elite (mostly representing various trades) and the administration has inevitably changed. The mandates of the Legco members are no longer from those that appoint them but from their voters. The relationship between Legco and the administration has become very delicate. On the one hand, the administration requires Legco's budgetary approval for policy implementation and on the other, Legco requires the administration's commitment to improve the welfare of their voters. As members of the Legco were entirely elected in 1995 and the Government remains entirely appointed by the Governor, the gap between the Government and Legco becomes increasingly obvious.

This change has great implications for environmental matters. The interest of the environment was not represented in the appointed system. The elected system allows such an interest to be expressed. The DBs and the UC/RC bring up numerous local and municipal environmental and hygiene issues (Hung, 1993). Protection of the environment was one of the main items in the platform of all Legco candidates running for direct elected seats in September 1995. The Environmental Panel in Legco attracted a lot of attention. Environmental issues have become more controversial probably because (a) 'under the table' consensus is no longer acceptable, and (b) compromise

⁷ The district boards advise the government on local matters and dispose small sums of money on community activities and beautification of local communities, the Urban Council/ Regional Council are responsible for promoting recreational and cultural activities as well as market construction and management, and the Legislative Council is responsible for passing laws and approving government budgets.

becomes more difficult as this has to be made, not only among the business interests, but also the voters in the districts and various professional sectors.

It certainly appears that there are more debates on environmental issues in Legco and it takes longer for the administration to arrive at a decision.

THE BIG 'HONGS'

Faced with increasing demands for a better environment and the changing political scene, the big 'hongs' have been very pro-active. The Private Sector Committee on the Environment was established in 1989 by over twenty big 'hongs' in Hong Kong. The Committee has been trying hard to show the public that the private sector is willing to clean-up its own mess. The most noticeable activities of the Committee include the cleaning-up of the floating rubbish in Victoria Harbour and the funding of the Industrial Technology Centre to help develop small treatment facilities for small industries.

Indeed, most of these big 'hongs' are international. A good environmental image is both a market strategy and an asset for these companies. The objectives of the Committee include: (a) to help create a climate of public opinion and, where appropriate to take action on environmental issues, and (b) to sponsor environmental projects. Apart from this Committee, there are a number of funds set up specifically to sponsor environmental activities by individual big 'hongs' - the Caltex Green Fund; the Wheelock's Green Fund and other funds sponsored by Shell, Hong Kong Telecom, Epson, the Hong Kong Overseas Trust Bank and Jusco Departmental Stores.

As these big 'hongs' have become major sponsors of environmental activities, they have an impact on the directions these activities go in. The non-governmental organisations have to consider their relationships with the sponsors when they organize activities which may give rise to conflicts of interest with the sponsors. In fact, some major sponsors of environmental activities not only vet the type of activities in application proposals, they also steer the direction of activities.

INTERACTIONS BETWEEN THE KEY PLAYERS

Each of the key players in the political game of the environment have their interests to look after. The environmental groups volunteer to look after the natural resources and the environment, the manufacturers look after their profits, the Government looks after their credibility with the public and the

ruling authority and Legco looks after the welfare of their constituents. As July 1997 is approaching, the Chinese Government sees itself as having the obligation and right to participate in all matters extending beyond July 1997. In fact, the Chinese Government has become an increasingly influential player in the political game of Hong Kong and it considers the governance of Hong Kong as a crucial factor. The reactions of these key players depend on their judgements as to how their interests are being affected by issues. As such, there is no constant ally or enemy among them because their interests are affected differently by various issues. The complicated interactions between these key players can be illustrated by the following issues.

* Strategic Sewage Disposal Scheme (SSDS)

The scheme intends to collect sewage in the Hong Kong and Kowloon urban areas via a rock tunnel, around 200 metres deep, and to dispose of it through a long oceanic outfall to the South China Sea. The pollution load to Victoria Harbour is expected to be very much reduced so that the designated water quality objectives for the Harbour can be attained. The total capital investment is estimated to be over 20 billion Hong Kong dollars in 1995. The implementation of this scheme will be carried out in stages well beyond 1997.

While the initiative to clean-up the Harbour is very much appreciated by all parties concerned, there are two controversial issues. Firstly, there are queries as to concerning whether the proposed scheme is the best one technically and environmentally, and secondly, whether the scheme has been designed in the most cost-effective manner. Environmentalists raise questions about the lack of tertiary treatment and the environmental consequences of dumping the raw sewage into the South China Sea. Legco members echo the environmentalists' concerns on the one hand, and worry about the financial implications of this scheme for the tax payers on the other. The main concern of the Chinese Government is the huge expenditure that is going to be carried through beyond 1997 (in their own words: "the big burden left over by the British Hong Kong Government").

To safeguard its credibility and authority to rule, the Hong Kong Government does not bow to these pressures. Instead of presenting hundreds

of options⁸ to the public, it employs an independent consultant and an international panel of experts on water treatment⁹ to assess its proposed scheme in order to justify its decision.

The scope of work for the consultancy and the international panel of experts has, however, been limited to the consideration and assessment of the Government's original plan. Other alternatives have not been considered.

There are obviously other candidate alternatives. For example, schemes aimed at restraining pollution at source must be better than end-of-pipe treatment schemes such as the one being proposed. The consultancy brief has not covered this important aspect. Over 80 per cent of the industrial pollution load of heavy metals and poisonous chemicals are discharged from the old industrial areas such as Kwun Tong and Tsuen Wan. Most of these effluents would, with effective enforcement, be covered by the Chemical Waste Treatment Facility at Tsing Yi. It would appear, then, that small, local secondary or tertiary treatment plants would logically suffice for the treatment of the residues. Again, the consultancy brief has not covered this alternative.

Furthermore, pollution, especially water pollution, recognizes no borders. Quite apart from the political need to consult the Chinese Government on the SSDS, the practical reality of Hong Kong and Guangdong - which are not only economically interdependent, but also share the same water body - demands that any genuine strategy cannot be designed in isolation from each other. It appears again to be logical to include the discharges from Shenzhen in the SSDS and that consideration should be given to alleviate the pollutant loading from across the border into Mai Po, a Ramsar site.

Consultation meetings with professional, community and environmental groups were carried out in late 1994 and early 1995. With the very limited scope of work on the part of the consultancy and the panel of experts, only minor alterations to the original proposed scheme could be made. The result of the review and consultation was that the original scheme is good and cost-effective. The secondary treatment process will have to be upgraded to improve the effluent output to the South China Sea.

⁸ This figure was mentioned by Michael Chiu, the Assistant Director of EPD in a meeting with the Conservancy Association in early 1993

⁹ The panel includes experts from China, Australia and Sweden.

It appears that the Hong Kong Government allows the public to let off steam on issues and is prepared to make minor alterations to show that it has listened. However, it will still press ahead with what it wants. The influence of public opinion on Government decisions is limited.

The attitude of the Hong Kong Government, i.e., to stand firm on its position, is consistent with both the public of Hong Kong and the Chinese Government. The Chinese Government objected strongly to the SSDS because expenditure has to be committed well beyond 1997. Mostly importantly they have not been consulted and their approval has not been sought. Despite this, the Hong Kong Government still insisted on carrying out the first phase of the SSDS before 1997. The Chinese Government eventually conceded to this fact and gave the green light for this project. It is clear from this event that as July 1997 is approaching, the influence of the Chinese Government on environmental matters will be increasingly important.

Sewage Charges

Sewage charges are being levied in order to recover the costs of sewage treatment and disposal. The Legislative Council endorsed and supported the principle of charging the polluter in December 1993. The scheme includes charging the domestic users at a rate of HK\$1.2 per cubic metre of water usage in addition to the water charges. As for commercial and industrial users, the basic charging rate is the same as domestic users; a variable surcharge is added depending on the pollution load of individual enterprise. The pollution load is calculated based on the chemical oxygen demand (COD) of the discharge. This charging scheme was effective from 1st April 1995.

One of the trades most affected by this new charge is the food and beverage industry, in particular the restaurants which consume plenty of water and produce high COD because of the high grease content in the discharge. Some restaurant operators claim that the sewage charge is nearly 100 per cent of the water charge. The Modern Management (Beverage) Professional Association, representing over one thousand restaurants (out of approximately eight thousand restaurants in Hong Kong) launched a protest to the Secretary for Planning, Environment and Lands against this pollution surcharge¹⁰. They claimed that the charge was too high and many restaurants would be forced out

¹⁰ See Economic Journal, 10 June 1995

of business. Eight thousand workers would lose their jobs. This was a threat as the unemployment rate of Hong Kong had at that time reached the highest point at 3.1 per cent¹¹ in the past two decades.

The central points of controversy raised by the restaurant operators were that: (a) the pollution load based on COD only was unfair to restaurants. By the nature of their effluent, restaurants produce high COD. The indicator for pollution loads should also reflect other pollutants such as heavy metals, and (b) the sample taken by the Authority to represent the pollution load of the trade was inaccurate. The Government used only 26 restaurants for analysis of pollution loading and charging levels. The proportion of sewage fees taken up by the restaurant trade was too high; one-third of the \$100 million operation costs of the sewage system would be borne by the trade.

In response to these arguments, the Government helped the trade association conduct a more comprehensive study by taking effluent samples from 120 restaurants in the 18 administrative district throughout the region. The Government promised to review the charging level for the trade pending the results of the study¹². While the dispute was still unsettled, more than two thousand workers and owners of the restaurants launched a petition to the Governor, accusing the Government of not consulting the trade before implementation of the sewage charge, and requesting a review of the charging level¹³.

Political lobbying to withhold this surcharge was strong. The trade representatives successfully persuaded the political parties to move a motion in the Legislative Council requesting the shelving of the charging scheme in early 1996, although this motion contradicted the previously passed motion which urged the Government to implement the "polluter pays principle" to impose water pollution charges. The reason was simple: the growth of the economy slowed in 1995 and both the residents as well as the trades would be further aggrieved by the charging scheme. Indeed, during the downturn of the economy, lifting of taxes would no doubt please voters. Consequently, few

¹¹ This is the Government's estimated rate. The labour unions dispute this estimate, they reckon the rate should be approaching 10% as reflected from their own surveys among their members.

¹² See Economic Journal 17 July 1995

¹³ See Economic Journal, 12 July 1995

directly elected Legislative Councillor objected to the motion. To counter-balance this lobby, the Government solicited support from the environmental groups and independent legislators. It was only by a small margin that the motion was not carried in the Legislative Council. This discussion, however, raised the question of how much should people's livelihood be taken into account in the formulation of environmental policy.

Nam Sang Wai Development

Nam Sang Wai is situated within the buffer zone II area of the Mai Po Nature Reserve in the Northern New Territories. The proposed development comprises an 18-hole golf course integrated with 2550 residential units built on a piece of land of about 100 hectares. Most of it is derelict fish ponds and farming fields. In order to realize this project, the developer has to obtain one quarter of the land within the development plot through a land exchange with the Government. They propose to build a nature reserve on their own land in Lut Chau in zone I and surrender this to the Government. The Planning Board refused permission to this development proposal in 1992 on the grounds that it contradicted the planning intention for the area. The developer appealed to the Town Planning Appeal Board which agreed their appeal in 1994 on the grounds that the planning intention of the land had not been violated. The Town Planning Board applied for a judicial review of the Appeal Board's decision to the High Court but this was dismissed in April 1995. Being dissatisfied with the dismissal, the Planning Board then applied for an order of Certiorari to quash the Appeal Board's decision. The case was heard and an order of Certiorari was granted in January 1996 on the grounds that the Appeal Board misunderstood the planning intention of the area¹⁴. The developer subsequently appealed to the Privy Council which ruled that the Government had not stated clearly its planning intention in earlier documents and that the developer did have the right to go ahead with its proposal¹⁵.

This court case not only involves arguments between the Government and the developer, the environmental groups were dragged into it as well.

¹⁴ See Judgement of Town Planning Board vs Appeal Board and Henderson Real Estate Agency Limited, January 24, 1996

¹⁵ See South China Morning Post Report December 19, 1996

Furthermore, other developers who applied for development in adjacent areas have been very concerned with the outcome of this case. Both the Government and the developer have been trying hard to solicit the support of the environmental groups. The developer proposed to the environmental groups a mutually agreed Green Charter in order to show their commitment to protect the environment in implementing their proposal. The Government, on the other hand, told the environmental groups that if this proposal was permitted, there would be a flood gate problem; about ten similar development proposals would have to be granted in the nearby area and the Mai Po Nature Reserve together with the Ramsar site would be severely disrupted.

Two issues emerged from this case. Firstly, is legal action the best way to sort out development disputes as shown in this case? Does preventing people from developing the land achieve the planning intention in relation to the North West New Territories as reflected in various documents and statutory maps published by the Government? This is the central issue of the whole case. Mai Po is certainly an important wetlands area of international significance. The intention of designating buffer zones around Mai Po is to provide a compatible environment to enhance the ecological development, especially of the birds found there. However, most of the land in these buffer zones has been left wild and derelict. The Government has not done anything pro-active to preserve the area. The money and resources that were put into this court case (probably up to hundreds of millions of Hong Kong dollars) would probably have been adequate to buy the place and conserve it! The money and resources were, unfortunately, wasted in the court action. Is it the best option to leave the land wild? Should the Government discuss with the developer to pursue an environmentally acceptable development, with the participation of environmental groups? Is there a proper channel for such communication and negotiation between various interested parties without breaching the bribery regulations?

Secondly, should the environmental groups be partners with the Government, the developer or the land? No environmental group was bold enough to side with the developer although this development proposal was one of the best in terms of ecological and environmental aspects. At the initial stage of the project, a prominent environmentalist acted as a consultant for the project and voiced a statement of support. The support subsided, however, when the environmental groups came to a general consensus that development in buffer zones should not be permitted. There are different opinions in the

environmental groups. In cities such as Hong Kong, it appears that development is unavoidable because of the growing population pressure. Should the environmental groups then influence the development by acting as advisors to the developers or become more militant in defiance of development?

Phasing-Out Small Diesel Vehicles

In September 1995, the Environmental Protection Department issued a consultation paper on replacing small diesel vehicles, including taxis and public light buses, with petrol driven vehicles over a five year period. The reason for such a proposal was that respirable suspended particulates were detected to have one daily exceedance and three annual exceedances over the past three years at an urban roadside air monitoring station. These particulates were mainly produced by small diesel vehicles (PELB, 1995).

The proposal met strong opposition from the vehicle dealers and the vehicle operators, especially the taxis and public light bus operators. There were uncertainties in the proposal. Replacing small diesel with petrol vehicles meant redistribution of the market share on the part of the vehicle dealers. To the operators, changes in fuel meant a change of operating costs in terms of increases in fuel costs and vehicle maintenance costs as well as a shortened life span of vehicles. In response to these worries, the scheme included reductions in the first registration tax of small petrol vehicles and in fuel taxes for these vehicle operators.

Although the environmental groups supported the scheme in principle, they were uncertain about the extra fuel that would be consumed and subsequently the additional carbon dioxide emissions that would result, as well as wastes (car scrap and used catalytic converters) that would be produced because of the lower fuel efficiency of petrol vehicles. Again, the environmental groups could not stand firm and united in support of this Government scheme. In an open hearing held by the Legislative Council, Green Power queried the long-term effects on the air quality of switching from diesel to petrol vehicles and argued that the scheme was a short term 'fire-fighting' measure. The Conservancy Association queried the wastes produced and the reliability of catalytic converters. Friends of the Earth (FOE) was the only one which expressed their support without reservation. The reasons put forward by FOE were that the air quality was bad in urban areas, and therefore any abatement action should be supported and that the measures put forward by the

Government to reduce lead and sulphur content in fuel had cut emissions. The measures to reduce airborne particulates should be effective too. These arguments did not appear to be strong and persuasive.

The Government, in response to these queries, replied that the major air pollution problem in Hong Kong is particulates, and that any other problems should be considered as secondary; they would be tackled in the future when they became more significant. This argument, however, is in contradiction to the concepts of life-cycle analysis and sustainable development, which the Government claims to pursue.

After months of consultation and discussion, the Government appeared to give up with pressing ahead with this proposal. It was reported that it was exploring an alternative option, using liquefied petroleum gas to replace small diesel vehicles.

The Environmental Campaign Committee

The Environmental Campaign Committee (ECC) is a quasi-government organisation formed in January 1990 and is responsible for organizing campaigns to promote environmental awareness. The ECC was formed primarily to take up organizing activities for World Environment Day (WED). Before the formation of the ECC, these activities were organized by the then Environmental Pollution Advisory Committee (EPCOM), which was subsequently renamed the Advisory on the Environment (ACE). This had always been an advisory body to Government on environmental matters and it appeared strange that its responsibilities also included organizing community activities as well.

In September 1989, therefore, EPCOM endorsed the setting-up of the Environmental Campaign Committee to organize WED and other environmental activities (EPD, 1990). In January 1990, the ECC was formed with the main objective being "to promote public awareness of environmental issues and at the same time encouraging and mobilising people from all walks of life to contribute towards a better environment" (ECC, 1994)

The terms of reference of the ECC were fivefold: (a) to keep environmental issues constantly before the public; (b) to keep under review the impact and effectiveness of the publicity efforts; (c) to provide a channel of funding for private donations and resources; (d) to encourage and coordinate activities undertaken by non-government bodies and government departments,

and, (e) to plan and oversee activities of WED. The ECC organises its own community activities and provides funding support to community environmental activities organised by other groups.

Members of the ECC comprises representatives from environmental groups, the education sector and academia, industrial and business organizations, as well as professional institutions and community service agencies. The environmental groups that are represented are the Conservancy Association, Friends of the Earth, Green Power and the World Wide Fund for Nature Hong Kong. All members are recommended by the Secretary for Planning, Environment and Lands (SPEL) and, prior to July 1 1997 were appointed by the Governor. The Environmental Protection Department provides the secretariat supports.

Although the ECC was set up by the Government, the Government does not provide direct funding to this organization. An initial fund of \$4 million and a further \$3.5 million were donated by the Royal Hong Kong Jockey Club from 1990 to 1993. Funding is crucial for any organization. As there was no firm funding commitment for the continuous running of the ECC, it met with difficulties in planning longer-term activities. In fact, when the initial allocation of funds was exhausted, the ECC had no choice but to stop funding activities organized by other non-governmental organizations in 1992. The ECC has, very often, had to solicit funding support from the private sector.

In 1994, the Government injected \$50 million to create the Environment and Conservation Fund (ECF). The ECF partly answers the funding requests made by the EEC in previous years. The ECF is administered by the Secretary for Planning, Environment and Lands. It promises to provide funding for the annual core projects of the ECC and also requests ECC, on it behalf, to process funding applications for projects under \$120,000 submitted by community organizations, including the environmental groups.

The ECC organizes two annual major activities: WED in June and an Environmental Protection Festival (EPF) in December. These activities are targeted at promoting public environmental awareness. As such, they each promote a particular theme each year. Examples are: "environmental protection starts with me", "save our seas", "save energy - save the environment" and "go for green". These activities have been successful in passing the environmental message around but they are short-lived. Environmental education has to be promoted consistently and continuously. One of the major initiatives of the ECC

has been the organization of Schools Environmental Award Scheme (SEAS) and the Student Environmental Protection Ambassador Scheme (SEPAS) in schools. The SEAS is an annual programme. Schools are encouraged and funded to organize environmental activities. Distinguished projects are awarded and invited to participate in an open exhibition held at a prime location. The SEPAS progresses the idea of SEAS a step further by offering the recognition of good environmental practices to individual students. Students who participate in SEPAS have to record the environmental activities which they have been involved in. The annual activity records are then assessed. The distinguished students are awarded. An environmental expedition tour to Japan was offered to distinguished students of SEPAS in 1995¹⁶

The two major annual programmes and a number of continuous programmes have stretched the human resources of the ECC to the limit as most of the work is taken up by the secretariat of around five staff. And, all the ECC members are volunteers who have their own full-time jobs. Indeed, the ECC is not set up to solely organize its own activities. One of its major objectives is to provide a channel of funding for private donations and to encourage activities undertaken by non-government bodies.

The setting up of the ECC should provide a good forum for the environmental groups as well as a good platform for the Government to work with the groups on environmental education. The relationship of the groups and the ECC has, however, always been cool. There have been constant complaints concerning the different criteria that the ECC adopts in vetting funding applications of its own and of the groups. The ECC has been seen to spend significantly on publicity and variety shows while these same expenses of the environmental groups have very often been trimmed and limited. The ECC to a great extent, acts as another environmental group. It somehow duplicates a lot of the efforts of the environmental groups.

Another issue facing the ECC is the limitations of its secretariat. The secretariat is provided by the Environmental Protection Department. It is headed by a public relations officer and its staff are executive officers of the general grade. These officers carry out administrative and executive duties and rotate every few years from department to department within the Government. They have not been trained to organize activities (compared with the

¹⁶ See ECCO Issue 54, March 1996, bulletin of ECC

professional, social workers). Once they have acquired the skills and the connections necessary in organising these activities, there is not much time before they are rotated to other Government departments. There are difficulties in accumulating experience and in building up connections for the ECC. Compared to the environmental groups in the context of organizing activities to raise public environmental awareness, this investment of human resources in the ECC secretariat is probably less efficient.

Recognizing that the ECC has (a) a strong link with Government departments, b) good connections with major sponsors, and c) limitations in mobilizing volunteers and community groups, the ECC should be able to find a niche. In fact, the ECC should be impartial as a funding agent and should be better able to address broader strategic issues than any of the environmental groups which have their own narrow areas of interest. Furthermore, it is certainly in a much better position to co-ordinate and enhance the environmental activities of the environmental and community groups. Other than organizing major campaigns using its own limited human resources, it may be wise for the ECC to consider actively funding and co-ordinating other groups to run these campaigns.

In fact, the ECC has reviewed its role in 1995. Subsequently, two important revisions in its terms of references were made in 1996: (a) to advise the Government on community environmental education issues, and (b) to mobilize and manage resources for the purposes of promoting environmental awareness in Hong Kong in collaboration with environmental groups and other organizations. With this new consensus, it is expected that the role of the ECC can be strengthened and the relationship with the environmental groups can be improved further.

CONCLUSIONS

There are a number of points that are worth noting in understanding the politics of the environment in Hong Kong. Firstly, the China dimension is an increasingly important element as July 1997 approaches. Major projects, such as the SSDS, which involve financial guarantees extending beyond 1997 have to obtain the consent of the future sovereign state - China. Although the Basic Law (Constitution of Hong Kong after 1997) promises to allow Hong Kong people to rule Hong Kong, China has been insisting that it represents the future

Hong Kong Government for this transition period until the forming of the Special Administration Region (SAR) Government on 1 July 1997.

The Hong Kong Government could insist on pushing ahead with the SSDS Stage I construction because the cost would be fully borne by the Government and there was no question of financial guarantees beyond 1997. The Chinese Government had no choice but to concede to it. The usual public consultation procedure which forms part of the decision-making process for major projects, such as those included in the Territorial Development Strategy, no longer work because China has the final say. Therefore, these decisions have been deferred and more and more studies (including ecological studies which have very rarely been done in the past) are being conducted.

Secondly, there is a problem of transparency of environmental information. This problem was especially severe in the case of SSDS. It has been highlighted by media reports that the Hong Kong Government passed a great deal of information to the Chinese Government for their perusal. This information has never been divulged to the public, although the environmental groups demanded them many times. It appears that the Environmental Protection Department fears that their authority may be challenged if this information is released for public scrutiny. Time and again, the environmental groups feel frustrated because they lack adequate information to support the Government's environmental policy and they do not have the resources to perform independent studies to assess impacts of policies.

Thirdly, owing to population pressure, land use disputes, especially in the buffer areas of natural reserves, have become increasingly frequent. Urban dwellers would like to enjoy tranquil rural areas while the land owners and developers see the profits in developing the land. The major land developers have joined some environmentalists to object to land reclamation in Victoria Harbour. Whether they whole heartedly sympathize with the environment or they are simply scared that their land banks are being threatened by the newly formed land is subject to question. For the environmental groups, they face a struggle between the two options: (a) to fight for the almost impossible and militantly object to all developments in buffer zones, or (b) to actively play the game of balance so as to persuade the developers to adopt more environmentally-friendly designs.

Fourthly, the Government has become short-sighted in the transition period. As July 1997 draws closer, the current administration intends to finish

everything within the last 100 days. The ten core projects of the Ports and Airport Development Strategy (PADS) are being pushed ahead at full speed. Seabeds are dragged and contaminated mud is dumped back to sea with little regard to the destruction of the marine environment. There is little compromise between the progress of work and the environment. Although monitoring work is carried out, few remedial actions are undertaken. SSDS is another example showing the short-sightedness of the current administration. It is pushed ahead without knowing the ecological impacts at the disposal end of the marine outfall and without knowing about available technology to maintain the deep rock sewage collection tunnel.

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Chapter VI

Housing, Environment and the Community: An Overview

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INTRODUCTION

Housing is an essential and basic element of the built environment. It is also determined by, and at the same time exerts an influence, on the natural environment. Furthermore, the processes of housing production, distribution and consumption, whilst taking place in and impacting on a local milieu, also affect the global environment. Simultaneously, the local and global environments also influence housing quality and conditions. The multilateral relationship between housing and the environment is modified by yet a third party: the community comprised of residents of dwelling units, as well as other actors in housing processes. This chapter aims to provide an initial examination of these relationships and to shed light on the directions for formulating a green housing policy in Hong Kong.

Thus, this chapter is divided into two major sections. The first reviews major current environmental concerns and the concepts and practices of green housing policies overseas. Following on from these broad issues and concepts, the second section explores the justification for introducing a green housing policy in Hong Kong, and identifies the green housing efforts presently practised in the city. Finally, a preliminary policy framework for sustainable housing development in Hong Kong is proposed.

ENVIRONMENTAL CONCERNS AND THE GREENING OF HOUSING POLICY

Global environmental concerns are perhaps best reflected in the five agreements signed at the high powered and widely representative United Nations Conference on Environment and Development held at Rio de Janeiro, Brazil in June 1992. These five agreements are, namely, the Framework Convention on Climate Change, the United Nations Convention on Biological Diversity, Agenda 21, the Rio Declaration on Environment and Development, and the Forest Principles (Grubb, *et al*, 1993). These agreements reflect, *inter alia*, the urgency of reducing greenhouse gas emissions; the paramount need to preserve the biological diversity of the planet, involving the protection of species and

ecosystems and the prudent use of biological resources and technology; action plans to guide the social and economic development of the Earth in a sustainable manner, notable issues being ozone depletion, air pollution and the advocacy of a 'bottom-up' approach; the equity and poverty issues in sustainable development, and the importance of forest protection and management (Grubb, *et al*, 1993; Sitarz (ed.), 1993).

Apart from the global issues, the agreements also deal with the quality of the living environment in urban areas. A major theme of Agenda 21 is the management of human settlements. It stresses that:

"the quality of water supplies must be insured. Adequate shelter must be provided. The careful management of increasing quantities of solid waste and sewage must be established. Energy distribution and transportation systems must be expanded. Adequate health care, education and other essential services must be provided. All of these demands must be handled in a manner which reduces rather than increases the toll on the environment" (Sitarz (ed), 1993:16).

These urban services and urban facilities are often, considered by many housing analysts and practitioners as part and parcel of housing services. Thus, as a major component of the urban milieu, how can housing policy contribute to the greening of the global and local environments?

The greening of housing has only recently appeared on the housing research agenda. The Rio Conference has prompted the production of two volumes on the topic: "Environment and housing in Third World cities" edited by H. Main and S.W. Williams (1994) and "Housing and the environment: a new agenda" edited by M. Bhatti, J. Brooke and M. Gibson (1994). The former presents and analyses the hazardous nature of many urban environments in Third World cities, and their inadequate housing and infrastructure quality and quantity. The latter, while restricted to the British context, takes a broader approach. It has three themes: to examine mechanisms which are necessary for the greening of housing; to discuss housing policies and practices which seek to address environmental problems; and to identify housing inequality issues within the context of tackling environmental problems. This piece of work provides useful references on the inter-relationship between housing and the environment,

the rationale and content of a green housing policy, and the greening of the housing process under such a policy. Each of these deserves further discussion.

Housing and the environment

Taking housing as a socio-ecological process, Bhatti (1994) argues that the process involves the transformation of natural resources, via labour power, into liveable spaces. It subsequently provides shelter, uses and reproduces energy, and delivers waste to the wider community. Its most important function is, however, likely to be as a form of social and cultural capital to the occupants. Such a perception of housing highlights the environmental impacts of housing activities and thus "the way that the natural environment enables, sets limits to, and mediates the housing process can be examined" (p. 23).

Bhatti *et al* (1994) further demonstrate that the production, management and consumption of housing affect global warming, ozone depletion, depletion of non-renewable resources, as well as human health and well being. More specifically, the use of capital intensive construction methods, the manufacture and transportation of high energy building materials (e.g. concrete, steel and plastics), and domestic energy consumption patterns would generate carbon dioxide and other emissions unless renewable power sources such as wind and wave are used. Alternative forms of housing production should therefore be considered.

Gibson (1994), in exploring the greening of housing policy, contends that there is a need to link housing policy analysis with the concept of sustainable urban development, and that the former should be a component of the latter. We therefore need to consider the impacts of housing on global environment change, and what can be done to minimise adverse effects. Further, quoting Elkin (1991), he contends that this new role of housing should also stress inter-generational and intra-generational equity, pointing to the need to "reduce housing inequality and redefine housing's local environmental management role, to bring the standards of declining neighbourhoods much closer to those of the rest of the city.....[and] to think these issues through well into the 21st century....." (p.36).

A green housing policy

Given the relationship between housing and the environment expounded above, it is argued by the writers of the book that housing policy definitely has

a role to play in environmental protection and sustainable development. There are further reasons prompting the introduction of green thinking into housing policy and practice in Britain. These include Agenda 21, and the use of green issues by the local governments to gain a new legitimacy as their role in housing has been reduced from that of providers to enablers. Moreover, the introduction of Value Added Tax on fuel to reduce carbon dioxide emissions has brought about housing inequality issues as the lower-income households are unable to afford adequate warmth. The energy inefficient homes are mostly concentrated in the private sector. Thus, tenure issues also have policy implications: environmental policy has to enable, facilitate and encourage individual households or private landlords to install energy efficiency and conservation measures (Bhatti, *et al* (1994). Finally, as housing is a major element of the urban environment, the greening of cities will be impossible without the greening of housing. Or, put another way, the greening of housing policy should be considered within the wider strategy for sustainable urban development.

The strategy for sustainable urban development involves, in the British context, improving the energy efficiency of housing stock, eradicating unfit houses, and regenerating deprived neighbourhoods (Gibson, 1994). Overall there is a strong preference for building rehabilitation, recycling of building materials, and neighbourhood renewal over new developments, as the latter exerts a wider impact, often negative, on the environment. The high cost and limits of rehabilitation are nonetheless recognized. Thus, refurbishment projects should be balanced with new developments where non-toxic materials, renewable resources and energy efficiency can be integrated from the start. Furthermore, it is suggested that the new residential projects must be sensitive to the environment, developed with maximum user participation, be linked to local employment and transport policy, and be subject to environmental impact assessment (Bhatti, *et al*, 1994; Gibson, 1994).

Energy conservation is the main theme in Gibson's (1994) proposed green housing policy. Energy efficiency investment in housing was first introduced to the U.K. to combat fuel price rises, then was directed to help low-income families obtain affordable warmth. It is now regarded as essential for fulfilling international obligations to reduce carbon dioxide emissions, particularly from domestic energy consumption and road traffic. It was found that 28 per cent of carbon dioxide emissions in London come from household fuel consumption. Thus, new housing projects should be designed for energy

conservation, and located where they contribute most to sustainable urban development. However, since new housing is only a small part of the whole housing stock, it is imperative to improve the energy efficiency and general condition of the existing stock.

Another issue requiring attention in the greening of housing policy is resident participation in the housing process. It is argued by Gibson and Bhatti alike that tenant participation helps to develop sustainable policies and practices. Along with this suggestion of democratization is the call for the central government to free up resources, allowing housing organizations to experiment with alternative methods of housing production such as self-build and green design. Yet the authors are critical of the privatization strategy, arguing that progress towards sustainable housing requires more state action. Therefore, there is a need for a re-orientation of housing policy towards a "social democratic" model, incorporating a carefully planned increase in the public sector.

Overall, a green housing policy is suggested because housing has a definite role to play in environmental protection. The policy should comply with the concept of sustainable development, catering not only to the housing needs of this generation but also of those to come. It "involves 'living within the limits' imposed by the earth's resources and capacities to provide." (p. 192) Apart from this inter-generation housing equity, housing inequality in this generation should also be addressed. More specific to the British context is the issue of energy efficiency as the cold weather necessitates high domestic energy consumption. The question of whether housing privatization and a more decentralised and participative mode of housing process are conducive for a green housing policy is, in contrast, more globally applied.

The housing process under a green housing policy

If the reasons for introducing a green housing policy are justified and the directions and principles of a green housing policy are established, what are the green considerations that should be incorporated in the housing process? Rydins (1992), quoted in Bhatti (1994), offers a model for inserting an ecological dimension to a building life cycle applicable to residential properties (Figure 1). The model divides the building cycle into six stages, from the inception, design and construction phases, through the building use phase, to the refurbishment and demolition stages. At each phase of development, questions

concerning the use of natural resources are raised, followed by possible environmental impacts exerted by the respective process.

The major concern of the project conception stage is whether the project will, especially in the long term, most appropriately consume resources (notably land and minerals) that are to be employed, and whether it complements and permits environmentally friendly uses of existing infrastructure. At the design stage, attention is focused on resource conservation, claims on construction resources, impacts on the local and global natural environment, and the influence on the life style of future residents. In the construction stage, questions raised are whether noise and air pollution are kept to the minimum, whether operational safety is ensured, and whether the consumption of resources is minimised.

The building use stage lasts the longest. Logically, the consumption benefits and the green consciousness of the users are the central concern, in addition to local environmental management issues. For refurbishing the building, apart from managing environmental issues akin to those in the construction stage, the questions are whether large scale replacement can be avoided and whether careful maintenance has been practised to prolong the refurbishment periods, and if refurbishment has to be launched, whether building resources can be recycled. Finally, local environmental impacts have to be considered during the demolition stage. But two prior questions need to be asked: can alternative uses be found before the physical life of the building expires? Should the building be preserved for its heritage value, if any?

At least two conclusions can be drawn from the above interpretation of Rydin's model: environmental issues are involved at every stage of the building cycle; and the formulation and implementation of a green housing policy are not only the tasks of the housing policy makers; it involves a whole range of housing professionals and all the residents, i.e. the whole community. Communities are, however, culture bound and area specific. The principles and rationale of a green housing policy may be universally applicable, but its precise content and the mobilization of the community for its implementation differ from territory to territory. We thus need to chart Hong Kong's own green housing policy, though keeping in mind that we are part of the world community and that valuable lessons are available from other parts of the world.

Figure 1 Environmental impacts of building production and building use during a full building life-cycle

<p>Is the project the most appropriate use for the resources employed (land, energy, minerals etc.)?</p> <p>Is the project capable of accommodating appropriate uses throughout its life span?</p> <p>Does the project complement existing infrastructure which will permit environment friendly uses?</p>	<p>Is the design drawing on all available experience for resource conservation (energy, water, etc.)?</p> <p>Will the design generate useful new experiences to improve future building projects?</p> <p>Is the design of human scale and conducive to simple life styles, (e.g. use of outdoor spaces, cycling, preparation of food)?</p>	<p>Is disruption (noise, dust, traffic etc.) kept down to the unavoidably necessary?</p> <p>Are toxic substances and hazardous processes handled safely?</p> <p>Does the construction process avoid unnecessary dangerous or noxious site procedures?</p>	<p>Do users accept and understand building facilities which permit more environment friendly life styles?</p> <p>Does the building enhance personal comfort and well being when the environmental impacts is at the intended level?</p> <p>Does the building contribute to a supportive environment for people of all needs (e.g. children and young people)?</p>	<p>Are large scale replacements of building components necessary, or are small scale repairs possible?</p> <p>Can refurbishment periods be extended by initial specification and careful maintenance?</p> <p>Can building components be taken from, or returned to a recycling pool?</p>	<p>Can alternative uses be found, when the economic building life expires before the physical life?</p> <p>Can redevelopment make a positive contribution to local environmental impact (see project conception and brief)?</p> <p>Is noxious building waste handled safely?</p>
<p>Project conception and brief</p> <ul style="list-style-type: none"> • foregone opportunity to conserve resources, use resources elsewhere or for a different purpose • claim on land • creation of new spatial and land use relationships • demands on infrastructure • changing travel patterns, transport requirements 	<p>Design</p> <ul style="list-style-type: none"> • claim on stock and live resources as construction material • claim on stock and live resources for construction process • impact on flora and fauna during building life • impact on local environment, microclimate, daylighting • indoor living/working conditions • impact on global 	<p>Construction phase</p> <ul style="list-style-type: none"> • use of stock resources • construction traffic • construction noise • airborne pollution • construction waste • water consumption • energy consumption • toxic substances • health and safety of site operatives • materials 	<p>Building use</p> <ul style="list-style-type: none"> • safety of surroundings • benefits/disbenefits to users and community • indoor environment and users' health • microclimate • impact of fauna and flora • waste • toxic substances • energy consumption 	<p>Refurbishment</p> <ul style="list-style-type: none"> • write-off of existing building fabric with embodied resources • construction traffic and noise • airborne pollution • construction waste • water consumption • energy consumption • toxic substances 	<p>Obsolescence, demolition</p> <ul style="list-style-type: none"> • blight • waste, release of hazardous substances • provision of land for new development cycle • destruction of heritage • energy consumption

Source Rydin (1992)

HOUSING AND THE ENVIRONMENT IN HONG KONG

Why a Green Housing Policy for Hong Kong?

It is obvious that much of the general relationship between housing and the environment discussed above provides strong support for proposing a green housing policy for Hong Kong. As in Britain, we have our own unique reasons for such an endeavour. First, subsequent to the 1972 Nations Conference on the Human Environment at Stockholm, the Hong Kong Government has embarked on its environmental protection actions and policies (Bidwell, 1990; Choi, 1993a). To date, although environmental problems are still serious, the government has made substantial progress in planning against pollution, enacting and enforcing legislation and pollution control, tackling the waste problem, and monitoring and investigating environmental quality (The Conservancy Association, 1991). The Governor re-emphasized the government's strong commitment to environmental protection in the Preface of the Second Review of the 1989 White Paper on environmental issues: "I have put the environment right at the top of my political agenda" (Planning, Environment and Lands Branch (Hong Kong), 1993:9). As an essential element of the living environment, housing policy should be a major component of the city's green strategy.

Second, the construction and property sector is a major element of the Hong Kong economy, accounting for 23.5 per cent of Hong Kong's GDP in 1992. Further, housing construction dominates the building industry, accounting for 33.2 per cent in 1991. The contribution of housing would go beyond this figure if infrastructure, shops and community facilities constructed for supporting housing projects are taken into account (Rowlinson and Walker, 1995). Thus, a green housing policy would have major implications for environmental protection and sustainable development in Hong Kong. Moreover, although Hong Kong is known to be the last bastion of capitalism and *laissez-faire* policy, we have a sizable public housing sector, accommodating half of the city's population. Thus, a green housing policy, if formulated, will not be largely left in the hands of the private sector for implementation. Many of the green policy enforcement problems, such as the need to provide financial incentives, can be avoided. Thus, the dominance of public housing sector optimizes the contribution of the housing sector to the greening of the environment.

Finally, while we have not had a green housing policy to date, the

government has enacted, since the 1980, ordinances and planning control measures introducing green practices into the housing process. The Hong Kong Housing Authority has also in recent years begun to experiment with green measures in housing design and construction¹. What needs to be done is, perhaps, to put these green measures in a policy perspective, thus identifying the lacunae and subsequently filling them. The value of constituting a discrete green policy for housing is that clearer and more comprehensive environmental objectives and targets can be set, and more organized and determined actions can be enhanced in this important sector of the city. The next section therefore examines the state-of-the-art of green practices in the housing sector in Hong Kong. Having done this, a preliminary green housing policy can be proposed.

Green practices in Hong Kong's housing sector

Project conception and brief

Green practices currently in operation in Hong Kong span the various stages of the building cycle described by Rydin (1992). The incorporation of the Environment Chapter in the Hong Kong Planning Standards and Guidelines in 1985 made the major and necessary step for including environmental considerations in the planning of both public and private developments (Planning Department (Hong Kong), 1994). Although the standards and guidelines are non-statutory and flexibility is allowed in their application, they are taken seriously by the planning authorities in granting approvals to proposed developments. The Chapter sets the guidelines for considering the complementarity and compatibility of the proposed development (and redevelopment) projects with existing land use and infrastructure in the four aspects of air, noise, water, and waste. It also recommends remedial measures if the prescribed standards cannot be met.

Moreover, the environmental implications of the development are also appraised. An environmental impact assessment study is required for major private and public housing development projects for preventing pollution problems, minimizing environmental damage and avoiding expensive remedial

¹ The green measures include: removal and monitor of toxic substances such as asbestos and radon, improving efficiency and management control of building services installations, use of environmental friendly building materials, experimenting with low energy building design and construction methods, pre-fabrication of building components to reduce waste and improve quality, reduction of noise emission from building services, stopping the use of ozone depleting substance for air conditioning and fire extinguishers, improving water quality and installation of automated refuse collection systems (Housing Department).

measures (Environmental Protection Department (Hong Kong), 1992). Such a study for a housing development project would consider the following: environmental impacts and issues during the construction stage, the impact of the project on sensitive receivers and sensitive parts of the natural environment, the major elements of the surrounding environment which may affect the site proposed for development, possible measures to minimize environmental impacts or to enhance the environment, and possible severity, distribution and duration of environmental effects (Environmental Protection Department (Hong Kong), 1992:14-15).

Thus, environmental considerations in the conception and planning stage, as guided and required by the government, focus on the impacts on the local environment, complementarity and compatibility with existing land uses and infrastructure, the avoidance of aggravating environmental problems and the seeking of opportunities to improve the environment. Compared with the environmental issues raised by Rydin for the initial stage of project development, the more general and fundamental issues of resource conservation, and alternative resource utility have not been addressed. The allocation of land for residential use to either the private or public sector in Hong Kong is based on housing need and demand, and generating government revenue: whether the project is the most appropriate use for the resources employed, except for land use allocation, has not been spelled out as a major consideration of the community.

Housing design

Contrary to the paramount government influence in the planning and conception stage, government's guidance in green housing design is minimal. A regulation imposing energy-efficient requirements on commercial and hotel buildings, the Building (Energy Efficiency) Regulation, was enacted in April 1995 but it is not applicable to residential buildings. The Housing Authority has nonetheless taken the initiative to experiment with energy efficient designs in newer projects. This includes the provision of sunshades and using plastic material for window sills in the harmony blocks, and using more energy efficient motor drive systems for lifts (Housing Authority Bimonthly, 1994; Hong Kong Housing Authority, 1995). Likewise the Hong Kong Housing Society launched its first green housing project in Tseung Kwan O in 1994, incorporating environmental measures such as sun-shading features and low

flush toilet in the design and building services provisions (Hong Kong Housing Society, 1994:30). Other energy efficient designs employed or considered by the architectural profession in Hong Kong include wind driven ventilation or external envelop insulation, roof shading and external wall/roof insulation for controlling thermal transfer, solar water heating photovoltaic and the installation of wind turbine (Ng and Lui, 1993).

Designs for other resource conservation are also contemplated or adopted. Apart from the low flush toilet system which is particularly desirable where a supply of seawater is unavailable, recirculation of 'grey water' (effluent from potable water systems, such as from showers and taps) for irrigation of landscaping was assessed to be technically feasible for high-rise projects (Ng and Lui, 1993). A low-rise project in Ting Kou has sought the approval of the Environmental Protection Department to recirculate toilet flushing water after high quality treatment. Green considerations are also incorporated in the choice and specification of building materials by architects and designers. The Housing Authority has, for example, redesigned landscapes features such as pergolas to be made of softwood sourced from sustainable forests instead of hardwood from rain forests. In addition, alternative types of playground equipment with no hardwood content are being specified. Use of new materials, such as a composite made from used polythene bags, was considered (Hong Kong Housing Authority, 1993). Design and construction professionals have also attempted to examine the environmental impact of the specifications of building materials and construction to limit the waste of resources and help save the environment (Ng and Lui, 1993).

Designs for better waste management have been contemplated as well. An example is a planned recyclable segregation strategy involving the provision of specified collection bins or chutes at accessible and noticeable locations to residents (Ng and Lui, 1993). An automated refuse collection system is also being experimented with by the Housing Authority in Fanling and Tsuen Wan. The system transports refuse from the chutes in residential blocks via underground suction pipes to a central collection plant. Refuse is then compressed and removed by lorries. The environmental hazard in the disposal and transport of refuse can then be minimized (Hong Kong Housing Authority, 1993).

Although most of the green designs discussed above have only been introduced or contemplated in recent years, they pertain to most of the

environmental concerns raised by Rydin for the design stage (Figure 1). Experience of resource conservation has been drawn on, new experience is developed in improving future building designs, the claim on resources has been made more prudent, the impact on indoor living (presumably ventilation and lighting) has been attended to, and the impact on the flora and fauna, the impact on the local and global environment have been considered in the project planning and conception stage. However, it needs to be noted that most of the innovative designs discussed above are ad hoc pioneering endeavours; their wide adoption is yet to come. Furthermore, environmental considerations in housing design have not been made mandatory, either by law or professional practice requirements. Moreover, Rydin's concern about whether the design is of human scale and is conducive to simple life styles has not been addressed thus far.

Construction

In contrast to the minimal government intervention in green housing designs, environmentally friendly construction practices are mostly legislated for or enforced administratively by the government. According to the government estimates in 1993, about 30 per cent of the measured dust level was due to construction activities. In view of this, in 1994 the government proposed the enactment of a regulation requiring the construction industry to implement dust control measures (Planning, Environment and Lands Branch (Hong Kong), 1993:51,53). While this proposal is still being considered, a Noise Control Ordinance was put into effect in 1989. Among other things, the Ordinance prohibited construction work using powered mechanical equipment between 7 p.m. and 7 a.m. or at any time on a general holiday (including Sunday) unless a valid Construction Noise Permit is granted. Also, percussive piling is prohibited between 7 p.m. and 7 a.m. and on general holidays including Sunday. Further, with effect from 17 November 1989, percussive piling during the daytime may only be carried out in accordance with a Construction Noise Permit. In addition, the government is contemplating establishing a regulation for controlling, during restriction hours, non-essential construction work which, though not employing powered mechanical equipment, is intrinsically noisy. More regulations may be considered in the future as the Noise Control Ordinance contains a provision that enables the enactment of regulations to control particular types of work as and when required to deal with specific construction noise problem (Environmental Protection Department (Hong

Kong), 1993). Currently, a regulation is being drafted to completely ban percussive piling.

For the disposal of construction waste, a practice note on construction site drainage has been issued by the Environmental Protection Department to relevant professionals. The note aims to prevent or minimize pollution problems associated with construction activities. The note gives guidance on how to reduce, for example, siltation in storm drains, visual nuisance and hazards to aquatic life caused by the discharge of muddy water into streams or the sea, and pollution caused by the improper handling and disposal of construction site waste water (Environmental Protection Department (Hong Kong), 1994).

Concerning construction safety, Rowlinson and Walker (1995) contend that Hong Kong has one of the worst safety records in developed countries, reaching 317 accidents per 1,000 workers annually. There is certainly room for improvement. Currently there are three pieces of legislation (enacted in 1978, 1986 and 1990 respectively) and one industrial regulation covering construction safety in Hong Kong. These ordinances and regulations stipulate detailed safety requirements, including the circumstances under which a safety officer is needed, and the general duties of construction employers and employees. Rowlinson and Walker (1995) argue that the ordinance concerning the general duties of employer and employees has the potential of reducing the accident rate significantly. However the success depends on how effectively the ordinance can be enforced. An effective means of increasing construction safety quoted by Rowlinson and Walker (1995) is the Performance Assessment Scoring System employed by the Hong Kong Housing Authority. Under the scheme, contractors with a better safety performance are given increased opportunities to tender for work, while those with a poor safety record are excluded. In addition, the Authority has prohibited hand-dug caissons in its contracts since April 1993, except in technically unavoidable cases. To take it further, the government had decided not to give any further approval for such caisson work in all construction projects from January 1996. Thus, safety in construction work has been attended to by the government but, in general, more improvements are required.

Major private developments subject to an environmental impact assessment would be susceptible to more stringent and comprehensive controls by the Environmental Protection Department. Construction activities associated with the following environmental issues would be carefully considered by the

Environmental Protection Department when the project is submitted for approval: air and noise pollution, traffic generation, management of waste and hazardous material, accident risk, soil contamination and unsightly visual appearance.

Apart from the above environmental impacts, both the public and private sectors, especially the Hong Kong Housing Authority, have attempted to use construction materials which help preserve and conserve scarce resources and improve the environment. Some of these initiatives include the mandatory use of metal instead of tropical hardwood for site hoarding and formwork, the use of softwood floors rather than teak parquet floors, and the shift to utilize less energy intensive building material. Another notable success is the use of pulverised fuel ash by the Housing Authority in foundation concrete works for all domestic buildings in September 1993, and the subsequent extension of the use to all foundation works in housing projects in March 1995. This practice greatly helps to relieve the disposal problem of the environmentally unfriendly by-product of power plants (Rowlinson and Walker, 1995:53, and Hong Kong Housing Authority, 1995:28).

Thus, on the whole, environmental consciousness and practices in the construction process is strongest in mitigating noise pollution and ensuring better waste management. Tighter controls on air pollution and safety operations are yet to be achieved. Whereas both the private and public sector have given greater attention to environmental concerns in the choice of construction material, it seems that the public sector is taking the lead. The Hong Kong Housing Authority is also more effective in improving industrial safety in construction sites. Compared with Rydin's paramount attention given to safety for the construction stage (Figure 1), Hong Kong's safety standards and consciousness are still generally weak.

Building use

This phase is an outcome of the previous phases of work. The residents may not be fully aware of the environmental concerns and efforts given to the production process. It has neither been a policy nor a practice that housing producers must inform residents of any green designs and facilities. However, designers and architects experimenting with green innovations would be keen to find out the end-users' response. Based on the results of the assessment exercises that the Housing Authority has decided to extend the automated refuse

collection system to all new housing projects (Housing Department).

An essential issue not to be neglected during the building use stage is proper building management and maintenance, as it directly affects the quality of the immediate living environment. Refuse collection, lighting and cleanliness of common areas, security, and safe use of lifts are the basic tasks of building management. Professional housing management was introduced to the public sector as early as the late Sixties and was gradually adopted by the higher quality private housing projects since the mid-Seventies. Professional management is also promoted for housing blocks in the old urban areas by the City and New Territories Administration. As Hong Kong's public housing is mainly comprised of housing estates instead of single blocks on their own, housing management also includes taking care of the community facilities and establishments: schools, playgrounds, retail places, community halls, landscaping and etc. This policy of providing a comprehensive housing service adopted since 1972 is conducive to fostering a supportive environment for people of all needs. Similar services are also provided in large private housing estates.

Thus, to respond to Rydin's questions posed in Figure 1, it may be concluded that residents' awareness of the green designs may not be strong in Hong Kong mainly due to the recent nature of the greening effort and the lack of a mandatory policy to inform residents of such designs and to solicit their response. Nonetheless residents of public housing and large private housing estates are generally provided with a supportive living environment due to the bundle of housing services provided in the locality, and the services of professional housing managers. However, residents of most low quality private housing blocks, squatter settlements and temporary housing areas are deprived of such services and have to tolerate a much poorer living environment, as described in Choi (1993b) and Chan (1994).

Refurbishment

The employment of proper housing management services has been instrumental in implementing effective maintenance work to prolong the refurbishment period and to optimize the life span of residential buildings. Although technical tasks are planned and carried out by maintenance professionals, the initiation and organization of maintenance work with residents, and the identification of the need for repair from residents are usually

jobs for housing managers. Minor and major maintenance programs have been regularly carried out in Hong Kong's public housing sector as well as generally in private housing blocks and estates with proper management. In recent years, more effective maintenance management systems, such as the CARE system (Condition, Appraisal, Repair, and Examination) and the MASS system (Maintenance Assessment Score System) have been introduced by the Housing Authority (Hong Kong Housing Authority, 1993). The maintenance work has certainly extended the refurbishment periods. It is nevertheless difficult to give a simple answer to Rydin's question of whether small scale repairs are possible instead of large scale replacements of building components. Very often, refurbishment also involves the upgrading of sub-standard buildings or units to the prevailing standards, and therefore basic replacement does not suffice. There is, however, no evidence to show that considerations have been given to using recyclable building materials for renovation and to conserve the existing building fabric with embodied resources. The environmental problems occurring during refurbishment would be subject to controls as for the construction process.

Obsolescence and demolition

Generally, redevelopment provides an opportunity to upgrade the environment because the project needs to observe prevailing planning and environmental standards and guidelines. The extent of improvement depends on the scale of the redevelopment project. In situ redevelopment of individual dilapidated blocks, which is typical in Hong Kong's private sector, only improves the internal conditions. Moreover, the original residents, though generally adequately compensated, are usually displaced. In contrast, redevelopment projects in the public sector (including projects carried out by the Housing Authority, the Housing Society and the Land Development Corporation) is of a greater scale covering at least one estate or a block of land. These projects provide the opportunity for upgrading the local environment (e.g. more open space, better transport networks and improved layouts) as well as the indoor environment (e.g. higher space standards and provision of an independent toilet and kitchen) (Hong Kong Housing Authority, 1994). Furthermore, the original residents are given a chance to be rehoused in the redeveloped building when the project is completed.

An important piece of legislation introduced to reduce environmental

hazards during the demolition process is the Building (Demolition Works) Regulations, which regulates dust nuisance. Other environmental laws and regulations discussed above, where appropriate, also help to minimize environmental problems during demolition. Alternative use is rarely considered in Hong Kong for a building, the economic life of which has expired but not its physical life. This could well be due to the high price of land here. Recently the Housing Department has contemplated deferring the demolition of some of the vacated old blocks and is using them to provide better quality temporary housing. Such an attempt, although not devised for environmental reasons, has the effect of maximizing resource utility. In contrast, the enactment of the Antiquities and Monuments Ordinance has provided the statutory and administrative framework for heritage preservation. The Land Development Corporation, which is a government agent for redeveloping private properties, has set preserving Hong Kong's heritage as one of its objectives (Land Development Corporation, 1991). So far out of the eleven housing redevelopment projects considered or implemented by the Corporation, only one preservable architectural design (building facades of Li Chit Street) has been identified (Land Development Corporation, 1992).

Thus, redevelopment in Hong Kong does provide a chance for improving the living environment, and regulations are being developed to minimize disruption to the environment during the demolition and reconstruction process. However, inadequate attention has been given to maximizing the utility value of residential buildings. Heritage preservation may require more effort, not only from the government redevelopment agent, but also from the private developers which produce over half of new private housing from redevelopment projects (Planning, Environment and Lands Branch (Hong Kong), 1995).

Overall, although Hong Kong has not had a conspicuous and integrated green housing policy thus far, green practices can be found at every stage of the housing process. On the whole, the emphasis has been placed on regulating the impacts of the housing process on the local environment: to avoid worsening environmental problems and to seek opportunities to upgrade environmental quality (including internal living conditions). There is also more emphasis recently on resource conservation and energy efficiency, and the public housing sector has been taking the lead in trying out various innovations. However, generally deeper environmental issues are seldom addressed. For instance, the

principles of sustainable development are rarely considered at the conception stage, nor whether better alternative use can be made of the resources that are to be employed. Likewise the following issues are hardly contemplated: conduciveness of housing design to a simple life-style, promoting residents' awareness of and participation in the greening of housing, encouraging the use of recyclable building materials, maximising the use value of residential buildings, and encouraging developers to preserve heritage. A pro-active green housing policy may guide and help us to strengthen our green efforts in housing.

CONCLUSION: A GREEN HOUSING POLICY FOR HONG KONG?

The earlier part of this chapter pointed out that a green housing policy is part and parcel of a wider strategy of sustainable development, and that the greening of cities is impossible without the greening of housing. A green housing policy for Hong Kong should therefore, on the passive side, comply with the city's environmental policy; on the active front, it should strengthen and deepen the city's environmental effort. The Second Review of the 1989 White Paper on environmental issues states, *inter alia*, the objectives and principles of Hong Kong's environmental policy as being to overcome the pollution problems and to properly protect the environment for this and future generations so that the needs of the present and future generations can be met from the environment (Planning, Environment and Lands Branch, 1993:33). These objectives clearly echo the concept of 'sustainable development' defined by the World Commission on Environment and Development in 1987: sustainable development is the ability to ensure the needs of the present without compromising the ability of the future generations to meet their own needs (Stren, *et al* (eds), 1992:8). The various elaborations of sustainable urban and housing development discussed in this chapter can thus be employed for the construction of a framework for Hong Kong's green housing policy. The green efforts in housing identified in the previous section can subsequently be incorporated into the policy framework.

If it is accepted that the objective of a green housing policy for Hong Kong is to develop a sustainable housing system, the major concerns of a green housing policy are twofold: to ensure intra-generational equity and inter-generational equity in housing. Intra-generational equity in housing involves eradicating unfit dwellings or enabling every household to live in dwellings meeting the basic standards. It therefore mainly deals with local environmental

issues. The basic standard prevailing in Hong Kong today is a self-contained and unshared dwelling built of permanent material. In addition, community services meeting the daily necessities should be provided in close by, and environmental quality, especially air quality, noise level and waste treatment, should be of an acceptable standard. Housing developed in recent years is required to meet the above standards (except the provision of community facilities for small projects). A major emphasis of the green housing policy should therefore be placed on upgrading the substandard housing stock, especially old private housing located in rundown urban areas with poor environmental quality and lacking community facilities. The current reconsideration of the redevelopment policy by the government could thus have an important bearing on a green housing policy. The other major policy emphasis should be on the strengthening of green measures currently implemented or experimented with in the housing process. As the majority of them relate to improving the local living environment, they contribute to providing a better housing standard without detriment to the environment.

Inter-generational equity in housing pertains to global and long-term environmental issues involved in the different phases of the housing process, especially the initial stages. It is necessary to consider, for instance, whether the proposed housing project is the most appropriate utilisation of the resources to be employed, whether the project is within the support limit of the environment, and whether the project complements existing infrastructure, particularly in reducing or minimizing overall traffic flow. Furthermore, it needs to consider whether the design has attended to possible means of increasing energy efficiency; whether the building materials to be used minimize the threat to biodiversity and reduces greenhouse gas emissions; whether the design minimizes the use of air conditioning and thus minimizes ozone depletion; and whether the design is amenable to simple life styles. Subsequently, the use of recyclable building materials for construction and renovation, the conservation of embodied resources of the existing building, the preservation of buildings with heritage value, and the optimization of the utility value of residential buildings prior to demolition should be contemplated. Some of the above issues, as deliberated, have started to catch the attention of actors in the housing field, especially those working in the public sector. A more pro-active approach is nonetheless necessary. It may be too ambitious to include all the above environmental considerations in approving housing projects and in the upgrading

of the existing stock, and some of them are rather vague anyway. Nonetheless, they could be set as the policy directives and be made mandatory by phases in due course.

The above proposal represents a first attempt to work towards the formulation of a green housing policy for Hong Kong. It aims to stimulate discussion rather than to present a blue-print for implementation as much more work is necessary before precise policy options can be recommended. Since the greening of the housing process involves everybody in the community, from housing producers to a wide range of professionals and all residents, the responsibility for formulating and practising a green housing policy should not rest with the government alone. A strengthened environmental consciousness in the community is definitely fundamental. The participation of residents in the policy making process is also essential as they would help develop enforceable and realistic sustainable housing policies and practices. Finally, the greater green effort spent in the public housing sector is notable. This echoes Gibson's contention that the public sector is more conducive to developing sustainable housing. The fact that the public sector provides housing to half of Hong Kong's population thus promises a bright future for a successful green housing policy in this city.

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Chapter VII

Mobilizing Tsing Yi Residents Against Environmental Hazards

Chi-Fai Li and Hang-Sau Ng

INTRODUCTION

In recent years, a number of incidents around the world, and in Hong Kong, have shown that the populace is living in an increasingly dangerous and unsafe environment. For instance, the inferno at a liquefied petroleum gas distribution centre in Mexico City in November 1984 and the poison gas leak from a pesticide plant in Bhopal, India, in December 1984 are two major foreign examples. These tragic events caused considerable loss of life and suffering; they sharpened the awareness of the public towards these hazardous installations.

In the local community of Tsing Yi, the proximity of housing developments to liquefied petroleum gas (LPG) tanks in several petroleum storage depots aroused the islanders' concern. Some local residents' organizations, most notably the Tsing Yi Concern Group, mobilized local residents in collective campaigns including petitions, sleep-ins, signature campaigns, press conferences and negotiations with government departments urging the removal of the oil depots.

This chapter summarizes the experiences gained through the mobilization of residents against environmental hazards, particularly the hazardous installations on Tsing Yi Island, and reviews the policy changes induced by such mobilization. Hopefully, through case-studies of successful experiences, residents will be more aware of their collective ability to pressurize government and multinational enterprises.

HISTORICAL DEVELOPMENT OF TSING YI ISLAND

For many years, Tsing Yi Island was relatively unimportant in terms of both population and economic activities. Up to the early 1960s, it was virtually deserted; it is separated from the Kowloon peninsula by the Rambler Channel. The population of Tsing Yi consisted principally of fishermen and farmers, who lived in a few villages along the northern coast of the Island. The principal

means of transport for Tsing Yi residents was a regular ferry service to Tsuen Wan operated by the Yau Ma Tei Ferry Company.

The channels which separate Tsing Yi, Ma Wan and Lantau are an important passage for marine traffic between Hong Kong and mainland China, and for oil tankers. Moreover, because the Island is situated at the north-west corner of the harbour and very close to the urban industrial area, it is an ideal place for the storage of hazardous industrial goods, such as oil products and chemicals. Therefore, since the early 1960s, the oil depots in urban areas such as Lai Chi Kok have been moved to Tsing Yi to make way for residential development.

In order to reduce high transportation costs due to lack of road access, the major oil companies and China Light and Power jointly invested in a two-lane bridge across the Rambler Channel linking the Island and Kwai Chung. The Tsing Yi bridge was completed in February 1974 and the bridge was then handed over to the Hong Kong government for maintenance and management.

Since the mid-1960s, Tsing Yi has been identified as a centre for hazardous installations and heavy industrial development. However, it was also targeted for new residential development in the 1970s to alleviate the intense shortage of land in urban areas. It was planned that Tsing Yi would accommodate more than 200,000 people when fully developed. This produced many environmental problems as the residential areas were close to the industrial sites and there was no safety zone.

When people started moving into Tsing Yi Island, some of them were totally unaware of the potentially dangerous situation created by these oil depots, but some were worried, particularly those living in Mayfair Gardens, which was only 50 metres away from the Mobil oil depot. According to the Hazard Potential Consultancy Report (1982), the depot consisted of 21 tanks, 15 of which stored liquid products and six LPG; the total storage volume was 121,000 and 3,100 m² respectively. The release of the LPG could give rise to an intense local fire (forming a fireball) or the gas might spread and subsequently burn as a flash fire, or it might burn explosively giving rise to fires and blast damage.

Apart from the Mobil depot, the potentially hazardous installations included five fuel storage sites (three with LPG storage) and two chemical plants, one manufacturing polystyrene from a styrene feedstock (Dow) and the other manufacturing chlorine. Chlorine is not at present stored but is converted to hypochlorite.

In addition, a number of installations are situated along the coastal strip in the southern half of the Island. These include a power station, dockyards, and various engineering and fabricating establishments. Moreover, the frequent movement of dangerous goods vehicles and the pungent smell of oil products also caused a nuisance to the residents, especially those living in Mayfair Gardens.

Residents of Mayfair Gardens organized themselves and raised their complaints and worries through the press and the District Office, but the poor response of government officials disappointed them and the situation did not improve. The disaster which occurred in Mexico in 1984 further exacerbated anxiety and the grievances of residents when they began to realize the danger of these installations. At the same time, some social workers who were working on the Island, together with some enthusiastic residents, formed a concern group named the 'Tsing Yi Concern Group', which initiated a series of actions to combat environmental hazards.

THE TSING YI CONCERN GROUP

In 1984, the Joint Declaration was signed by the Chinese and British governments agreeing that the sovereignty and administration of Hong Kong would return to China in 1997. Hong Kong would become a special administrative region ruled by Hong Kong people. In line with these changes, the Hong Kong government carried out political reform in order to encourage people to participate in community affairs. In response to this political agenda, many district concern groups were formed, for example, the Sham Shui Po Livelihood Concern Group, the Shatin Livelihood Concern Group and the Tsing Yi Concern Group. Most group members were young professionals with a tertiary education; some of them were leaders of the Student Movement during the 1970s, and were more willing to adopt a radical and confrontational approach in solving community problems.

The past history of indigenous villages tells us that decision-making power on all community affairs in the area rested with the village elder. However, the rapid development of Tsing Yi created an influx of people and serious community problems such as traffic, law and order, environmental degradation, etc. These new residents were quite dissatisfied with the living conditions and also queried the representativeness of the village elders.

In this context, a group of social workers formed the Tsing Yi Concern Group with the aim of promoting grassroots participation. The Tsing Yi Concern Group picked up the issue of potentially hazardous installations as their intervention target since many residents were concerned with this; besides, the content of the confidential consultancy report was disclosed by a local newspaper columnist. This heightened the awareness of the public and also provided us with more information for intervention. As a result, thousands of residents were mobilized through exhibitions, opinion surveys, signature campaigns, petitions to the District Board, OMELCO and other activities.

Apart from solving local issues, the Tsing Yi Concern Group was also keen to carry out block development work by sending the part-time organizer to new housing blocks to help the residents form their own tenants' association or Mutual Aid Committees. Further, these local leaders were encouraged to join the Tsing Yi Concern Group as a way of further participation. In 1985, the Concern Group put a candidate up for the District Board elections and won a seat on the Kwai Chung and Tsing Yi District Board. As a result, the Tsing Yi Concern Group was able to solicit more resources in terms of money and information. In 1988, the Concern Group won three seats on the District Board. In the 1991 District Board election, the Tsing Yi Concern Group won all the seats on Tsing Yi Island. From the voting figures, more than 70 per cent of the voters supported the candidates allied with the Tsing Yi Concern Group.

THE STRATEGY OF INTERVENTION: FOCUSING ON POTENTIALLY HAZARDOUS INSTALLATIONS ON TSING YI

The whole intervention process lasted for more than seven years. Over this period, thousands of residents, a number of concerned environmental organizations, and residents' organizations in Tsing Yi were mobilized to fight against environmental hazards on Tsing Yi. This chapter focuses on how the residents of Tsing Yi Island have been educated and mobilized, and the responses of the government and the residents' organizations.

To begin with, it should be emphasized that we always face an ethical dilemma of whether or not to mobilize. If the issue fails to bring about results, the process brings more frustration than satisfaction. This failure experience will suffocate budding interest in community participation (Chan, 1991). Besides, it will also hinder the development of the Concern Group. However, no one can know the result; the only way is to try it out.

For simplicity, the development of the issues on Tsing Yi are categorized into initial, middle and end phases, each with a different focus: on the risky condition of Mayfair Gardens, the relocation of two Shell depots from Ap Lei Chau and Cha Kwo Ling to Tsing Yi, and a gas leak at the Hong Kong oil depot, respectively.

INITIAL PHASE: THE MAYFAIR GARDENS CASE

The present site of Mayfair Gardens (Tsing Yi Town Lot No. 83) had been owned by Mobil Oil Hong Kong Limited since 1967 when the company moved its depot from the present Mei Foo Sun Chuen site to Tsing Yi Island. The lot was sold to May's Investment Limited, a subsidiary of Sun Hung Kai Property Company Limited in 1977 at a price of HK\$ 64.5 million. It was originally zoned for industrial use and the company intended to develop it into an industrial area as well. However, in June 1978, the lot was officially re-zoned as a commercial-residential area because of the fear that further industrial development on the Island would overload the transport network.

The entire development consisted of three phases. The three phases comprised five, three and four blocks respectively. The location of phase three is the nearest to the Mobil Oil depots. Phase one development, with 1,140 dwelling units, was completed in March 1982, and phase two, with 768 units, in early 1985. The original construction schedule of phase three was planned to commence in mid-1984. However, owing to strong objections from the residents and the Tsing Yi Concern Group, the Executive Council banned the development in September 1984 because of its proximity to the Mobil Oil terminal.

Strategy

In response to the Mexican accident, together with information on the Tsing Yi potential hazard report leaked to a local newspaper, the Tsing Yi Concern Group started to organize residents' meetings to discuss the issues, and experts were invited to strengthen residents' confidence. The main objective was to test the response of the government and convey the anxiety and dissatisfaction of the residents through the press, the district board and OMELCO. As it was in the initial encounter stage, the Concern Group did not strongly demand the removal of all depots from Tsing Yi.

After these actions, the government showed its sincerity and respect for public opinion by sending the former Chief Secretary, Sir David Akers-Jones, to the Tsuen Wan District Board. He explained the viewpoint of the government and emphasized the safety measures at the depots. Moreover, a high-powered inter-departmental working group was formed to investigate the issue and find ways to improve the situation. In fact, this response encouraged the residents to go ahead.

The working group proposed three options. First, the then Environmental Protection Agency (subsequently the Environmental Protection Department) made a suggestion that the Mobil Oil depot should be moved since this was regarded as potentially the most dangerous, and the large piece of land could be very valuable for the future development of Tsing Yi. But the removal would involve a large sum of money and it was anticipated that the oil company would not agree to make such a move. Secondly, the Lands and Works Branch proposed lobbying the housing developer, Sun Hung Kai Properties, to abandon the final phase of its development, which was the closest to the oil storage depot. It was suggested that surface oil storage facilities could be replaced by an underground system. However, the government would then have to compensate the company for its costs, which would also involve a very substantial sum. The third choice was simply to sit back and do nothing on the physical layout of the development, but to step up precautions to avoid an accident with the storage facilities. This last option would no doubt carry the least financial implications.

After learning about the options, the Tsing Yi Concern Group launched an exhibition concerning the environmental hazards on Tsing Yi as a way to educate the public. A sample survey was also conducted at the bus-stop of Mayfair Gardens to solicit residents' opinions on the proposed options. More than 80 per cent of the respondents supported the removal proposal in the long run. As a temporary measure, residents agreed that the phase three development be frozen until the depots were removed. The Tsing Yi Concern Group called a meeting to discuss the findings with interested residents and finally a core group was formed with more than 20 members. In order to solicit more support from the residents, the core group initiated a signature campaign. After that, a press conference was held and the petition was forwarded to the Chairman of the government working group. However, the government was not willing to

negotiate with the residents directly and the only means of communication was through the mass media.

Despite the difficulties encountered, the government announced a halt to the development of Mayfair Gardens phase three in mid-1984. The core group members were happy to learn about this, but a number of residents and commercial tenants of the shopping mall lodged a complaint to the District Office. They said that they would lose business. On the other hand, the residents were also deprived of some entertainment because, according to the original plan, phase three included a cinema and a restaurant. Apart from these, the residents also feared that the value of their property would decrease due to the unfavourable geographical location. Under these circumstances, the Concern Group and the core group maintained a low profile. The focus shifted to the policy level, i.e., urging that the Potential Hazard Consultancy Report 1982 be disclosed and the potential hazardous installations in Hong Kong reassessed.

Achievements

Although the outcome was not exactly what the residents had proposed, the Concern Group had successfully aroused the concern of the public on the environmental hazards and their possible impact on residents. The government did make some response by setting up a working group and halting the development of phase three of Mayfair Gardens, which was one request made by the Concern Group. However, this perception was not wholly accepted by all members of the core group and some left the Group because of a sense of failure.

MIDDLE STAGE: RELOCATION OF ANOTHER TWO DEPOTS TO TSING YI

In mid-1986, the Tsing Yi residents were alarmed by a controversial proposal to install another two LPG storage tanks on the Island. The two depots which were originally located at Ap Lei Chau and Cha Kwo Ling, belonged to the Hong Kong Electric Group and Cheung Kong (Holdings) Limited, respectively. Actually, the two depots were quite far away from residential sites in those areas, but these two pieces of land were attractive for redevelopment purposes. Furthermore, the government would also benefit since the complex land swap deals were estimated to be worth about HK\$1 billion in premium payments. Negotiations were then underway between the government, the Shell Oil Company and other parties to relocate the oil and LPG depots to Tsing Yi,

but residents on the Island did not have a chance to take part in the discussions. Residents expressed anger at this move because Tsing Yi had developed into a new town with a population of more than 200,000 and it was not acceptable for the government to re-zone Tsing Yi as a hazardous installations area. This really placed the lives of residents in danger.

Strategy

The Concern Group then organized a series of actions including lobbying the Town Planning Board members since the Board had some influence over the proposal. However, most of the Board members were involved in the business sector and their opinions were found to be basically pro-government. However, a coalition of more than five residents' organizations was formed under the leadership of the Concern Group. The coalition organized press conferences and petitions to the concerned departments. The issue was brought to a climax by two marches and demonstrations at Government House and the Town Planning Board, with more than 200 local residents participating each time.

On the other hand, a conservative organization, the Rural Committee, supported the government's idea and argued that the relocation of the depots would certainly benefit the Island. Besides, the site for the relocation was owned by a private company and it was far from the residential area. However, some of residents were very suspicious of the motives of the Rural Committee in supporting the relocation. Nevertheless, the support of the Rural Committee was used by the government to attack the residents' opinions.

At that time, the then Secretary for Lands and Works, Mr Graham Barnes, proposed a plan for segregating the dangerous industries and the residential areas. That meant that the Mobil and Hong Kong Oil depots had to be moved to the west of the Island. However, the government would not make it compulsory for existing industries to move. As re-siting was on a voluntary basis, there would be no compensation for the industrial enterprises. Obviously, the government showed willingness to compromise with the residents in that it would move all the depots which were close to residential developments, such as the Mobil and Nga Ying Chau depots, to the other side of the Island. However, this solution was very different from the objective of the Tsing Yi Concern Group which was that all hazardous installations should be moved off

Tsing Yi Island. Nevertheless, the response from the government indicated that the removal of depots was not totally impossible.

Reactions from the Government and the Residents

Despite strong objections from most of the residents in Tsing Yi, the Town Planning Board endorsed the relocation project after it had been delayed twice due to massive action against the plan. As a concession to worried residents, the government undertook a study of potentially hazardous installations on Tsing Yi and promised to withhold approval for any industrial projects until it was finished. The study aimed at determining the impact of potentially hazardous installations on the Island and what hazards they might pose for residents.

Even though it seemed the residents groups had failed as the depots were to be moved in, they still won much support from local people. Furthermore, the majority of the unofficial members of Kwai Chung and Tsing Yi District Board allied with the Tsing Yi residents and urged reassessment. During the process, the Tsing Yi Concern Group clearly showed its potential as a pressure group and fought for the interests of the grassroots population. As a result, more residents were willing to join the Tsing Yi Concern Group and most of the newly formed residents' organizations agreed to form a coalition with the Concern Group.

END PHASE: GAS LEAKAGE FROM THE HONG KONG OIL COMPANY

On 11 February 1989, gas leaked from a liquid petroleum gas delivery pipe from the Hong Kong Oil depot (formerly Gulf), which was very close to the residential site, Mayfair Gardens. As reported by the residents, when the accident occurred, none of the emergency departments knew how to handle the problem. The residents heard a special announcement on the radio that they should close all windows and extinguish all fires. The situation was chaotic and the residents realized that the government was ineffective in dealing with this type of emergency. The gas leak further exacerbated Tsing Yi residents' anxiety about the dangers of living in close proximity to such a huge volume of volatile fuels. It also heightened the residents' fears of the risks they faced.

From 18 to 20 February, a three-day sleep-in campaign outside the Gulf depot was organized by the Tsing Yi Concern Group and this was soon supported by more than 15 residents' organizations on Tsing Yi. About 500

local residents waved banners, chanted slogans and marched with them to the depot. During the rally, some concerned Legislative Councillors, Regional Councillors, District Board members from Kwai Chung, and environmental protection organizations were invited to condemn the government and urge feasible and comprehensive contingency plans. The angry residents even blocked the entrance to the depot. On 20 February, the Tsing Yi Concern Group staged another rally and decided to forward a petition to the Office of Executive and Legislative Councillors and Gulf Oil headquarters. However, the staff of Gulf Oil were unhelpful and they refused to accept the letter. The residents' representatives stormed the door of the office and finally the conflict was settled by the police

Responses of the Government

In response to the increasing public concern and the continuous action staged by the residents, Legislative Councillors grilled the government over its plan to improve safety measures on Tsing Yi Island on 22 February 1989, following the gas leak at the Hong Kong Oil Company. The former Secretary for Lands and Works, Graham Barnes, admitted that the decision to site the oil depots in a residential area had been a mistake and that it represented bad planning by modern standards. It was a turning point in the issue as, from that time onwards, the government started negotiating with the oil companies. In 1989, the government agreed to move the Mobil, Hong Kong Oil and Nga Ying Chau depots away from their present locations to better ones by 1993-94, and the re-zoning of these areas was gazetted in March 1990. The government also published the 1982 Tsing Yi Hazard potential Study Report and the 1989 Risk Reassessment Report.

Achievements

For most of the residents, the issue ended very successfully because the depots which were considered dangerous were to be moved. However, the new location was still on Tsing Yi Island, and although it was assessed by the technocrats as 'safe', the risk to society was not completely removed. In addition, before the gas leakage, all the officers had claimed that the installations were safe, and had emphasized how effective their emergency units were, but, as it turned out, the situation was completely different. The concept of 'safety'

as guaranteed by the government was an empty slogan rather than a sign of confidence.

The residents felt happy because they had won the battle: government admitted its mistakes openly and agreed to publish the relevant reports. Through the working process, residents were being educated and mobilized to participate in events. Also, some unconventional and conflict-oriented strategies such as sleep-ins, demonstrations and marches proved to be acceptable to the residents.

The main characteristics of the issues and the analysis are summarized in Appendix 1.

A NEVER-ENDING BATTLE

Up to 1996, we have witnessed the release of the 1982 Tsing Yi Hazard Potential Study Report and the 1989 Risk Reassessment Report; the re-zoning of different land use in the Tsing Yi Outline Zoning Plan; the relocation of all the oil depots next to Mayfair Garden; the ongoing relocation of oil depots on Nga Ying Chau and the announcement of a contingency plan in the case of an accident.

It seemed to the public that the fight against the environmental hazards on Tsing Yi was finished, but most of the problems, such as the storage of toxic gases in the chemical plant, the oil depots in the so-called 'safe' location, the development of a residential site near the cement plant, the ship repair factories close to public housing blocks, and the transportation of dangerous goods, still pose a serious danger to the residents. Apart from sharing the success, continuous efforts have been made by the Tsing Yi Concern Group and the coalition to fight against these environmental hazards

REFLECTIONS ON THE MOBILIZATION

The whole mobilization process lasted for seven years and involved a great deal of action. The Tsing Yi Concern Group tried every means to encourage residents' participation, because it was their belief that residents could learn more and actualize their decision-making ability through participation. The following are some of the noticeable changes during and after the events.

CHANGE OF MEMBERSHIP

In the very beginning, the core members of the Tsing Yi Concern Group were basically social workers and some active youth members from the youth

centre. The membership was around 30 and the average age was in the mid-twenties. The focus of intervention was mainly on educating Tsing Yi residents about the environmental hazards by means of exhibitions, seminars and opinion surveys. At that time, the mobilization was limited. One of the reasons for this was that those members were not focusing on organizing the residents but rather on self-learning. Besides, the time availability of those young people was quite limited as they were involved in many outside commitments. However, these youth members were more educated and willing to take radical action, thus facilitating the work considerably. However, it was difficult to encourage them to become core members. The Tsing Yi Concern Group had to train local adult residents in order to ensure the Tsing Yi Concern Group survived. Therefore, the Tsing Yi Concern Group shifted the focus to recruit and organize local adult residents into the group. In the end phase, the Tsing Yi Concern Group had more than 200 members, mostly married adults.

SHIFT OF STRATEGY

During the initial stages of the action against the environmental hazards, the social workers started to involve and mobilize the existing residents' organizations, community groups such as Mutual Aid Committees in rental public housing blocks and the Tsing Yi Trade Association. However, the responses were not encouraging. This was because those existing organizations regarded the Tsing Yi Concern Group as threatening the harmony of the community. More importantly, the formation of the Tsing Yi Concern Group might have threatened their authority and interests. Given such factors, the Tsing Yi Concern Group was only able to mobilize the public to a limited extent.

The experience of the initial mobilization stage showed us that we had to create our coalition by participating in the block organizing work in order to have effective mobilization during events. During this period, the Tsing Yi Concern Group successfully formed more than 20 residents organizations on Tsing Yi Island. However, some of them left the Concern Group after a period of time. The reasons were mainly the different political views on nominating candidates for the District Board elections and lack of follow-up intervention. Details of the formation are given in Appendix 2. After forming the coalition, the Tsing Yi Concern Group experienced a favourable participation response from the public, and thus strengthened its bargaining power in the middle and

end phases. In response to this, the government had to make some concessions in environmental policy, such as reassessing the potentially hazardous installations in Hong Kong, and segregating hazardous industries from residential development. In addition, the bureaucrats were also more aware of the opinion of the public. This eventually contributed to the formation of better policy.

MOBILIZING RESOURCES

Resources limitations are one of the most detrimental factors hindering the mobilization and development of residents' organizations. The Tsing Yi Concern Group had to face serious financial constraints in the early stages. The initiators (social workers) had to share the expenses of the organizing process. Some donations were received from supportive residents. Owing to the tight financial situation, no paid staff were employed. All the organizing work and secretarial support were basically performed by social workers and members after office hours. The worst headache was setting up an office base, since rents in commercial blocks were extremely expensive and a public housing flat could not be used for such a purpose. Ultimately, the Tsing Yi Concern Group used a social worker's private residential flat.

The lack of access to information also had a tremendous effect on the development of the issue. Most of the government documents were confidential, and the general public had no access to them. For example, the government claimed that the 1982 consultancy report contained important commercial information and could not be publicized.

The situation improved in 1985 when one of our members won a seat on the District Board, and the Tsing Yi Concern Group could make use of the honorarium to cover expenses. In addition, as a District Board member, he was able to obtain more relevant information. Apart from this, some training institutes also sent social work students to the Concern Group for fieldwork practice, which provided additional manpower to start block development work. In fact, most of the formation of the residents' organizations was carried out by the students under the guidance of an experienced social worker.

COMMUNITY PARTICIPATION

People's participation has been defined as a process that provides the participants with a role in decision-making and in the implementation of

programmes. It is an essential element of development and an important way of heightening consciousness, and increasing knowledge of issues and available choices (ESCAP, 1977). However, this definition is too vague to be operationalized. Arnstein (1969) has developed a more concrete concept 'ladder of participation', which delineates participation into levels whereby intervention strategies can be developed (Table 7.1).

From this ladder of participation, the Tsing Yi Concern Group could identify four distinct types of participants at different levels of participation during the events. They could be called the non-participants, onlookers, group members and the core leaders. 'Non-participants' refers to the majority who are ignorant about resources and suffer in silence. The onlookers are the residents who attend meetings and respond to social and recreational programmes. Group members are those registered in the Concern Group and who are willing to pay a membership fee. The core members are those who attend meetings frequently, and are willing to sacrifice their time and energy to assist the Tsing Yi Concern Group.

Table 7.1: The Ladder of Participation and the Participant's Action

Level on the Ladder of Participation		The Participant's Action
High 8	Citizens' control	Resource and administrative control
7	Delegated power	Has delegated power in local affairs
6	Partnership	Joint decision-making with the authority
5	Placation	Organize opinions and seek change
4	Consultation	Support and feedback on plan
3	Informing	Learning about given information
2	Therapy	Service consumption
Low 1	Manipulation	Non-participation

During the whole process, the Tsing Yi Concern Group successfully motivated the apathetic, and raised them to the level of onlookers by providing them with knowledge and information on hazardous industries. After the residents obtained the knowledge, some of them developed a positive attitude

towards participation. Thus, the Tsing Yi Concern Group could organize these onlookers into an ad hoc issue group, or recruit them as members of the Tsing Yi Concern Group. In the ad hoc group, skills in community analysis and organizing were provided, and their interests in joining recreational activities were also met. Finally, mature and enthusiastic members were trained to become core leaders and executive committee members of the Tsing Yi Concern Group through which they could develop a strong sense of justice and competence.

Table 7.2: Types of Participants and the Focus of Attention

Types of Participants	Focuses of Attention
Core leader	Strengthen positive value and develop sense of social responsibility
Group members	Training of essential skills and sustain interest in participation
Spectators or onlookers	Shaping of attitude and providing access for mass education
Apathetic or non-participants	Providing knowledge and information

Appendix 3, shows that the participation rate was high when some chance events occurred and participation levels were normal when they were over. Therefore, the Tsing Yi Concern Group made use of every chance event to raise residents' level of participation from the lower to the higher level. It was fortunate that, in each event, the Concern Group was able to develop some residents into core leaders. During the static period, when no chance events occurred, the Tsing Yi Concern Group jointly launched some recreational activities with the Mutual Aid Committees and tenants' associations to sustain the members interest and to maintain sound relationships with residents' organizations.

DEVELOPING LEADERSHIP

In order to alleviate the problem of persistence, the Tsing Yi Concern Group tried hard to develop local leaders to fill the leadership vacuum created when social workers leave the community. Also, it is difficult for a residents' organization to sustain its efforts over a long period of time. Enthusiasm and

interests gradually subside and organizations experience entropy (Twelvetrees, 1976). The established residents' organizations have to tackle difficult problems of survival, maintenance and manpower turnover.

In moving towards the solution of this problem, the Tsing Yi Concern Group identified and trained potential residents as executive committee members in order to fill the leadership vacuum when those social workers left the Group. Hence, the membership of the executive committee of the Tsing Yi Concern Group is gradually replaced by local residents. At present, all executive committee members of the Tsing Yi Concern Group are local residents. This clearly reflects the achievement of the Tsing Yi Concern Group in the cultivation of leadership on Tsing Yi. Details of the composition of the executive committee of the Concern Group during the campaign are given in Appendix 4.

The achievement of the Tsing Yi Concern Group in fighting against the environmental hazards in Tsing Yi Island cannot be said to have been a great success, but the organizing process and development have given the organizers a valuable and fruitful experience which they will remember for a lifetime.

CONCLUSIONS

The mobilization of Tsing Yi residents against environment hazards begins with a simple intention of enhancing citizen participation in the locality. The founding members of the Concern Group accepted the fact that the grassroots' scope of concern on communal problems is largely confined to personal interests and therefore the problem must be immediate, specific and affect the quality of life.

The selection of hazardous installation issue as a vehicle to enhance citizen participation may be to the detriment of citizen participation. The problem of hazardous installation on Tsing Yi is relevant to local residents but most of them thought it too difficult to change because the depots were established before they became resident there. Moreover, the Concern Group and the residents who wanted to change the existing order have less bargaining power than those who are happy with the *status quo*, i.e. the oil company and the government.

Nevertheless, the Concern Group was able to exploit every chance event, like the gas leakage from the oil depot, to introduce an extraneous element and achieve success. Apart from this, the skills of the organizers in

using different tactics and strategies, the support of the mass media, the atmosphere of the community and the ever-rising expectations of the residents regarding a healthy environment also increased the bargaining power of the Concern Group.

Apart from the reflections on the mobilization, i.e. change of membership, shift of strategy, mobilizing resources, community participation and developing leadership, the policy changes resulting from the mobilization are also worth mentioning.

In the early 1960s, due to the geographical advantage of Tsing Yi Island, the government established the policy of having hazardous installations and heavy industry locate to Tsing Yi. The policy was regarded appropriate as there was only around three thousand residents on the Island. Since the 1970s, with the government's new town development programme, hundreds and thousands of families moved to the public and private housing estates on the Island. Yet, the government policy did not address the problem of incompatibility of residential and hazardous industrial land use.

The Concern Group originally mobilized Tsing Yi residents against environment hazards in order to get a better living environment. The unintended result was the modification of government policy on hazardous installations. The government acknowledged the risk that residents face and set up the policy to separate the hazardous installation from residential areas by means of the ridge. Of course, this policy still falls far short of the residents' target of relocation of hazardous installations to a designated hazardous installation area. However, the government has also drawn up a contingency plan which indicates different government departments' responsibility in the case of hazardous installation accidents happen.

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Appendix 1: Issues Concerning Environmental Hazards on Tsing Yi Island

Phase	Dates	Extraneous event	Functions of TYCG	Strategies of TYCG	Expectations of TYCG	Actions and responses of government
Initial	1984-85	Mexico Incident The disclosure of information regarding the Tsing Yi Hazard Potential Report Formation of TYCG	Testing, exchanging views, pioneering Limited mobilization on Mayfair Gardens and Cheung Ching Estate Educating and organizing grassroots	Residents meetings Press conference Petition Exhibitions and seminars Survey Signature campaign	Encourage participation Develop opinions Right to know about the report Press for formation of Potential Hazardous Installations Committee	Chief Secretary explains government viewpoint Set up working group Stop phase III of Mayfair Gardens Refuse to reassess hazardous installations
Middle	1986-88	Relocation of 2 more depots onto Tsing Yi	Organizing and leading residents organizations Advocating change	Lobbying Petitions and demonstrations Residents meetings	Opposition to 2 depots relocating to Tsing Yi Formation of coalition Promote participation	2 more depots move onto Tsing Yi (with conditions) Reassessment of potentially hazardous installations on Tsing Yi Create counter-force
End	1989	Gas leak near residential blocks	Planning, educating, coordinating and advocating change	Rally, 3-day sleep-in Petitions Block depot entrances Lobbying newly-formed residents organization to strengthen bargaining power	Move Mobil and HK Oil depots away from Mayfair Gardens and off Tsing Yi Formulate clear policy on hazardous installations	Plan to move 3 oil depots from residential areas but to other parts of Tsing Yi Admit fault Release the 2 relevant reports

Appendix 2: Residents' Organizations Formed by the Concern Group

Resident's Organisation	Dates
1. Ching Wah Court Owners' and Tenants' Association*	1986-1987
2. Ching Shing Court Owners' and Tenants' Association*	1986-1987
3. Cheung Hong Estate Hong Cheung House MAC**	1986-1987
4. Cheung Hong Estate Hong Shun House MAC**	1987-1988
5. Tsing Yi Estate Yee Kui House MAC**	1987-1988
6. Tsing Yi Estate Yee Yip House MAC**	1987-1988
7. Tsing Yi Garden Owners' & Tenants' Association***	1987-1988
8. Cheung Hong Estate Hong Mei House MAC**	1987-1988
9. Cheung Ching Estate Ching Chung House MAC**	reformed in 1988-89
10. Cheung Ching Estate Ching Yeung House MAC**	reformed in 1988-89
11. Mayfair Gardens Owners' Committee***	reformed in 1988-89
12. Cheung On Estate On Kong House MAC**	1988-1989
13. Cheung On Estate On Hoi House MAC**	1988-1989
14. Cheung On Estate On Yeung House MAC**	1988-1989
15. Cheung On Estate On Tao House MAC**	1988-1989
16. Ching Tai Court Owners' & Tenants' Association*	1988-1989
17. Cheung On Estate On Wu House MAC**	1989-1990
18. Cheung On Estate On Ching House MAC**	1989-1990
19. Cheung On Estate On Pak House MAC**	1989-1990
20. Cheung On Estate On Mei House Residents' group**	1990
21. Cheung On Estate On Chui House Residents' group**	1990
22. Cheung Fat Estate Chun Fat House Residents' group**	1991
23. Cheung Fat Estate Yin Fat House Residents' group**	1991

* Home ownership scheme provided by the Housing Authority.

** Rental public housing block.

*** Private housing.

Mobilizing Tsing Yi Residents Against Environmental Hazards

Appendix 3: Numbers Participating in Each Significant Action

Stage	Actions	Nature	Dates	Number of core members	Number of core organizations	Number of participants	Government's reaction
Initial (Mexico incident and unwillingness of government to disclose)	Talks (internal)	Self-learning	3.6.84	10	1	0	20.8.84 Chief Secretary Akers-Jones attended Tsuen Wan District Board to report on ExCo discussion Phase III of Mayfair Gardens stopped on 17.9.84
	Meeting with 3 ExCo members	Lobbying	11.6.84	4	1	0	
	Exhibition	Educational	6.84	10	1	500	
	Letter to Chief Secretary	Petition and express concerns	22.6.84	8	1	0	
	Press conference	Pressure	6.84	4	1	0	
	Meeting with Akers-Jones	Lobbying and sharing views	28.6.84	5	2	0	
	Signature campaign (Mayfair Gardens)	Apply pressure and solicit opinion	9.84	20	2	200	
	Opinion survey	Solicit support for further action	9.84	15	2	410	
	Forward signatures to Akers-Jones	Petition	13.9.84	10	2	20	
Press conference to announce survey results	Apply pressure and arouse resident's concern	13.9.84	5	2	0		
Middle (Relocation of 2 depots to Tsing Yi)	Residents meetings	Express grievances and discuss strategy	4.86	20	4	50	17.12.87 Secretary for Lands and Works announces ExCo had approved removal plan
	Exchanges with Town Planning Board and ExCo members	Lobbying and pressure on government	1986-7	20	5	0	
	March to TPB Office	Petition and forward letter	1987	20	6	200	
	March and Demonstration at Government House	Petition and express demand	1987	20	6	200	
	Informal exchange with Mr Li Ka-shing	Lobbying	1987	30	6	0	
End (Gas leak)	Urgent residents meeting	Express grievance and concern	11.2.89	30	15	100	Government admitted fault in planning and announced that 3 depots to be removed from residential areas; released the 2 relevant reports
	3 day sleep-in	Protest	2.89	30	15	30	
	Rally	Demonstration	20.2.89	40	15	500	
	Petition to Omelco and HK Oil	Protest and forward letters	2.89	30	15	50	

Remarks: During the static period from 9.1984 to mid-1986, the Concern Group organized some seminars and occasional talks to refresh the memory of the residents that the environmental hazards in Tsing Yi had not been solved, but the response was not satisfactory. One of our members was elected as District Board Member on 1985, the Concern Group made use of every DB meeting to raise agenda item and solicit Members' support.

Appendix 4: The Composition of the Executive Committee of the Concern Group

Composition of ExCo Members	YEAR			
	1984	1989	1990	1991
Professional Social Worker Working in Tsing Yi	4	3	0	0
Professional Social Worker Living in Tsing Yi	1	2(a)	2(b)	2(e)
Youth Members from Youth Centres	3	0	0	1
Adult: Office bearer of MAC	0	5	7	6(f)
Office Bearer of Tenants' Association	0	3	7(c)	5(g)
Others	1	0	2(d)	3(h)
Total	9	13	18	17

Remarks: In 1984, over half of the ExCo members were social workers. In 1989, 5 out of 13 of the ExCo were social workers and the others were community leaders. In 1990 and 1991, only two members were social workers. Both were living on the Island.

- (a) (g) (h) 1 elected District Board Member
 (b) (c) (d) (e) (f) 2 elected District Board Members

Chapter VIII

Grassroots Participation of Squatters in Environmental Management

Cecilia Chan, Regina Cheung and Fiona Chang

URBAN POVERTY AND THE ENVIRONMENT

In recent years, high inflation and structural economic change in Hong Kong have severely affected the livelihood of many lower-income groups. Average monthly wages of unskilled manual workers have been dropping and in 1996, the Gini Coefficient was 0.518, the highest in Asia. The gap between the rich and the poor is enormous. The number of persons who have no means of income and must apply for government welfare increased from 92,000 in 1993 to 136,201 in 1996. This number is expected to increase as the number of unemployed persons on welfare is still small. The unemployment rate rose to the historically high figure of three per cent in 1995 and although it has moderated a little, it remains above 2 per cent. The unemployed number is around 85,000. Together with those who could only find part-time jobs, more than 100,000 families are affected by unemployment and under-employment. Hong Kong does not have any form of unemployment benefit. When they lose their job and income, life becomes extremely difficult. Until they have exhausted their financial resources, they cannot apply for welfare, which is also set at a very meagre level.

The poor are concentrated in urban slums, temporary housing areas, squatter areas and old public housing estates. These low income residential neighbourhoods are usually not supported by community facilities. Residents encounter acute problems of environmental degradation. This chapter concentrates on the issues and problems associated with grassroots mobilization in squatter areas in Hong Kong.

ENVIRONMENTAL PROBLEMS IN LOW-INCOME COMMUNITIES

Low-income communities suffer from poor facilities, low safety standards, heat, and are overwhelmed by noise, air, and water pollution in their residential neighbourhood. There are frequent reports of fire hazards in old private residential and commercial buildings, management problems and falling

cement from old housing blocks. Squatters living on dangerous slopes risking their lives during the rainy season when their huts can easily be washed away. Quarrels and fights by the side of public standpipes are daily events.

The poor are facing problems of both natural and man-made environmental deterioration and pollution in Hong Kong. Natural environmental problems, such as rainstorms, typhoons, fires, landslides and flooding, severely affect the poor who live in squatter and temporary housing areas. Man-made environmental hazards, such as LP-gas explosions, noise and gaseous emissions from factories resulting in high levels of particulates, sulphur dioxide and oxides of nitrogen in the atmosphere, lack of proper water treatment before discharge of waste water into the sea, noise and dust from construction sites and heavy traffic, exhaust smoke from diesel-engined vehicles, organic waste from farming and domestic waste, and the dumping of chemical waste, are degrading the quality of life of the general public in Hong Kong (Environmental Protection Department, 1992).

Most temporary housing areas are located below flyovers, by the side of container depots, or in the midst of industrial buildings. Pollution caused by the noise, dust, and gaseous emissions from trucks and factories is severe. Residents living in temporary housing areas situated underneath flyovers are suffocated by exhaust fumes from vehicles on the highway. This is part of life for the residents in temporary housing areas.

Pre-war buildings without toilet facilities rely on night soil collection. Urban decay and rapid deterioration of the infrastructure of pre-war and old buildings in the private market is causing problems of poor ventilation, lack of essential facilities and the risk of fire, as well as collapsing structures.

The health of residents in urban slums is seriously affected by the environmental problems. There is a high concentration of environmental nuisance located in old urban areas. These include, for example, cattle and pig handling depots, refuse incinerators, abattoirs, cement plants, vegetable and poultry wholesale markets, and lard and sharks' fin processing factories.

Therefore, low-income families face a variety of problems. They are not only economically and socially disadvantaged, but must also confront a range of environmental problems which affect their health and safety on a day-to-day basis. These problems are summarized overleaf in Table 1.

Table 1: Environmental Problems in Low-Income Communities in Hong Kong

Low-Income Communities	Environmental Problems and Risks
Squatter Areas	Fire risk, dangerous slopes, landslides, hygiene, lack of public toilets and standpipes, slippery paths, lack of public facilities, heat.
Temporary Housing Areas	Remote, dangerous structure and decay, safety, access, fire risk, heat, lack of public facilities.
Urban Slums	Illegal constructions, falling balcony and outer walls, pollution from industrial buildings and public facilities which create nuisance, congestion/ventilation.

GRASSROOTS MOBILIZATION ON ENVIRONMENTAL ISSUES

There have been various major grassroots mobilizations in Hong Kong objecting, for example, to the construction of the Daya Bay nuclear plant in China adjacent to Hong Kong, the environmental hazards of the oil depot and chemical waste treatment plant on Tsing Yi Island, noise pollution along major transport routes as well as land use controls in the New Territories. Many of these issues mobilized tens of thousands of citizens in signature campaigns, demonstrations and petitions. The ultimate motivating factor is often fear of environmental impacts on their health and personal safety.

Environmental and health hazards are among the key issues, which can attract public concern and involvement. Local politicians have been active in such grassroots mobilization events on environmental issues in order to build-up their own political support since the mid-1980s as the number of elected members in the District Boards and Legislative Council have increased.

Environmental Improvement Policies for Squatter Areas

Before 1982, the government's squatter policy was basically negative and reactive. Resources were channeled into squatter control and clearance but not into environmental improvement. Despite the fact that the environmental conditions of squatter settlements were highly unsatisfactory, the government had no incentives to rectify the situation for fear of conferring a legal status to squatters which would encourage further squatting. A change in the

government's squatter policy in the early Eighties was attributed to the cancellation of the touch-base policy in late 1980, which had successfully stopped the massive illegal immigration inflow from China. A series of significant squatter fires and landslides in 1982 alarmed the Council on Squatter Policy. The government subsequently adopted a more positive approach to squatter problems and established a Squatter Areas Improvement (S.A.I.) Division within the Housing Department in 1982 (Ng, 1993).

Prior to the introduction of the Squatter Areas Improvement Programme, the living environment of squatter settlements was very poor. Basic amenities and facilities were either absent or inadequately provided. Public water standpipes always fell short of the demand. A legal supply of electricity was not available until 1976. Illegal tapping of water and electricity supplies through racketeers, who charged substantially higher rates for their services, was a very serious problem. Access within squatter areas was poor and illumination at night was insufficient. Sewage systems were absent. Other provisions, such as recreational and community facilities, were unheard of. In addition to all the problems, squatter areas were highly susceptible to fire and landslides.

The establishment of the Squatter Areas Improvement Division was intended to rectify these deplorable living conditions. The improvements included: provision of fire service inlets, fire mains, fire hydrants and installation of ten meter fire breaks to reduce the fire risks; minor geotechnical work to reduce the risk of landslides; as well as the provision of water standpipes, street lights, toilets, refuse collection points, service channels and footpaths to improve the quality of life for the squatter residents. The Squatter Area Improvement (S.A.I.) Scheme is a typical site and services scheme, but was terminated scheme stopped in 1990 as most squatter areas were scheduled for demolition (Ng, 1993).

The District Boards can also allocate money for small-scale local environmental improvement projects in their district. Before the implementation of the S.A.I. Scheme, funding for such projects only was the source available for environmental improvement in squatter areas. When the S.A.I. Scheme was terminated, the District Boards had to resume their duty in the upgrading of the environment in squatter areas. However, resources and the expertise of the District Board were limited and they experienced a lot of difficulties during such attempts to improve the living environment in squatter areas (Hung, 1993).

The Neighbourhood Level Community Development Project: An Intermediary Organization

In order to reduce grassroots discontent, the Hong Kong government endorsed the policy of setting-up Neighbourhood Level Community Development Projects (NLCDP) in 'deprived' communities in 1977. Deprived communities are identified using the criteria of low-income, remoteness from existing social services, and lack of basic infrastructure. A team of 3 social workers would be employed to work in deprived communities with a population of 3,000-15,000. These communities would also be expected to remain in place for at least three years to ensure that the government's investment in grassroots organizations is financially worthwhile.

The main objectives of the Project are to encourage the residents to actively participate in improving the environment and to serve the community, as well as to help and mobilize the residents to solve community problems collectively. The team also aims to promote civic education in the districts and to provide various community services to meet the needs of the residents. In 1997, there are currently 53 NLCDPs throughout Hong Kong employing more than 150 social workers in organizing residents in squatter areas, temporary housing areas, urban slums and old public housing estates. Residents are organized into task groups and residents' organizations to launch mutual help activities to improve their quality of life.

Residents Groups: Ad Hoc Groups to Resident's Organizations

Residents are mobilized into task forces, ad hoc groups, and resident committees in order that they can work hand-in-hand to fight against environmental hazards and the deterioration of community facilities. It is interesting to note that most of the environmental issues are raised by women in squatter areas instead of men. Women participate actively in ad hoc groups and task forces while men take on leadership positions during important occasions such as demolition and rehousing.

Official Grassroots Representation: Mutual Aid Committees and Owners' Corporations

Multi-storey buildings are a common feature of housing in Hong Kong. In order to mobilize residents or owners of domestic flats in multi-storey buildings to take part in the day-to-day administration of the buildings, the Hong Kong government enacted an Owners' Corporation (OC) Ordinance in 1971 and

designed a mutual help organization called the Mutual Aid Committee (MAC) in 1973. The City and New Territories Administration offers MACs and OCs technical advice on building maintenance to make citizens' participation possible. MACs are given a quarterly stipend so that the organization can pay its telephone and electricity bills.

Community Action and Community Care

As well as NLCDPs, MACs and OCs, which are sponsored by the government, there are voluntary agencies in Hong Kong which are actively organizing grassroots groups for empowerment to seek environmental improvement. They are agencies such as the Society of Community Organization (SoCO), Council on Public Housing Policy, and Council on Squatter Policy, which organize low-income residents to fight for environmental improvement.

The SoCO has organized tenants of 'cage' accommodations to fight for their housing rights upon demolition of their 'cage' apartments, and has also organized boat squatters in Yau Ma Tei to fight for their right to public housing (Fung, 1993). The Council on Public Housing Policy organizes residents in Public Housing estates, about half of the Hong Kong population, to bargain with the Housing Department for environment improvements. The Council on Squatter Policy mobilizes squatters to collaborate in the implementation of SAI schemes.

ENVIRONMENTAL MANAGEMENT IN DIAMOND HILL AND SHAM TSENG SQUATTER AREAS

This chapter will focus on the environmental management in squatter areas in Hong Kong using a case study of the Neighbourhood Level Community Development Project of two villages in the Diamond Hill and Sham Tseng Squatter Areas (1991-1996). The community workers in the project organized community education, home visits, ad hoc groups, social and recreational activities, task forces, environmental concern groups and collaboration with government departments, as well as with District Board members.

Before the British took over Hong Kong, both Diamond Hill and Sham Tseng squatter areas were agricultural in nature. It was only after the population influx into Hong Kong after World War II that more people moved in. In the late 1950s, there was a rapid squatter population growth on former farmland, clustering around traditional village huts. The villages consisted of both wood

and stone structures. The main purpose of the huts was for domestic use but a small portion of them were for commercial and industrial uses.

Both Diamond Hill and Sham Tseng are old settlements. The upper part of Diamond Hill is mainly for industrial use include dyeing factories which discharge their heavily polluted untreated waste water into the Chi In Stream. Domestic huts are mostly located at the lower end of the village, which is less hilly. Sham Tseng, which is famous for its roast duck restaurants, is heavily polluted by restaurant effluents and duck farms.

Characteristics of the Residents

Both of the squatter areas housed about one thousand households with about four thousand residents. Sham Tseng has more indigenous residents who have lived in the village for decades. About 70 per cent of the residents moved into the Diamond Hill squatter area after 1985. Amongst them, 70 per cent of total population are new immigrants, who came to Hong Kong less than seven years ago. They are not entitled to vote nor to apply for public housing as a new immigrant. Most of the new immigrants are not Cantonese-speaking which affects their integration into the community and inhibits communication among neighbours. They speak dialects of Hoklo, Chiuchow, Shanghai and Mandarin. The family usually comprises a couple with two young children, aged between five to ten years old. Women with small children stay behind in the squatter area while those with older children go to work. There are also single elderly persons who are living alone and who are dependent upon Public Assistance living in the squatter huts.

Characteristics of the Community

The community is characterized by having mixed groups of residents; some have lived in the neighbourhood for decades while others are new immigrants from China. Both the villages have their own Mutual Aid Committee (MAC) and Fire Watch Team. There are also traditional Kai Fong Associations, which organize social activities for residents. However, these organizations do not have close or regular contacts with the residents, and the participation of women in their committees is very low.

Pollution and hygiene are the major environmental problems in the two villages. In the Diamond Hill village, drainage and pollution generated from the Chi Lin Stream are the major problems. As there are a number of dyeing

factories located at the upper part of the Chi Lin Stream which passes through Diamond New Village, the water can be heavily polluted with dye and the bleaching powder which can produce a strong choking and suffocating smell. The village also suffers from poor sanitation, lack of a sewage and drainage system, sediments of rubbish and cloth fragments in the stream, which lead to severe hygiene and health problems, and flooding. Besides poor accessibility by road, broken steps and a lack of street lighting, there is also a high incidence of burglary in squatter areas, which increases the sense of insecurity amongst the residents, and reduces trust amongst neighbours.

MOBILIZATION STRATEGIES

Both of the squatter areas were served by a team of three social workers of Neighbourhood Level Community Development Projects. The purpose of the NLCDP is to organize residents to help themselves.

The two projects has mainly adopted the approaches of community education, crisis intervention, organizing environmental concern groups and ad hoc groups to mobilize the residents over the past five years (Table 2).

Table 2: Mobilization Strategies in the Two Projects

Characteristics of the Residents in the Two Squatter Areas	Mobilization Strategies
Low civic awareness, lack of understanding about community resources, low confidence in community participation	Community Education - to arouse the awareness of the residents - to provide information and knowledge for the residents - to increase the residents' confidence through 'learning by doing'
Apathy towards the community, not willing to participate	Crisis Intervention - to make use of the impact of the environment on the residents as a means to arouse the concern of the residents - to create a sense of power through organizing the residents together
Lack of resources and power	Development of Residents Groups (Concern Groups and Ad hoc Groups) - to increase the power of the residents by organizing "people" together (people as resources) - to facilitate residents to formulate action plan so as to improve their environment

Community Education

Community education is an effective approach in enhancing citizen participation. A lot of simple diagrams, commonly used everyday language and analogies were used to help the poor understand the problems that they were facing, and possible solutions that they could adopt. Community education campaigns, like an Environmental Protection Campaign, Understanding Societal Resources Project, including a series of programmes, such as competition, publicity and promotional activities which were implemented to arouse awareness of residents, and to provide community information.

Crisis Intervention

Faced with different environmental crises, the team organized a series of actions to intervene in environmental issues including signature campaigns, site visits, opinion surveys, resident meetings and the sending of complaint letters. The residents were encouraged to take remedial action in pressing the government to improve their physical environment. When a potential crisis was identified, the worker should first of all analyze the problems before selecting the choice of strategies. Factors like the number of affected households, the severity and duration of the problem and the response of the residents should be taken into account. More importantly, the worker must be aware of the dynamics of local organizations in intervening in crisis situations in the squatter community.

Due to the immediacy of action in crisis situations, the role of the community worker is more direct. The residents may be more active in the social action phase and less so in the preparatory work. Residents are coached in collective action and pick up skills in mobilization and participation in the process. After a given crisis, the residents usually retreat from community participation activities as the problems had already been resolved. In order to sustain their participation, the worker needs to identify active residents and encourage them to take part in further environmental activities.

Development of Environmental Concern Groups and Formation of Ad Hoc Groups

Environmental problems directly affect residents' health and well-being. As the result of an environmental education campaign is not easily observable, residents may regard their participation as not being useful. Their main concern is on the actual physical improvement of their environment. Hence, apart from implementing the campaign of community education and using crisis intervention

to arouse the concern of residents, the two NLCDPs developed two Environmental Concern Groups (ECGs) and six ad hoc groups in the Diamond Hill squatter area, and eight residents groups in the Sham Tseng squatter area (Table 3). Strategically, developing structured groups is a more systematic and comprehensive way of dealing with the village affairs as the status of the residents' leaders can be established more easily. However, too much focus on the development of Concern Groups may lead to "elite participation" that ignores mass participation. The formation of ad hoc groups can therefore compensate for the limitations of only developing concern groups.

Table 3: Residents' Groups in Diamond Hill and Sham Tseng

Diamond Hill	
Environmental Concern Groups - Diamond New Village Environmental Concern Group - Sheung Yuen Ling Environmental Concern Group	Ad hoc Groups - Chi Lin Water Stream Concern Group - Wah Ching Drainage Concern Group - Car Park Pollution Concern Group - Street Lighting Concern Group - Road Crossing Facilities Concern Group - Discontinuation of Public Water Standpipe Concern Group
Sham Tseng Village	
- Concern Group on "Demolition of 19 Households in Dangerous Slope" - Sham Tseng Old Village Environmental Improvement Group - Concern Group on Rebuilding of Sham Tseng Nullah Bridge - Children Group on Management Issue of Sham Tseng Playground - Sham Tseng Community Problem Concern Group - Tsing Lung Tau New Village Concern Group - Resident Group on Turbid Quality of Drinking Water - Concern Group on Water Pollution Control Problems	

ACHIEVEMENTS IN ENVIRONMENTAL MANAGEMENT

The progress and results of the mobilization on various issues in Diamond Hill and Sham Tseng Village are presented in Table 4 and 5 respectively.

Table 4: Achievement of Environmental Management in Diamond Hill

Environmental Issues in Diamond Hill Squatter Area	Duration of Completion of Project	Extent of Change or Improvement
Pollution from car park	9 months	++++
Lack of fire exit	6 months	++++
Lack of street lighting	1 year	++++
Discontinuation of public water standpipe	1 year	++++
Wandering dogs	3 months	+++
Rubbish collection station	9 months	+++
Chi Lin Water Stream	All along	++
Wah Ching drainage	1 year	++
Lack of road crossing facilities	all along	++
Broken bridge	6 months	+
Overgrowing of grass (security)	4 months	+
Residents throwing rubbish everywhere	All along	+

++++ = full improvement

++ = partial improvement

+++ = large extent

+ = slight improvement

Table 5: Achievement of Environmental Management in Sham Tseng

Name of Resident Groups (Issues)	Result
Concern Group on "Demolition of 19 Households in Dangerous Slopes"	<ul style="list-style-type: none"> - Information of the slope was partially released - The date of demolition was delayed three times - 11 households were smoothly rehoused
Sham Tseng Old Village Environmental Group (Street-lighting, poor drainage, rats and mosquito, rubbish accumulation)	<ul style="list-style-type: none"> - Installation of street-lighting - Construction of drains - Reconstruction of the existing damaged service channel - RSD monitor the work of cleaning department
Concern Group on Rebuilding of Sham Tseng Nullah Bridge (Deterioration of bridge)	<ul style="list-style-type: none"> - Rebuilding of Sham Tseng Nullah Bridge - Improvement to the existing stream embankment at Sham Tseng Village will be launched
Children Group on Management Issue of Sham Tseng Playground (Re-decoration and improve management of playground)	<ul style="list-style-type: none"> - Sham Tseng playground was re-decorated - Upgrading of the playground by the Minor Environmental Improvement (MEI) projects of District Board - Consultation with relevant government departments and public utility companies on management issue
Sham Tseng Community Problem Concern Group (Falling objects from Tuen Mun Highway, fire prevention, wild growth of grass, Sham Tseng Nullah pollution problem, littering and rubbish accumulation on slopes, street-lighting problem)	<ul style="list-style-type: none"> - Building of fence along the Tuen Mun Highway to prevent objects falling down into the dwellings - Improvement project to Sham Tseng Nullah was implemented - RSD agreed to clean the nullah regularly - A fire-drill was launched - Two areas successfully strive for funding of Grass-cutting Programme by District Board - Lands Department promised to clean the accumulated rubbish on government slopes - 4 lights have been erected in Sham Tseng New Village
Tsing Lung Tau New Village Concern Group (Poor management of public refuse dumps, damaged drains)	<ul style="list-style-type: none"> - Improvement made to the management of public refuse dumps - Improvement of the drains
Resident Group on Turbid Quality of Drinking Water (Request for treatment of water supply)	<ul style="list-style-type: none"> - 104 water samples which were collected under investigation were met the safety standard of Water Supply Department - Treated water will be available upon the completion of the water treatment plant in 1995 - Damaged water pipes will be replaced
Concern Group on Water Pollution Control Problem (Building of interim sewage treatment facilities, request for exemption from the Water Pollution Control Ordinance until the sewage treatment plant was built)	<ul style="list-style-type: none"> - This proposal was in consultation among relevant departments - Environmental Protection Department rejected the request of exemption - Separate briefing and consultation sessions for squatter residents will be organized by CNTA in their future proposals

DISCUSSION

Issues of Negligence on the Part of the Government

Table 4 shows that the localized issues of government neglect, such as a lack of fire exits and a lack of street lighting can easily be solved as those problems are in fact within the mandate of the respective government departments. If the problems were small scale and localized, they would likely be solved by self-help and local co-ordination. For instance, with the problem of growing wild grass along footpaths in squatter areas which might cause fire and safety hazards, the District Board was willing to allocate money to cut the grass. If the problems required a much more complicated physical or policy change, which usually means more resources, the problems would be less likely to be solved, or at least would require a longer period for collective action. The issue of pollution of the Chi Lin Stream and the problem of road crossing in Diamond Hill were two typical examples. It seemed that clearance was the only solution both to the government and the residents with regard to the road crossing problem, but it was not until an accident took place and the residents petitioned the Legislative Council Complaints Section that the Transport Department agreed to carry out some improvement work.

The government is often passive. The government has refused to invest resources to improve the poor environment for the squatter people as it will be demolished in a few years' time. During urban development, the government will generate a large income through land sales; the squatters and their associated environmental problems will disappear, while the residents pay the price of relocation and poor living conditions. The improvement of the quality of life for the society at large is, in fact, often at the expense of the quality of life of the poor. It is quite ironic that this affluent society turns a blind eye to some very poor living conditions of the poor whose basic needs are not being met.

Complete Solution to Environmental Problems?

The government announced a clearance project for the two villages in Diamond Hill in 1994 and the squatter areas has since been demolished. However, the clearance of squatter areas does not mean an end to environmental problems. The majority of the residents were not eligible for rehousing in public housing but had to move into Temporary Housing Areas and old urban slums. The living conditions in these communities are also intolerable. The environmental problems in poor neighbourhoods are a manifestation of overall

housing problems in Hong Kong. Whether environmental problems can be improved depends to a great extent on the adequacy of housing provision. Hong Kong is now moving toward the trend of privatization of public housing. The urban poor suffer most from environmental disasters and hazards, as they have to cope with the lack of decent housing and infrastructural facilities (Main and William, 1994).

SIGNIFICANCE OF ENVIRONMENTAL MANAGEMENT WORK IN LOW-INCOME GROUPS

The above issues demonstrated the "limited gains" of environmental management in low-income areas. The residents have to expend a lot of effort and energy and in return, might only gain some minor improvement work without the full improvement of the environment (Chan and Hills, 1993). However, it is still essential to mobilize the residents in environmental management because of the following considerations:

Minor Improvements have Significant Meaning for Residents

As it is much easier for the residents to improve the environment when few resources are needed and the involvement of the government is limited, even slight improvements made have significant meaning to the deprived groups who have to tolerate an extremely poor environment in their every day life.

Transfer of Experience

From in-depth interviews of active participants in the ECG, the respondents seem to have enjoyed these years of participation. According to their feedback, their gains were much more than the cost they had incurred. The residents found that they can gain knowledge and information, create new friendships and increase their sense of efficiency through participation. The experience, according to the workers' observation, was transferred to follow the clearance issue in 1994 to 1996, and the leaders continue to participate in community affairs after moving to the new community.

After the clearance project was announced for Diamond New Village and Sheung Yuen Ling Village, the two ECGs took up the organizing role to held meetings with the residents. The ECGs were transformed into a Diamond Hill Clearance Concern Group and the active members became the leaders in the concern group. It was also found that the members were better equipped when

they had to face other clearances in THAs and the anxiety during clearance was reduced to a certain extent.

Participation Fosters Mutual Help

In a questionnaire study of 122 residents in the Diamond Hill squatter area, frequent participants in community activities and non-participants were interviewed. Participants are those who participated in community groups for half a year or more. Non-participants are those who have never participated in any community environmental concern group activities. It was found that those who have participated in community improvement activities were more likely to be active in mutual help activities in the village (Table 6).

Table 6: Mutual Help Behaviour Reported by Participants and Non-Participants

Mutual Help Behaviour in the Community	Participants (%)	Non-Participants (%)
Lend daily necessities to neighbours	15 (13.4)	12 (11.8)
Help neighbours to look after their children	9 (8.0)	1 (0.9)
Discuss community problems with neighbours	18 (16.1)	6 (5.4)
Discuss family/personal problems with neighbours	10 (8.9)	4 (3.6)
Go out with neighbours	7 (6.3)	6 (5.4)
Lend money to neighbours	5 (4.5)	2 (1.8)

Empowerment of the Deprived

The residents living in squatter areas are low-income or deprived groups such as the single elderly, new immigrants, and women with little education. The NLCDPs utilize collective action, community education, personal contacts, mutual support and self help networks or groups to mobilize resources or advocate action during environmental management work (Cox, 1993). The residents were developed from a state of powerlessness to gaining a sense of

power. In other words, participation enabled the residents to go through an empowerment process.

The impact of empowerment was much more apparent on women as a target group. As women stay in the community more and utilize public facilities more frequently, they have a greater concern for the quality of life in the neighbourhood which affect themselves, their children and family members. They are well informed about the specific sites and locations of community problems and hardships. Two-thirds of the complaints on environmental problems in the Diamond Hill NLCDP were referred to the Community Development Project by women in the community. Women are more concerned about specific provisions such as poor garbage collection service, dirty public latrines, blackout of street lighting, slippery footpaths and fire risks in the village.

Women participate more in informal networks, buzz groups and women's group activities. Their life is easily affected by failures in community facilities and service delivery, which they are dependent upon. Women are potential targets to be mobilized as guardians of the village. When they discover any malfunctioning community facilities, they can record the locations and appropriate action can be taken. The living environment of the community can be improved. Through community participation, women are empowered. Women usually participate actively in issues relating to the welfare of their children and elderly persons. They can also be mobilized into community problem-solving provided the timing suits their domestic schedule. Home-making is still the primary responsibility for women, working or not working.

During routine meetings of women's groups, problems in the community are discussed and government environmental improvement projects are conveyed to other residents. Women can also transmit this information to their neighbours in the community. In return, they can collect the opinions of the residents. In several petitions concerning environmental problems, the active members successfully mobilized other residents to participate in collective social action. Additionally, members were trained as spokespersons to negotiate meetings with government officials.

There is a women's community development project in Hong Kong which focuses on working with and training women in community participation. Conscious efforts in the mobilization of female participation in low-income

neighbourhood has to be developed as pollution and problems in the community affect women and children much more.

A meeting was held in 1996 to round up and consolidate the experience of the residents who had participated in environmental management work and clearance issues over the past few years. The residents found positive experiences throughout the work. They appreciated their collective efforts and were excited about progress on issues. They also valued their personal growth in the process even though campaigns were not necessarily successful. Here are some of their responses:

"The participation changed my character, I was changed from a quiet and passive person to an outgoing one!"

"It is of course very good that the issue was successful, but it doesn't matter if the issue was not. It is more important that we learnt many things during the process and got to know more friends. You see, we are still friends even though we are not neighbours any more!"

"From participation, I know what my rights are and I understand the society more, even though I just have a limited ability to change it"

CONCLUSIONS

Squatter clearance marks the end of environmental problems on the one hand, but the residents may not be rehoused in a unit with a better living environment. Furthermore, poor environmental problems still exist in old urban slums and THAs. The lack of grassroots representatives in decision-making bodies also affects the extent of effectiveness of environmental management efforts and campaigns among low-income groups. Environmental management work in squatter areas cannot deal with the root causes of the problems.

It seems that the gains of grassroots environmental management work are limited. However, mobilization of low-income groups in dealing with environmental problems is still essential. First, immediate improvement of the environment that bothers the residents every day has a practical impact on their living conditions. Second, the experience and knowledge that is accumulated during the process can enhance the residents' problem-solving ability, the skills

that are learnt can be transferred to other situations, such as lobbying for better housing provision and a more democratic political system.

Nevertheless, different levels of effort is necessary if environmental management in low-income groups is to be successful. Concern about housing policy directions and the grassroots participation in the decision-making process should not be ignored as they are, in fact, some of the root causes of the problems. Though the gains may be limited, grassroots mobilization is of importance as it not only means the improvement of the environment but also the empowerment of low-income groups, particularly women.

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Chapter IX

Health and Safety at Work: A Neglected Environmental Concern

Ignatius T.S. Yu and Kan-Kam Chan

INTRODUCTION

Concern for the environment must ultimately be linked to human health and well-being. Health and illness are influenced by two major groups of factors, namely personal factors and environmental factors. Personal factors are those characteristics that are inherent to the individual, such as sex, age and genetic composition. These factors are basically not modifiable but will determine to a greater or lesser extent an individual's response or reaction to environmental stressors. Environmental factors, on the other hand, are factors external to the individual but which can nonetheless have major impacts on the health and well-being of an individual. To some extent, most environmental factors are modifiable, and hence knowledge about these factors and how they lead to harmful health outcomes is important for the prevention of injuries and diseases and the preservation of health and physical, mental and social well-being.

The occurrence of illness or well-being can be conceptualized as an outcome of the interaction between personal factors and environmental factors. Not all persons exposed to the same environmental stressors will respond in the same way. Some may stay well, some may fall ill and later recover without any sequelae, some may develop permanent disability and some may even die as a result of the exposure. It is well known that cigarette smoking causes lung cancer, but not all smokers develop lung cancer or die from smoking related diseases. Although personal characteristics are important in determining the final outcome, it has been estimated that at least seventy per cent of ill health are results of environmental stressors.

These environmental stressors can be grouped under a number of categories as suggested by the World Health Organisation - accident factors, physical factors, chemical factors, biological factors and psychological factors (Beaglehole, et al. 1993). Accident factors include hazard situations, speeding,

and the influence of alcohol and drugs. Physical factors include noise, climate, workload, radiation, ergonomic, etc. Chemical factors refer to dust, drugs, tobacco, skin irritants, food additives, toxic gases and so on. Biological factors include infections caused by viruses, bacteria, parasites, etc. and animal or plant products that may give rise to hypersensitivity reactions. Psychological factors encompass stress, shiftwork and human relationships. Superimposed upon all these direct causative factors are socio-cultural factors and economic factors that may influence or determine an individual's exposure to those factors. Socio-economic development is frequently accompanied by a reduction in infant mortality, improvement in life expectancies and a change in the pattern of diseases. These may be a result of better education (including health education), better utilization of preventive health care, better food and water supplies, less exposure to hazardous working environments, better curative medical treatments, etc.

Another way of looking at the influence of the environment on health is to separate it into the general (or community) environment, the home environment, and the work environment. The general environment is of common concern to all people within a certain area or environment, and involves major issues of air pollution, water pollution, noise pollution, waste disposal, etc., which may in turn affect the home environment and the working environment. Maintaining a satisfactory general environment is usually the responsibility of the government, either through legislative or fiscal measures, or by providing leadership in concerted efforts to improve this environment. Home is the environment in which the average person spends most of his/her time and can be controlled, to a greater or lesser extent, by individual efforts. Again, the average person is expected to spend about half of his/her life time in productive work, and during the working years, most people are spending about one third of their time in the working environment. A good working environment is basically the responsibility of the employer: an individual worker may have very little influence on the quality of the working environment.

In recent years, people in Hong Kong have become more aware of, and concerned about, environmental issues. Environmental protection and conservation seem to be more popular and fashionable, so-called 'environmentally friendly' products have started to appear on the market, but many people seem to have forgotten the basic principles of environmental protection and conservation, i.e. reduce, reuse and recycle. Another major

neglected environmental concern is health and safety at work, or occupational health and safety. This negligence has been directly responsible for the thousands of cases of industrial injuries and ill health that affect the working population in Hong Kong each year.

Having set the scene for the relationship between health and environmental protection and conservation, and putting health and safety at work in the environmental context, the following sections will try to describe the occupational health and safety situation in Hong Kong over the past ten years as reflected by statistics available from governmental reports. This will be followed by some general comments on Hong Kong's poor performance with regard to occupational health and safety. A grassroots organization directly working in the area of health and safety at work will be introduced and the strategies adopted will be discussed.

OCCUPATIONAL HEALTH AND SAFETY IN HONG KONG

Since the 1950s, Hong Kong has developed from a fishing and trading port into a highly industrialized and urbanized city with a sophisticated infrastructure to meet the demands of intense corporate activities. One of the vital factors in this development has been the contribution of Hong Kong's labour force. However, behind the prosperity associated with the territory's remarkable economic success is an alarmingly high rate of occupational injuries and diseases.

Former Governor, Christopher Patten, told the public that the prosperity in Hong Kong must not be built upon industrial injuries and death after visiting the construction site where 12 workers plunged to their deaths in a faulty lift-cage. Unfortunately, the government and employers have not been very sincere in their efforts to prevent occupational accidents and the sufferings of the workers and their family that follow. Among the traumatic accident cases treated in accident and emergency departments in Hong Kong, industrial (occupational) injuries were the most common group in the 1980s and early 1990s, far exceeding (by about 4 times) the number of traffic-related injuries. Over 100,000 cases of occupational injuries seek treatment each year in the public hospitals. Imagine that you have around a 30 per cent chance of getting injured on the job within a year. This is the current situation in the construction industry in Hong Kong (Table 1). If it is assumed that the average household has four members, then occupational injuries alone could affect the livelihood of about

7-8 per cent of the total population in Hong Kong each year. Worse still, there has not been any significant improvement in accident statistics for the past 10 years (Yu, 1994).

Table 1: Accident Rate in Industry (per 1000 workers)

Year	Accident Rate in all Industries	Accident Rate in Construction Industries
1985	50.32	259.34
1986	53.22	310.93
1987	55.60	332.97
1988	58.88	369.27
1989	58.15	374.43
1990	58.71	353.49
1991	56.70	364.30
1992	57.23	302.34
1993	52.55	294.76
1994	52.93	275.03

The industrial accident rate (defined as the number of accidents per 1,000 employees in industrial undertakings and arising out of industrial activities) rose from 50.13 in 1985 to 52.93 in 1994 (Table 1). Despite the fact that in recent years the government has introduced new occupational safety legislation, and the widespread use of the mass media to promote industrial safety, and improvement in the safety record has yet to be seen. The recent 'drop' in accident statistics reported in the Annual Reports of the Labour Department (1991-94) was only a spurious phenomenon as a result of changing the system of data collection which tends to obscure the real situation.

The highest accident rates in Hong Kong occur among construction workers. Over the past ten years, from one third to almost one half of the industrial accidents took place in the construction sector, and these injuries accounted for about one quarter of all occupational injuries. The accident rate

in the construction industry was about five to six times that of all industries in Hong Kong (Table 1). In addition, the construction industry is responsible for most of the fatal industrial accidents.

Common causes of industrial accidents, as reported by the Labour Department, include stepping on, or striking against, objects, manual handling, machinery hazards, fall of persons, use of hand tools, hot or corrosive substances, etc. (Labour Department, 1994).

Table 2: Silicosis and other Occupational Diseases 1981-1994

Year	Silicosis (a)	Other Diseases (b)	Total (c)	(a) as a % of (c)
1981	191	226	417	45.8
1982	510	92	602	84.7
1983	295	1215	1510	19.5
1984	232	700	932	24.9
1985	179	219	398	45.0
1986	176	103	279	63.1
1987	168	211	379	44.3
1988	167	223	390	42.8
1989	145	38	183	79.2
1990	103	141	244	42.2
1991	2*	91	93	0.2
1992	211	37	248	85.1
1993	208	64	272	76.5
1994	315	54	369	85.4

* The marked reduction in the number of silicosis confirmed was due to the temporary suspension of medical assessments following a considerable number of appeals with the court against the medical assessment results.

The number of notifiable occupational diseases have fluctuated between several hundred to over one thousand every year (Table 2). The two major diseases were silicosis and decompression sickness, which accounted for the majority of all notified diseases. The Factories and Industrial Undertakings (Notification of Occupational Diseases) Regulation 1965 requires all medical practitioners in Hong Kong to notify the Director of the Medical and Health Department (Department of Health after 1989) of persons with notifiable occupational diseases. On the other hand, it is well known that the recorded statistics for occupational diseases do not reflect the actual magnitude of the problem in Hong Kong. Many doctors are either unable or unwilling to report occupational diseases as a result of a heavy workload, ignorance, inadequate knowledge, or insufficient training in occupational medicine.

In Hong Kong, the statistics of occupational accidents and diseases are clearly alarming and unacceptable. The accident and disease records generally reflect poor occupational health and safety performance in Hong Kong. But why is it that at this stage of relatively advanced development in the economy, Hong Kong still has 'third world' statistics in occupational injuries and diseases?

Firstly, there is a lack of an integrated governmental policy on occupational health and safety in Hong Kong. This is reflected in the piecemeal approach to preventive occupational health and safety legislation. The major piece of legislation in force today is the Factories and Industrial Undertakings Ordinance and its subsidiary regulations. The ordinance and the regulations are, by standards common to all modern countries or cities, out-dated. Most developed countries now have legislation covering occupational health and safety for all employees, whereas in Hong Kong, only workers in factories and industrial undertakings are protected. Although the government has stressed again and again the importance of 'tripartite' (employer, employee and government) participation and cooperation in occupational health and safety, the employees are, for most of the time, given responsibilities but no rights. This is in contrast to legislation in many developed countries. Furthermore, there is a general lack of commitment on the part of the government to improve occupational health and safety performance, and this has resulted in many ill-defined terms in the current legislation and regulations, so much so that both employees and employers find it very difficult to understand what their responsibilities actually are.

Secondly, there is a general lack of commitment to law-enforcement and monitoring on the part of the government. The Labour Department faces a

serious lack of manpower, especially in the Factory Inspectorate Division. There are around two hundred and fifty factory inspectors in Hong Kong and they are responsible for monitoring the health and safety conditions of over seventy thousand factories and construction sites. As a result of the shortage of manpower, inspectors can only inspect the black-spots with the poorest accident records and the most hazardous factories. Factories without high accident records may not be inspected by the factory inspectors at all. Furthermore, the Factory Inspectorate has been adopting a persuasive approach rather than a strict law-enforcement approach, so the number of prosecutions is relatively low every year. The Factory Inspectorate conducted over 76,000 inspections (including accident investigations) at construction sites and industrial undertakings, but only took out 3,001 prosecutions against offenders in 1993. However, these enforcement actions do not appear to be effective in bringing down the number of accidents and this is easily understandable. First, the chance of being selected for inspection is not high; second, the chance of being prosecuted is even lower; and third, even if the prosecution is successful, the employer usually needs only to pay a fine of a few thousand dollars, which is paltry when compared to the investment required to improve health and safety at work. Another issue about law enforcement is that factory inspectors usually concentrate more on safety matters and tend to attach less importance to health issues. This may be a result of the training they receive (or the lack of it) or simply because of the lack of manpower. As a consequence, occupational health hazards in the workplace are generally being overlooked.

Thirdly, most Hong Kong employers are short-sighted and profit-oriented with little or no concern about health and safety at work. Violations of legislation governing occupational health and safety are commonplace among employers. Hence, it is not difficult to find working environments, equipment and tools, places and premises which are unsafe and unhealthy to employees in Hong Kong. Only a few factories have a health and safety committee, a health and safety policy, a health and safety training programme, or health and safety representatives and professionals.

Fourthly, the awareness of health and safety at work for most workers in Hong Kong is still at a low level. They are constantly under pressure to increase productivity from the management through various means, such as setting quotas, production rates, piece-rates, and overtime work. Such pressures may force them to disregard health and safety regulations even though they have

the necessary knowledge and appropriate attitudes towards health and safety at work.

Finally, unions and labour organizations are conventionally a major driving force behind progress in occupational health and safety in industrialised countries. Due to historical and political reasons, although they are beginning to show more concern about health and safety at work, their efforts both in terms of scope and extent are still inadequate.

The above brief description and preliminary analysis of the present occupational health and safety situation in Hong Kong have shown that, despite the tremendous economic success of Hong Kong, the poor performance in the fields of occupational health and safety presents a shameful picture to the international community.

With no major changes in the existing policy and structure of administration regarding occupational safety and health, there is little chance of any significant improvement. Human suffering, which is mostly preventable, will continue to occur unless resources are made available for a more competent monitoring agency than the current one, and until such a time when people pay more attention to human life and well-being than economic progress.

MOBILIZING WORKERS TO PROMOTE OCCUPATIONAL HEALTH AND SAFETY: THE HONG KONG WORKERS' HEALTH CENTRE

As an environmental issue, health and safety at work is definitely a neglected concern in Hong Kong. There is an urgent need to improve the level of awareness about its importance among all parties - the government, the employers, the employees, the unions and the public.

A voluntary, charitable and independent organization, the Hong Kong Workers' Health Centre (WHC), has taken on the mission of promoting occupational health and safety, and protecting the health of workers in Hong Kong since its foundation in 1984. The WHC works with the belief that by raising the awareness of unions, workers and other relevant groups about workers rights to a healthy and safe working environment, the occupational health and safety situation in Hong Kong will ultimately improve. It works by mobilizing workers and workers' groups to join hands in promoting occupational health and safety in Hong Kong.

One of the strategies of the WHC is to involve workers and unions in collective action. Mobilization is one of the means to convince workers and

workers' groups to work together in order to bring about necessary changes. It is the process of moving personal grievances to the realm of collective action (Rubin and Rubin, 1992). How does one begin to mobilize workers and workers' groups for promoting occupational health and safety in Hong Kong? What is the role of the WHC during the process of mobilization? According to the theory of resource mobilization, social mobilization organizations have to provide resources, e.g. money, materials, information and communication networks, to create mass mobilization.

In order to create mass mobilization, the WHC acts as a social mobilization organization. Three tactics have been employed by the WHC to create mass mobilization in promoting occupational health and safety in Hong Kong.

The WHC mobilizes with organizations

To bring together established community groups is one of the WHC's tactics of organizing. The organizers of the WHC approach leaders of the unions, labour organizations, social organizations and other relevant concerned groups to lobby and convince these organizations to fight for improvements in occupational health and safety in Hong Kong.

The organizers of the WHC also try to convince these organizations to join together to form joint meetings on certain specific occupational health and safety issues.

Three examples can be quoted to illustrate this point. The first example involves eleven labour organizations which organized a campaign on "Reporting Dangerous Chemicals and Fire Hazards in the Workplace" in 1987. The second example is a Joint Committee for the Concern of Dangerous Chemicals which was formed in 1988 to criticize the loopholes in the Factories and Industrial Undertakings (Dangerous Substances) Bill. The third example is the setting-up of a Joint Committee for the Banning of Man-dug Caissons in 1993.

Unions, labour organizations and other concerned organizations are mobilized to take collective action to fight for policy changes, and to arouse the public's concern. Recommendations and suggestions have been given to the Labour Department and the Legislative Council, and some improvements have been made by the Government according to these recommendations and suggestions.

The WHC mobilizes with networks

The organizers of the WHC create, build, maintain, develop and strengthen networks with various unions, labour organizations, the mass media, legislative councillors and other relevant groups. Networks are extremely important to the organizers. Firstly, the WHC can make use of the established networks to collect information, seek opinions, provide a basis of solidarity for organizing, and advocate policy changes. Secondly, the WHC identifies manpower and potential leaders for collective action. Thirdly, the WHC can make use of the networks to form a power basis for organizing. For example, the WHC obtained a copy of the draft bill on Factories and Industrial Undertakings (Noise at Work) from a union leader who was the member of the Labour Advisory Board. The organizers of the WHC sought comments on this bills from the doctors, safety officers, audiologists, unions leaders and workers who suffered from noise induced deafness. Then, a position paper on this bill was prepared by the organizers of the WHC, and passed to the networks for further comment, and then the networks were mobilized to take collective action to press for amendments to this bill.

The WHC mobilizes with individuals

The WHC believes that workers should be allowed to participate in the development of a safer and healthier work place. The WHC believes that workers in all factories should be encouraged and allowed to select their own health and safety representatives. Legislation should empower workers, or their health and safety representatives, to take action to ensure that employers improve health and safety at work. Legislation should also provide protection so that workers cannot be dismissed when they speak out about their factory's health and safety conditions. Through mobilizing individuals to participate in collective actions, it is hoped to achieve individual and collective goals.

The WHC have organized health camps and talks on occupational health and safety for workers inside a number of factories. In 1988, the organizers of the WHC trained 24 garment factory workers to be occupational health and safety ambassadors. Safety and health inspections were carried out in 24 factories by them.

The WHC also organized workshops, training programmes and educational activities to encourage union leaders and workers to form industrial

safety committees and equip them to be competent health and safety representatives.

CONCLUSIONS

It is obvious that the Hong Kong government favours economic prosperity over the health and safety of workers. That is why we can find many workers working in an unhealthy and unsafe environment without proper protection. Violations of preventive legislation governing occupational health and safety are frequent in Hong Kong owing to inadequate controls and penalties.

In view of this special situation, workers and other concerned organizations have to take more initiatives in fighting for a better working environment rather than rely on the conscience of the government. The mobilization of workers and workers' group in participating in the work of occupational health and safety is the major concern and work task of the WHC. Mobilization at the level of the organization, network and individual are the three major tactics employed by the WHC to mobilize workers and workers' groups in collective action.

Through the process of mobilization, it is expected that more networks will be built, more concerned organizations will be formed, and more individuals will unite and participate in fighting for a better working environment. The involvement of workers and workers' groups will certainly contribute to a better environment for all citizens, especially the workers of Hong Kong.

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Chapter X

Heritage Conservation and Conflicting Community Interests: Heritage Held Hostage in the New Territories and Beyond

David Lung and Ann Friedman

HERITAGE HELD HOSTAGE: THE PING SHAN HERITAGE TRAIL

It is May, 1995. In Ping Shan, Yuen Long, English and Chinese signs are neatly pasted to the recently-restored entrance doors of the Kun Ting Study Hall, built in 1870. Barred doors hide the elaborate ancestral altar inside. The signs, posted by village elders, forbid public access to the study hall and other historic buildings located along the Ping Shan Heritage Trail, opened in December 1993 with former Governor Patten presiding. Other landmarks along the Heritage Trail include Hong Kong's only historic pagoda, Tsui Shing Lau, and the 700-year old Tang Ancestral Hall, Hong Kong's largest and perhaps finest example of this building type. Village elders are angry at government plans to remove ancestral graves which fall within the boundaries of a huge new landfill, designed to accommodate Hong Kong's waste disposal needs for the next 25 years. The closure of the historic buildings, normally viewed by 200 to 300 visitors on weekends and previously a principal stop on a heritage tour run by the Hong Kong Tourist Association, is just one of a series of problems to plague the Heritage Trail, and typifies the conflicts which arise between government-wary, traditional clan leadership, and the Hong Kong Government. Further, this incident illustrates the lack of project coordination between Hong Kong government agencies.

The opening of the Ping Shan Heritage Trail in 1993 represented over twenty years of quiet negotiations between the Antiquities and Monuments Office and the Antiquities Section of the Architectural Services Department, two allied Government agencies, and the local Tang elders. Initially distrustful, the community eventually allowed the staff of these agencies to document, plan, secure funding for, and supervise the restoration of several ancestral halls, study halls and temples in Ping Shan, in exchange for village cooperation in keeping these sites open to the public. This agreement, however, is not legally binding,

and these monuments, as well as many similarly restored sites located in clan villages throughout the New Territories, are subject to similar politically motivated closures in the future.

Even before the conflict over grave removal, problems caused by lack of inter-agency cooperation plagued the Ping Shan Heritage Trail. Unless brought in by a Tourist Association bus, it is exceedingly difficult to locate the trail: there are no road signs indicating the way to the site. Once there, there are no parking spaces; visitors risk tickets if they park along the roadside. There are no public toilet facilities provided, and garbage dumps line the trail. The Regional Services Department, which ordinarily would be charged with clearing trash and providing toilets, deems Ping Shan private land, which its employees cannot enter.

One hurdle to successful administration of heritage sites within the New Territories is that there is no tradition of government cooperation. One mechanism of government administration of property: a Town Planning Scheme, which designates sites for particular uses, including landfills, sets aside others as heritage sites. Although some form of Town Planning regulation has been in place in Hong Kong since 1922, providing development oversight on Hong Kong Island and the Kowloon peninsula, it was not until very recently, in 1989, that such regulations were extended to the New Territories, when a Draft Land Use Plan was gazetted; before that time, there was no government control over the use of land in the New Territories. This is very late in the history of the colony for the government to intervene, so that every government planning initiative is perceived as an encroachment on the property rights of indigenous landowners. In the two decades prior to the 1989 Plan, large commercial developments like Fairview Park and California Park were built, encroaching on the now protected wetlands of Mai Po, and making a mockery of present conservation efforts there.

The indigenous villagers of the New Territories have the right to expect the same basic services as other Hong Kong residents: potable water, utilities, fire services and schools. Yet a community which has governed and policed itself for seven hundred years, and which held itself largely independent even of regional Chinese administration in the pre-colonial period, cannot be expected to cooperate over heritage issues without being offered some benefit in return. Within the same village, and indeed, within single families, residents are divided in support or opposition to the involvement of the Antiquities and

Monuments Office (AMO) in their internal affairs. Distrust remains, even though the intervention of the AMO ultimately benefits the physical environment of the village, creating restored spaces for family and festival celebrations, for instance. What is lacking is more concrete incentives for heritage conservation. In Western countries, for instance, the owners of declared monuments gain tax benefits. Once again, the lack of cooperation between Hong Kong government agencies contributes to the difficulty in wooing the owners of potential landmark buildings and sites. To offer tax incentives, for instance, the Inland Revenue Department would be required to work with the Antiquities and Monuments Office and Town Planning Board; presently an unlikely scenario.

Proposals for the Future

The problem of a lack of inter-agency cooperation and inadequate heritage planning policy extends beyond the New Territories, and threatens the success of future heritage conservation projects. Two new Heritage Trails have been proposed for Hong Kong Island: one centered on Hong Kong Park, encompassing the Flagstaff Museum, St. John's, the French Mission, the Helena May, and on Bonham Road, ex-Commodore Bowen's home; and a second trail commencing at Hong Kong University, to include University Hall and St. Stephen's Girl's College. Unlike the New Territories sites, public access to these public buildings should not be a problem. However, finding the trail head, and the individual buildings along the trail, will be of equal importance in the urban as in the rural heritage trails. For these trails to be accessible to the public and to tourists visiting Hong Kong, there will need to be special signs and paving marking the route. These signs will also notify local residents of the historic resources in our midst, and reinforce the importance of the conservation of Hong Kong's built heritage.

HONG KONG'S UNIQUE HERITAGE

The conservation of Hong Kong's unique identity: its physical history, the product of 150 years of East-West confluence, is worth a significant expenditure of government funds. Assuming that politicians, planners, historians, and building conservators can agree in their definition of what constitutes Hong Kong's built "heritage", tight budgets should not constrain the pursuit of the public good: the conservation of those elements of our built environment which graphically display the unique story of Hong Kong. If Hong

Kong exists only in the present moment; if its Colonial, Qing, and 3000 BC Asiatic-Pacific Rim pre-history are all eliminated, it is because the planners and developers of today are tragically short-sighted.

In the 1950s, a post-war generation of urban planners and designers believed in the possibility of a Brave New World, of cities entirely composed of slick, streamlined, high-rise towers. The 1970s and 1980s showed the fallacy of this belief, as post-Modern backlash fuelled heritage conservation movements all around the world. A lack of cultural identity hurts our children: growing up in anonymous tower blocks, commuting to anonymous office towers - who are they? If immediate action is not taken to incorporate heritage conservation in the new Town Planning Ordinance, then Hong Kong's planners have robbed their own children and grandchildren of a future with a past.

In the last ten years, other Southeast Asian countries and municipalities, most with significant European colonial pasts, have begun to temper their redevelopment programs. Regionally, there is a growing awareness of the havoc rapid development has wrought on the physical environment, urban and suburban. An important component of this environment is the built heritage of each city or state: those building blocks of its past and present which impart cultural identity and a sense of history and place. Singapore, Macau, even Rangoon, have all recently experienced the restoration and re-opening of modestly scaled but exquisitely appointed 19th century hotels, to great fanfare and public acclaim. Tellingly, Hong Kong has recently seen the topping off of a huge, aluminum-clad tower addition at the rear of its last remaining grand colonial hotel, the Peninsula. The facade of the Peninsula Hotel has been no more sensitively treated than its rear, and presently features 1970s-era single-pane aluminum windows, duronodic bronze-finish commercial sign boxes, and miscellaneous, ad hoc awnings and additions. Reviewed together with sister development, the reconstructed, amputated Repulse Bay Hotel, these two projects are symbolic of the present state of heritage conservation planning in Hong Kong.

LACK OF A LONG-TERM HERITAGE CONSERVATION POLICY

What is our objective in drafting heritage conservation guidelines? Hong Kong has *no* long term heritage conservation policy. Our Antiquities and Monuments Ordinance lacks mechanisms fundamental to the effectiveness of conservation ordinances in the UK, North America, or elsewhere within

Southeast Asia, such as the ability to designate special heritage districts. From Boston to San Francisco, New York to Montreal, London to Edinburgh, Quebec to Vancouver to Singapore, gazetting of built heritage is not limited to individual structures, but extends to thematic zones: historic neighbourhoods, market districts, or landscaped parks. Potential historic districts in Hong Kong include Yuen Long Old Market, or the Governor's Mansion and Grounds. Historic district designation does not required these zones to be frozen, but would bring any redevelopment proposals through a regulatory review by the Antiquities Advisory Board. We must ensure that the new Town Planning Ordinance addresses this shortcoming.

DEFINITION OF HISTORIC BUILDINGS AND RESOURCES

If we compare planning legislation in Hong Kong to the cities listed above, three excuses for Hong Kong's dismal conservation record arise. Few cities, certainly not those named, can compare to Hong Kong in terms of density and land development pressure. Secondly, Hong Kong retains some of the infrastructure and population characteristics of its less-developed neighbours. Finally, just how significant are Hong Kong's remaining historic buildings and archaeological sites in comparison to those of the rest of the world? More intact examples of Guangdong vernacular architecture may be found in Guangdong province, as the walled villages of the New Territories have been increasingly encroached upon over the last twenty years. Hong Kong has lost many of its best examples of British Colonial architecture in the last sixty to seventy years (the 1874 Hong Kong Bank Building, the Old City Hall). The significance of what remains in Hong Kong is educational: gazetted buildings are generally of more nostalgic than major historic or architectural value. Hong Kong's archaeological resources, particularly Neolithic sites, are being identified and rescued at an exciting pace by the academic community, volunteers, and the underfunded Antiquities and Monuments Office. However, these sites, once identified and excavated, remain threatened, as they are not being protected under the present Town Planning Ordinance.

Hong Kong's well known historic resources are limited to approximately 50 gazetted "items", including buildings, archaeological sites, temples, rock carvings, and colonial-era paving and street furniture. Hong Kong's more obscure historic resources are currently being assessed in an ongoing, incomplete survey by the Antiquities and Monuments Office, as guided by the

Antiquities Advisory Board. This survey aims to record and classify the significance, architectural and historical, of all pre-war buildings in Hong Kong and the New Territories: both "Colonial" and "Guangdong Vernacular". By 1992, 230 buildings had been reviewed and graded. Between 1992 and 1993, some 90 additional buildings were surveyed, for an average annual tally of less than 50 buildings per year. The survey is being conducted by building type: churches, schools, ancestral and study halls, temples, etc. The small AMO staff relies on voluntary help from the Hong Kong Institute of Architects and the Hong Kong branch of the Royal Asiatic Society. Harnessing private grant funds, the AMO has commissioned local Universities to undertake in-depth surveys of threatened heritage sites; most recently at Tung Chung in Lantau, the site of the new Chek Lap Kok airport. Another potential source of funding to speed up the pace of the survey is the Lord Wilson Heritage Trust, but these funds are limited and will not dramatically affect the completion of the survey and subsequent gazetting of the graded buildings.

OBSTACLES TO CHANGE

Although many complex heritage conservation planning mechanisms are successfully practised in Europe, Singapore and North America, Hong Kong's *laissez faire*, pro-development environment has kept them from being implemented here. Among the obstacles to enacting effective heritage conservation legislation are: a weak Antiquities and Monuments Ordinance; the lack of communication and cooperation among government departments; and lack of support from the general public.

Ineffective Heritage Conservation Ordinance

As written, the Antiquities and Monuments Ordinance is inflexible, requiring the museum quality restoration of Gazetted Monuments, and effectively limiting designation of monuments to those handful which the government already owns or can acquire inexpensively. Therefore, building conservation to date has been limited to three imperfect methods, as follows. The first type of building conservation project has been the public-funded, museum-quality restoration of government-owned colonial buildings, usually institutional in nature. This has sometimes resulted in their under-utilization or limited public access: by bureaucrats for bureaucrats! An example of this is the Wan Chai Post Office, which, following restoration, is being re-used as

Environmental Department Offices. A more appropriate re-use for this tiny gem of a building might have been as a division of the Post Office dealing with philatelic issues. The second type of building conservation project has been the public-funded, museum-quality restoration of historic New Territories village structures, including domestic buildings, ancestral and study halls, and temples, for re-use as context-less museum islands within cavernous new town development; for example, Sam Tung UK. The third type of project has been the government-sponsored, privately-funded restoration of graded, but un-gazetted ancestral or study halls as lively and viable elements of living clan community, with only limited - and as we have seen, sometimes completely limited - public access; for example, Kun Ting Study Hall and Tang Ancestral Hall, in Ping Shan.

In theory, the Ordinance empowered the Governor to declare any building or site a Gazetted Monument, with the amount offered in compensation to a private owner to be set at the District Court Level. In practice, this mechanism has *never* been employed. To employ it as a last-ditch means to save an un-gazetted building would be politically embarrassing, indicating a lack of foresight on the part of the Antiquities Authority. That aside, the District Court is limited to maximum award judgements of approximately 0.5 million Hong Kong Dollars, an impractically low compensation level when measured against the development potential of most threatened urban landmarks. The gazetting of privately-owned buildings in Hong Kong has proved impractical in the laissez-faire, land-scarce environment of Hong Kong. Designation is considered an outright "taking" of an owner's property rights¹, because the owner's right to the maximum possible rate of return is considered an absolute.

By way of contrast and example, we can compare New York City's quite effective and powerful Landmarks Preservation Ordinance (LPO) to that of Hong Kong. Perhaps more importantly than the wording of the ordinance is the fact that New York City's LPO is backed by a body of positive judgements

¹ For a discussion of the "taking" issue, as defined in the U.S. under federal law, see: Christopher J. Duerksen, ed., A Handbook on Historic Preservation Law, (Washington: The Conservation Foundation and the National Center for Preservation Law, 1983), 4-5, as excerpted here:

The Fifth Amendment to the Constitution, which applies to the federal government directly and to state and local governments through the Fourteenth Amendment, provides that property shall not be "taken" by the government without the payment of "just compensation."

in state and federal cases. The principal, in law, which enables the municipal government to gazette private property is this: owners are entitled to a *reasonable* return on their property; *not* and *maximum* return. The burden of proof rests with the developer; he must demonstrate hardship by showing that restoring and using the historic property will not grant him a reasonable rate of return on investment. The legal assumption is that the preservation of historic buildings, districts, or archaeological sites contributes to the public good, overriding the developer's claim to maximum return on investment.² In Hong Kong, where the real estate market escalates continuously and consistently, the government tacitly concedes to developers the right to the maximum possible return on their investment, although this is not explicit in the local ordinance. Without effective local lobbying for a "reasonable return" interpretation of the present ordinance, Hong Kong will never be able to save buildings not owned or purchased by the government.

Where the owner/developer is a non-profit, charitable institution, particularly a church or other religious group with a charitable mission, standard formulas to calculate reasonable rates of return may be inadequate. In the fight to save landmark church buildings, it is difficult to argue the "public good" when your "opponent" may need larger facilities for a shelter for street sleepers or a soup kitchen for the elderly. The neighbourhood at large will suffer aesthetically from the absence of a monumental masonry building, which so often act as visual anchors or focal points for the surrounding urban blocks. But Hong Kong government officials and legislators, who rely so heavily on non-governmental, charitable institutions to provide social welfare services, have found it impossible to block the demolition of buildings such as the Wan Chai Methodist Church. In many American cities, where churches contribute vitally and effectively to the social welfare of inner city neighbourhoods, while at the same time congregations continue to shrink, legal challenges often greet the land marking of churches and synagogues. To offset this conflict, the preservation community has developed several national and international lobbying organizations, which circulate newsletters, organize conferences, and reach out to the clergy and lay religious community with grants and educational programmes: how to evaluate a 19th century heating system; or how to maintain

² Duerksen, "Spreading Benefits and Burdens," and "Multiple Public Goals," A Handbook on Historic Preservation Law, 366-367.

or replace an ornamental roof of copper or tile. Education is now reaping dividends, with more and more congregation-financed church restoration projects.

Lack of Cooperation among Government Departments

There is a general lack of communication among Government agencies which contributes to the loss or under-utilization of historically or architecturally significant government-owned buildings. One well-known case of “demolition by neglect”³ is that of the High Street Hospital Building, as described in the following chronology:

- | | |
|------------|--|
| 1892 | High Street Hospital Building constructed to serve as nursing staff quarters. |
| circa 1970 | Building vacated by hospital; Hong Kong Government Medical Department wants to redevelop, applies for funds; no action taken. Antiquities & Monuments Office studies designation of Hospital Building.

Building remains vacant, with damaged roof; allowed to deteriorate. |
| circa 1980 | Government advised that refurbishment of the building, now vacant for a decade, with completely rotten roof and flooring, would cost 4-5 million. However, no formal feasibility study undertaken. Because of the wording of the Ordinance, if the entire hospital building was formally declared a monument, the Government, as owner, would then have to immediately fund and undertake complete restoration. In view of the limited availability of resources (the estimate far exceeded the entire |

³ This term is used in the U.S. to describe the neglect of a landmark building by the owner. By abandoning a building, exposing it to weather and vandals, and leaving it that way for a number of years, an owner can passively obtain the demolition of his property which he sought prior to landmark designation. Landmarks Ordinances therefore include clauses compelling owners to maintain their buildings, but local government agencies empowered with enforcement of Landmarks Ordinances must actively seek out and prosecute offenders through the courts.

annual budget for the Department), the Antiquities Advisory Board recommends retention of granite facade only in any future rehabilitation.

1993 Government announces plans to auction site for redevelopment. Antiquities Advisory Board recommends that any buyer be required to retain granite facade.

1994 District Board and residents lodge over 160 objections with Town Planning Board, using as a central argument against the construction of a tall building on the site the preservation of a "view corridor" to the harbour. These objections arise from the same District Board which previously objected to the preservation of the building on the grounds that reviving memories of its use as a mental hospital would be bad for the neighbourhood.

Town Planning Board withdraws its proposal to auction the site.

Had minimal repairs been made to the High Street Hospital as soon as it was vacated, the use of the former hospital building as Government office space over the 30 years, and the subsequent savings on the rental of commercial office space elsewhere, would have offset the cost of restoration. Finally, the building's timely re-use would have prevented the recent unwarranted, ceaseless debates by the Western District Board, the Antiquities Advisory Board, other agencies, the public and the press.

Fortunately, many other Hong Kong Government-owned buildings have been designated in a timely fashion, and have been used successfully to provide office space for many cooperative government departments (some examples are: the former Supreme Court, the French Mission, and the former Kowloon British School building, recently renovated as the headquarters for the Antiquities and Monuments Department offices). Currently, rumblings from the Police Department regarding the inadequacy of Old Bailey Street facilities must have us anxious for the future of the 19th century police quarters and associated buildings: a perfect candidate for designation as a special heritage district, or in planning parlance, a Special Design District (SDA).

Public Apathy

The apathy of the Hong Kong public, only recently encouraged to participate in the political process of decision-making in Hong Kong, is understandable. In the West, effective preservation ordinances have been drafted only in response to vocal, grassroots, lobbying efforts by a concerned and politically experienced public. In Singapore, heritage legislation appears to have been initiated by the government itself, as part of a complex of cultural programmes, and with the sponsorship of some well-connected preservationists. Hong Kong has many professional lobbyists working to safeguard Hong Kong's commercial interests abroad; but there is no local, inwardly-directed community of lobbyists to help effect political or policy changes. In Washington, DC, lobbyists are not limited to Capitol Hill. Even architects have their own well-developed lobbying network: the American Institute of Architects headquarters, located on New York Avenue, two blocks from the White House, is full of lobbyists, all busy drafting and facilitating the passage of legislation, including historic preservation law, an area in which Hong Kong is particularly lax. These lobbyists have been essential in the passage of tax laws designed to help insulate the building industry, chronically soft, from minor fluctuations in the economy, and in the passage of federal heritage conservation legislation. Lobbyists are considered by many as a plague and not a panacea, but without professional lobbyists to back them up, proposals to make Hong Kong's heritage conservation programme more effective will wither.

Ironically, the loss of irreplaceable components of our built heritage can sometimes work in favour of long-term heritage conservation. In New York City, the loss of the McKim Mead and White-designed Penn Station, and its replacement in the 1960s with the present hideous commuter station-arena, galvanized the public, which lobbied the city government to enact an extremely powerful preservation ordinance. The preservation community of Hong Kong has failed to capitalize on the loss of significant historic buildings: the Tsim Sha Tsui KCR Station, the Hong Kong Club, the Lee Theatre, to heighten public awareness of the built heritage. In fact, the loss of the KCR Station in particular effected despair and the eventual dissolution of the fledgling Heritage Society, a heritage conservation group formed by interested Hong Kong citizens. Sadly, Hong Kong's elected officials, whether serving on the Legislative Council, the Urban and Regional Councils, or the various District Boards, never campaign

on heritage preservation platforms, because their constituents have not been educated to the importance of heritage conservation.

Long-Term Policy Solutions: the Revised Town Planning Ordinance

Is the situation hopeless? For solutions, we must first turn to the forthcoming revised Town Planning Ordinance, which will afford a perfect opportunity for the incorporation of long term heritage conservation policy mechanisms. It is up to the planning community to lobby for the inclusion of these mechanisms:

1. *Designate "Special Design Areas"*, governing future development of architecturally and archaeologically significant sites. Examples of Special Design Areas [SDA] might be:
Government House and Grounds
Yuen Long Old Market
The Peak
Kowloon Walled City (Archaeological Site)
Police Barracks, Old Bailey Street
2. *Create a Special Design Area (SDA) Commission* to survey, select, and periodically review and newly designate SDA's. The Commission should be made up of members of the Town Planning Board, Antiquities Advisory Board, and fixed numbers of historians, real estate professionals, architects and planners from the community at large.
3. *Empower the SDA Commission* to set forth appropriate design, height, and usage guidelines for each SDA.
4. *Create review procedures* such that future development proposals, both within and immediately adjacent to districts, trigger automatic Antiquities Advisory Board review, to determine the appropriateness of the proposed development, according to SDA and Antiquities Advisory Board guidelines.
5. *Simplify and facilitate change of zoning procedures* applied to gazetted monuments.
6. *Use government funds* to provide reasonable compensation to the owner of a gazetted SDA.
7. *The Hong Kong Planning Department, in conjunction with the Building and Lands Department, should alter the present lease restrictions* and Building Ordinance to enable these departments to grant permits for the

transfer of development ratio (TDR) from potential declared monuments to adjacent property, giving plot-ratio bonuses to developers in exchange for the conservation of the landmark property. As a model, in New York City, the TDR mechanism was used to protect Grand Central Station;⁴ more recently, frequently used to save Broadway theatres (Developer finances theatre restoration in exchange for TDR bonus plot/FAR ratio for adjacent hotel/office tower development). In Hong Kong, bonus plot ratio could have been used in the construction of the Caroline Centre, or AIA Tower or the Lee Gardens Hotel redevelopment, adjacent to the (former) historic Lee Theatre, all owned by the Lee family.

8. *Planning and heritage conservation professionals should lobby* the Hong Kong Government to provide tax incentives for heritage conservation to developers of property within SDAs.⁵ In the United States, the Federal Government provides Tax Credits for state-reviewed and certified restoration projects.
9. *Protect archaeological sites from destruction* during construction and infrastructure development projects by expanding the definition of Sites of Special Scientific Interest (SSSI). The present Town Planning Ordinance designates certain areas as SSSI. These areas are sensitive environmentally, or are of zoological, horticultural interest. Presently, archaeological sites are *not* included in the SSSI, nor is there any provision for archaeological resource preservation anywhere in the Town Planning Ordinance. The newly-drafted Revised Town Planning Ordinance encourages voluntary protection of heritage sites, but does not strengthen existing statutes. In fact, the draft ordinance highlights its own weakness in the following paragraph (4.3.1, LDPC 26.9.94):

...the existing Town Planning Ordinance does not have provisions for the protection of historical buildings and other

⁴ The U.S. Supreme Court observed that New York City's system of transferable development rights (TDR's) served to mitigate the financial burden of the landmark designation of Grand Central Station. See A Handbook on Historic Preservation Law, 41-43.

⁵ For a discussion of Investment Tax Credits in the U.S., see A Handbook on Historic Preservation Law, 467-485.

items of antiquities. It is not possible to indicate on the statutory plans anything other than the wider 'use' in which the monument is located, e.g. an ancestral hall within a 'village development area' or an archaeological relic within a 'conservation' zone. Hence, monuments are dealt with on non-statutory plans.

In the US, planning and land use law complements historic preservation legislation. Laws drafted to provide tax incentives for environmental protection (for example: Easements for Wetlands Conservation) are often used to protect historic built or archaeological resources as well. Lawyers and professional lobbyists specializing in land-use law work on cases ranging from endangered species habitat protection (for the public good) to battlefield preservation (for the public good). While the revised Town Planning Ordinance does improve over the previous ordinance by including Heritage Conservation in the general (environmental) conservation chapter, it ultimately fails to improve existing heritage protection measures. By failing to include archaeological resources within the definition of SSSIs, the plan misses the opportunity to apply the same incentives or enforcement powers that protect wetlands or endangered species to the protection of Hong Kong's historical resources.

An example of a lost opportunity for a potential SDA and SSSI is the Kowloon Walled City. Designation would have protected archaeological evidence of foundations of 19th century fortifications remaining at the perimeter. The site itself is of vast importance to the history of Hong Kong, representing the last Imperial Magistrate Outpost within the British colony. The new use for the site, as a landscaped public park, may contribute to the public good, but is a terrible waste of an invaluable historic resource. The park should have been designed to incorporate an excavation and on-site interpretation of the Kowloon Walled City walls. A mechanism for preserving archaeological sites for future excavation might be based on that of Montreal or London, where old city walls and even, in London, buried Roman baths, have been conserved in situ. When excavated, archaeological sites are made accessible to the public, whether via the Metro or Tube, or in the basement of an office tower.

AMENDMENTS TO THE ANTIQUITIES ORDINANCE

Without the support of planning professionals, architects, historians, archaeologists, and the Legislative Council, no amendments to the present ordinance can be enacted. With a united lobbying effort, the following changes could be enacted to make the present ordinance much more effective:

1. *Ordinance should not limit judgements* to District Court level, to make compensation levels more flexible, and provide generous compensation packages for owners of gazetted buildings and sites.
2. *Ordinance should empower the Antiquities Advisory Board* to define clear criteria for grading buildings, which could be made available to the public, and help to demystify the designation process.
3. *Ordinance should be revised to upgrade the Antiquities and Monuments Commission*, creating a separate "Antiquities and Heritage" Secretariat, independent of the Broadcasting, Culture and Sports Branch, and allocate appropriate resources to fund heritage conservation efforts. More funds would speed the completion of the survey, increase archaeological efforts, and provide better enforcement of Ordinance provisions.
4. *Ordinance should be revised to simplify procedures* in the declaration of monuments. Staff functions and policy setting should be separated: the Board should never have to consider budget restrictions, or potential restoration costs, when deciding whether a building should be gazetted as a monument.

Until the Antiquities and Monuments Ordinance is revised, the planning community can help by supporting interim measures:

1. *Planners should push for the completion of the Antiquities and Monuments Survey.*
2. *Planners should lobby for more cooperation between departments and agencies;* as the Town Planning Board now cooperates with the Environmental Protection Agency, Lands Office, Building and Property Agency, it should in future share information with the Antiquities and Monuments Office.

HEIGHTENING PUBLIC AWARENESS OF THE NEED FOR HERITAGE CONSERVATION

Of all the obstacles to effective heritage conservation policy in Hong Kong, the apathy of the public is perhaps the most entrenched. We should not despair, however, and it is easy to suggest modes of reaching the public with our heritage conservation message:

1. *Invest Lord Wilson's Conservation Trust funds in public education regarding built heritage:*
 - a. *Send mailings to owners and tenants of gazetted monuments and graded buildings explaining history and significance of building, recommending preventative maintenance/restoration programmes using expertise of Antiquities & Monuments Office staff.*
 - b. *Send Antiquities & Monuments Office staff to schools, youth centres and elder hostels; educate residents (both children and adults) to the significance of heritage conservation.*
 - c. *Lobby and provide educational materials to legislators, to enlist their aid in the promotion of public awareness of heritage conservation.*
 - d. *Install special street signs, plaques, or markers at monuments and in front of graded buildings or sites. In New York City, historic districts are marked with special brown street sign, and feature one or two large signs displaying the historic district boundary map and briefly stating the historic significance of the area, thus indicating to visitors and residents alike the special nature of the district. Owners can not plead ignorance: "I performed work without a permit because I didn't know my building was listed."*
2. *Enlist grassroots, village and neighborhood support prior to public hearings on SDA's. By being given a hearing (not a vote), owners and residents should feel invested in heritage preservation.*
3. *Following the passage of the revised Planning Ordinance, increase public awareness of heritage issues by including an element of public participation in SDA designation process; public and press invited to*

designation hearings; board members to field questions or accept testimony for and against designation prior to final vote.

Some of these projects can be undertaken by the newly created Lord Wilson Heritage Trust, but it is important for planners to take a positive and leading role in helping to educate the commercial public: the developers. We can use the example of Singapore, where the rehabilitation of historic shop houses has proven profitable. The SDA mechanism will contribute to viable redevelopment, as will TDR's; although Hong Kong's one commercial example of monument rehabilitation, Western Market, seems struggling on its own, if it were part of a larger SDA, or district made up of both historic buildings and sensitively designed new structures, it might be generating more tourist revenue today.

CONCLUSIONS

Without long term environmental planning which includes the protection of historic resources, a city cannot hope to maintain a sense of place. As Hong Kong continues to focus on its skyline, while becoming more and more anonymous in its streetscape, visitors will be less and less willing to "stay an extra day". Building professionals: planners, historians, architects, and developers, must cooperate and act together if we are to conserve Hong Kong's built heritage. If not, it is Hong Kong's future generations that suffer. Ultimately, the power to enact legislation to protect Hong Kong's historic resources rests with the legislators, but to lobby for such change is the responsibility of the planners, designers, and conservationists, the Executive Assembly, and the Special Administrative Region Chief Executive. If no action is taken in the final framing of the Town Planning Ordinance, and if the Antiquities and Monuments Ordinance is not strengthened, then we have failed not only ourselves, but our children and grandchildren.

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Chapter XI

The Social and Psychological Procession in Community Education: Towards Attitudinal and Behavioural Change in Environmental Management

Cecilia Chan

INTRODUCTION

Community education is a community-based strategy used in the promotion of environmental protection. The aim of community education is to change the attitudes and behaviour of people. Community service organizations have placed much effort into the training and education of citizens on various aspects of citizenship and community concerns. However, despite launching many social and educational programmes throughout the years, community educators and social workers are not well trained in the theory-base of attitude formation and behaviour change.

Concern for environmental protection has gained much public attention over the past few years and is likely to be one of the key themes in citizenship education for the decade to come. This chapter attempts to introduce models of attitude and behaviour change with the focus on programmes for the promotion of environmental protection in social service agencies in Hong Kong. The chapter is divided into three sections. Section one is a discussion of the theories of social psychological processes in relation to attitude and behaviour change. Section two is a description of the application of these models in the context of environmental campaigns in the year 1990. Section three is a summary of recommendations on the education skills and intervention strategies on environmental protection.

THEORIES OF SOCIAL PSYCHOLOGICAL PROCESS TO ATTITUDE AND BEHAVIOUR CHANGE

In applying social psychological processes to environmental protection, the following is a cursory review of the key concepts and processes in attitude and behaviour change. According to Edwards (1990), social psychological concepts and processes can roughly be divided into four parts (Table 1). They

are the concepts of social cognition, social learning, social motivation and social influence, as well as the processes of communication, inter-personal actions, intra- and inter-group relations (Edwards, 1990:2-4).

The process of attitude change starts with social cognition when individuals obtain necessary information through effective communication media. A supportive group learning environment with appropriate role models and clear behaviour instructions can facilitate observational learning in the social learning process. A responsive social environment with specific societal rewards and established social norms or approval can increase motivation of individuals to comply and carry on with the behaviour. Stabilization in terms of continuous feedback and encouragement, group conformity and sanctions can help individuals to develop a desirable habit of behaviour repertoire and attitude.

Table 1: Concepts and Processes of Attitude and Behavioural Change

Concepts	Processes
Social Cognition (attribution, self-concept)	Communication (language, non-verbal messages)
Social Learning (modelling, verbal conditioning)	Interpersonal actions (helping, liking, aggression)
Social Motivation (achievement, approval, consistency)	Intragroup relations (coalition formation, polarization)
Social Influence (persuasion, conformity, leadership)	Intergroup relations (conflict, bargaining, cooperation)

Forms of influence developed from social learning theory (Bandura, 1977) are found to be applicable and appropriate to community and citizenship education in Hong Kong (Chan, 1984;1986;1988). A systematic application of social and psychological processes is beneficial to the establishment of well informed practices in community education. An appropriate mix of communication tactics, interpersonal influences, intra- and inter-group relations can effectively influence the values and behaviour of individuals.

MODEL OF PROCESSES OF SOCIAL INFLUENCE

Edwards delineated the processes of social influence on attitudes and behaviour into nine components of education, persuasion, imitation, induced

counter-attitudinal action, conformity, compliance, conditioning, leadership, and obedience (Edwards, 1990:5). All these processes can bring about changes in attitudes and behaviour. Five processes which have direct relevance to the promotion of environmental consciousness in Hong Kong are selected for discussion and they are shown in Table 2. The five processes are education, persuasion, imitation, conformity and conditioning. The relatively authoritative approaches of compliance, obedience etc. are less appropriate to the relatively informal community educational situations.

Table 2: Forms and Components of Selected Social Influence Processes

Influence Type	Strategy	Mechanisms	Targets	Response
Education	Give information	Learn, recall skills, knowledge	Students, mass audience	Use knowledge and skills
Persuasion	Arouse emotions, provide arguments	Process arguments, mindless agreement	Message recipient	Change attitude and value
Imitation	Perform actions	observe, encode, rehearse	Observer	Imitate actions
Conformity	Express judgement	Social comparison, being accepted	Group minority	Overt agreement & commitment
Conditioning	Control stimuli, schedule rewards	Need reduction, habit formation	Learner	Change frequency of behaviour

(Adapted from Edwards, 1990:5)

Education

Provision of information through television, radio, pamphlets, notice-boards, exhibitions, case-stories, films and other mass media are commonly used to raise the consciousness of the public on the impacts of environmental pollution, and its control. However, merely providing correct

information is not sufficient to effect behaviour change. Additional educational strategies of training people with skills needed for change and providing them with clear behavioural instructions are also essential.

Persuasion

Systematic information processing and expert advice are often effective in persuasion. Presentation of statistics and research findings, computer simulation, advertising, person-to-person selling, are all commonly used approaches in persuasion. Publicity on environmental protection in Hong Kong is usually tied to fearful realities that our children will have no more clean air and water, with the aim of deterring individuals from wasting water and paper, causing forest fire, polluting the air and the atmosphere. For example, most of the government APIs (announcements of public interest, i.e. government-sponsored television and radio advertisements) on environmental protection contain fear-arousing contents. The assumption is that fear, or some other disturbing emotional arousal, helps attract public attention to important environmental issues, and has a strong deterrence effect on the audience. The incentive for accepting the advocated attitude for environmental protection is fear reduction.

Imitation

The involvement of opinion leaders and popular singers in environmental campaigns are the best examples of modelling, especially for young persons. Effectiveness of imitation depends on factors such as the characteristics of models, consequences of their behaviour, as well as the target person's sense of efficacy about imitating the modelled action. Negative role models who litter will have to go through the public degradation ceremonies of shaming and fines. Diffusion of positive behaviour is actually most effective when natural leaders such as teachers, school prefects, parents and friends within their social network are used as models of positive behaviour and attitudes.

Conformity

In order to avoid rejection and gain acceptance, individuals will tend to conform to the norms manifested by the majority. Naturally occurring groups such as peer networks and neighbourhood organizations can be employed in spreading relevant information, attitudes and promoting desirable behaviour. For

example, waste paper collection projects were launched in a few public housing estates by Mutual Aid Committees in 1990. Although their apparent influence on creating a social norm for conformity is low, they form part of the process in establishing a moral sanction on individuals to conserve paper and trees.

Conditioning

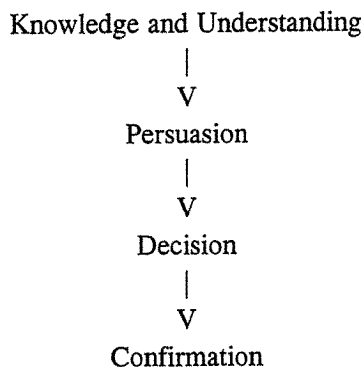
Behavioural conditioning can be conducted by controlling the physical environment to facilitate desired, and inhibit undesired, actions, increasing the degree and likelihood of penalties or other disincentives for excessive actions, giving informative feedback to encourage self-regulation, and offering incentives ranging from cost savings to individual rewards. Legislation, policies and judicial decisions are important components in society which condition individuals to comply or obey.

These processes of influence can be carried out separately or sequentially. For the behaviour to last, it is crucial to transfer control from external to internal sources. A mix or combination of processes of social influence is advisable and can better be explained by the model of diffusion of social innovation in the following.

MODEL OF DIFFUSION OF SOCIAL INNOVATION

Process models and teaching sequence can be applied to education on environmental protection. The model of diffusion of desirable social behaviour or "social innovation" (Rogers and Shoemaker, 1971) is being widely adopted in community-based educational programmes. Rogers and Shoemaker conceptualized four stages in the decision to adopt an innovation that provides a useful framework for understanding the impetus of environmental consciousness programmes (Table 3).

Firstly, individuals are given information to develop an understanding of the innovation. Secondly, individuals are persuaded to hold a favourable attitude towards the innovation. Thirdly, individuals decide to engage in behaviour that leads to adopting the innovation. Last, individuals seek confirmation of the decision-making. A failure to receive confirmation leads to reversal of the decision. Positive reassurance can strengthen the decision-making and the behaviour can be developed into internalized habits.

Table 3: The Path of Decision-Making in Adoption of Innovation

This model of diffusion of social innovation provides a sequential guide to trainers on the steps in public education and attitude change (Loken et al., 1990:162-5). In fact, both the model of processes of social influence and the model of diffusion of social innovation are directly applicable to the study of the promotion of environmental concerns in Hong Kong. The application of the models in environmental protection campaigns is described in the following.

APPLICATION OF THE MODELS IN THE CONTEXT OF PROMOTION OF ENVIRONMENTAL CONCERNS

Schools, children and youth centres, as well as environmental concern groups such as Green Power, Friends of the Earth, Conservancy Association, Hong Kong Environment Centre, and World Wide Fund for Nature, have been getting financial support for activities on the promotion of environmental protection from the Environmental Campaign Committee since 1990. The objective of the Environmental Campaign Committee is "to promote public awareness of environmental protection issues, at the same time encouraging and mobilizing people from all walks of life to contribute towards a better environment" (Environmental Campaign Committee, 1991:3). Despite the objective stating the targets of education as people from all walks of life, most of the activities organized in 1990 were geared towards children and youth.

According to the 1991-1995 Strategic Plan of the Environmental Campaign Committee, the themes of publicity in the short term are confined to "waste paper collection, environmental protection starts with me, environmental protection starts at home, industry and the environment, good environmental

practices can save money and reduce cost, the law and the environment, promote selling of recycled or re-usable products, educate smaller industrialists regarding environmental practices as viable, cost-effective and simple solutions, establish the Environmental Protection Festival". The themes in the long run are extended to "work on big corporate interests and confront their arguments, industry as the major polluter, pollution prevention methods, build stronger community network and connection, promote recycling at the local level, impact of government measures, build lobbying movement to boycott products of offending polluters, consolidate educational resources in a comprehensive information centre, clamp down on air and noise pollution and publicity on all issues" (Environmental Campaign Committee, 1991:8-9).

The main emphasis of environmental campaigns between 1991-1995 shifted to recycling, consumer watch, vehicle emissions, energy conservation, noise pollution, environmental health, water quality control, and natural resources management. The Environmental Campaign Committee has high expectations of public education, and especially education in schools, to create a climate of public awareness. This focus is based on the assumption that students are easier to influence during their character formation stage.

Community workers have little or no training on education, not to mention environmental protection. Of the programmes organized by social service centres in 1990, the emphasis was mainly on information giving and exposure to pollution-free areas. Popular programme means are visits to the Mai Po Marshes, picnics in country parks, exhibitions, carnivals, a paper recycling scheme, and slogan design competition. Most of the programmes organized by the Children and Youth Centres are social and recreational "fun days", carnivals, competitions and camping which have low educational value. From the processes of attitude change and the diffusion of innovation, a focus of intervention according to the levels of change are listed in Table 4.

Knowledge and understanding: The Environmental Campaign Committee spent \$1.7m (65.1% of its expenditure) on campaigns in the World Environment Day and the Environmental Protection Festival in 1990. One-fifth of the budget was spent on funding education programmes of social organizations (\$0.55m). The publicity campaign aimed at raising the public awareness to the need for environmental protection and put forth concrete action proposals, such as waste paper collection and save energy, to participants. Green Power and Friends of the Earth have produced locally relevant training

kits to be used in pre-school, primary and secondary school settings. The information available is mostly borrowed from overseas, and it may take some time before systematic local training packages can be produced for a wider dissemination.

Table 4: The Change Processes, Behavioural Outcome and Focus of Intervention in the Promotion of Environmental Protection Campaigns

Change Process	Behavioural Outcome	Focus of Intervention
Knowledge and Understanding	learning information, accepting arguments	draw attention to consequences of pollution and environmental destruction, dispel misinformation, form basis of reasoned action
Persuasion	forming favourable attitudes, imitating a model	establish logical basis of prevention, project image of model and desirable behaviour repertoire
Decision	engaging in action	clear behaviour instructions, skills training and on-going consultation
Conformation	seeking consistency, self-regulation	establishment of social norms, clear rewards and sanctions, policy and legislature back-up

Youth involvement in secondary school or youth centre projects is usually very high. Young people are involved in information collection, discussion and data presentation to classmates or the public. The common forms of knowledge dissemination on environmental protection are exhibitions, computer simulation programmes, quizzes, and pamphlets. The public may only get vague ideas of environmental protection after reading the exhibition boards or participating in programmes. The persons who benefit most are likely to be the young persons who have gone through intensive learning process of analysis, synthesis and presentation of data on environmental protection. Young persons reported that they have changed their attitude and behaviour after participating in school projects of environmental protection.

Persuasion

The Environmental Protection Department has launched large-scale publicity of public hazards of water pollution, industrial noise and air pollution.

The approach adopted in the publicity on television is mainly repulsion methods of imprinting negative consequences of pollution on the audience. The deterrent effect by fear arousal is effective because citizens are forced into decision-making concerning their children.

The involvement of supportive local neighbourhood networks in the establishment of social norms of environmental protection and "green" life-styles is a desirable strategy of attitude change. Schools and community centres are the most appropriate settings for knowledge dissemination to the public and mass persuasion. Well-organized arguments and systematic presentation of facts can dispel misinformation and help the public to form logical bases for "reasoned action" (Ajzen and Fishbein, 1980). Appropriate models can help promote action in environmental protection and ways to achieve a "green" life-style. A desirable behaviour repertoire can be established through persuasion and demonstration. Case-stories of how people suffer because of pollution besides stories of models of environmental protection on the mass media, especially television, are one of the most influential forms of persuasion in Hong Kong.

Decision

When individuals are convinced of the importance of environmental protection and make decisions to take part in concrete actions, they must be provided with clear behaviour instructions as to what they can do. Wherever necessary, the public should also be provided with training and consultation on the specific steps to take in environmental protection.

Confirmation

In order to provide a supportive environment for practising a "green" life-style, social norms, policy and legislature back-up, clear sanctions and rewards have to be established. In the United States, there are schemes particularly designed to attract youth into environmental protection activities. There are awards such as the President's Environmental Youth Award, Caretakers of the Environment for high school students, Environmental Youth Summit to award high school student winners, and Regional Certificate Programmes organized by Environmental Protection Agency Regional Offices. Such a conducive environment can help young people to internalize the values of environmental protection and develop an intrinsic "green" life-style without having to rely on external rewards.

Therefore, the focus of intervention on bringing about attitude and behaviour change should be designed according to all four levels of the change process. The ultimate goal of education and persuasion is behaviour change. Isolated and sporadic publicity on environmental protection can contribute very little to the long term goal of conserving the environment. Staying at the information giving stage without proceeding to the higher levels of reasoned action, decision and habit formation will be a waste of time and resources.

RECOMMENDATIONS ON SKILLS AND INTERVENTION STRATEGIES

With the network of social service centres, community development projects, primary and secondary schools, and uniform groups operating in Hong Kong, there is a massive network which has great capacity for influencing citizen's attitudes and behaviour. However, there is a lot to be done to prepare community educators to be competent in the promotion of environmental protection. Community workers and social workers reported that they encounter a lot of problems during the actual implementation of community educational projects and programmes on environmental protection.

The first problem is the lack of information and easily accessible local materials for mass education. The number of professionals interested in organizing such programmes is small. It will take time for the teachers and social workers to participate actively in the 'green' movement. The second major problem is the lack of knowledge on teaching, persuasion and attitude change. The third problem is the lack of a supportive social environment in which the citizens can persist with their 'green' behaviour.

It is logical to expect that individuals will be willing to abide by behavioural instruction or restrain from their usual habits only in case of sanctions, fear or rewards. With regard to the usual campaign techniques of fear arousal for deterrence adopted in the government-sponsored environmental protection publicity programmes, the negative repulsion is not adequately followed up by concrete action proposals for individual citizens to follow. The recommendations are mainly confined to individual and household responsibilities in keeping the environment and beaches clean. The real causes of pollution, mainly industrial pollution, are not being adequately addressed. The excessive fear arousal method in these cases is a source of stress on the population, as they may find themselves in a state of helplessness and despair.

Owing to the restricted publicity on what solid actions can be taken, most of the actions on environmental protection are confined to collecting waste paper, stopping using disposable utensils and containers, appreciation of nature and going to country parks. Secondary school students organize projects on using handkerchiefs instead of tissue paper. Local residents' groups organize small-scale waste paper collection. These efforts are uncoordinated and there is no unified set of desirable behaviour repertoires offered to interested individuals or groups to follow. Such symbolic actions of citizen participation are only producing cosmetic results, with little real impact on conserving the environment. In fact, not too many people are willing to buy recycled paper as it costs more. Education on environmental protection in Hong Kong still has a long way to go.

In order to overcome the above problems, there are three levels of consideration. Firstly, a policy commitment and resource support is required if the propensity of the movement is to expand. Secondly, the community educator can adopt Edwards' model of social and psychological influences into the design of their strategies. Thirdly, specific intervention tasks can be designed according to the goals of changing the individual and the environment.

POLICY CONSIDERATIONS

In order to delineate the necessary policy and resource support required in the promotion of environmental protection, the process of adopting social innovations (Rogers and Shoemaker, 1971) will be used as a framework of analysis. The first level of input is the establish of a policy commitment and consensus among the social service agencies on the importance of the promotion of environmental protection. Training courses and seminars should be organized for interested staff in order to equip them as trainers. They will serve as examples for the grassroots citizens to model themselves on. Besides education, persuasion and decision of taking action, the most crucial policy support is by legislative and administrative regulation. In the case of anti-smoking campaigns, the use of car seat-belts and the promotion of unleaded petrol, it was not until administrative sanctions of fines, control and tax reduction were put into practice before the population adhered to using seat-belts in the front seats, refrained from smoking in buses and used unleaded petrol. The political will and administrative determination have a determining effect on the success of similar public morality issues in Hong Kong.

Table 5: Policy and Resource Inputs needed for the Promotion of Environmental Concerns among Young Persons in Hong Kong

Path of attitude and behaviour change	Policy and resource input for environmental concern
Knowledge and understanding ↓ V	Consorted effort among govt. depts. and social service organizations, more funding for the production of training packages, set up resource centre to facilitate training of community workers, establish consensus among agencies on the importance of environmental protection.
Persuasion ↓ V	Persuade workers in the first place, curriculum design to add in components of environment consciousness and behavioural instructions, more resources for programmes of environmental campaign to be allocated to local groups.
Decision ↓ V	The workers should themselves be convinced and live as life models on being environmentally conscious and responsible, the community leaders should be involved to confirm the desirable "green" behaviour.
Confirmation	Legislation on environmental protection is the most effective mechanism of sustaining a green behaviour and deter anti-environment behaviour.

SKILLS AND TASKS OF INTERVENTION

In order to overcome the problems of lack of skill competence on attitude and behaviour change among community workers, the following proposals on skills and intervention strategies are designed according to the five selected forms of social influence process (Table 6). In the production of locally-relevant educational kits, it is desirable if community workers taking part in the promotion of environment consciousness and environmental concern groups join hands and work more closely with one another. Skills in advertising, publicity, promotion campaigns and mass education are essential in persuading citizens of the urgency in taking actions against environmental destruction. Models, award schemes, reward systems and moral sanctions should be set up in order to condition residents to continue with a 'green' attitude and adopt environmentally-conscious behaviour.

Table 6: List of Tasks and Skills Required of the Social Worker under Different Behavioural Influence Strategies

Influence Type	Strategy	Tasks and Skills Required of the Workers
Education	Give information	Network with environmental concern groups, design systematic information package to be disseminated in community and social service units, work out exhibition boards which can be shared among service units, organize training courses and seminars to equip staff.
Persuasion	Arouse emotions, provide arguments	Publicity, mass education, fear arousal of consequences of environmental destruction, provide evidence for reasoned action, develop values and personality attributes that support environmentally conscious behaviour.
Imitation	Perform actions	Provide exposures to green models, create opportunities for green behaviour, teach skills to support green behaviour, guidebooks to teach alternative behaviour, develop a sense of pride in being "green".
Conformity	Express judgement	Set up reward and merit systems for "green" behaviour, establish linkage with policy planners, set up congruent policy and administrative backup in schools, social service centres and community groups.
Conditioning	Control stimuli, schedule rewards	Establish social support for desirable behaviour, set up citizen award schemes, internalize values of environmental protection and conservation.

Besides developing skills in giving information, persuasion, and influencing behaviour, there are three dimensions which community workers have to be worked on especially to create an environment for environmental protection. They are the environmental attributes, the personality attributes and the behavioural attributes. There are tasks through which to strengthen the environment conscious behaviour, attitudes and values as well as tasks, through which to weaken the long established habits of environmentally destructive behaviour. The details of the tasks are as listed in table 7.

Table 7: The Tasks in Changing the Environmental, Personality and Behavioural Attributes

Environmental Attributes	
Develop new norms and expectations on environmental qualities	Weaken norms and expectations for anti-environment behaviour
Create opportunities for green behaviour	Limit opportunities for anti-environment behaviour
Promote exposure to green models	Lessen exposure to anti-environment models
Provide social support for behaviour change	Diminish social support for anti-environment behaviour
Personality Attributes	
Provide knowledge to support environmentally- conscious behaviour	Provide knowledge that is incompatible with engaging in anti-environment behaviour
Develop values that sustain environment conscious behaviour	Weaken values that support anti-environment behaviour
Establish functional meanings of behaviour that support green choices	Change functional meanings of behaviour that support anti-environment choices
Strengthen internal locum-of-control for a green life-style	Overcome external locum-of-control for a non-green life-style
Behavioural Attributes	
Enlarge skill repertoire to support green behaviour	Teach skills to resist pressure to engage in anti-environment behaviour
Promote intentions to engage in behaviours that are green	Weaken behaviour intentions that are anti-environment
Positively reinforce green alternative behaviour	Negative reinforce anti-environment behaviour
Promote self-management of green behaviour	Discourage anti-environment lifestyle

(adapted from Loken et al., 1990:168)

CONCLUSION

The theories on social and psychological processes to attitude and behaviour change is relevant to the promotion of environmental protection in Hong Kong. Community workers can develop their skills and tasks according to the path of behaviour change and the processes of influence.

Despite all the above listing of skills and tasks, community workers have to be convinced and persuaded of the importance of environmental protection first. Social service agencies, the Environmental Campaign Committee, environmental concern groups, and community workers should work closely with one another. It is urgent that more community workers can be involved in the promotion campaign. They can contribute to the design of locally relevant and systematic training packages for attitude and behaviour change.

The greatest barriers to environmental protection are the lack of public awareness on the importance of conserving the environment and the lack of political determination to do something about it. Policy and resource support is required to make the promotional activities possible. Not until legislation and more vigorous administrative innovations are being designed and implemented, the promotional activities will remain at the information and understanding level with no concrete actions to recommend. For instance, unless the whole municipal refuse collection system is re-organized to facilitate waste paper recycling, small scale waste paper collection campaigns is not going to contribute significantly to environmental protection.

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Chapter XII

Environmental Education: The Contribution of Green Groups

Mei Ng and Francis Wong

INTRODUCTION

This chapter analyses the contribution to environmental education (EE) by four Green Groups in Hong Kong. They are: the Conservancy Association, World Wide Fund for Nature, Hong Kong (WWF HK), Friends of the Earth (FoE) and Green Power. Description and analysis are based on their work in the 1980s and early 1990s. Reasons for success and failure, and their strengths and weaknesses in EE are discussed.

'Green groups', 'environmental groups' or 'environmental pressure groups' in Hong Kong mean those non-government organizations (NGOs) whose non-profit making businesses are concerned with the environment. There are a number of green groups in Hong Kong. Four of them are included in this chapter because they are more commonly known and are relatively larger groups. The Hong Kong government adopts a largely laissez-faire and positive non-interventionist attitude to educational development (Morris, 1994) and EE provision is no exception. In the 1980s and early 1990s, EE was largely initiated by Green Groups. The main concern of EE:

"... involves the intellectual tasks of critical appraisal of environmental (and political) situations and the formulation of a moral code concerning such issues, as well as the development of a commitment to act on one's values by providing opportunities to participate actively in environmental improvement" (Stevenson, 1987:69)

It is thus concerned with the development of (i) knowledge about the area, (ii) learning how to learn and (iii) acquiring values and the propensity to act.

The Tbilisi EE Conference in October 1977 had a particular influence in the development of EE. It emphasized (a) curricular materials for schools, (b) national plans and programmes for expanding EE, (c) detailed models for teaching EE throughout schooling, (d) expanded non-formal EE of many kinds, and (e) considerable educational efforts by ministries other than education (Gough, 1993). Different approaches to EE were recognised since the early 1980s. Lucas (1980) and Huckle (1983) differentiated between education *about* (techno-centric and knowledge-based), from education *in* (inquiry-learning based), and education *for* (socially critical and political action goals-oriented) the environment.

In June 1992, at the Rio Earth Summit on Environment and Development, there were new demands for EE. The "21st century Action Agenda" specifically dealing with the work of EE focussed on its links with concepts of sustainability (Cai, Cheng and Wong, 1994:41).

The above general global development in EE helps to examine the contribution of Green Groups in Hong Kong.

CONSERVANCY ASSOCIATION

The Conservancy Association is:

" ..the closest to the public and the most Chinese-oriented. It is versed in responding to government policies and suggesting positive and practical actions suitable for local cultural context. It has strong international links and clear orientations. However, its human and financial resources are weak" (Green Power, 1993:20)

The Association was established in 1968 by a group of affluent Chinese and expatriates (Conservancy Association, 1992). In 1971, the Association established its Education Committee, and in 1973 it co-operated with the Education Department in launching appeals to secondary schools to establish 'Conservancy Club' as one of the extra-curricular items. At that time, environmental degradation was not a major concern in Hong Kong and it was a landmark of informal EE in schools. In November 1975, through the Youth Environment Action Group (YEAG), the Association established the Joint School Conservancy Clubs Liaison Board (SCCLB) with a founding membership

of 21 schools (Conservancy Association, 1993). However, expansion of informal EE through extra-curricular activities was not seen afterwards and was largely ignored in the late 1970s. Reasons were largely the mobility of students, non-sustaining interests of teachers and students, pressure from other examinable subjects and above all, lack of social support.

In the 1980s, activities organized by the Association were not focussed on education; rather, they were aimed at arousing public awareness of the environment. For example, from 1982 to 1988, seminars and campaigns organized by the Association were largely about nuclear power hazards, and concerns with the Daya Bay Nuclear Plant were linked with the Chernobyl disaster in 1986 (*ibid*: 41).

In 1988, the Association established the Hong Kong Environment Centre and it marked a turning point in its EE activities. The Centre focussed on EE and relationships with schools. Activities included quizzes, pollution-free picnics, poster competitions, training of green youth leaders and newspaper recycling campaigns within schools. In 1991, the Association did a large-scale questionnaire survey on environmental attitudes. A sample of 1500 was chosen and it was considered as a "scientific and representative survey" (Conservancy Association, 1993:41). However, survey results were not widely known and research of a similar nature later done in tertiary institutions was unable to replicate the results (e.g. Lai, 1992).

In the early 1990s, in addition to the Association's participation in international congresses, its concern with the environment in China increased and links with Chinese environmental protection bureaus became more frequent (Conservancy Association, 1993). For example, in the editorial of the Green Alert magazine (Vol 25, Winter 1994), there was special discussion on the relationship between the 'Open Door' policy and environmental degradation in China, followed by a special article on problems of "poverty" and "subsistence" in Jiang Xi (*ibid*: 3). At the same time, in various volumes of the Green Alert magazine, there were articles on implementation of environmental concepts within schools and a special section for students to express their opinions related to the environment (Conservancy Association, 1993, 1994).

In the late 1980s and early 1990s, there was increasing global and local concern for the environment. Claims and provision for EE increased both in content and variety, and this was true also of the Conservancy Association.

However, comparing activities in the 1970s with those in the 1980s and early 1990s, those provided by the Association were pioneering in the 1970s, though of less variety. The establishment of conservancy clubs in secondary schools exemplified the possibility of implementing EE through an informal curriculum.

GREEN POWER

Green Power has been, since its establishment in 1987,

"...obtaining the strongest support from the Chinese media, concerning the widest area and promoting life-oriented education. The organization has much controversy. It has chaotic and loose structure, weak data base system and unclear orientations. However, its leaders have high reputation in the area of environmental conservation and they focus on ideological and spiritual exploration. It has 'deep green' philosophy and is still developing" (Green Power, 1993:20)

Green Power focuses on a 'green' philosophy which appeals for natural and peaceful sustainable living. It aims at movements to change people's lifestyles. In its early stage, the founders were concerned with their own interests, such as pollution control, health, religion, social justice and the economy. EE was not on its agenda at that time (Green Power, 1993:13).

Despite its loose structure, Green Power has core members who are in the teaching profession and they believe in 'green' philosophy (*ibid*: 151). Their contribution brings EE onto the organization's agenda. In 1991, Green Power launched the 'Green University' and 'Green Primary School' projects, with the aim of promoting natural, humanistic and ecological principles in education (*ibid*: 37).

Green Power aims to improve the education system and its philosophy. However, in terms of its limited resources, it only focuses on four areas in EE in the early 1990s:

- (1) Providing assistance to schools in promoting green concepts, innovation in curriculum and pedagogy, and production of audio-visual teaching aids;

- (2) Exploring alternative means of education, for example, 'Green Primary School';
- (3) Providing 'green' education by organizing seminars and courses on 'green' concepts and lifestyles; and
- (4) Communicating with educational bodies and personnel (Green Power, 1993:37)

In January 1993, Green Power conducted a survey on the food offered by tuck shops in schools as part of its concern with students' eating habits. The survey used telephone interviews with more than 500 students, parents, teachers, principals and medical practitioners. The results showed that tuck shops were mostly (i) ecologically unconcerned, such as using disposable chopsticks, forks and spoons; (ii) not caring for students' health by selling food containing too much pigment, preservatives and MSG.

Suggestions were made that tuck shops should sell less packaged food and more natural and vegetarian food. This survey, together with other talks given by other environmental groups, such as Friends of the Earth, did stimulate the awareness of students toward their eating habits and concern for health.

In 1995, EE work proposed by Green Power is of a static and dynamic nature. The static elements include seminars and special columns in newspapers. The dynamics elements include organic farming, 'Green Secondary and Primary Schools', training of 'green' ambassadors, 'green' tea gatherings and surveys on green concepts of prominent civil servants. However, it is acknowledged that Green Power's weakness is "its life-style orientation may not be compatible with aims of environmental protection" (Green Country, 1995:3).

In fact, Green Power is in favour of implementing EE through community development or education *for* the environment (Lucas, 1980; Huckle, 1983). The form is similar to housing movements and other social movements in Hong Kong (*ibid*: 4). It is arguably considered as the direction for Green Power's EE work in the 1990s. However, mobility of core members, internal organizational struggles and reform in recent years have greatly hampered its development in which EE provision is a part.

FRIENDS OF THE EARTH

Friends of the Earth (FoE) is an environmental group which:

"...receives strong support from the English media. It convinces the commercial sector and government on environmental issues most successfully. It has western style lobby tradition. It was very westernized at its early stage but is now being localized and more open to the general public" (Green Power, 1993:20).

In its early years since establishment in 1983, EE was not a key item on FoE's agenda. Its limited EE work was confined to disarmament talks given to schools for expatriate children (FoE Newsletter, 1983). In 1987-88, whilst its major EE work was still on anti-war and anti-violence, a project was launched on the provision of an extra-mural course for pre-school teachers emphasizing environmental awareness (FoE Annual Report, 1986-87:25). Later, projects were decided on EE for pre-schools and primary schools (FoE profile, 1988:2). In FoE's first 5 years, its commitment to EE had been at its developmental stage and was largely decided by its general orientation and resources.

In 1988-89, the availability of huge sponsorship from the commercial sector enabled FoE to set up the post of Education Officer to work on a pre-school EE project. The project was to provide colourful and practical teaching aids for teachers of 3-6 year old children (FoE Annual Report, 1989-90). Since then, FoE has been able to have an Education Officer to focus on the provision of EE. The officer's duties were later laid down as (i) producing Chinese and English materials for environmental protection, and, (ii) conducting talks in schools (FoE Newsletter, 1990). In 1990, the idea of collaborative EE work between schools was initiated and FoE organized a Joint School Environmental Protection Exhibition in Sha Tin Town Hall (Ibid :12). In the early 1990s, FoE's expanding EE activities grew with global concern. Its target was no longer limited to primary and pre-school groups, but rather secondary teachers. Its collaboration with the Hong Kong Professional Teachers' Union in April 1990 in organizing a seminar "Our Earth" addressing the problems of recycling, tropical rainforest and ozone marked this new direction (FoE Newsletter, 1990).

In 1991, an environmental education teaching kit was produced by FoE and nearly every kindergarten was provided with a copy. The production marked the maturity of FoE's contribution to pre-school EE (FoE Newsletter,

1991). In the early 1990s, as the directorship of FoE changed from expatriate to local Chinese, relationships with China were initiated.

A close relationship with the Guangzhou Environmental Protection Bureau was established and a long-term joint contract was signed between the two parties. The Project Green Hope (PGH) is a major item of the co-operation. The PGH is organized annually and expressed via the Environmental Science Summer Camp held in Guangzhou and Hong Kong in alternate years. Hong Kong and Guangzhou teachers and students are the campers and they look at various environmental issues through educational activities. As an appendix to the PGH, a Green Secondary School Students' Council was established in 1993 to explore alternative EE activities by students (One Earth, 1993).

Other EE activities organized by FoE included the Shell Environment Awards Scheme which encouraged teachers and students to carry out environmental protection projects; Inter-school Green Drama Competition; Environmental School Audit which aimed to foster environmental awareness in schools, and a Green Seminar for teachers (FoE, 1993). In terms of diversity of EE programmes, FoE offers more variety. However, the impact of these activities on recipients, and the role FoE plays within the education system are rarely assessed.

In December 1994, the International Conference on Environmental Education jointly organized by FoE and the Guangzhou Environmental Science Association marked a key point in the history of FoE's commitment in EE. A number of internationally prominent EE educators and about 80 counterparts from China and Hong Kong presented papers at the conference. The purpose of interflow and bringing new EE concepts into China were achieved (One Earth, 1995). However, academic conferences are normally organized by academic institutions such as universities. Organization of an EE conference by FoE as an NGO environmental group reveals the fact that EE in tertiary institutions is not a priority concern.

Comparable to Conservancy Association's good relationship with China, FoE's influence and connections with the mainland have gradually gathered momentum. Its success in this area is largely attributed to (i) its Chinese administrators who are particularly interested in environmental protection in China and (ii) availability of related voluntary workers.

As an NGO environmental group, FoE faces financial constraints which largely affect its expansion, of which EE provision is a part. It is a problem faced by all other green groups.

WORLD WIDE FUND FOR NATURE

The World Wide Fund for Nature, Hong Kong(WWF HK) is

"...well received by upper class people. It has rich resources and manpower. Its membership is great but passive. It focuses on environmental conservation and its philosophy is 'light green' and hence is less controversial. It has clear orientations and stable management structure" (Green Power 1993:20)

Its clear orientation is to offer EE programmes with a focus on conservation. WWF HK was established in 1981 and it has two centres to provide EE for teachers, students and the general public. They are the Mai Po Marshes Nature Reserve and the Island House Conservation Studies Centre (Yan, 1994). EE programmes offered at the two centres all aim at promoting conservation awareness (WWF HK, 1992).

WWF HK makes use of the Mai Po Centre as an outdoor classroom to let pupils and members of the general public experience what a wetland habitat is, and why it is important through a 'hands-on' approach (Yan, 1994). The Mai Po Centre is a wetland granted to WWF HK by the Hong Kong government and has been offering educational programmes since 1986. Every year about 35,000 students and members of the public visit the Reserve and use its facilities (*ibid*: 207). The Mai Po Centre supports a diversity of wildlife, both resident and migrant, and has a wide range of wetland habitats present. These include intertidal mudflats and mangroves, reed beds, traditionally managed tidal shrimp ponds (*gei wais*) and intensely managed fish ponds. Such habitats and wildlife species are concentrated in the area, and some of them are unique (*ibid*: 206). Other facilities include a Field Studies Centre, 11 observation hides, a floating boardwalk passing through the mangroves, a waterfowl collection and a nature trail. To make good use of the Mai Po Centre, WWF HK offers programmes on specific topics in line with the secondary school curriculum, especially biology and geography (*ibid*: 206). With the promulgation of the Guidelines on EE in schools by the Education Department in 1992, WWF HK attempts to introduce

non-science based elements to fulfill the cross-curricula approach as suggested in the Guidelines (*ibid*: 207).

Similar programmes are offered to primary students with the variety of using games and colourful teaching aids. In addition, there is co-operation with the Wetland Link International programme (WLI) of the Wildfowl and Wetlands Trust (WWT) in Britain to organise a three-year primary EE development programme (*ibid*: 207). This kind of co-operation shows that WWF HK has close relationship with branches of WWF in other countries.

The Mai Po Centre also serves to provide in-service workshops for teachers of the Advanced Supplementary-Level Environmental Studies course. The workshops provide residential courses based at the Centre (*ibid*: 208). However, despite the well-equipped provision of ecological programmes, feedback from teachers and hence evaluation are inadequate (WWF HK, 1992).

In addition to the Mai Po Centre, the Island House Conservation Studies Centre provides outreach EE programmes for local schools, serving an average of 120,000 students each year (WWF HK, 1994). The Centre focuses on the development of teaching resource materials and the running of school and community group visits (*ibid*: 7). Visits are guided by full- and part-time staff. As staff members do not have the same training, some have difficulties in conveying awareness to visitors effectively (WWF HK, 1992).

WWF HK also runs the Education Mobile Unit (EMU) which provides free outreach EE programmes for schools. A survey done by WWF HK showed that "...there was good response from school teachers" and hence "the programme has great potential for complementing our educational efforts in other areas and promoting WWF HK's views on conservation" (WWF HK, 1992: 13).

WWF HK also has collaboration with secondary school teachers in compiling slide packs, debate packs, posters and pamphlets which are constantly revised by its Education Committee (WWF HK, 1992:13).

WWF HK has a stable income largely coming from the corporate sector (WWF HK, 1994) and has, among all other green groups, the strongest support from the government. The Mai Po and Island House Centres are all government properties granted to WWF HK (Wong, 1992). Among all other green groups, because of WWF HK's rich resources, its contribution to EE is relatively great. The Mai Po and other EE programmes occupied 64% of the 1992-93 annual expenditure (WWF HK, 94). However, its weakness in EE provision lies in its

lack of systematic assessment. Teachers' responses to programmes and how materials are used are largely unknown.

CONCLUSIONS

In the 1980s and early 1990s, EE was mainly initiated by Green Groups, particularly regarding implementation. Their contribution in this respect has to be acknowledged.

EE programmes offered by Green Groups can be classified into active and passive types. Active programmes are more outreach-orientated and include demonstrations, recycling appeals, school visits, exchange camps for secondary students, green leadership training for students, planting and weeding activities and spotting species in nature reserves. Passive types aim at provision of EE information which include teaching materials, talks, exhibitions, leaflets and newsletters, and books lending services.

Different Green Groups have different emphases in the active and passive programmes they offer. The focus is an indication of their different directions. The determining factors of their directions are: (i) sponsors' different natures and requests (ii) the leaders of the Green Groups and their ideology and special interests (iii) responses from target groups, and, (iv) manpower and resources.

The Environmental Campaign Committee (ECC) is a statutory body established in the early 1990s. Co-ordination between Green Groups is one of its tasks. However, co-ordination has been limited to the circulation of newsletters reporting the promotion of different EE programmes by different Green Groups. There is inadequate work done on assisting direction review, assessment and evaluation of EE programmes, co-ordination, elaboration of sustainability concepts in EE, and avoidance of programme overlap.

For long term development of EE, there is a need for a central authority. The Kadoorie Farm did sponsor and facilitate a meeting in 1994 to discuss the possibility of establishing the Council of Environmental Education (FoE, 1994).

In addition to contributions from Green Groups, supplementary EE programmes are also offered by corporate bodies and some government departments. This diversified provision of EE on the one hand is a characteristic of the Hong Kong society which allows diversity, but on the other gives

evidence to the laissez-faire and positive non-interventionist style of the government.

Most Green Groups face financial and resource constraints and are thus unable to constantly evaluate the EE work they have done. However, if Green Groups receive funding from the government, they face the dilemma of acting as pressure groups against their source of income. This role conflict constrains those Green Groups which have stronger pressure group and lobbying traditions. Most of the EE programmes offered by Green Groups are education *about* (techno-centric and knowledge-based) and *in* (inquiry learning based) the environment. There is little *for* (socially critical and political action goals oriented) the environment (Lucas, 1980; Huckle, 1983). Whether a better balance between the three could be achieved depends largely on the availability of expertise and resources, Green Group administrators' ideology and development of EE in the Hong Kong society.

In the years to come and beyond 1997, Green Groups will continue to exist because (i) environmental protection is one of the fundamental national policies of China (Cai, 1991) and (ii) there are established connections between some of the Green Groups in Hong Kong and environmental protection bureaus in China.

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Chapter XIII

Business and the Environment in Hong Kong

Sarah Howroyd

INTRODUCTION

The private sector in Hong Kong plays several significantly different, and sometimes apparently conflicting roles when it comes to the environment. Firstly, the private sector is the great driving force behind Hong Kong's economic growth. Its industrial and commercial establishments generate the majority of the pollution in Hong Kong.

Secondly, the private sector is a key player in the public policy making process. Thirdly, and more recently, some private sector organisations in Hong Kong appear to have taken the initiative upon themselves to publicly profess a commitment towards the environment. Members of the business community have set up a private sector industry group under the environmental umbrella, and there has been increased involvement by multinational organisations and some large Hong Kong companies in both introducing in-house environmental management practices, and in community environmental education. There have also been instances of Hong Kong companies deliberately setting out to present a 'green' image.

This Chapter examines the nature of these initiatives within the context of the role played by the private sector in the degradation of the environment and in relation to the representation of private sector interests in environmental policy making.

THE PRIVATE SECTOR, ECONOMIC GROWTH AND ENVIRONMENTAL DEGRADATION

Hong Kong's recent history of rapid system industrialisation within a free-market capitalist economy has resulted in a high level of industrial output and commercial activity and consequently in a substantial level of associated pollutants. The complex effects of such a phenomenal growth of private sector industry and commerce and the costs of this economic success are now becoming apparent, in not only negative impacts on the natural environment, but

also in high risks for community health as well as a heavy "but usually hidden" financial burden (Hong Kong Government 1995, p.419).

Many of the environmental problems, such as the need to dispose of large amounts of sewage, domestic, industrial, and commercial waste, are similar to those in other densely populated cities (Kwong, 1990). In recent years the particular industries associated with high levels of pollution in Hong Kong have included the electroplating industry; bleaching, dyeing and finishing industries; electronics industry; food and beverage industry; and the garment and textiles industry (Hong Kong Government, 1995).

The changing industrial base, as numbers of these more highly polluting industries relocate over the border in the Pearl River Delta, in Guangdong Province, has brought a change in the characteristics of the environmental problems facing the territory. As the service industries and commercial sector increase their share of business in Hong Kong they have brought with them increases in some types of pollution and environmental degradation such as waste that is either handed on to the consumer in the form of packaging or goes into the territory's landfills.

Meanwhile, Hong Kong continues to bear the load of massive amounts of waste from the construction industry as well as destruction and contamination of the natural environment. The immense Port and Airport Development Strategy project has placed a heavy load upon the environment with its land reclamation and wholesale redevelopment that is being undertaken by private sector contractors under government supervision. Private sector developers, in partnership with villagers in the New Territories are also taking part in the high speed development of ecologically sensitive areas.

One of the other major concerns in the territory is vehicle emissions, particularly from diesel engines, many of which belong to taxis and mini-buses.

THE PRIVATE SECTOR AND PUBLIC POLICY

The Level of Autonomy of the Private Sector

A combination of factors have led to the contemporary situation where many private sector decision-makers have been making, with a large degree of autonomy, decisions with far reaching impacts on the environment in Hong Kong. The factors contributing towards this autonomy include the nature of the policy-making process itself, the top-down administrative nature of the Hong Kong Government, the government's history of protection of business interests,

the representation of business interests in the key decision-making bodies and inadequate enforcement of existing regulations.

The resulting situation is one in which individual organisations within the private sector have had a high level of autonomy in their environmental actions. Until relatively recently this freedom has been the dominant *modus operandi* even in situations where existing government regulations purport to control pollution issues such as waste and emissions.

This autonomy has resulted in an extremely varied picture. For instance, many multinational companies with established environmental management policies that actually surpass government requirements coexist alongside some large Hong Kong operators prepared to break the law and count the fine they are risking as a business cost, as well as a number of small companies operating in variance with the regulations but relying on lax enforcement.

At the same time there have also been recent cases of multinational companies being fined for breaking environmental regulations, and of a few Hong Kong companies, large and small, which have been prepared to take the initiative to clean up their operations. However, in general, the nature of the existing regulations, and the 'command and control' style of environmental policy in Hong Kong has given little incentive to the majority of the private sector to clean up.

The existing policy, and the nature of environmental decision-making itself, means that individual private sector operators also have a great deal of freedom as to whether to make more environmentally efficient decisions concerning matters that are not governed by regulation, for example energy efficiency, recycling and waste exchange (Howroyd, 1994).

Operating at the fulcrum of an intensely competitive free market capitalist system, within the context of political change and uncertainty as the territory moves towards becoming a Special Administrative Region of the People's Republic of China in 1997, the economic imperative is dominant.

"Since most environmental protection costs more than it returns to most firms, it is a drag on share values: thus managers seek to avoid dealing with these problems whenever possible" (Schnaiberg and Gould, 1994, p.66).

The private sector is substantially represented in the government's policy-making and legislative processes and the business and industrial elite has played an influential role in policy making since the colonisation of Hong Kong. Today there is a large representation of socio-economic elites in both of the government's major decision-making bodies, the Legislative Council and the Executive Council.

These business elites not only hold influential positions in key decision-making bodies, but also participate in the early stages of identifying issues or problems with policy implications and in the formulation of policy itself (King, 1975; Loh, 1994).

Public opinion on legislative and policy plans has long been assessed by government through a process of co-opting socio-economic elites to the decision-making bodies including District Boards, the Executive and Legislative Council.

"A process; ...through which the governing elites co-opt or assimilate the socio-economic elites into the political-administrative decision-making bodies, thus attaining an elite integration on the one hand and a legitimacy of political authority on the other" (King 1975, p. 437).

This co-opting has led to the views of the socio-economic elite being over-represented, and given the appearance of a democratic process of consultation, a process described by King as "the administrative absorption of politics"(p. 424).

"..Hong Kong can be said to be ruled by an oligarchy. This oligarchy is not prescribed by some formal constitutional rules, but the appointment system co-opts the rich and influential and was created to give the colonial structure a semblance of involvement" (Loh, 1994, p.61).

King examined the membership of the Executive and Legislative Councils in this light. Although the proportion of elected and non-elected members has changed, his description of the essential nature of the membership stands as true now as it did twenty years ago;

"It is true to say that the great majority of the appointed unofficial members are men of calibre and that they are sensitive to the needs of the community as a whole. But the undeniable fact is that the appointed unofficial members were and still are established or emerging socio-economic elites who are order-prosperity minded and come from a very narrow sector of the population" (p.426).

Apart from their representation in formal decision-making bodies, various organisations and groups within the private sector play an important lobbying role with government.

The level of political participation of businesses varies enormously. Many have no conscious participation, some may have occasional involvement whilst others may have continuous activity. Political involvement varies according to a number of factors, which could be seen to be similar to those operating upon private sector organisations in the United States. These factors include the size of the organisation and the degree of impact of government regulation and policy upon business operations. While little research has been done on detailing Hong Kong business involvement in politics and policy-making U.S. research indicates that involvement tends to increase with the size of the firm and the impact of government upon company operations (Weidenbaum, 1986, p 448-449).

The Environment Issue in the Policy Making Framework and the Role of the Private Sector

The impact of environmental degradation on the natural environment and on the health and lives of people in Hong Kong has been acknowledged in varying degrees by the Hong Kong Government, politicians, scientists, tertiary institutions, private sector groups, environmental groups and the general public. However, there has not been a high degree of representation of these issues within the political framework, and the legislative provisions that have been introduced have not had a marked influence on the level of degradation or the amelioration of its social costs.

The private sector is substantially represented within the government's formal environmental policy and decision-making framework. Private sector interests are represented not only within the Legislative Council but also within

the main environmental committees, the Environmental Campaign Committee (ECC), and the Advisory Council on the Environment (ACE).

It is five years since the inception of the Environmental Campaign Committee and it now has representatives from green groups as well as representatives from Government Departments, academics and members of the business community. It is supported mainly by the Hong Kong Jockey Club but it also receives donations from the private sector for specific programmes. The majority of these funds are used to organise public events focusing on environmental issues to stimulate public awareness, such as the World Environment Day and the Environmental Protection Festival.

The main body to advise government on environmental issues, the Advisory Council on the Environment (ACE), has also changed and its 18 members now consist of a combination of Governor appointed unofficial members, representatives from Government Departments, green groups as well as representatives from commercial and industrial associations (Environmental Protection Department, 1993, p 133).

Despite having the financial resources available to address the worsening situation of the environment, the Hong Kong Government did not really address the issue until the late 1980s, "due, to some extent to the territory's dependency on small-scale industries" (Khator, 1994, p 31).

"Several reports and studies indicate that in the 1980s, environmental laws were perceived to be counter-productive to economic productivity and that significant opposition from the business and farmers had existed" (p. 31).

It has been claimed that significant defects in the government's command and control policy approach, including the making of ineffectual laws with little impact upon pollution levels "find their source in the over-representation of business and industrial interests in the Legislative Council, a phenomenon that has only started to change recently" (Man, 1993, p 330).

Other groups that represent the business sector and that have a powerful role in influencing public policy are the trade groups, the Hong Kong General Chamber of Commerce, the Chinese Manufacturer's Association of Hong Kong, and the Federation of Hong Kong Industries. These groups are well represented within the membership of the Legislative and Executive Councils and also

represented on the government's main environmental advisory committee, ACE.

Other private sector associations also play a significant lobbying role. For example, taxi-drivers and mini-bus operators have successfully lobbied Legislative councillors and defeated a bill that would have forced them to change from diesel to petrol fuel.

There can be no doubt that the Hong Kong Government has to listen to business with particular care, and like many other governments in industrialised societies;

“..it must find out what business needs even if it does not take the trouble to speak for itself.....Government awards to business managers a privileged position in the play of power in policy-making” (Lindblom, 1988, p.74).

While the business sector is well represented within the environmental policy-making framework there is a low level of public participation. This is evidenced by the degree of public involvement in the 'consultation' stage of major development projects, or the 'green paper' stage of the legislative process, where "a crucial feature of the development-environment nexus in Hong Kong is the lack of public participation in 'public' (i.e. government) decision-making" (Loh, 1994, p. 61).

“The enormous PADS project which will forever change the Hong Kong landscape was carried out by a government that shuns public consultation and accountability. The Hong Kong public was never allowed to participate in debate over the long-term social and ecological costs or the alternative possibilities to such massive infrastructure development” (p. 67).

Company Strategies for Influencing Public Policy

Apart from playing both informal and formal roles in environmental policy making, businesses in Hong Kong have also adopted other strategies for influencing policy. These strategies can be identified under the categories of political strategies, communication strategies, participation strategies and compliance strategies (Bucholz, 1995).

The degree of both formal and informal political involvement in targeting legislation, making contact with office holders, participating in trade and industry associations, and lobbying legislators can be seen to increase with both the size of the organisation and the degree of impact from government regulation and proposed policy upon business operations.

Communication strategies for influencing public policy include making public statements on issues and using image advertising to seek to create a better image of the company. Both the Hong Kong General Chamber of Commerce and the Chinese Manufacturers' Association have made statements about proposed environmental legislation (Laing, 1994) and affected industry groups have spoken out about restrictions on waste emissions to water and air. There have also been a few cases of individuals from within large Hong Kong organisations making statements on environmental issues. These include Sir William Purves, Chairman of the Hong Kong Bank, and the late Lord Kadoorie of the China Light and Power Company. Both have made personal statements about the state of the environment in Hong Kong, most notably about the pollution of Victoria Harbour. Apart from these individuals there has not been a noticeable instance of leaders in particular industries making statements addressing specific pollution concerns except for those made concerning proposed regulations that may affect them.

Image advertising is becoming an increasingly noticeable element of company profiles in Hong Kong, but mostly this rests with the multinational organisations such as Shell and the Swire group. These companies have actively promoted the notion that they are environmentally concerned and responsible environmental citizens through advertising, sponsorship of community environment programmes, and by publicising the instigation of sound environmental practices in their own organisations. Other companies have adopted 'green advertising' in order to attract young middle-class consumers. For example, several local companies, including Giordano clothing stores, have used the environmental motif as an advertising slogan.

The final strategy is one of compliance, where business aims to get the regulations that it can accept, that are cost effective, and aim to become members of advisory committees. This is aided firstly by the fact that business interests represent the most powerful formal and informal lobby group in Hong Kong. Secondly, they are represented throughout not only the policy making framework but also on the main advisory committees on environmental matters

(Barros, 1989). The private sector has also set up its own committee with the specific role of lobbying government on environmental matters. The role of the Private Sector Committee on the Environment will be discussed later.

Protection of Business Interests

The Hong Kong Government has had a long history of avid protection of business interests, developing a style of government that has been described as "...a government by the businessmen, for the businessmen" (Harris, 1988, p.52).

Until the 1995 Direct Legislative Council elections, the political system in Hong Kong was objectively undemocratic, and as such had important impact on the extent of citizen participation in policy-making (Harris, 1988). The majority of the representatives in the Legislative Council are now directly elected. However, the Governor was still appointed, and those elected from within the functional constituencies represented an elite group with elitist interests (Leung, 1990). This structure has worked effectively to protect the long established non-interventionist stance of the Hong Kong Government, where citizens do not play an important role in the decision-making processes.

The Hong Kong Government has a style of governance that has been described as *laissez faire*. The government publicly espouses a position defined as 'positive non-interventionism'. In 1974 the Financial Secretary Sir Philip Haddon-Cave referred specifically to the government's policy of positive non-interventionism, and defended it. He disliked the use of the term '*laissez-faire*';

".. which has a passive ring to it which is misleading, and implies that the complex socio-economic and socio-political forces operating within modern societies must be quietly accepted."

He preferred the term "positive non-interventionism";

"So it is preferable to describe our attitude to the economy as one of positive non-interventionism: this involves taking the view that, in the great majority of circumstances it is futile and damaging to the growth rate of the economy for attempts to be made to plan the allocation of resources available to the private

sector and to frustrate the operation of market forces, which, in an open economy, are difficult enough to predict, let alone control" (Lethbridge, 1993, p xiv).

It is significant that this defence, which was originally published in 1974, was considered still suitable to describe the style of governance almost twenty years later when it was republished in a book describing the business environment. A short preface in the new edition from the current financial secretary indicated that he was in complete accord with Sir Phillip's statement and saw no need to change it.

Whether the term 'laissez-faire' is appropriate to describe the overall approach of the colonial government may be questioned. However, until very recently, it adequately described the approach to environmental issues related to business activity.

"Due primarily to the government's laissez-faire stance on industrial growth and development pollution has developed to an intolerable extent" (Chan and Hills, 1993, p.5).

Whether seen as non-interventionism or laissez-faire, the government's stance has particular application in the field of environmental policy where the interests of industrialists are given a heavy weighting compared to the interests of the environment. However, there has been some increased awareness of environmental issues in the public arena, as well as an increased push for democratisation. The Hong Kong Government's 1989 *White Paper on the Environment* set out the most ambitious plan yet put forward to clean up the environment over the following decade.

However, the pace of policy formulation and resultant legislation continues to be very slow. Some of this lassitude can be attributed to the nature of the administrative structure and some to the complicated and time consuming nature of the legislative process. The slow rate of policy change can also be ascribed to the powerful influence of the private sector including industry.

The industrial lobby is still powerful and fears that increased regulations will compromise its position in relation to the other newly-industrialising countries (Green Productivity, 1994). Legislative changes have been strongly resisted by the industrial sector.

“In Hong Kong, a similar policy bias towards the rich can be found. Large corporations in Hong Kong represent a very powerful lobby. More government attention is being given to encourage investment and industrial protection than for environmental protection. The political priority attached to pollution control and environmental protection has been relatively low” (Chan and Hills, 1993, p 10).

Control over new developments and new projects has been minimal. Although new developments are required to submit environmental impact statements, failing to adhere to these statements is very unlikely to have any impact upon the development. The new EIA bill, which promised to give these studies some teeth and some force, is still delayed in its implementation.

“The environmental impact assessment bill, an instrument to prevent unacceptable destruction, is still on hold although negotiation with the developers has dragged on for years. The main obstacle is that developers are not willing to commit to giving the environment a high priority of consideration” (Hung, 1995, p.345).

Certainly there has been little sense in which the cost of environmental degradation has been perceived by either the government or the community at large to be a responsibility of the private sector. Instead the private sector has been able to rely on public sector provided infrastructure and services to deal with the exponential rise in waste and pollution (Environmental Protection Department, 1995, p.54). There have been some recent developments on this front however, with moves towards a 'polluter pays' approach - with charges being introduced for the disposal of chemical wastes and for those who privately collect waste and dispose of them at landfill sites and a sewerage treatment scheme which charges a levy. This move away from the command and control system is still in the initial stage of development and its impact is largely unknown.

The Tsing Yi Island chemical waste treatment plant has been established where factories have to pay for their waste to be treated.

Private contractors have protested against the landfill charges and forced the government back to the negotiating table by using their trucks to block landfill sites in protest. The imposition of the sewage charge has led to an outcry from industry and restaurants, which are the most affected. To what extent there will be acceptance of this introduction of the 'polluter pays' system remains to be seen.

“Conceptual difficulties aside, the practical task of implementing changes proportional to the extent of pollution is extremely arduous. How can we manage to measure the exact amount of pollutants discharged by every polluter? The other practical problem is to get the powerful industrial and business sector to endorse the principle” (Man, 1993, p. 332).

Enforcement of Existing Regulations

In the past, the operating ethos for regulation of the impact of the private sector upon the environment in Hong Kong has been 'demand driven'.

“According to one government official, this demand approach works quite efficiently: industry proceeds to the point at which public outcry forces it to re-examine its activities” (Kwong, 1990, p.54).

Sanctions for disregarding environmental regulations take the form of fines or revoking of licences. Although some financial disincentives have been set-up within the legislation, the fines in themselves have in the past failed to deter polluters, even in the few cases where the maximum fine has been imposed by the courts (Allen, 1992). The regulators have had a degree of success where some licensing system exists, and the prospect of losing a licence seems to have operated as a deterrent (Kwong, 1990).

The impact of government environmental regulation has been reduced by the fact that many private sector operators have not considered existing penalties for non-compliance as a deterrent when compared with high profit margins (Allen, 1992). The weakness of the 'command and control' style of environmental policy is further exacerbated by the fact that the overwhelming number of businesses in Hong Kong are small businesses. While they are also

the most polluting, there has been a reluctance to impose heavy fines on small operators. Vice Chairman of the Industrial Affairs Committee, Hong Kong General Chamber of Commerce, Mr. A.E. Gazeley, argued that,

“What we are suffering now is due to the non-active policy of the Government in the past and this non-active policy was due to fear of upsetting the economy. There are few laws now which you can really act upon because the only person you can punish is the big industrialist, but he can pay the fine and has the means to buy the equipment and so on. And then you don't enforce the law on the majority of industrialists who are very small and can't pay the fine” (Green Productivity, 1987, p.9).

PRIVATE SECTOR INITIATIVES ON THE ENVIRONMENT

There have been a number of major private sector initiatives on the environment, most notably the establishment of the Private Sector Committee for the Environment and its executive arm the Centre for Environmental Technology. There has also been a notable increase in community-based environmental activities by some multinational organisations and several Hong Kong based companies. Some companies have also started to market themselves by using a 'green' image.

The Private Sector Committee for the Environment

Private sector initiatives on the environment in Hong Kong can be traced back to when Sir William Purves of the Hong Kong and Shanghai Bank, made the most visual and symbolic move - to instigate a clean-up of the floating refuse in Victoria Harbour.

The aim was to demonstrate how efficiently the private sector could tackle a problem that the government had acknowledged as an eyesore for many years but had failed to address adequately. This initial clean-up was the beginning of formally organised private sector initiatives on the environment in Hong Kong.

In 1989, the Private Sector Committee on the Environment was set-up under the 'green' umbrella to influence the private sector decision-makers towards adopting cost saving environmentally friendly technology and practices and also to influence government policy-makers. The Committee is a group of

some of the largest companies in the territory set-up as non-profit organisation. The membership of the Committee is of a community of industrialists and other components of the private sector, including the Hong Kong and Shanghai Bank, China Light and Power, Hutchison Whampoa, Jardine Pacific, The Sino Group, Modern Terminals, Kowloon Motor Bus, Shell Hong Kong. Sponsors of specific projects have come from a diverse representation of industry such as Cathay Pacific, Hotel Nikko, Proctor and Gamble, Uni Lever and Xerox.

The original aim of the Committee was to "sponsor practical projects" in order to demonstrate "the private sector approach to environmental protection" (PSCE, 1992, p.2). The activities of the committee have included funded research such as a feasibility study of the building of a paper recycling mill, establishment of a waste exchange system, and participation in projects to help reduce construction waste. The Committee, which meets every six weeks and is chaired by the Hong Kong Bank, has a government observer, from the Planning Environment and Lands Division and an observer from the Hong Kong Chamber of Commerce.

In 1991 the PSCE set up the Centre for Environmental Technology, "to provide practical advice and assistance to polluting industries on how to clean up" (PSCE, 1992).

The aims of the centre include encouraging businesses to take a pro-active approach to managing their environmental impact. The centre puts this into operation by promoting the favourable business aspects of efficient environmental management. The centre also aims to provide a vehicle to enable the twenty-five larger companies that comprise the Committee to assist the smaller organisations. It provides a free consultancy to small businesses, which gives the centre opportunities to interact with the smaller businesses, which typically do not take a pro-active approach on the environment.

Perhaps the best way to assess the effectiveness of the PSCE initiatives, is to look at its explicit and implicit goals and the degree to which it could be said to have attained those goals.

The explicit goals of the PSCE are:

1. to pool the efforts and resources of a group of leading companies in order to address environmental problems in Hong Kong;
2. to help create a climate of public opinion which will assist government, and where appropriate the private sector, in taking action on environmental issues;

3. to sponsor environmental projects;
4. to explore a private sector approach to environmental issues (PCSE, 1995, p 1).

The Centre for Environmental Technology has been set up to:

1. promote the economic advantages of environmental efficiency;
2. assist companies in conforming to regulations;
3. profit from clean technology;
4. work for a better environment in Hong Kong (PSCE, 1994).

The implicit goals of both organisations are to:

1. improve and maintain private sector image;
2. play a key role in the public environmental debate;
3. influence government policy.

The PSCE has actively promoted the message of economic efficiency and argues that it is possible to increase profit margins through the adoption of more environmentally efficient practices. The rationale that is most often put forward is that those within industry best understand the ways in which to clean up industry.

“Indeed I remain convinced that there is no more powerful force for improving and sustaining our environment than business and industry working through the marketplace. After all, it is business, agriculture and industry that must ultimately meet all the needs of the community. We make the greatest call upon the environmental resources available to us, and we are in the best position to effect changes, provide we can do so in response to changes in the marketplace” (Gray, 1994).

There are examples of successes in this area - for example, a waste exchange scheme is now starting to come into operation. However, to date, the PSCE has had only a limited effect upon the activities of the smaller companies in terms of convincing them towards more environmentally friendly practices, when in fact they are the worst polluters.

The majority of the members involved in the Private Sector Committee are large organisations. While there is an acknowledgement of the need to work with smaller organisations, and that ideally larger organisations would play an educative role, the small organisations have proved difficult to reach. Also, many of the smaller organisations may not share the aims and objectives of the larger organisations.

As far as its implicit goals are concerned the PSCE has been very successful in playing a prominent role in the public environmental debate. It has also had a key role to play in influencing government policy and has maintained its role as an influential, wealthy, well-resourced, well-connected and well-informed lobby group.

One of the ideals behind the setting up of the Centre for Environmental Technology was to work towards facilitating an educational role between larger and smaller companies. This is based on the idea that the larger organisations have the funds and resources for research and development of programmes which could be shared with other smaller businesses in Hong Kong. There is very little incentive for smaller organisations to undertake this kind of innovative work. However, larger organisations have not only got the funds to undertake the work, but also have concern for public image, which could be tarnished and needs to be maintained.

There is not much evidence to date of the development of this ideal educative relationship or of the Centre playing the role of facilitator. While there have been instances of larger companies working with smaller ones the notion of the Centre acting as a facilitator between the large and small companies is still very much an ideal rather than a reality. However, the free environmental consulting service that the Centre for Environmental Technology has provided for small business is being taken up. The Centre also runs a government sponsored multilingual environmental hotline. In the first nine months of operation the centre handled about 200 calls on a variety of topics, mostly centred around environmental regulations. The gazetting of Victoria Harbour as a water control zone was one of the government programmes that was connected to the hotline so that the Centre could be used as an information dissemination channel. The small companies have been the primary callers. There have been some calls from larger organisations, however, they usually have a dedicated environmental manager who can track laws and compliance requirements.

The Centre works quite closely with government when new regulations come in. For example, after the most recent regulations gazetted water control zones the CET dealt mostly with small operators within the electroplating, dyeing, bleaching and printed circuit board industries. The hotline has enabled the centre to get more in touch with the smaller organisations and their problems because it is in direct contact with the operators of small industries such as laundries, restaurants and chemical plants.

One of the major activities of the centre has been to run the Business and the Environment week, as well as coordinating the Governor's Environmental Award for Industry. The Centre also acts as a referral agency, for companies who will perform environmental audits, and for companies that can do technical sampling and testing. Other activities include the development and display of pollution control equipment, the development of a waste exchange scheme, operation of an environmental database base and information dissemination.

Other Private Sector Initiatives

In recent years, regulators such as the Environmental Protection Department and other government departments, the Hong Kong Productivity Council, business and trade groups, as well as the Private Sector Committee, have begun cooperating to lobby and inform industry of the financial benefits of adopting more environmentally efficient procedures and strategies. These include taking new managerial approaches, installing efficient technology, recycling of materials, developing markets for waste, prolonging utilization of raw materials, and undertaking environmental reviews, with the added financial temptation of the establishment of an environmental technology industry based in Hong Kong (Hong Kong Productivity Council, 1992).

These developments have met with some limited success. A number of companies have adopted new management practices, waste disposal systems, and undertaken environmental reviews. By June 1992, 32 Hong Kong companies and 22 multinational corporations operating in the territory had joined with the Hong Kong General Chamber of Commerce and the Private Sector Committee on the Environment in signing the International Chamber of Commerce Business Charter for Sustainable Development. This Charter involves organisations in a commitment towards environmentally friendly

practices, although the extent to which this is symbolic rather than actual has not yet been assessed.

These strategies are largely based on outlining the financial benefits of environmentally friendly practices to industries operating in a competitive market, where decisions are made on the basis of rational pursuit of self-interest - the achievement of economic gain.

“When industry recognises pollution as a cost, they are motivated to make investments in improved products and processes to increase efficiency and hence to reduce the pollution and waste they generate, particularly when there are economic incentives to do so” (Clayton, 1991, p.6).

It would clearly be unusual for any commercial organisation to make a decision in favour of the environment which is economically detrimental. The overwhelming majority of these decisions are made when there are short-term economic gains to be made, far fewer when the prospect of economic gain is long term. Examples of decisions made in favour of the environment may include the decision to cut down on packaging, introduce a waste recycling system, to control emissions, introduce more efficient equipment, or promote the re-use of plastic bags.

Initiatives taken by individual private sector organisations in Hong Kong include introducing in-house management practices, taking action to ameliorate pollutants associated with the main activity of their business, and in some cases, taking part in community educational activities.

The adoption of in-house environmental measures include the setting-up of environmental management systems. In the case of the Swire group, for instance, they have focused on energy efficient buildings, and Cathay Pacific have become involved in environmental auditing as well as educating staff on environmental issues. Members of the textile and fashion industry are discovering that there are environmentally conscious European buyers who want to deal with counterparts who have environmental management systems in place.

There are also companies who have moved to ameliorate pollutants associated with the main business concern of the organisation. In the case of Cathay Pacific, moves to improve the energy efficiency of engines, and in the case of Shell, in their service station design. One exemplary case of a local

individual company is that of a bleaching and dying factory in Tsuen Wan which has tested and promoted new pollution control technology, which not only substantially controls pollutants but also saves on energy.

The past few years have seen the setting-up of educational and other community activities by large organisations such as the Swire group, Body Shop and others. As discussed earlier, in Hong Kong multinational organisations often operate using standards that are above the existing local standards. They often have a global policy covering not only the immediate pollutants, such as waste and emissions from any production facilities, but also policies governing office management, recycling and energy efficiency. Such organisations are also becoming increasingly involved in community education and community environmental projects, such as tree planting and organic gardening.

ANALYSIS

The final section of this chapter seeks to analyze the private sector initiatives on the environment that have been described in the previous section, concentrating on two main areas. Firstly, how these private sector initiatives affect political group dynamics in Hong Kong, and secondly the role played by these initiatives in the context of the close relationship between the Hong Kong Government and the business community.

Political Group Dynamics

The nature of the territory's environmental problems is changing and with it there has been an accompanying shift in perceptions of what constitutes a perceived environmental cost. While Hong Kong's manufacturing base has moved offshore, and with it some of the main water and air polluters, the territory's population is starting to feel the long-term consequences of rapid development without adequate environmental regulation of its industries in the past. This long-term build up of pollution is now combined with an increasing daily load on the environment, which is starting to be perceived to impact upon the quality of daily life, surfacing in reports of health problems as well as issues affecting leisure activities. As a result there has been more pressure from community groups seeking controls over those organisations responsible for environmental degradation.

Green Groups and Private Sector Initiatives on the Environment

Concern has been expressed by green groups as to the genuine nature of some of the 'green' values that some private sector organisations have espoused (Jenkins, 1994). Some green groups have also queried whether the presence of groups, such as the Private Sector Committee on the Environment as well as the Environmental Campaign Committee, has resulted in the role of the green groups becoming sidelined.¹

When funds are made available for any community environmental project they are most likely to be dealt with through the Environmental Campaign Committee, and the projects designed and implemented as the Committees see fit. This results in less funds being directly donated to the green groups themselves, and less direct input from green groups in such projects. According to one senior environmentalist in Hong Kong,

“...the agenda is becoming more and more something that is being set for us either by government, which we have become more used to in the past, but increasingly now by the companies from within the private sector community itself.”²

Green groups also perceive that large multinational companies are beginning to move into the educational role that the green groups had begun to reserve for themselves.

Increasingly it is a company organisation that is

“organising to visit schools, or providing environmental literature, or planting trees.”³

Funds for such literature and school material are always limited. While welcoming some aspects, green groups are being cautious about the new "greening" of business in Hong Kong.

¹ Interview with senior environmental leader in Hong Kong, June 1994

² Interview conducted with senior environmentalist, January 1995.

³ Ibid

“... business' creating of the Private Sector Committee on the Environment to set its own environmental agenda and the Centre for Environmental Technology to implement its own priorities shows how easy it is to have the Green Groups sidelined when it comes to matters of investment in environmental protection” (Man, 1993, p.338).

Business groups have invested large amounts in environmental education and in some cases have worked with environmental groups on projects. However, the green movement has disparate goals, including, for example, alternative definitions of development such as 'sustainable development' which are not closely linked with rapid economic growth and business expansion.

Membership of the Committee is taken from private sector businesses. It can therefore be argued that those most affected by the pollution and the environmental degradation generated by the activities of the private sector, the public, and in particular the poorer sections of the community, are not represented within the group, have nothing to do with it, and are not educated about it.

The rapid development of hitherto untouched regions of the New Territories most often accelerated by alliances between developers and villagers has resulted in green groups having to rethink their strategies. In opposing developers, for example, they may find themselves also opposing local villagers who wish development to proceed. As a result the green groups have been led to considering forming some kind of relationship with the developers themselves, as was the case in Nam Sang Wai where green groups formed a contract with Henderson Land Development to work as advisers on the project. Many members of green groups believed that this compromised their image within the community (Hung, 1995).

The Relationship between Government and Business

In their analysis of the role of capital, state and labour in environmental problems Schnaiberg and Gould (1994) state that the role of the individual economic organisation must not be underestimated. Their analysis is based on the premise that most of the decisions that are made affecting the environment are made by managers in the private sector.

The authors examine how governments operate where there are high and low levels of regulation against environmental degradation, and the extent to which private sector interests are undermined or protected under such circumstances.

Several different models are put forward for interpreting the strategies of governments which introduce environmental regulations. Essentially the models differ from each other in the degrees of cooperation that government gives to what is termed, 'the powers behind the treadmills of production,' that is, the network of regional, national and international economic organisations that is linked to governments at all levels.

Firstly, there is the model that assumes that a government that has a high level of environmental regulation is motivated to protect the environment because of its own social visions. In this model government is seen as "an ally of the environmentalists, seeking to impose limits on investment and managerial behaviour" (p.55).

Secondly, the government can be seen as a reluctant actor in environmental protection and regulation. The government must be seen to be doing something to appease groups which express concern over environmental issues. Whether government is actually doing something "depends upon the political strength of the pressure groups, the speed of the treadmill and the political action of the supporters of the treadmill" (p.55).

A more extreme model sees government as allies of the investors and of the main forces behind the treadmill. A less extreme version portrays government actors who want economic expansion but at the same time also want to protect the environment. In this situation government is either ambivalent or becomes sandwiched between the pressure groups and the economic organisations, and ends up acting as a broker between them;

"Government is also ambivalent about environmental regulation since it desires expansion of the treadmill in order to enhance its budgets and scope of power. Sometimes government manipulates environmentalists by engaging in sham regulation and at other times it seeks genuine regulation of production to protect the environment. But even in the latter case it faces staunch resistance by collective and individual actions of individuals and managers. They seek to reduce the

environmentalists' perceptions of the severity of environmental problems. When this effort fails, they limit the actions of regulatory agencies" (p.65).

Whichever model is used the outcome is legislation and the setting-up of administrative bodies which become part of the operating context for the economic actors. This context defines the 'transaction costs', that is, the minimum cost of all the activities that the organisation is required to do to carry on business, with the minimum adherence to environmental regulations.

These transactional costs incorporate not only the cost of complying with regulations but also the costs of resisting regulatory expansion at the political level;

"Such political activity can include that with the aim of making sure that new legislation is never proposed. That is, persuading politicians that regulation is uneconomic and unfair, and that the environmental problems the regulations are designed to avoid are unavoidable anyway" (p.66).

So where might Hong Kong fit among these models? Despite a history of poor enforcement Hong Kong has a fairly high level of environmental regulation when compared to some other Asian countries in the region, such as Thailand and the Philippines, but a lower level of regulation than Singapore and Australia. It has an objectively elitist government which in the past has seemed to share the distaste of the territory's industrial sector for any environmental regulation that actually impinges upon economic development, and a history of poor enforcement.

The Hong Kong Government has as its constituencies both major groups of the treadmill interests. Economic growth has obvious benefits for the work force, the private sector and the government and the environmental regulations that have been accepted have tended in the past to be those that will not have any real impact upon the economic actors. The treadmill of production in Hong Kong, operating within a free market system, together with the political uncertainty emanating from the handover to Chinese rule in 1997, produces a situation where the Hong Kong government has been reluctant to give priority to environmental issues. It has also been reluctant to adequately enforce existing

regulations. Indeed, in many cases private sector organisations have counted the cost of fines for breaking regulations as part of their business costs for projects.

The Impact of Private Sector Initiatives on the Environment

While some multinational and large Hong Kong organisations have become involved in community environmental educational activities, there is very little information available on the success of these educational initiatives. It is known, however, that multinational green agendas have been developed elsewhere, for different communities and different cultures. In many cases they have been shaped for consumer conscious markets - and there is still little evidence that green consumerism is developing to any significant extent in Hong Kong. But allocations of budgets for 'green initiatives' have to be spent; and so too must those for environmental education.

The role of the larger organisations in taking environmental initiatives has become more entrenched in Hong Kong, moving beyond the ambit of the organisations' own practices and management and into environmental education. This is easier for the multinationals, which are often only implementing their own global environmental standards, with funding and management systems already in place.

The Private Sector Committee on the Environment has succeeded in bringing together a group of leading companies to draw attention to issues of environmental degradation in Hong Kong. It has sponsored many environmental projects and sought to promote the private sector approach to the environment over the public sector approach.

Many of those activities that it has initiated and conducted through the Centre of Environmental Technology have resulted in the dissemination of information, particularly about regulatory requirements and the promotion of clean technology. The Private Sector Committee for the Environment has actively promoted the message of adherence to regulations, and economic efficiency. One of the Centre for Environmental Technology's major functions has been, through consultancy, to act as a quasi-implementation arm of government. For the most part its role has been to assist some smaller companies to learn about changes in legislation, and to promote the use of more environmentally efficient equipment.

There can be little doubt that in a society where government is keen to give priority to economic growth and has a history of giving low priority to

environmental matters the private sector image has been maintained and enhanced by the presence of the Private Sector Committee for the Environment, and by the various community educational activities that members of the committee and other organisations have initiated.

The fact that the initiative to set up an organisation such as the Private Sector Committee came from within the industrial and commercial sectors could also be seen to defuse situations where lobby groups and legislators may become keen to see the private sector take on more of their share of responsibility for environmental degradation. However the private sector group formed under the 'green umbrella,' still does not seem to have a well defined identity within the community. Perhaps this lack of identity finds its roots in the inherent conflict between the role of the private sector as the economic engine generating environmental degradation, the role of the Committee as an influential lobby group, and its role as a non-profit-making group attempting to influence other members of the community towards changing environmental practices.

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Chapter XIV

Environmental Education: Strategies and Roles of Children and Youth Services Units

Yu-Cheung Wong and Wing-Hoi Lai

INTRODUCTION

The causes of our environmental problems are complex. In short, the emphasis on quantitative growth (economic) at the expense of qualitative development (ecological), the failure of our economy to provide full accounting for the social costs of environmental pollution, the failure to take environmental factors into account as a normal and necessary part of our planning and decision making, our dependence on convenience, without regard for its impact on the environment; and more fundamentally, our failure to perceive the environment as a totality, and to understand and to recognize the fundamental interdependence of all its parts, including human beings themselves; all these are important factors that lead to the environmental deterioration that we face today.

The quality of the environment has a close relationship with our quality of life and the sustainability of our economic and social development not only affects us in the present but also future generations. It is a matter of urgency to not only properly handle solid and toxic waste, but also to educate the public to be conscious of the impact of their life-style on the environment.

In recent years, the Environment Protection Department (EPD) and various environmental non-government organizations (NGOs) have been introducing environmental educational programmes, promoting green life-styles and taking action to influence government policies in promoting a sustainable environment. In the arena of environmental education, NGOs in the welfare field, particularly those in close contact with youths and the community, have also actively joined in the effort of promoting environmental education, mainly by means of community involvement programmes. In this paper, we discuss the importance and framework of promoting environmental education and examine the involvement of children and youth (C&Y) service units of the welfare NGOs in this aspect, and suggest strategies to enhance the effort.

ENVIRONMENTAL EDUCATION - ITS MEANING AND SIGNIFICANCE

The ultimate aim of education is to shape human behaviour. Education can be carried out in a formal setting or through informal channels. The main purpose of environmental education is to produce responsible citizenship behaviour, and to help people understand that living things are interdependent with one another and their environment, so that our environment and culture might be preserved for future generations.

A citizen with environmentally responsible behaviour is one who has:

- (i) an awareness and sensitivity to the total environment and its allied problems/issues;
- (ii) a basic understanding of the environment and its allied problems/issues;
- (iii) feelings of concern for the environment and motivation for actively participating in environmental improvement and protection;
- (iv) skills for identifying and solving environmental problems/issues; and
- (v) active participation at all levels in working toward the resolution of environmental problems/issues.

Environmental education activities should be able to develop these qualities among citizens. Compared with Western countries, environmental education in Hong Kong only started to take shape in recent years. It was not until the late 1980s that more resources and expertise were allocated to environmental education activities. Most of these endeavours targeted children and young people. If these education activities could be carried out in the formal school system, it would definitely create a significant impact on future generations. However, after much debate, the government decided that environmental knowledge would not be taught as an independent subject in the school system. Instead, messages on environmental protection are claimed to be scattered around in different subjects such as biology, geography and economics. Extra-curricular activities play a supplementary role to enhance students' environmental consciousness. Subsequently, the NGOs have taken up a more active role in environmental education through informal and voluntary channels.

THE IMPORTANCE OF PUBLIC PARTICIPATION IN SOCIAL/ COMMUNITY EDUCATION

The success of our effort in promoting a sustainable environment relies also on the awareness of the local community about concepts of citizenship

rights and obligations. Citizens enjoy a certain reciprocity of rights against, and duties towards, the community. As a citizen, each person should have the right to enjoy free goods and services provided by the government. In return, one has the obligation to protect one's living environment. Without the extensive involvement of our citizens in their daily community lives, the hope of maintaining a sustainable environment for future generations would be in vain. Hence, environmental education is also a process to create citizen consciousness and should be directed to members of the society and should be able to provide channels for them to practice environmentally-conscious behaviour in their daily community lives.

Effective social and community education which help to bring about responsible citizenship behaviour can be divided into three levels, namely :

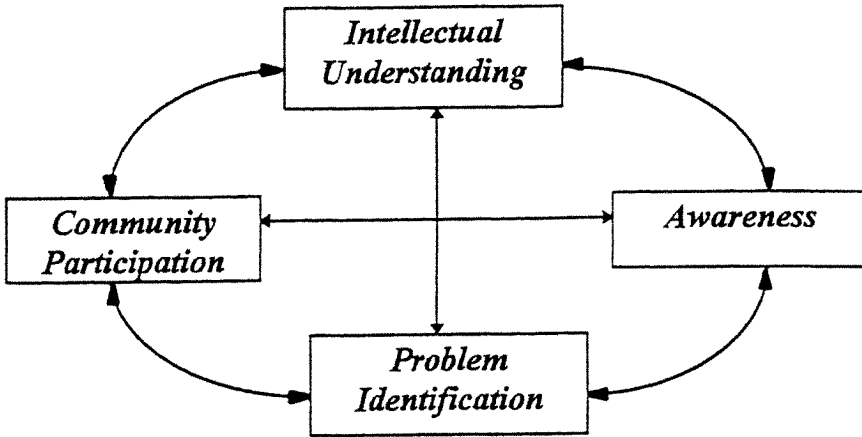
1. care for oneself and one's relationship with nature as well as with the living environment, and understanding of one's role in, and responsibilities towards, society;
2. care for others and the groups which one has joined; and
3. care for the contemporary situation and social policies.

These three levels interlock with one another and are subject to mutual influences. One can start from the first level and extend to the third, or vice versa.

The process of education passes through different stages, such as intellectual understanding, awareness, identification and participation. No matter at which stage one has started with, an effective learning process should incorporate the other stages.

The following is a diagram illustrating how a person can enter into the cycle of community/social education.

Figure 1: Cycle of Community/Social Education



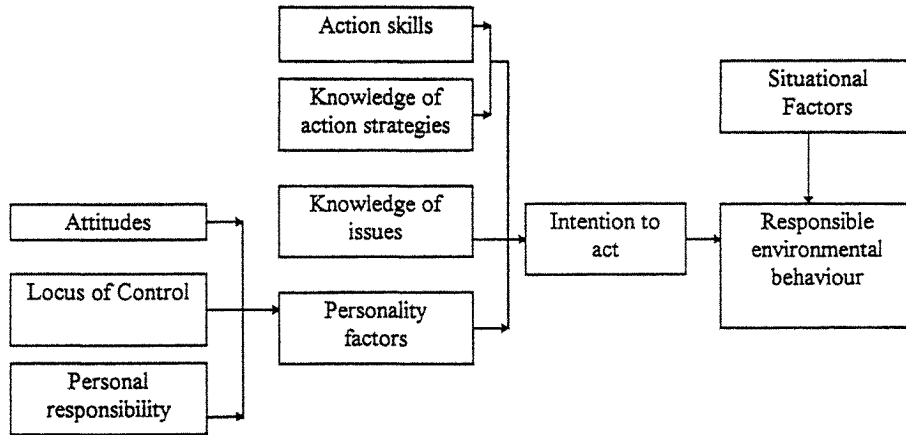
FACTORS AFFECTING THE EFFECTIVENESS OF ENVIRONMENTAL EDUCATION

In 1987, Hines *et al* published an important meta-analysis of the behaviour research literature in environmental education. The researchers analyzed 128 studies which had been reported since 1971. These studies assessed variables in association with responsible environmental behaviour and which reported empirical data on this relationship. In the end, fifteen separate variables were meta-analyzed in an effort to determine the strength of their association with responsible environmental behaviour.

A model of responsible environmental behaviour developed by Hines (1987) is shown in Figure 2.

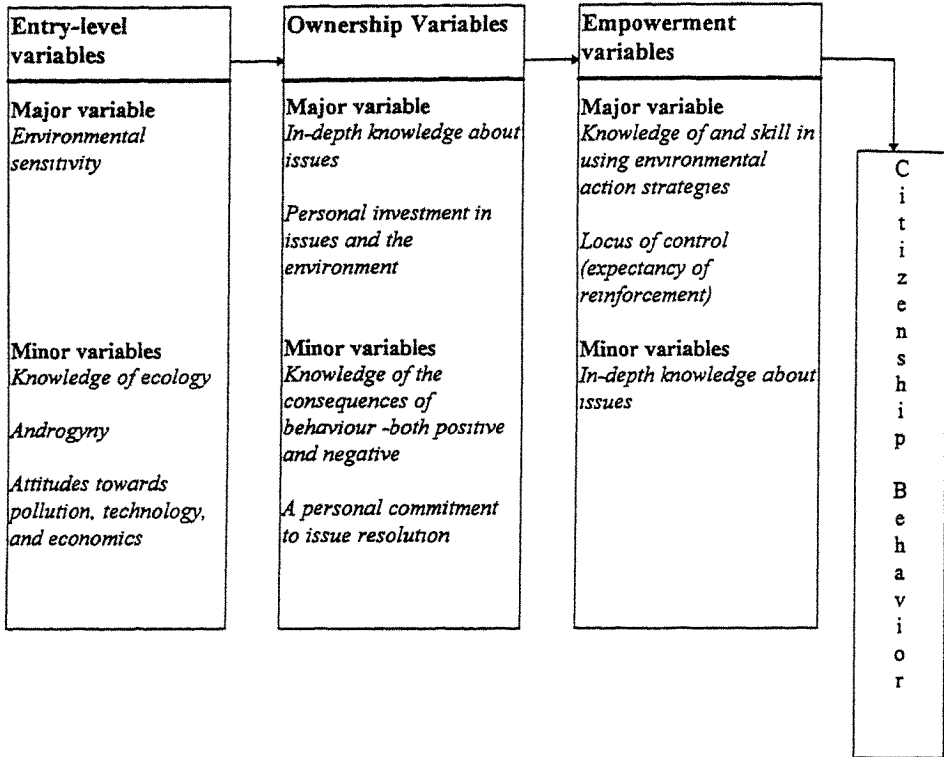
Subsequent to Hines *et al*, (1987), a number of other researchers have made substantial contributions to the literature on behaviour (Borden, 1984-85; Borden and Powell, 1983; Holt, 1988; Koslowsky *et al*, 1988; Marcinkowski, 1990; Ramsey, 1989; Sia *et al*, 1985-86; Simpson, 1989; Sivek, 1989). Some of this research focused on the precursors (predictors) of behaviour and some of it on the outcomes observed from instructional strategies which incorporated a number of the variables from the Hines *et al*, (1987) model.

Figure 2: A Model of Developing Responsible Environmental Behaviour



These studies revealed that there are probably three categories of variables that contribute to behaviour. The variable categories (entry-level variables, ownership variables, empowerment variables) are hypothesized to act in a more or less linear fashion, but complex one. These variables are displayed in the behaviour flow chart (Figure 3).

Figure 3: Behaviour Flow Chart - Major and Minor Variables Involved in Environmental Citizenship Behaviour



ENTRY-LEVEL VARIABLES

Entry-level variables are good predictors of behaviour or those that appear to be related to responsible citizenship behaviour. These appear to be prerequisite variables that would enhance a person's decision-making, once an action is undertaken.

Environmental Sensitivity

It is an empathetic perspective towards the environment. When a piece of information is released, the respondents will quickly and easily form their sympathetic impressions.

Ecological Concepts

It refers to knowledge of ecology. An ecological perspective or paradigm provides a set of assumptions that serve as ideals rather than ideology. It exists as phrases - harmony with nature, diversity gives stability, nature knows best, limits to growth - rather than programmes, beliefs rather than systematic theory. Ecology is concerned with social precepts for ensuring the preservation of wilderness and species. The ecological consciousness emerges as a critique of the modern industrial state and its destruction of the natural environment.

OWNERSHIP VARIABLES

Ownership variables are those that turn environmental issues into personal issues. The individual 'owns' the issue, i.e. the issues are extremely important, at a personal level, to him/her.

Knowledge of Issues

Before individuals can engage in responsible citizenship behaviour, they have to understand the nature of the issue and its ecological and human implications. When individuals develop an in-depth understanding of issues, they appear more inclined to take on citizenship responsibility towards those issues.

Beliefs and Values

It is an abstract, generalized principle of behaviour to which a person feels strongly to commit oneself. When an individual identifies strongly with an issue, he will invest his/her resources to help solve the issue.

EMPOWERMENT VARIABLES

Empowerment variables provide human beings with a sense that they can make changes and help resolve important environmental issues.

Locus of Control

This refers to an individual's belief in being reinforced for a certain behaviour. A person with an "internal locus of control" expects that he/she will experience success or somehow be reinforced to do something. Success, in turn, appears to strengthen his/her internal locus of control. On the other hand, a person with an "external locus of control" does not believe that he/she will be reinforced to do something and, therefore, probably will not engage in related activities.

Knowledge of Environmental Action Strategy

Knowing the ways and strategy to tackle environmental problems will increase one's capacity to take action. People who have knowledge about lobbying, campaigning and an in-depth understanding on issue-related problems will probably increase his/her confidence to work through the problem.

Perceived Skills in Using Environmental Action Strategies

Perceived skills in using action strategies can be translated as human beings believing that they have the 'power' to use their citizenship strategies to help resolve issues. Training in action skills will help to improve one's own self concepts and enhance one's self confidence.

The variables introduced are useful for organizing programmes or training activities with a theme of environmental protection. Like grassroots organizing work in community development service, empowerment work is particularly important in reinforcing the belief and maintaining the adopted new behaviour pattern.

Understanding the relationship between knowledge and behaviour, and the variables that can help to bring about changes in behaviour is very important to our analysis on the educational strategies employed.

EFFECT OF ENVIRONMENTAL EDUCATION IN THE LOCAL COMMUNITY

Though environmental protection was perceived as the second most serious social problem in Hong Kong (Wong, 1991:25), it was ranked only fifth among the public's concern (EPD, 1992). The general public was still reluctant

to adopt more environmentally friendly ways of living (Hong Kong Environmental Centre, 1992). A survey commissioned by the ECC in 1995 also indicated that only 13.4% of the respondents have participated in some kind of environmental activities, which was almost the same as that of two years earlier (Social Science Research Centre, 1995).

Despite the strenuous efforts made by many green groups, youth centres, community centres and the Environmental Campaign Committee (ECC), the general public gave little support to their attempt to practice environmental friendly actions. Lack of information or inadequate channels could be the reasons. However, the awareness of environmental problems was on the rise. This increasing awareness seemed to be a natural outcome of visible environmental deterioration, the active involvement of green organizations, the reports in the mass media, and the accelerating commitment of the government to tackle environmental problems over the past few years (Wong, 1991:27).

It was also found that the younger and better educated people are more receptive to changing their life-style to a more environmental friendly form. Thus, targeting environmental education activities towards the younger generation should be more efficient in inducing environmentally responsible citizen behaviour.

Environmental education definitely has significant contributions to make to the formation of a pro-environment attitude. To a certain extent, the government was successful in its promotional programmes. Such success, however, was limited to the cognitive dimension, with little pro-environmental action generated as indicated by the survey. People in Hong Kong still did not feel that they have a personal commitment and the power to make changes and help resolve important environmental issues. According to a survey commissioned by the Environmental Campaign Committee, 98.4% of the respondents agreed that individuals had a responsibility to protect the environment, but one third of them did nothing to protect the environment (ECC, 1993). More emphasis should therefore be put on empowerment work, and action-oriented education programmes and syllabi should include action plans so that both young people and adults are exposed both to the visions and means of environmental protection.

THE INVOLVEMENT OF CHILDREN AND YOUTH SERVICES UNITS IN ENVIRONMENTAL EDUCATION

Scope and Role of the Service Units in Environmental Education

Environmental education is regarded by most social workers as an integral part of civic education. In the late 1980s, with the aid of the mass media, environmental education activities became one of the favoured programmes amongst children and youth centres. A government report indicated that a total of 245 environmentally-related activities were organized between January 1989 and March 1991 by various NGOs. About 60% of these activities were organized by the children and youth (C&Y) centres/community centres (EPD, 1991).

Existing community centres and children and/or youth centres, have organized environmental education activities for children and youth in the community. In some cases, families have also been mobilized to take part in these environmental education activities.

Though social workers serving the young people have faced great obstacles in persuading their members to live a life-style which may contradict the fast tempo, consumption-oriented urban life, at least the environmental education activities served as a starting point to help young people to rethink their present life-style (Chan, 1991).

For some service units, environmentally-related activities serve as a starting point for entering into higher levels of civic education. Civic education directed towards political, legal and human rights concepts are sensitive, and far removed from the daily experience of young people. Environmental education is much easier to understand and, most importantly of all, offers opportunities for direct involvement and practice.

Since C&Y service units are planned with reference to the population size (one for every 20,000-30,000 people), they are in close contact with members in their residential community. Many service units are also able to develop co-operative links with local organizations (for example, mutual aid committees) and structures (for example, district board, area committee). These links and contacts in the community are important assets for promoting environmental education with opportunities for practice and community involvement. The education activities as well as the community involvement programmes can be creatively designed to meet the concerns of the community. The involvement of local community and youth members in the design process

enhances the sense of 'ownership' towards the environmental problems they try to tackle.

CHARACTERISTICS OF ENVIRONMENT ACTIVITIES IN C&Y CENTRES

There are no official statistics on environment-related programmes organized by local welfare NGOs. However, there are some data on the projects sponsored by two local funding bodies, namely the Environment and Conservation Fund (ECF) via the quasi-governmental Environmental Campaign Committee (ECC) and the commercial Caltex Green Fund (which has since ceased to operate). These two local funding sources which have sponsored environmental educational programmes and campaigns are well-known among the environment concern groups. The programmes sponsored represent the current priorities and typical programmes organized by local subvented welfare agencies.

Other popular local funding sources include District Boards, Summer Youth programmes and other commercial funding sources, such as the Shell Better Environment Awards Scheme.

The ECF sponsored 66 programmes during the period between September 1994 and July 1995. Over half (34) of the programmes were organized by 17 local subvented welfare agencies. Altogether 26 services units (mainly children and/or youth services, community centres) of these agencies were sponsored.

The Caltex Green Fund, operated by a commercial petroleum provider, started sponsoring environmental protection related programmes in April, 1991. Up to July 28, 1995, the Fund sponsored 143 programmes. Among them, 46 (32.2%) were organized by local subvented welfare agencies. 15 agencies and a total 26 services units of these agencies organized the sponsored programmes (Table 1).

The other sponsored organizations are secondary schools, clubs and societies of secondary schools and tertiary institutions, green groups, grassroots organizations, etc.

A closer look at the programmes organized by the C&Y service units and community centres revealed that the majority consisted of community involvement activities. These activities included carnivals, recycling campaigns, various competitions with themes related to environmental issues, community

/breach cleaning programmes, tree-planting activities, exchange of second hand goods, etc.

Table 1: Projects Sponsored by ECF and Caltex Green Fund

	ECF (September 1994 - July 1995)	Caltex Green (as at July 28, 1995)
No. of Projects	34 (66)	46 (143)
No. of Agencies	17	15
No. of Centres/Units	26	26
Program		
Farming	8	6
Picnic/Camp/Visit	19	7
Training/Talks/Group	11	15
Exhibition	6	5
Survey/Publication	3	2
Community Program	22	24

Education in environmental activities, such as organic farming, green picnics/camps, visits to organic farms and Mai Po, are also popular. Furthermore, these centres organized training programmes which were mainly conducted through a group platform. Through such training, participants were formed into small volunteer groups and encouraged to implement environmental campaigns in the community.

The common characteristics of the programmes are that they are practical, experiential, and community-based, with an emphasis on community involvement, aimed at volunteer group building, and making use of existing resources (such as organic farms).

We do not have information with which to evaluate the programmes. Hence, we do not know to what extent participants have gained an understanding and knowledge of environmental issues. We also do not have information on how well the participants gain 'ownership' of the issues. Since the programmes do not relate to advocacy actions in influencing government policy, we would suppose that those activities would not involve the manipulation of empowerment variables.

However, based on the programme content, we find that they are a good platform for social workers to disseminate related knowledge and information to the young people taking part in their activities.

LIMITATIONS OF THE C&Y CENTRES IN PROMOTING ENVIRONMENTAL EDUCATION

The implementation of environmental education activities depends very much on the ability and motivation of individual workers in each service unit. The ability of the workers not only involves their knowledge and personal commitment to environmental issues, but also his/her ability in mobilizing community networks and resources for programme implementation. Although C&Y services units are in a better position to enhance community involvement, they have limitations of their own to overcome. Some of the limitations are:

Priorities

The major concern of C&Y centres is social/interpersonal development of young people. On the other hand, the community centre focus on enhancing community participation and solving community problems. Environmental education or issues are seldom accorded a very high priority. In most service units, only a very limited amount of staff resources are allocated to environmental activities.

Social/Community Climate

The welfare agencies have to respond to people with a wide spectrum of needs. When the society does not have a strong climate or concern over environmental issues, the number of people attracted to such programmes will be limited. For many welfare NGOs with multiple centres, the more dominant social climate or agenda would have been translated into centralized themes or efforts in which individual service units would have to allocate more resources. For example, in recent years, the concern over poverty in Hong Kong and education of poor children from China are popular themes.

High Staff Turnover Rate

C&Y services are one of the services in the welfare field which suffers from a high front-line staff turnover rate. Subsequently, the services in the related units are administered by a relatively young crew of front-line staff members. It is difficult to accumulate knowledge and experience in promoting

educational programmes for which social workers are not specifically trained, in high turnover situations.

Training and Retraining Issues

As a corollary to the previous point, training or retraining of social workers in facing the diverse needs of clients in the front-line services, particularly in relation to the various educational programmes which the society deems important, such as civic education, sex education and environmental education, etc. are very important. Without systematic training, the amount of activities, as well as their effectiveness, rely very much on the interest and knowledge of an individual worker. As a result, workers might not be able to serve as good role models or resource persons in the educational programme, let alone moving the scene of environmental education forward.

THE STRATEGY OF COMMUNITY EDUCATION: A SUGGESTION

The establishment of green groups and organizations has successfully started the environmental protection and green movement in Hong Kong. The continuation and sustainability of the movement depends on the ability of these green organizations to educate and mobilize the general public to pay more attention to the environment, and take environmental friendly action to protect it.

There are many ways to enhance environmental education at the community level. The following are some recommendations:

Individual and Group Level Strategy

Experiential Learning

Experiential learning emphasizes personal experience and reflection of their experiences. People learn best when they are actively involved in determining what, how and when they learn.

When persons get involved in environmental protection activities, such as organic farming, paper recycling and practice green cookery, they are more conscious of their own behaviour. This would help to shape people's habits and behaviour. When more people make an effort to conserve the environment and are willing to consume less, the environment could become more healthy and comfortable for us to live in.

Forum

This strategy is particularly useful among the better educated members. They like sharing information with each other and can discuss environmental issue from broader and more conceptual perspectives. They believe that value change is a prerequisite and that we should put more effort into it if we wish to be successful in environmental protection.

One C&Y Centre located in the Central District has organized a Green Talk programme for five years. The programme was organized in close co-operation with a local green organization and well known figures. With the support, network and expertise, it provides a very useful platform for promulgating environmentally-related concepts and values . The presence of the green group opens a resource channel for the community and youth members to further pursue and strengthen their interest in green concepts and life-styles.

Community Level Strategy

Campaigns

Campaigns are a very useful strategy to arouse peoples' concern about a certain message. In the process of launching the campaign, large-scale mobilization has to be carried out. The message delivered should be clear and brief. Making use of the mass media and the involvement of grassroots organizations are necessary if the campaign is to be carried out successfully. Of course, issues should be of immediate concern and of common interest to the people. Numerous campaigns have been launched over the past few years. A Waste Recycling Campaign received the most favorable feedback because it is much easier for the general public to follow. However, using fewer plastic bags was a more difficult case.

Environmental issues in local communities provide a good opportunity for educating the public to understand how the commercial sector exploits the natural environment. However, campaign organizers often fail to bring up issues which will reinforce individuals to take more responsibility in tackling environmental problems that affect the local community. Emphasis is usually put on the task accomplishment, like moving an oil storage depot away from residential areas.

Survey & Research

Doing research and conducting surveys will generate new information. For example, researching the impact of global warming on local climates.

People could then make use of this information to consider precautionary measures. If further action is needed, they could publicize the survey findings and press the government and the public to find ways of tackling the problems.

Social Action

The major goal of social action is to uphold social justice and defend the interests of the disadvantaged groups. The shifting of power relationships and resources would help to bring about positive changes in society. The action against the establishment of a nuclear power plant in Daya Bay and the campaign for the removal of an oil plant in Tsing Yi Island to a sparsely populated area, and the concern for the Shing Mun River in Shatin are examples of social action.

Most of the present education activities promoted by the Children and Youth service units focus mainly on the awareness level. Very few of them incorporate serious attempts to develop ownership and empowerment in their participants. These strategies could hopefully provide some more dimensions in inducing environmentally responsible citizen behaviour.

The effectiveness of promoting environmental education at the community level also relies on long-term strategies at the societal level such as training of teachers on environmental issues, systems for public access to environmental information, mechanisms for eco-labelling, advocating the polluter-pays-principle, and various energy saving strategies. These long-term strategies are beyond the ability of the welfare NGOs, and have to be enhanced by the government and other environmental NGOs to create a positive and reinforcing climate for promoting education at the community level.

CONCLUSION

The Hines model on environmental education has directed our attention to the importance of the ownership and empowerment variables in promoting environmentally responsible citizens. Furthermore, the importance of the involvement and experience in promoting environmental education at the community level has also be emphasized. We find that the C&Y services units, despite their limitations, have a unique role and strength in promoting environmental education at the community level. Some services units have already been making use of their community networks and resources in pursuing this effort. We hope that these strategies, which involve campaigns, community

and social actions could make our efforts more effective in promoting environmentally responsible citizens.

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Chapter XV

Community Mobilization and the Environment: A Changing Context

Peter Hills and Cecilia Chan

INTRODUCTION

The 1990s have been a particularly significant decade in Hong Kong's history. Clearly, the return of Hong Kong to China on 1 July 1997, and the establishment of the new Hong Kong Special Administrative Region, have dominated both local and international coverage of developments in the territory. But the 1990s will also be remembered for other things. It will be remembered for the years of the Patten administration, and the highly controversial political reforms introduced in the face of intense opposition from the Chinese Government. It will be remembered for spiralling asset inflation, which, among other things, effectively placed home ownership out of the reach of many thousands of families. It will be remembered for rapid increases in real incomes for those fortunate enough to be employed in the growth sectors of a rapidly restructuring economy. On the other hand, others will see it as a decade during which many of the contradictions inherent in Hong Kong's distinctive approach to doing business, and managing social development issues, were ruthlessly exposed. A society awash with wealth, but increasingly unequal. A society in which accidents more typical of developing countries with far lower income levels and levels of technical expertise happened on an almost monthly basis. A society in which one could pay a small fortune for a flat but be unable to enjoy the view because of increasingly severe air pollution, or swim at a nearby beach because of grossly polluted water.

Hong Kong has always been a contradiction in many ways, and, in a political sense, the 'one country, two systems' model has served to reinforce this. The model is a pragmatic response to a particular set of politico-economic considerations for which there was probably no other solution that would have ensured Hong Kong's long term prospects. However, it is a model that primarily addresses the need to preserve the new SAR's economic identity and fortunes within a greater China. The pre-eminence of economic over political

considerations has already brought with it significant changes in Hong Kong's system of government, and, inevitably, has changed the nature of the relationship between different groups within the community. It can be argued, of course, that a so-called 'business friendly' administration need not necessarily be insensitive to community needs. It is far too early to determine whether this will be the case with the new SAR administration. It will, however, have to maintain effective channels of communication with all groups in the community if it is to be responsive to the needs of society as a whole. Furthermore, it must show a willingness to mobilize resources to tackle the genuine concerns of the community.

But what of the future as far as the Hong Kong environment is concerned? And what of the role of community mobilization efforts to address environmental concerns?

THE ENVIRONMENT

There is an extensive literature - from government sources, academics, green groups, and others - documenting the changes that have occurred in the local environment over the past 20 years. For the most part, this paints a rather mixed picture. Declining environmental quality first became of source of growing concern in the late 1960s and the 1970s, and was primarily associated with rapid population growth and the industrialization of Hong Kong, coupled with an almost total failure on the part of the colonial government of the time to ensure that as the territory developed, it did so with a suitable framework of environmental policies and laws. For many years, it seemed that government, and indeed much of the community, regarded declining environmental quality as a natural concomitant of economic growth. This is not a distinctive Hong Kong failing - it appears to have been much in evidence elsewhere in the world.

It was not until 1980 that the first major pieces of environmental legislation were enacted, namely, the Water Pollution Control Ordinance and the Waste Disposal Ordinance. The Air Pollution Control Ordinance followed in 1982, and the Noise Control Ordinance in 1988. The final substantial law, the Environmental Impact Assessment Ordinance, was eventually enacted in February 1997 after years of delay. Despite these laws, and the existence of an Environmental Protection Department that has grown more rapidly than virtually any other government department, the Hong Kong environment remains under considerable stress. Marine waters are badly polluted as a result of the

discharge of untreated sewage and industrial wastewater, air quality appears to be deteriorating, particularly with regard to emissions of particulates from diesel vehicles, noise pollution remains extensive and severe, affecting the lives of hundreds of thousands of people, and the solid waste disposal problem is becoming more acute as Hong Kong strategic landfill sites fill up at a much faster rate than previously anticipated (Barron, 1996; Hills, 1997; Hills and Barron, 1997; Hung, 1994).

There have, of course, been some environmental success stories. The older power stations located in the urban areas have largely disappeared, in favour of very large, modern generating plants on the territory's western margins. Controls on sulphur content of fuel oil have produced a substantial reduction in emissions of sulphur dioxide. Controls on livestock wastes have dramatically improved the water quality in many of Hong Kong's small rivers and streams. The opening of the new airport at Chek Lap Kok in mid-1998 will certainly improve the noise situation for the 380,000 people affected by the existing Kai Tak Airport.

Some of these successes certainly reflect initiatives by government but some reflect the impact, to varying degrees, of other considerations that were not necessarily driven by environmental concerns. The power companies, for example, have enjoyed substantial economies of scale by concentrating generating capacity in fewer, much larger plants. Economic restructuring has substantially reduced the number of manufacturing companies, which has in turn reduced the power of the industrial lobby, and, though this is not easy to verify, perhaps the actual scale of the pollution attributable to industry. This lobby effectively contested much of the key environmental legislation introduced in the 1980s, perhaps the best example being the Water Pollution Control Ordinance. Clearly, a sizeable number of industrial firms continue to operate in Hong Kong and, interestingly, some of those that remain are among the most serious potential polluters (e.g., bleaching and dyeing). They remain here for special reasons such as quota allocations.

Many firms have, however, relocated to China, especially Guangdong Province, attracted there by far lower wage and land costs. This factor, which has made a major contribution to the rapid and very substantial economic growth experienced by the Pearl River Delta Region, has had its downside for Hong Kong in the form of cross-border air and water pollution (Hills, Zhang and Liu, 1997; Liu, Hills and Barron, 1996). This is an issue that has only

recently attracted much attention in Hong Kong, and the new SAR government, like the previous colonial government, appears to treat the matter cautiously, being wary of commenting on the possible scale or implications of the problem. It is perhaps ironic that while the 'one country, two systems' model may serve Hong Kong well from an economic and political perspective, the environment recognizes no such distinctions. Indeed, the irony is heightened by the fact that the model may actually make it more difficult for Hong Kong and Mainland authorities to collaborate effectively on environmental issues, at least over the medium term. This is because from both sides' viewpoints, it is imperative that the model be seen to be robust. Thus, it would be difficult for Hong Kong to launch policy initiatives or commit financial resources, internally or in other provinces, in ways that might encourage or reflect significant Mainland influence. To do so, might be seen as undermining Hong Kong's high degree of autonomy under the 'one country, two systems' model.

The post-colonial 'environmental agenda', while superficially similar in many respects to the concerns facing Hong Kong in the years before 1997, is, however, likely to be subject to some different influences and, possibly, to different emphases (Hills, 1997). The extent to which the new SAR is 'business-friendly' is one obvious area that may impact on the emphases in environmental policy in the years ahead. For example, the new EIA Ordinance allows for projects deemed to be in the public interest to be exempted from the law's provisions, although what actually constitutes the 'public interest' is not defined. The new SAR administration has stated its intention to promote investment in new manufacturing industry, but this need not necessarily present a serious environmental threat as the kinds of industries that are likely to prove viable in Hong Kong's high cost climate are likely to be those of a 'high tech', capital, rather than labour, intensive nature, which one would expect to be more environmentally-friendly. Furthermore, there is a considerable body of environmental legislation in place and new industrial development will be subject to its provisions. But these developments are for the future and only time will tell whether any significant 're-industrialization' of Hong Kong ultimately represents another threat to environmental quality in the SAR.

Local environmentalists have been disheartened somewhat by early pronouncements from SAR leaders, including the new Chief Executive, that environmental investments, most notably completion of the Strategic Sewage Disposal Scheme (SSDS), may have to give way to spending on other more

pressing areas such as housing and education. In addition, the position of the major green groups, and especially their involvement in the SAR's principal advisory bodies on environmental matters, such as the Advisory Council on the Environment, may become more problematic in the future. There is little doubt that environmental issues have slipped down the agenda in Hong Kong since the early 1990s. To a large extent, this reflects the Patten administration's preoccupation with political development in the territory in the run up to 1997. In the concluding chapter to *Limited Gains*, written in 1993, we suggested that the appointment of Christopher Patten, a former Secretary of State for the Environment in the United Kingdom, ".....seems likely to ensure that environmental issues will remain high on the administration's policy agenda" (Chan and Hills, 1993: 202). It is very debatable whether this proved to be the case. If anything, some aspects of the environment in the territory deteriorated between 1992-97, as, for example, with air quality and marine water quality. While the former Governor was not disinterested in the environment, it is clear that various issues (e.g., the diesel to petrol switch) were simply put on the back-burner. Far greater emphasis was placed on the democratization process, and maintaining a healthy economy in the years leading up to the handover.

The dilemma facing the major, local groups is that they have, in effect, been institutionalized. They have been drawn into the policy making process in a way that was unimaginable in the early 1980s. They are all represented on ACE and on its EIA Sub-committee, and on the Environmental Campaign Committee (ECC), which promotes environmental education and awareness. But what will happen if the groups are perceived as being excessively critical of future government policies, or the lack of them? Can they maintain their presence on key advisory bodies if they fundamentally disagree with the direction of future government environmental policy? Will they need to change their tactics? (One thing is clear, however. They probably cannot count on widespread public support because many ordinary citizens still perceive the groups as being anti-livelihood in orientation, and too willing to protect the environment at the expense of jobs, incomes and housing. Furthermore, the failure of the green groups to build structures of membership and participation based on true grassroots mobilization will continue to be a serious limitation.

While it is almost certainly the case that the community in general is more environmentally aware than it was a decade ago, the fact remains that attempts to translate awareness into action and participation in environmental

activities have largely failed. The green groups are still preoccupied with territory-wide issues (e.g., air quality, marine water pollution) or with the protection of specific habitats or areas (a good example being Sha Lo Tung), or with specific species (e.g., the Chinese white dolphin controversy). If anything, they have become even more preoccupied with such issues because their presence on bodies such as ACE requires them to be, and because, over the years, they have become progressively more technically proficient and better able to contribute to debates on such matters. They still do not focus in on localized environmental issues around which smaller parts of the community can, and do, mobilize, such as some of the examples presented here and in our earlier book. Again, somewhat ironically, it is the community specialists, such as social workers, moving into the environmental field who are assisting the mobilization process. Environmental specialists have failed to move into the community field, and therefore play virtually no role in the resolution of environmental conflicts at the local level. This is perhaps one of the major constraints on the development of an effective community-based environmental movement in Hong Kong.

ENVIRONMENT, COMMUNITY AND SUSTAINABLE DEVELOPMENT

The publication, in 1996, of the Third Review of progress on the implementation of the 1989 White Paper on the environment (Planning, Environment and Lands Branch, 1996) was a landmark in various respects. Most significantly, perhaps, the government for the first time acknowledged the importance of sustainable development for the territory's future. Furthermore, the government committed itself to carrying out a major consultancy study (SUSDEV21) designed to articulate the concept of sustainable development in the Hong Kong context. Sustainability concerns have not greatly exercised the minds of local policy makers in the recent past as evidenced by the nature and scale of the developments that have been completed or initiated during the 1990s. There are many who doubt that even SUSDEV21, which finally commenced at the beginning of September 1997, will fundamentally transform the way that the government views not just environmental concerns, but the entire development process. Sustainable development is not just about environmental quality. It is about trajectories for societal development. It is about the interests of present and future generations, and about distributional issues. It also implies that governments cannot simply sit back and let society,

or the market, follow their own course, but must decide on what is consistent with achieving sustainable development and what is not. For Hong Kong, this is a potentially revolutionary, and possibly even a threatening concept.

⟨ Hong Kong is simply not sustainable in its present form. ⟩ That it survives and prospers is a reflection of its economic power and ability to trade in the commodities that it needs to maintain the viability of its present economic and social systems, as well as its ability to export much of the environmental pollution that it creates. Clearly, the picture has recently become rather more complicated as Hong Kong now imports pollution from the Mainland, and must also factor this into the equation at some point. ⟨ Future developments, particularly the provision of infrastructure for an expected population increase of up to 2 million people by about 2011, are likely to make Hong Kong even less sustainable. ⟩ Furthermore, there can be little doubt that many of these developments will have to be fast-tracked if the new targets established by the SAR administration in the area of housing are to be met. It is also clear that nothing is likely to be put on hold pending completion of the SUSDEV21 study in early 2000 (Hills, 1997).

Perhaps the major contribution that SUSDEV21 can make is to foster more discussion about Hong Kong's development path over the next 25 years, and what sort of society and environment are likely to emerge. However, there is also the possibility that it will not go much beyond an elaborate environmental rationalization of existing strategic development plans. In other words, that it will simply add a rather more elaborate environmental gloss to decisions that have largely been made in the Territorial Development Strategy Review. ⟨ The basic problem that Hong Kong faces with regard to the concept of sustainable development is that it calls into question so many of the territory's basic operating tenets: *laissez-faire* capitalism, a minimal social welfare system, lean government and tightly controlled government expenditure, the pursuit of growth over other societal goals, short-term thinking. While translating sustainable development into action is undoubtedly demanding, as virtually every country that has taken up the concept has found, it may prove especially problematic for Hong Kong as it requires government to fundamentally reappraise its *modus operandi*, and also requires society to reconsider its basic goals and objectives.

In line with various models of sustainable development, and, indeed, with Agenda 21, the development blueprint for the 21st century which emerged

from the 1992 Earth Summit, the pursuit of sustainability necessitates a high degree of public participation in the development process (not solely in environmental protection and management efforts) and the empowerment of all groups in society. Thus, in political terms, the concept is also somewhat at odds with current and likely future conditions in Hong Kong, at least for some considerable time.

The major, immediate hurdle to be overcome, if Hong Kong is to make effective use of the concept of sustainability, is to impress on policy makers and the community that it simply does not mean more, and better enforced, environmental legislation, or for that matter, more 'environmentally-sensitive' planning, although Hong Kong would, in some respects, benefit from both. In practical terms, what it does mean, however, is setting certain baseline levels of environmental conditions that must be maintained to protect human health, safety and well-being, and also those of key ecosystems, habitats and individual species (Barron and Hills, 1997). On the latter, one of the major disadvantages that Hong Kong has faced have been the absence of a detailed inventory of important habitats and an effective conservation strategy (Liu and Hills, 1997). SUSDEV21 is intended to provide some of this baseline information, and research is already in progress at the University of Hong Kong on a biodiversity survey of the entire territory.

Hong Kong has not made any direct response on the implementation of Agenda 21, nor has it moved towards framing its own 'national' sustainable development strategy. It is, in fact, lagging behind China in these respects. Irrespective of the nature of the output from SUSDEV21, it is unlikely to fundamentally alter the prospects for community involvement in environmental issues at the local level. The study seems likely to be focused on the territory-wide environment (i.e., the strategic level) and within this kind of study there is unlikely to be much room to consider the particular environmental problems confronting low income communities in Hong Kong.

COMMUNITY AND THE ENVIRONMENT: THE FUTURE

In the conclusion to *Limited Gains*, we identified a number of key factors influencing the grassroots mobilization process (Chan and Hills, 1993). These included:

- (a) the 'top down' approach to environmental protection in Hong Kong and the particular role played by key officials, especially former colonial governors;
- (b) changing public attitudes to the environment, which were already evident in the early 1990s;
- (c) special problems in the mobilization of new immigrants from the Mainland;
- (d) the politicization of the environment; and,
- (e) a preoccupation with environmental protection as pollution control.

Most of these points remain equally relevant in 1997, although they must be set in a changing context. The 'top down' approach remains just as important today, although whether it will be quite as vigorous in the years ahead remains to be seen, for the reasons we have mentioned. As we have suggested, public attitudes to the environment have changed as a reflection of growing awareness about environmental problems in general, but behavioural change is proving more difficult to foster, as is a higher level of participation in environmental activities and the work of green groups. New migrants from the Mainland will increase in numbers over the coming years. With the number of one-way permits issued now set at 150 per day, more than 50,000 new immigrants will arrive each year. They must be housed and they must find employment. They still tend to gravitate towards the poorer communities and are readily exploited by the unscrupulous. Language barriers can also still inhibit their integration into Hong Kong society. On the politics of the environment, it is quite possible that the environment will become less politicized over the near term. The extension of representative democracy during the 1980s and 1990s created a situation in which political hopefuls actively sought out issues on which to base a distinctive personal or party political platform. Many district board and, later, legislative council candidates took up the environmental mantle because it was an issue which many electors could readily associate with at the local level. The rolling back of the Patten reforms, particularly the elected Legislative Council of 1995, and the probable emergence of a predominantly pro-business legislature is likely to see environmental issues slip further down the agenda. In a less pluralistic Legislative Council, many issues, including environment, may take on a less

politicized character as the advocates who previously advanced the interests of different groups are no longer present.

Hong Kong remains wedded to an environmental management model that emphasizes the control of pollution as the key to environmental protection. Growth is implicitly taken for granted and the role of government is essentially to control the most damaging environmental effects of development and economic activities, provided that this can be done at reasonable cost. We see little likelihood that this will change fundamentally in the years ahead. Growth and development are so entrenched in the mentality of both the government and society at large, that nothing, including the concept of sustainable development, is likely to overturn such a well-established and, to many, a remarkably successful formula that has transformed Hong Kong from a low cost manufacturing centre in the 1960s and 1970s, to the world's ninth largest trading economy in the mid-1990s with a per capita GDP exceeding that of its former colonial ruler, and many other 'developed' countries.

We are now rather less optimistic about the future of the Hong Kong environment over the next few years, although this is a topic that we hope to revisit again at an appropriate point in time. In the immediate future, perhaps the best way forward is to try to convince Hong Kong's business leaders that an international centre of such standing should have an environment that is commensurate with its wealth. If it does not, then it may be increasingly difficult to attract inward investment, and Hong Kong may lose its attraction as an international financial centre. A first world city (with corresponding costs of doing business), but with a third world environment is not an attractive proposition to many international investors and professionals.

In terms of the relationship between community mobilization and the environment, there are some daunting challenges ahead. Hong Kong is becoming a more unequal society. An under-class is emerging, its members being drawn from among the elderly, the displaced manufacturing workers who cannot be absorbed into the new service economy, poorly paid workers, under-achieving young people, and recent arrivals from the Mainland. Such groups must inevitably be pushed into poorer quality environments. Furthermore, they are difficult to mobilize for many of the reasons discussed in the earlier chapters of this book. But other problems are emerging that may make the plight of these groups even more difficult to deal with. Those in public housing are coming under pressure from rising rents. Many older, cheaper private housing

areas are being redeveloped, with the result that low income tenants are being forced out. Cheaper housing may be found on the periphery of Hong Kong but very often local jobs are difficult to find, and low income residents must commute to employment opportunities elsewhere.

While it is true that the community as a whole must endure air pollution and declining marine water quality, the better-off can insulate themselves from some of the worst manifestations of the territory's environmental problems. Furthermore, they tend not to have to face other environmental risks, such as land slips and flooding, which affect significant areas of the territory. In many industrial countries, pressure for improved environmental quality has often come from the property owners, who regard a clean and safe environment as an integral component of the package of goods associated with the purchase of housing. Despite the high price of property in Hong Kong, even for modest sized flats in older areas, this factor does not yet seem to have had a significant impact on public attitudes to the environment.

For the poorer sections of the community, arguments for a better environment may still seem somewhat superfluous when key issues such as housing and employment, and the provision of basic public services, remain major problems. Nonetheless, the poor are no less entitled to a safe and healthy environment than the rich, and this is a point that must be driven home in Hong Kong. The market is unlikely to resolve such problems in a socially acceptable manner because the poor will simply be forced by the market into areas with higher levels of environmental risk, be it from pollution or other sources.

We argue that it is of fundamental importance to educate the entire community about the nature of these risks, and what can be done to tackle them. The case studies of community mobilization presented in this book demonstrate that this can be done. However, government has a critical role to play as a facilitator of environmental education, and ultimately it must act to deal with the environmental risks that surround us.

Over the next ten years, Hong Kong will undergo yet another transformation as new infrastructure is constructed to meet the demands of a rapidly growing, and increasingly affluent population. Some, however, will be left behind in the process of 'development'. This is a familiar story around the world. Hong Kong is, however, different in many respects, precisely because it should be a better informed society. Furthermore, it is already an extremely

rich society. The environmental problems that surround us can be dealt with, but the extent to which this is achieved will be a reflection of political priorities.

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