

## **Sustainable Urban Settlement and Environmental Challenges**

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### **ABSTRACT**

*The Malaysian urbanisation experiences have progressed from the grip of pseudo-urbanization in past decades before the 1970-s to the stage of mobilizing the process towards achieving the first world status by 2020 after that. The shift in development paradigms from one of development for social and spatial, rural and urban equity with expanding plantation agriculture and import substitution as the main drivers at first and the export industrialization and services later, to the sustainable development paradigm that seeks some form of balanced growth between the economic, social and the environmental pillars. Embedded in both paradigms is balanced development. The sustainable development concept is not easily applied to the city habitat for the reasons that it is the centre of modernity with economic growth as the mainstay for wealth accumulation to pay for social projects, thus leaving the environment pillar lagging behind. The article proposes city liveability instead to capture on the improved quality of city life. However, under the aegis of the two development paradigms urban centres continued to grow from largely rural to urban and international labour migration. In the last three decades, the country is witnessing the rise of extended mega urban regions focusing on the Klang valley, the Penang- Kulim industrial area and the Johor Bahru-Pasir Gudang area with minor conurbations in all states centering on the state capitals. The success in socio-economic development in the city is not free of problems. Wealth accumulation has taken its toll on the environmental health as well as on the social situation of the country. More economic growth leads to further enlargement of cities which in turn increase more problems to both the physical and social environments. Economic vibrancy without doubt brings many benefits to the Malaysian society but the health of the environment leaves much to be desired due to unethical use of resources overt consumption. Looking to the future the society needs to be more responsible to both man and the environment.*

### **ABSTRAK**

*Proses pambandaran yang diharungi oleh masyarakat Malaysia telah menular jauh dari proses pambandaran pseudo pada dekad dekad sebelum 1970-an ke*

*tahap pengemblengan bandar bandar untuk mencapai taraf negara maju dalam dekad dekad selepas itu. Paradigme pembangunan telah berubah dari pembangunan yang setara di kalangan masyarakat dan juga dari desa dan bandarnya dengan pemacunya pertanian dan industri gentian import menuju ke pembangunan lestari yang menekankan keseimbangan antara pertumbuhan ekonomi, pembangunan sosial dan kesejahteraan alam sekitar. Terserlah dalam kedua dua paradigme pembangunan itu kesetaraan pembangunan. Konsep pembangunan lestari itu tidak mudah untuk diterapkan bagi mencari kesetaraan pembangunan dalam bandar kerana pertumbuhan ekonomi bandar telah membawa kemajuan kepada penduduknya tetapi telah merubah secara meluas alam sekitar asal petempatan bandar itu. Makalah ini mengetengahkan konsep bandar berdayahuni untuk menyerlahkan peningkatan kualiti hidup di bandar. Pun begitu, janaan pemacu pemacu di bawah ke dua dua paradigme pembangunan tersebut petempatan bandar telah berkembang maju berikutan migrasi penduduk desa dan juga pekerja dari luar negara. Dalam tiga dekad kebelakangan ini negara mula memperlihatkan pertumbuhan kawasan bandar mega yang terbesar di kawasan perbandaran di Lembah Kelang, dan selain itu di kawasan sekitarnya, di Pulau Pinang menyeberang ke Kulim dan di Johor Bahru-Pasir Gudang. Kawasan seperti ini, tetapi lebih kecil terdapat berkembang di setiap ibu negeri. Kemajuan pada ekonomi dan sosial tidak berlaku bebas dari masalah. Perlonggokan kekayaan di bandar telah membawa pelbagai masalah alam sekitar dan juga masalah berhubung dengan masyarakatnya. Keceriaan pada pertumbuhan ekonomi membawa peningkatan terhadap kualiti hidup masyarakat tetapi kesihatan alam sekitar tertinggal di belakang ekoran dari penggunaan sumber yang kurang beretika. Perjalanan seterusnya menuntut masyarakatnya lebih prihatin terhadap manusia dan alam sekitarnya.*

## INTRODUCTION

The urbanization experience of Malaysia today is no longer about the story of pseudo-urbanization as articulated by Terry G. McGee in the 1960's (McGee 1971) - involving the excessive rural to urban flows of unskilled workers to search for urban jobs in a fragmented labour market that is structurally incapable of absorbing the swelling urban labour force and widespread poverty in the city areas; the consequences of which are rising spontaneous shelters in expanding squatter settlements with widespread distribution of poor and under nourished people. At present, the urbanization process in the country, especially in the Peninsula, is about moving forward towards achieving the first world country status by 2020 or thereabout. It is time to analyse the quality of urban life with all

the possible modern trappings befitting the accelerated urban growth along with robust urban economy that has transformed the urban centres almost throughout their hierarchy. The grim prospect of pseudo-urbanization of yesteryears has been taken over by city modernity that showcases economic, social and environmental vibrancy found in a liveable city. This paper will take a short journey into Malaysian development, stressing on the link between the shift in development paradigms and its consequences, in a quest for sustainable development. The view is from the city which is fully a built-up habitat if we take that the whole city habitat has come under the direct influence of man.

#### DEVELOPMENT DRIVERS: FROM DEVELOPMENT EQUITY TO SUSTAINABLE DEVELOPMENT

In a big push to escalate the country's movement along the development path from third to first world by 2020, Malaysia opened its door wider to the world for investments to help propel its engine of growth. By coupling an appropriate developmental policy with the readiness of the world to come and make a contribution to the third world in early 1970's Malaysia was able to expand its economic cake through export industrialization and the subsequent accumulation of wealth to finance an array of comprehensive socio-economic development projects (Malaysia 1971, 1976, 1981, 1986, 1991 & 1996 ). The overall Malaysian quality of life has moved up along the development path to be among the middle income countries of the world (Malaysia 2001, 2006). The core poor group in the country has been reduced in number from more than 50 percent in the 1950's to about 4 percent in 2006 (Malaysia 2001, 2006). Most urbanites now have modern shelters, sustained jobs and have access to better food, clothing, means for mobility, and have more time for recreation and holidays. In short, the Malaysian urbanites have better material assets today. The development paradigm of growth with redistribution over those years bears the necessary fruits.

Success in the socio-economic development is however not without its problems. Wealth accumulation has taken its toll on the Malaysian environmental health. Virgin forest was converted to agricultural lands for commercial produce largely in palm oil; lands close to existing towns and cities in turn were converted to 'urban use' in the forms of commercial, industrial, services, infrastructures and extensive urban housing areas. Amidst the positive outcomes from the land cover conversion lurks a chain of negative outputs culminating in land degradation, bio-diversity loss, ecosystems dysfunction that disturbs the

regime of ecosystem services, increasing carbon emission in heavy congested city streets and boulevards, piling up of industrial, commercial and household wastes to be disposed of, and rising temperatures in built-up habitats forming heat islands over cities. Beyond the physical negativities the city environment is also facing human problems arising from community and social exclusion from mainstream economic and larger social services provisions.

Realization of the need to contain and streamline the pursuit of economic growth and socio-economic development with the decline in environmental quality came early. The Ministry of Science and Environment was established in 1974 and earlier the Malaysian Environmental Law was offered to the people. All are in response to increasing global awareness and needs to balance socio-economic development with ecological carrying capacity. Malaysia also participated in the UNESCO's led initiative on the International Geosphere and Biosphere Programme (IGBP) of the 1980's leading to the Brundtland Report (1987) that initiates 'sustainable development' which was later adopted by countries around the world at the Rio Earth Summit 1992 to be the new development paradigm for all. And to date as we are all aware most countries globally have adopted to use it in their development initiatives (Osario et al. 2005) although Switzerland has been the only country to write sustainable development into its constitution. Malaysia too charters its development route along the need for sustainable development.

As a concept, sustainable development has provided the flexibility to allow each country the freedom to define and to understand it in a way that suits its capacity and needs. Malaysia too has adopted a simple basic interpretation by defining sustainable development as 'a balanced development'. This is different from the balanced development of the earlier development paradigm of searching for 'social and spatial equity' to a new balanced development that looks for economic growth in order to pay for social development but with a conscious effort to protect the health of the environment through ethical resource and non renewal energy utilization. An important element of this paradigm lies in its inter-generational investment for equity such that the next generation of Malaysians are able to pursue development initiatives in a sustainable manner too.

## LINKING SUSTAINABLE DEVELOPMENT TO LIVABLE CITY

The balanced development as understood in Malaysia above is not easily applied to the city habitat. A city is the centre of modernity in which economic growth becomes its mainstay in order to accumulate wealth to pay for a comprehensive social programmes and projects to showcase its overall modernity. A city then is the embodiment of man's imprints on the habitat. Pristine habitat has almost completely changed to built-up habitat. The environmental protection agenda comes trailing far behind showing up in greening, landscaping and cleaning up initiatives. At the conceptual level therefore it is easy to talk about balancing the economic, social and the environmental development components. But at the empirical level it is difficult to attain the balance. In the pursuit of economic growth for wealth creation the city utilizes all available resources that have to be brought in from its immediate hinterland and areas from far away places. Programmes, projects and activities for quality shelters, jobs and living contribute to further changes to the city habitat. What happens then to the environment?-the pristine components of the environment have been completely changed.

The concept of liveable city offers, I feel, a more practical way to show sustainability. As argued earlier, in a liveable city we are concerned with creating a quality city habitat in which economic vibrancy, social congeniality and invigorating environment shape the quality living. The concept of city liveability here goes beyond the local projects under Agenda 21 of the sustainable development to embrace the whole physical and human dimensions of a city as espoused by the new urbanism- that people matter in a city habitat.

## BALANCED DEVELOPMENT AND CITY SYSTEM IN MALAYSIA

### **The Beginning**

'Cities as systems within the system of cities' articulated by Berry (1964) offers a system way looking at all number of cities. In Malaysia towns and cities grew from those urban settlements founded by British colonial administration as from about the 18<sup>th</sup> century. Pre colonial settlements even if they were cities remained isolated from each other to function as a system (Lim Heng Kow 1974). These British colonial urban settlements were interconnected by modern road systems that provided the needed linkages for business and the maintenance of law and order (Hamzah Sendut 1962, 1966).

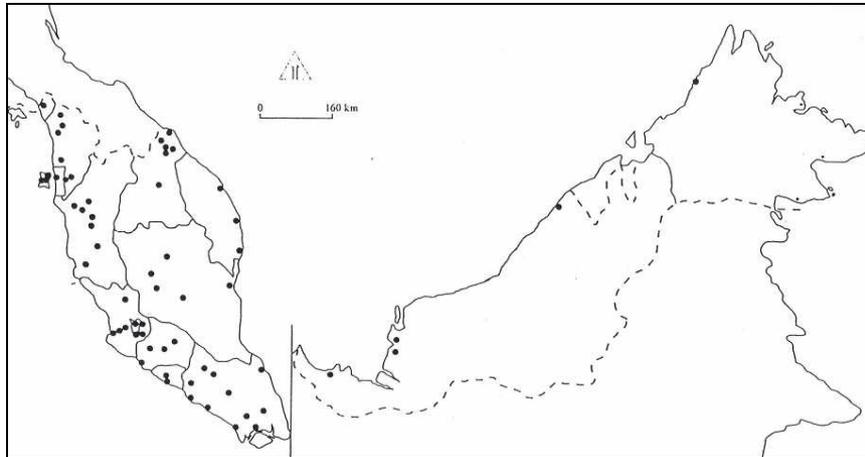


Figure 1. Urban centres in Malaysia (with a population above 10,000) in 1980  
Source: Population Census 1980

These early British colonial urban settlements were made-up of port towns consisting former British Strait Settlements of entre-port town of Melaka and the port of Penang. More urban settlements were founded when more of the Malay States in the interior became British protectorates, to be the centres of administration for law enforcement and public order so that colonial investments could go about exploiting alluvial tin in the Federated Malay States of Perak, Selangor, Negeri Sembilan and Pahang (also gold) at first. Later on rubber was grown extensively as industrial agricultural produce for the industries in Britain and elsewhere. British colonial protection was soon diffused to cover the non-federated Malay States on the east coast, southern and northern part of the Peninsula. In 1948 the Federation of Malaya was formed consisting of the Strait Settlements of Melaka and Penang, the Federated Malay States and the non-Federated Malay States. The Federation completed the British holds on the Malay states and hence the exploitation of resources for trade. Urban centres continued to grow and new ones founded. Figure 1 gave some ideas on the distribution of urban centres in Malaysia around 1980's.

Malaysian urbanists have reported that these urban settlements largely offered goods and services in sundry shops mode in the early times with little specialization in addition to their earlier functions of providing security, law and order for the urbanites as well as for the people in the rural hinterland. The drivers for the urban development and

expansion came basically from resource exploitation and rubber growing in the hinterland. While these urban settlements were small in size and therefore having limited impacts on the environment as opposed to the huge area of forestry either destroyed by the mining of tin as shown in the Kinta valley in Perak, The Kelang valley in Selangor and the Linggi valley in Negeri Sembilan, and gold in the Pahang river basin or millions of hectares converted for commercialization of alien rubber species from Brazil.

### **Balance Development for Social and Spatial Equity**

The balanced development paradigm for social and regional equity was adopted after Malaya achieved Independence in 1957 and six years later in 1963 Malaysia became a reality. Socio-economic imbalances among the multi-racial Malaysian population and regional disparities in the country as by-products of colonial development process needed correction in order to mould a multi-racial Malaysia in an Independent country. The development initiatives of the time gave priority to economic growth in order to bring out the country from its third world syndrome - (widespread poverty, limited salaried jobs and over-dependence on export of agriculture with rubber and tin as the produce for export). Industrialization was the pick of the time as it was in line with the contemporary thinking and therefore logical to adopt. The emphasis was particularly given on import-substitution. The development paradigm brought two broad impacts; first, forest conversion for land settlements to settle poor landless rural people into the FELDA (Federal Land Development Authority) schemes involving millions of hectares. The other broad impacts were seen in the urban hierarchy but with the main foci on Penang, Kuala Lumpur and Petaling Jaya, and Johor Bahru. In these major towns lands were converted to make way for industrial estates, supporting infrastructures, commercial areas and modern housing. (Malaya 1956, 1961; Malaysia 1966). Despite achieving moderate economic growth of 4-5 percent per year, the redistribution of wealth was far from the target so that by 1969 poverty was still rampant in both rural and urban areas. Rural to urban flows of unskilled youth seeking for limited urban jobs exacerbated the social condition of the time.

The paradigm of balanced development then was made sharper in 1970 in an attempt to redress the inequality among the population and regional imbalances after the social upheaval of may 1969. The New Economic Policy introduced in 1970 aimed basically at eradicating

poverty among all races and to restructure the Malaysian society such that not any one group would in the end be identified with any economic label (Malaysia 1971). Numerous strategies, programmes and activities had been undertaken to meet the broad socio-economic goals and targets. The impacts of the policy on the urban habitat are far reaching.

Between 1970-1990-the original time frame for the implementation of the policy- efforts were given fully to expand the Malaysian economic cake for fairer redistribution among the people. Export industrialization became the key driver to shape the expanding cake. The accumulated wealth was able to be spent on socio-economic and infrastructural projects to uplift the general quality of life among Malaysians. The export industries found their homes in existing industrial estates closer to the older industrial estates in the main towns and cities, and also in newer industrial estates throughout the urban hierarchy traversing the whole country. The immediate impacts on these cities were the incorporation of newly converted lands for industries and supporting infrastructures, commercial and services centres and of course housing beyond those functions (Malaysia 1976, 1981, 1986) to the city areas.

Larger cities were getting larger in area- forming urban conurbations such as seen in the Kelang valley with continuous string of cities stretching from Kuala Lumpur to Port Klang and in areas to the north and south of the valley, the Penang- Kulim conurbation and the Johor Bahru – Pasir Gudang urban conurbation; intermediate towns also grew outwards to the rural areas, converting in their advancing frontiers agricultural lands, and new towns were created for industries. Figure 2 offers a window to the nature of urban growth in the Malaysian urban system focusing on the main urban conurbations. Minor urban conurbations have arisen also focusing on state capitals such as in the Kota-Kinabalu - Spangar bay, Sabah emerging conurbation in recent years.

Beyond the cities, the hinterland too continued to see changes. While land development was extended further for commercial agriculture and more settlements, more infrastructures were put in place to link these agricultural areas to the rest of the world.

In the 9<sup>th</sup> Malaysian Development Plan (Malaysia 2006), more development corridors were planned and implemented, namely; the northern corridor covering Penang, Northern Perak, Kedah and Perlis; the East Coast corridor- stretching from Kelantan to east coast of Johor; the Sarawak and the Sabah development corridors. All of these development corridors will impact further on the towns and cities. Judging from past experiences of the outcome of past development regions, these new development corridors will certainly produce strings of new towns to

accommodate the expected population growth in response to the overlapping opportunities there. The hinterlands of the towns too will be equally impacted by new settlements and commercial agriculture.

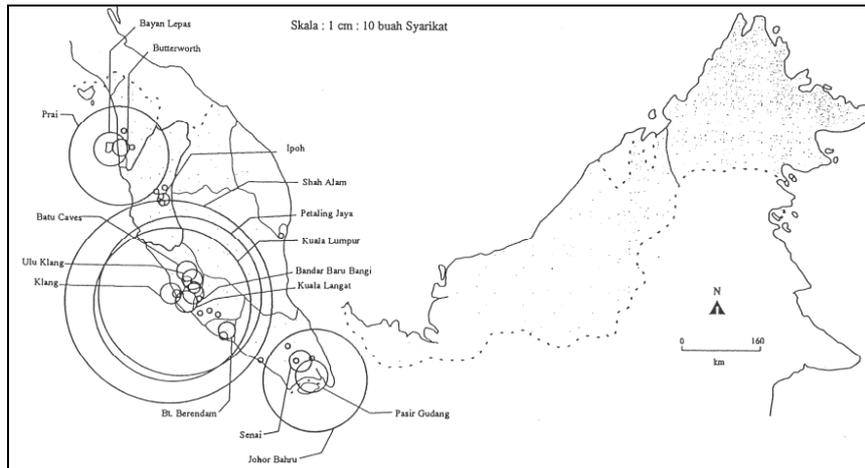


Figure 2. Locations of sampled main office of foreign companies  
 Source: Materials of FMM (Federation of Malaysian Manufacturers) 1996

Overall, the balanced development paradigm that guided the development programmes until the end of the 1980's had made it mark in rising urban areas and commercial agriculture at the expense of pristine forest. More importantly, Malaysians have begun to witness a new dimension of environmental problems originating from these townships and cities. That these towns and cities utilize proportionately a small percentage of the total Malaysian habitat but impacting the most damage to the environment is the principal issue to ponder further. The paradigm that attempts to balance social and spatial equities in the country has served its end but at a cost which can be summarized as environmental degradation, some loss of biodiversity and rising water and air pollution, rising temperatures and the formations of urban heat islands that certainly add to the problems of not only local climate but climate change at large.

### Balanced Development as Espoused by Sustainable Development

Awareness to the need of conserving resources and protecting the environment has been lingering in the thinking of development implementers of the period under the previous balanced development

policy. The founding of a Ministry looking after the welfare of the Malaysian environment and the work of its various agencies, the rise of non-governmental organizations associated with environmental protection, the growth of environmental programmes at the tertiary educational level and the incorporation of environment into school syllabi are some of the more important steps that have been taken to minimize the total impacts of the pursuit of economic growth and societal development then. In cities, where the voices of the people were getting louder, to minimize the impacts of overt transformation of the habitat had led to the urban authorities implementing useful programmes and activities to arrest the slow decline in environmental quality. This means that by the time the concept of sustainable development had been adopted by the Malaysian authority in the early 1990-s there had been that awareness about the environment, the need to protect the environment and rehabilitate badlands areas.

Balanced development as articulated in the 'sustainable development' concept allows also the pursuit of economic growth for socio-economic development, and concurrently asserts that the environment should be protected. Yet the empirical reality of life in post sustainable development beyond Rio 1992 shows that the environment continues to suffer in the midst of economic development. The trajectory and the momentum of development under the aegis of capitalism continue to progress on the path of continuing economic pursuit for societal development with limited concern for the environment. In short, both foreign and local investors have grown accustomed to the rule of maximizing profits for their share holders, minimizing payments to their workers and compromising on the standard for environmental health.

The Malaysian cities are very attractive for people to come and stay as evident by the growing industrial, commercial and social infrastructures including new housing schemes. While internal flows of workers is slowly tapering off Malaysia is increasingly becoming a visible choice of destination for foreign workers. As argued earlier sustainable city can be understood better through the concept of city liveability, it is clear that the contemporary Malaysian cities are generally vibrant economically and socially. The environment is getting greener with rising green physical and social infrastructures, clean, healthy and reasonably safe for the urbanites. The general positive representation of the city does not mean that there are no problems. As population of the city increases in number there are bound to be socially generated problems including problems in the city environment. There is no total social breakdown that would bring about total chaos to the city, however.

Thus, the Malaysian cities have the quality of life appropriate to their level in the urban hierarchy that ensures their liveability (Azahan Awang et al. 2008).

#### ENVIRONMENTAL CHALLENGES IN MALAYSIAN CITIES

Theoretically, once 'sustainable development' is adopted as a main frame of development the acute problems of the city environment and the hinterland should not matter any more. But as stated in the previous paragraphs the application of the sustainable development principles to the whole development initiatives in Malaysia post-dates the development initiatives that had battered the Malaysian environment in the earlier balanced development principles. Thus, all development pursuits taking place within the previous balanced development paradigm had reared their ugly heads with respect to the environment before we are being made accustomed to thinking in terms of the new balanced development of economic growth, social development and environmental protection.

The cities, of course, should take full responsibility for all the environmental problems. It is in the main cities that development policies are formulated and implemented; strategies, programmes and activities are determined and implemented. It is in the cities also the responses, impacts and mitigation measures to protect the environment are analysed, and then appropriate actions taken. Yet there are clear gaps between what have been thought and planned and what steps can be undertaken.

The city biased development of the early years had brought widespread poverty to the rural hinterland also. The contemporary city biased development however, has caused further widespread land degradation, pollution, increasing grey areas and an increasingly threatening inconvenient truth to life (Gore 2006).

#### SUSTAINED ENVIRONMENTAL CHALLENGES: OUTCOME OF CONTEMPORARY CITY BIASED DEVELOPMENT

Let us grapple with some of these lingering environmental challenges as impacts of the contemporary city biased development. Beginning with the hinterlands, continuing extensive forest clearance that makes way for the planting of commercial agriculture and logging (including illegal poaching of trees with commercial values such as that reported in Pahang and Kelantan lately) in the hinterland in the east coast of Peninsular Malaysia, in Sabah and Sarawak- that had affected badly rivers through

sedimentation. Consequently, land degradation especially in areas that have not been properly looked after became widespread. The continued extensive land-cover change must have contributed to not only the loss of valuable pristine forest but also some carbon sink loss, notwithstanding the green cover provided by the plantations such as the oil palm plantations that has balanced that loss somewhat.

The largest contribution to all of the environmental woes originates from within the city precinct itself. More investments into manufacturing industries, commercial centres, physical and social infrastructures, and escalating housing areas have transformed further the city habitat. Housing development has continued to use sand and minerals, hence more will be lost.

Human consumption alone has contributed to mountain of wastes that till now the various levels of urban authorities find it hard to cope with collecting and disposing off those wastes. The industrial and commercial expansions too have added further to the problems of wastes; some are bulky in nature, others are less visible but hazardous to human health. Rivers as an important source of drinking water are constantly under threat from pollution.

The urban air quality too is continuously threatened by vehicular emissions of poisonous gases such as carbon dioxide and carbon monoxide, contributed largely by unprecedented growth in the number and volume of cars on the roads, choking at particular times of the day almost all city roads and streets. The gaseous emissions including the heat released from air conditioners from city buildings worsen the formation of urban heat islands that in calm days hold back all the pollutants over the city centre (Sham Sani 1987).

In another direction Malaysian cities are slowly grappling with health related issues too. City people are aware and familiar with a range of diseases associated with the improved quality of life and comfort in city living. Modern trappings have also brought in diseases associated with rich man's problems. People are now concerned with cardiac problems, obesity and a host of others. Beyond that there is a need to highlight the newly emerging health problem that has to relate to clean water habitat for aedes mosquitoes which affect people with dengue. More examples can be articulated here, and they are available in the Malaysian environmental quality report 2006 (DOE 2007). But suffice it to say that the city environment has problems despite all the steps that have been taken to minimize them.

Lest the story telling is becoming too negative, implying that the city people in various levels of city authority seems incapable of reducing

those negative outcomes, there have been sustained efforts by those concerned to reduce city people's vulnerability towards declining environmental quality. Apart from laws and guidelines with respect of aspects of everyday life, habitat, building and construction, health, safety, and the environment there are initiatives to develop awareness through sustainable education, sustainable campaign by stakeholders and the involvement of people from all walks of life (DOE 2007).

### CONCLUSION

The issues of urban sustainability and environmental challenges have been articulated in a manner that allows for a broader viewing of urban habitat to include the city hinterlands, the drivers of change, that transverse beyond the nation state to include the global economic and social influences and the players among all stake holders especially the man on the streets- small people but they matter most in sustainable initiatives.

I have purposefully articulated the issue at hand by looking at the Malaysian paradigms of development since Independence. The earlier balanced development paradigm was necessary for wealth accumulation to pay for socio-economic transformation of the country so that Malaysia can move from third world to first and hence shape a truly multi-racial developed society to be among the main stream of developed countries. But all are achieved at a cost to the environment.

Under the aegis of balanced development embedded in 'sustainable development' environmental problems should be non-issue. Yet, efforts at continuing pursuit for economic growth and enhancing socio-economic development in recent decades have continued to degrade the environment. As implied in earlier paragraphs, the momentum in the growth trajectory for Malaysia predates the call for sustainable development. Until the trajectory is brought under control Malaysia will continue to grapple with excessive environmental problems despite the various steps being taken to contain those environmental impacts from non-ethical activities in pursuit of economic growth and socio-economic development. The way ahead is for the Malaysian society to be more ethical in consumption.

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