

Sustainable Development and the Role of Local Governance: Experience from Malaysian Model Regions

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Abstract

In this article, conceptual issues regarding local governance and its utility in pursuing sustainable development goals have been discussed. Drawing from some good practice examples globally, and the existing situation in some East Asian countries, we concluded by examining the Malaysian situation of local governance in the midst of quest for sustainable development. Learning from the two models for sustainable development in Malaysia (Putrajaya and Iskandar), we contend that in spite of the administrative limitations associated with local governance in Malaysia (for example, local political actors being appointed by the ruling party), local governance institutions can still achieve a lot with regard to the attainment of sustainable development targets. This is supported by the business as usual emission scenarios based on current practices, particularly in Putrajaya. Much is however needed in improving the local administrative capacities, as the relative progress is invisible at the national scale.

Keywords: Sustainability, good governance, rationality, Putrajaya, Iskandar Malaysia.

Introduction

The ‘organic’ pattern in which human societies evolved throughout history became in need of a steering force upon man’s realization of the necessity for drifting from the ‘normal’ path of economic rationality. Being rational according to Olson (2009) means that, men behaves selfishly and only become interested in common public good if potentials exist for individual interests to be fulfilled. This notion inspired the idea of “co-benefits” in dealing with complex environmental issues. The resulting effect of the earlier described normal path of economic rationality whether at the level of individuals, communities and even nations proved so far to be unsustainable and possesses such feedbacks that are unwanted even to those individuals, communities or nations that may seem to be benefitting from the status quo or business as usual.

Regardless of how it is going to be achieved, it is clear that a somehow irrational behaviour is required for the seemingly all-loving sustainability of civilization to even be pursued. The steering force required to achieve a balance between the rational normal human trait (which conflicts with sustainable development) and the irrational trait of acting for public good, is attained through governance. Committed (often few) individuals within societies have to shoulder the responsibility of working out this equilibrium. This complex struggle characterizes the ‘ideal’ role of governance institutions.

Whether we consider the physical environment or the socio economic issues together or in isolation with regard to sustainable development, local governance has an important role to play in working out those approaches that will lead to the equilibrium between rational and irrational traits of man. For example, in some less developed economies where the flora is naturally scanty, it is common to find out that the existing flora suffers great destruction from being targeted as an energy source. This is obvious where the other ‘fragile’ energy options are either absent or inaccessible. Again, in most of these situations, the existing scenarios are not disconnected from issues of governance.

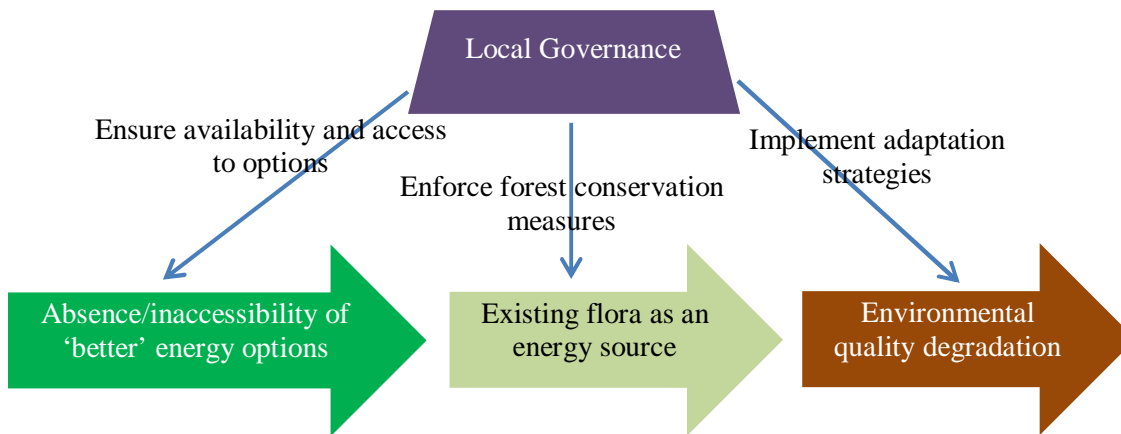


Figure 1 Local governance in flora conservation: an example

Left alone without some guiding ‘force’, we tend to act rationally, and often produce negative environmental and social impacts. Mazerolle et al (2002) for example, reported how peoples’ awareness of CCTV presence influences their rational social behaviour in public space. Publishers and academic institutions today do not only detest researchers from plagiarism by informing them of its bad effects, they also try to make them aware that there is a checking instrument to detect text similarity. To find out and implement workable incentives to attract humans away from their unsustainable ‘rational’ traits, good local governance is a necessity. Fortunately, humans have this ability to learn and adopt the irrational trait over time. That balance is therefore achievable. In this paper, the policy provisions in the Malaysia’s National Physical Plan as well as the National Urbanization Policy have been examined, and concluded with sustainable development efforts (with particular reference to emissions control) in the two model regions of Putrajaya and Iskandar Malaysia.

1.1 Sustainable development

It is not only difficult to have a precise definition for development when it is married to sustainability, but that same difficulty will confront anyone trying to define the two terms in isolation. While some scholars view the term sustainable development to be too vague and ambiguous, and therefore open to wide range of interpretations (Adams, 2001; Stirling 1999), some simply consider it to be a host for a number of myths (Lemonick 2009; Lunghurst 2006 and Allen 2001). The ubiquitous nature of the term according to other scholars (such as Torgerson 1995) is an advantage that gives sustainable development wider application. The classical definition from the Brundtland (1987) report which viewed sustainable development as “a development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987: 47), is not far away from the focus of numerous other contemporary definitions despite its criticisms.

One may ask for example, how about if the future generation happens to be uninterested in what the past conserves, since their needs could be quite different from those of the present? While many scholars recognised the need to have a deliberate attempt in reviewing the pattern of relationship that exists between man and surrounding eco system, man’s limitations in long term forecasts and ‘level of scientific understanding’ of existing simulation models can lead to a second thought about many of the practices we may declare sustainable. Khan (2013) writes that, although the need for drastic reduction of climate gas emissions as the overarching goal of a low carbon transition is agreed upon, how these goals can be achieved and the implication for cities are open to contestation. Mechanized farming for example, share similar long term uncertainties with the production of ethanol for fuel from farmlands, particularly in terms of feedbacks as well as calorie input and output. The goal of living sustainably according to Lemonick (2009) requires continuous and large amount of thoughts. Difficulty in explaining development and its sustainability have not however deterred its growing usage (Dola, 2006).

Two principles can generally be deduced from the many definitions of sustainable development. They are the social equity principle and that of environmental precaution (Dola, 2003). On a cross sectional basis, development should entail the promotion of social equity, and at the same time be conscious of the ‘critical’ natural capital that is essential to human survival on a longitudinal basis. Related to these basic principles are the three dimensions of sustainable development.

They are, social sustainability which connotes the society's ability to maintain the necessary means of wealth creation to reproduce itself and a shared sense of social purpose to foster social integration and cohesion (Goodland, 1997); economic sustainability which connotes futuristic approach in maintaining economic welfare (Pearce et al, 1990); and environmental sustainability through which a healthy environmental system is maintained for current and future generations. From the local governance perspective, all three dimensions are required to be carried along equally balanced for comprehensive development.

1.2 Local governance

While admitting the fact that local governments have limited control over the implementation of climate change mitigation measures and lack the enforcement power to make actors comply with policies (Betsill and Bulkeley 2007), the decision made by several cities around the world on climate change goals that will lead to low carbon transition, makes them an important political platform for climate governance (Bulkeley et al, 2011).

Just like development and sustainability, the ultimate definition of governance is hard to be claimed by anyone (Kardos 2012). It traditionally connotes the act or process of governing. To incorporate the notion of providing the balance between the (economically) rational human trait and that of irrationality (which has the potential to promote sustainability), modern theories have expanded the connotation of the term to involve "variety of instruments designed to alter and channel the behaviour of individual and collective actors" (Loorbach, 2007; Pierre and Peters, 2000; Adger and Jordan 2009, in Kardos 2012). World Bank (1992) defines governance as "the manner in which power is exercised in the management of country's economic and social resources for development". Similar to World Bank's definition, the United Nations Development Programme UNDP (1997) defined governance as "the exercise of economic, political and administrative authority to manage a country's affairs at all levels, ... [comprising of] mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences". We can therefore define local governance using the UNDP definition of governance as the exercise of economic, political and administrative authority to manage affairs at local levels.

Regardless of the pursued perspective in understanding the concept of governance, an international consensus exists on the need to promote sound governance as a pre-requisite foundation for sustainable development. The UNDP in this regard identified the core characteristics of good governance to include: participation, rule of law, responsiveness, consensus orientation, equity, effectiveness and efficiency, accountability and strategic vision. It can therefore be understood that as important as the concept is, achieving good governance can be quite challenging. Those responsible for exercising this economic, political and administrative authority have two main issues to contend with: to struggle in maintaining the balance between the earlier described human rational trait and acting for common good at individual levels, and also device mechanisms to extend the same to the wider public.

1. Good Governance In Supporting Sustainable Development Efforts

A challenging governance role in all societies is reflected in the need to strengthen institutions, processes and mechanisms that enable adequate participation of citizens in setting the required agenda for sustainable development. Over the last decades, the concept of sustainable development has had a significant impact on global as well local development agenda, in spite of the wide discussions and criticisms. The main issue in integrating good governance with sustainable development according to Kardos (2012) is "to shape the type of government that is a prerequisite for, and probably also a product of, steps towards sustainable development". Kardos (2012) also argued that the traditional models of governance are not well equipped to carry out the development syntheses required by sustainable development "given the increasingly complex nature and global breadth of today's sustainability challenges". Therefore, the role of governance in promoting development which is sustainable, be it local or otherwise has to cope with the earlier identified struggle at the individual level (making those who governs capable enough to face the challenge) and at the societal level (extending the action capacity outwards).

Several scholars have emphasised the need for concerted efforts for policy integration since sustainable development represents much more than an environmental management plan and that sectoral policies are also not efficient (Dola and Mijan, 2006; Lafferty, 2002).

Approaches ranges from decentralisation measures, vertical (across different levels of governance) and horizontal (between entities of particular tier of government) integration, to having common long term visions and strategic objectives that are SMART (specific, measurable, achievable, relevant and time oriented). What is common among the various proposed strategies to render governance systems relevant to sustainable development is participation, feedback and iteration (Bello et al, 2013; Kardos, 2012; Lafferty, 2002). Sustainable development requires the possibility for public input in decision making in which feedbacks are collated and utilised, and ready to enrich future processes with past experiences.

For participation to foster sustainable development, education is necessary.

In this regard, there is an increasing concentration of actions carried out by various educational institutions dealing with issues of sustainable development, ever since the declaration of the period 2005-2014 by the UN General Assembly as Decade for Education for Sustainable Development (DESD) (Sedlacek, 2013). Local governance has so much to offer in terms of providing sustainable development oriented education at the grass root. Educational institutions are stakeholders to local development, and communication channels from policy to citizens and vice versa.

2. Local governance and sustainable development: East Asian examples

The Konrad Adenauer Stiftung (KAS) (2012) report on five Asian countries (Cambodia, Indonesia, the Philippines, Thailand and Vietnam) focussed on decentralization and the extent to which decentralization policies in these countries are reflected in the actual power shift between central and local governments through inclusiveness and participation (Tayao, 2012). In the overall, the common picture presented regarding economic growth is not reflected in the way such development is felt at the countryside (as demonstrated by Tayao 2012 in the case of India and Cambodia, even though India was not covered in the KAS report).

Based on the UNDP Human Development Report (2013), most of the South East Asian countries have actually improved in terms of their Human Development Index (HDI) between 2010 and 2012, and many have also progressed in the HDI ranking between 2011 and 2013 (see table 1). However, countries such as Malaysia and the Philippines got demoted in their ranking in spite of the relative progress in their HDI. This means that some countries below them have actually attained more progress in terms of Human Development (HD).

Table1 Human Development Index for some Asian countries (2013)

	HDI 2013	Change in rank between 2011 and 2013	HDI change (2010 and 2012)
Very High HD			
Japan	0.912	▲ 2	▲ 0.003
South Korea	0.909	▲ 3	▲ 0.004
Singapore	0.895	▲ 8	▲ 0.003
Brunei	0.855	▲ 2	▲ 0.001
High HD			
Palau	0.791	▼ 3	▲ 0.012
Malaysia	0.769	▼ 3	▲ 0.006
Tonga	0.710	▼ 4	▲ 0.001
Medium HD			
Cambodia	0.543	▲ 1	▲ 0.011
Vietnam	0.617	▲ 1	
Indonesia	0.629	▲ 3	▲ 0.009
Thailand	0.690	Stable	▲ 0.004
Philippines	0.654	▼ 2	▲ 0.005
India	0.554	▼ 2	▲ 0.007
China	0.699	Stable	▲ 0.010
Low HD			
Papua New Guinea	0.466	▼ 4	▲ 0.008
Burma	0.498	Stable	▲ 0.008

Source: Human Development Report 2013, United Nations Development Programme

The above scenario notwithstanding, “the devil is actually in the details” (Tayao, 2012: 11). In Indonesia for example, the democratic system is emerging at local and national levels, creating a transition for shift in leadership. However, the output is still not far from the business as usual (Choi, 2012).

In China, village elections transformed from one candidate to multiple candidates. However, conflicts in the political structure between the elected village leaders and party secretaries often make decision making impossible (He, 2012). The decentralisation and fiscal devolution in India (in the case of Kerala and West Bengal for instance), have accorded municipalities with better capacities to implement development policies (Mathew, 2012). In Cambodia, there is still some hope with decentralization in bringing about the opportunity for local residents to choose their councillors, in spite of the limited capacity of local administration to respond to the low level of awareness among local political actors (Chheat, 2012).

3. Good Governance: Some Best Practices

According to Heller (2001) political rights can be translated into social rights and that procedural democracy can become substantive democracy only to the extent that an organized lower class exists with its clear demands backed by substantive policies. At the level of local governance, explicit policy direction for participatory processes can be provided. This is demonstrated in the case of the municipal council of Fetakgomo in South Africa through expansion of the Municipal System Act, No. 32 of 2003. In its draft public participation policy (Elias Motsoaledi municipality 2007), the municipal council highlighted a public participation policy direction which covers mechanisms, processes and procedures with specific local references and applications. Regarding the issues of local economic development, the city of Porto Alegre in Brazil has been a model for participatory budgeting among municipalities in developing economies.

To understand the relationship of local government to the centre or assess its role in national setting, Page and Goldsmith (1987) focussed on three issues which aid the understanding of the role of local government despite the theory’s numerous criticisms (Copus, 2012):

- Functions which local government undertakes
- Avenues for accessing the central government
- Discretion with the local government to make policies

From the first theoretical issue considered by Page and Goldsmith, Copus (2012) identified two broad functional formulations in European local governance: either as providers or facilitators/regulators of services provided through different modes. If not in the provision capacity, local governments bears the responsibility for the provision of public services. Constitutional status of local governments affects their ability to cope with contemporary challenges. According to Stoker (2003), written constitutions have provided constitutional protection to local governments and devolve responsibilities from the state in many European countries. However, such protections do not guarantee the absence of interference from the centre. This kind of limitation provides for the possibility of regulating the governance at the local level, just in the same way local authorities regulate activities within their own territories. The situation is similar as one look upwards in a hierarchical fashion.

A good lesson for sustainable development with regard to local governance is also reflected by Copus (2012) in the way local governments react to economic downturns, citizen participation and contemporary challenges in local political leadership. Some local authorities in Europe for instance, adopt such approaches as joint working partnerships with other councils and development of trading organizations to ensure sustainability in the provision of public goods. Such collaborations are needed more between councils and across levels of authorities in responding to climate issues that require a more holistic approach. While acting locally, local political actors should also be conscious of the wider environmental and socio economic implications.

Grass root participation is also initiated at the local level. Even in such cases where participation appeared to be episodic, results of local engagements can provide immense contribution in terms of specific policy direction at the higher levels of governance (Heller, 2001).

The general competence of German local government system as described by Wollman (2004) in Zwicker-Schwan (2012) was not achieved immediately. In the articles 28 of the German constitution, local governments are empowered “to deal with all matters of relevance for the local community in their own responsibility (within the frame of the law)” (Zwicker-Schwan, 2012).

The clear dual functions of local governments in Germany are “self-government” and “delegated tasks”. Inter municipal cooperation which as earlier noted is driven by economic downturns; sustainable development needs (L.A 21); demographic change and contemporary paradigms in public management, is manifested in the following areas in Germany:

- Regional branding (promotion of tourism)
- Water and waste water treatment
- Information technology
- Economic development and employment
- Spatial planning and development

Similarly, specific forms of the inter municipal cooperation in German Local governance according to Zwicker-Schwan (2012) include municipal working communities in the areas of culture, public procurement, etc; public agreement regarding the co-use of public utilities; and special purpose associations in the areas of water, waste water management, schools, etc. The local schools concept and voluntary fire brigades in Germany are other examples of the role which local governance can play in sustainable social organization within and among communities.

4. Malaysia: Policies And Local Efforts For Climate Change Mitigation And Adaptation

In Malaysian context, the report by Royal Commission of Inquiry stated that local government could be seen as:

- a) Representing the third tier in federal structure
- b) Administered by state nominated councillors (and in some cases mayors).
- c) Geographically encompassing a portion of the country
- d) It is infra-sovereign
- e) Subordinate and subject to the control of the state (limited in terms of financial and administration issues)
- f) It is a separate legal unit/entity from higher government or other local authorities.
- g) Has the power to sue and be sued.
- h) Provide obligatory and discretionary to provide goods and services

There are 165 local authorities in Malaysia, ranging from City Halls/ Councils (12, examples, Kuala Lumpur City Hall and Johor Bahru City Council), Municipal Council (39, example, Johor Bahru Tengah Municipal Council), District Council for rural areas (109, example, Cameron Highland and Semporna), and special or modified local government (5, examples, Putrajaya Corporation and Kulim Hi-Tech Park Local Government). These areas are marked as political boundaries where Mayors are selected by the political party that won the election. Local authorities have to adhere to the Local Government (1976) or Act 171.

Table 2 Categories of local governments in Malaysia

Category	Number	Examples
City halls/councils	12	KL City Hall, Johor Bahru City council
Municipal Councils	39	Johor Bahru Tengah
District councils for rural areas	109	Cameron Highland, Semporna
Special or modified LGs	5	Putrajaya, Kulim Hi-Tech Park

We shall discuss the Malaysian perspective of sustainable development alongside local governance in the light of the strategies in the country’s urbanization policy, the National Physical Plan (NPP) and conclude with two exemplary cases of local and state efforts in building sustainable societies in Putrajaya and Iskandar Malaysia.

Malaysia is one of the 172 countries that have signed the 1999 Kyoto protocol on climate change. According to Ho and Fong (2011), the incorporation of environmental consideration into Malaysia’s planning and development was intensified since the Eighth Malaysia Plan (2001–2005). Again, in the Environmental Sustainability Index (ESI), Malaysia was ranked 38 out of 146 countries worldwide. This means the second in Asia after Japan with regard to continuous efforts in promoting sustainable development (Yale University2005).

Sustainable urbanization and effective urban governance are among the policy thrusts of the 2006 Malaysian urbanization policy. The policy is also formulated to serve as the foundation to encourage racial integration and solidarity for urban dwellers. The strategies of the National Urbanization Policy (NUP), in addition to NUP being the basic framework for urban development in Malaysia, include the following:

Urban development should be based on urban hierarchy. That is to say different development approaches to be employed for different settlement and regional hierarchies.

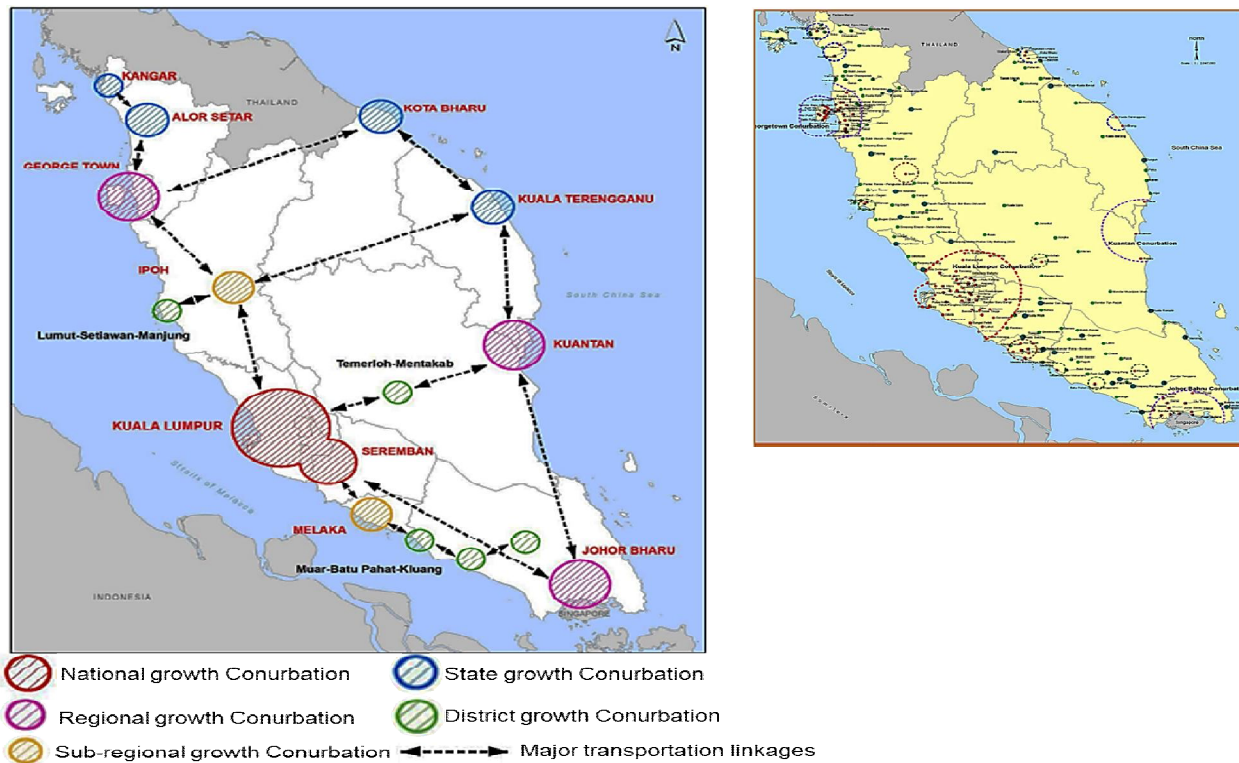


Figure 2 Regional and settlement hierarchies in Malaysia (Source: NUP 2006)

The NUP also aims at pursuing strict adherence to development plans through coordination and monitoring of the implementation of development plans at various levels of government and establishment of comprehensive land use database at state and local levels. In spite of the administrative weaknesses of local governments in Malaysia, adhering to other good governance principles outlined in the Local Agenda 21 (LA21) such as effective community involvement will aid the formulation of sustainable plans at the local levels. The promotion of land readjustment approach as an alternative in the development of villages within urban areas by the NUP also requires effective coordination between land contributors, experts and local political actors at the local or neighbourhood levels.

Protection of environmentally sensitive areas, prime agricultural lands and open spaces which is also promised by the NUP is a challenging governance issue considering the conflict between conservation and highest and best use of land. The work of Wan Abdullah Zawawi, and Alias (2011) in Kuala Lumpur demonstrated the difficult challenge of conservation in the midst of a demand for highest and best use of land through urban redevelopment. Also, the 25 open space development vs. conservation court cases studied by Maruani (2011) showed that 50% of the ruling accepted development oriented planning decisions against conservation oriented decisions. This is another indication of how challenging conservation of open spaces can be in an era of intense demand for urban land and that as much as it is a design issue it is equally one that somehow need to be enforced.

The cluster concept conurbations to promote economic development, in which the conurbations were considered as investment centres, also look in theory similar to the European concept of joint working with other councils. However, the relative administrative limitation associated with local authorities in Malaysia can present a bottleneck in this regard. Also, in most of the articles and strategic measures of NUP, local authorities were identified among the implementing agencies, but they were considered almost irrelevant in the identification and adoption of cluster conurbations.

Article number 14 of the NUP aims to promote the participation of marginalised and low income groups in decision making. This is further buttressed by the 29th article in which the involvement of society in planning and governance is said to be pursued through the establishment of a division at local authorities to coordinate and manage programmes to increase community participation.

The Malaysian planning system is however gradually progressing from allowing citizen participation after the draft plan has been prepared to much earlier stages of planning decision making.

Finally, transparency and accountability in urban governance will be achieved according to NUP 2006 through preparation and adoption of code of urban governance for all local authorities. This has the potential of improving governance at local levels since the uniqueness of different local communities has been recognised. To improve the institutional capacity in urban administration, exchange of officers among local authorities was proposed within the same states. The conurbation cluster may however not respect political boundaries.

Regarding the Malaysia's National Physical Plan (NPP), sustainable development is emphasized in the third function in which the provision of "physical planning policies for ensuring sustainable development as well as mitigating and adapting the natural environment and human settlements to climate change" (NPP2: 1-8) is proposed.

The NPP's goal of attaining a developed and high income nation status by 2020 is supposed to be achieved through 6 objectives. In none of the objectives however, citizen participation or clear issues in redefining governance direction is emphasized. That may perhaps be as a result of the economic orientation of the plan. Sustainable development and conservation of biodiversity is emphasized in objective 2. Good urban governance and social inclusiveness were only identified as inputs but not part of the building blocks for liveable cities and sustainable communities in the NPP. Decentralisation in the NPP largely focussed on regional balance or at most enhancing physical accessibility to urban job centres from the rural hinterland. In addition, strategies to implement Local Agenda 21 are not new to all local authorities in Malaysia.

5.1 Putrajaya and Iskandar Malaysia: the model regions



Figure 3 Putrajaya and Iskandar Malaysia

The two regional development centres presents good cases for examining sustainable development practices being newly planned in an era of hit regarding the need for the integration of sustainable development principles in development efforts at local level. For this reason, a number of studies have been carried out to model the sustainability (particularly from the perspective of low carbon emissions) scenarios on the basis of what has been achieved so far (for example, Ho, et al, 2013; Ho, et al, 2012 and Ho and Fong, 2011).

The newly planned Iskandar Malaysia is a region that falls under the jurisdiction of five local planning authorities, namely Johor Bahru City Council, Johor Bahru Tengah Municipal Council, Pasir Gudang Local Authority, Kulai Municipal Council and Pontian District Council. Since this is a new development, the focus to lure international investments necessitates the project to include sustainable strategies as much as possible. It also becomes the national government attempt to prove the project success to be replicated by other development project in other localities. The effort to create a low carbon city is also being supported by some Japanese universities (Kyoto and Okayama Universities). The carbon emission intensity for Iskandar Malaysia is shown in figure 4 between 2005 and 2025. Under the business as usual scenario (that is current practice), about 27% reductions will be achieved by 2025 (Ho et al, 2013).

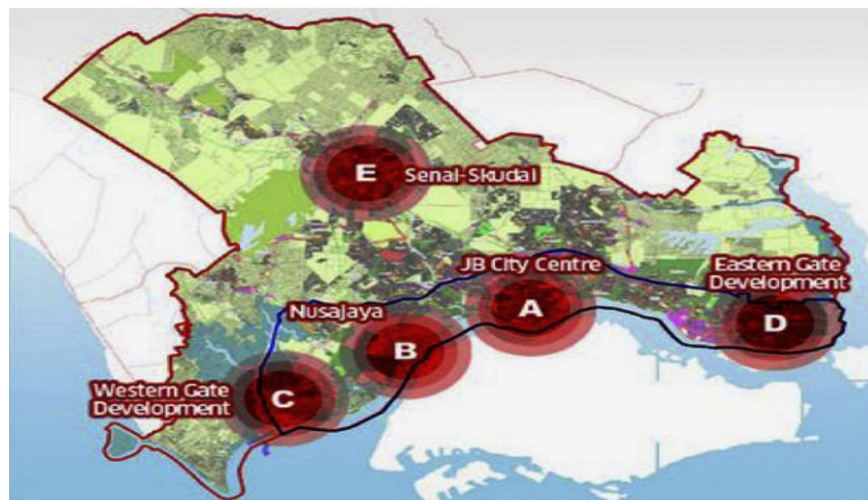


Figure 4 Iskandar Malaysia and the regional development flagship centres (Source: Iskandar Regional Development Authority, in Ho, et al (2013))

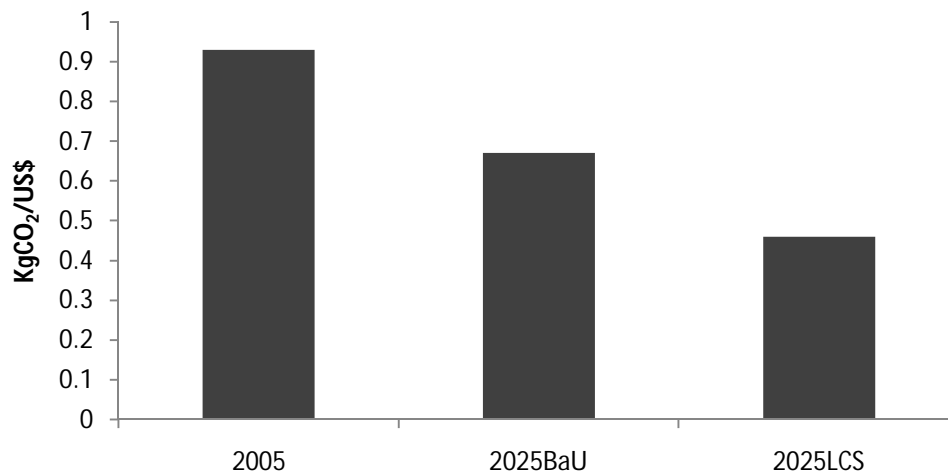


Figure 5 Carbon emission intensity for Iskandar Malaysia (Source: Ho et al, (2013))

With regard to energy use in Iskandar Malaysia, it was calculated that industrial and transport sectors will contribute 75.2% of the total carbon emissions.

Table 3 CO₂ emissions from energy use in Iskandar Malaysia

Year	Scenario	Share(%)				
		Commercial	Industrial	Residential	Transportation	Agriculture
2005	Present	11.0	53.2	2.1	33.7	0.1
2025	BaU scenario	23.2	51.7	1.5	23.5	0.1
	MM scenario	22.1	49.2	1.5	27.1	0.1
	DM scenario	20.6	45.8	1.4	32.1	0.1

Source: Ho, et al, 2013

The per capita emission showed an increase both on business as usual or the scenario with control measures and strategies adopted by local authorities. This according to Ho, et al (2013) is because when CO₂ emission is measured against the GDP of Iskandar Malaysia, a reduction is identified. This is typical for most developing countries where the GDP is on the increase. It is thus possible to achieve the 50% reduction in intensity by 2025 if proposed mitigation measures are taken (Ho, et al 2013).

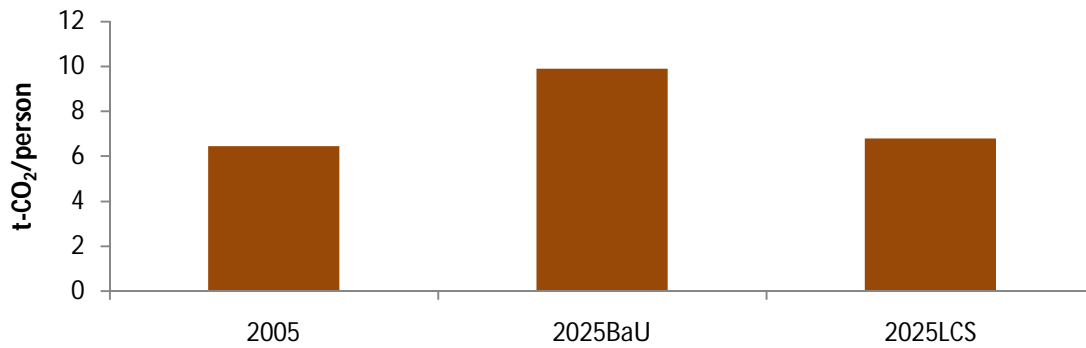


Figure 6 Per capita emissions for Iskandar Malaysia (Source: Ho, et al (2013))

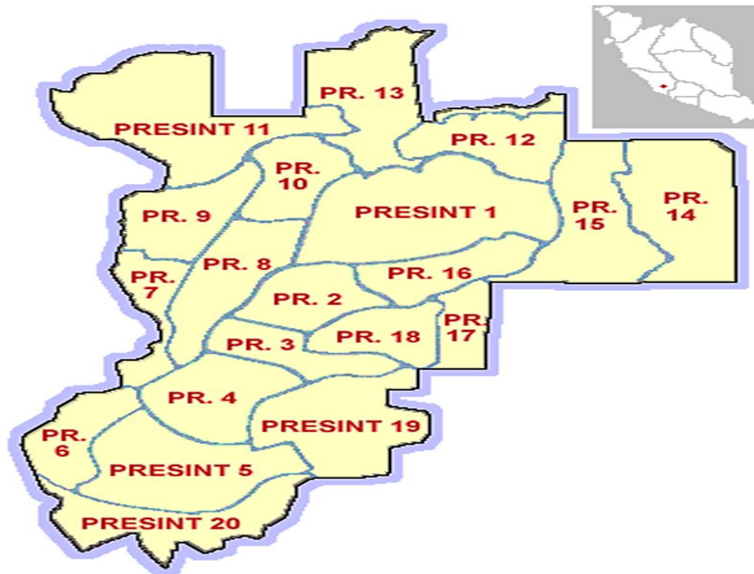


Figure 7 Putrajaya, Malaysia (source: <http://travelputrajaya.blogspot.com>)

In Putrajaya, the sustainable green city programme aims to reduce GHG emission intensity by 60% and achieve a micro cooling effect of -2°C.



Figure 8 Putrajaya: environmental targets (Source: Ho et al (2012))

Although total energy demand under the business as usual scenario is about twice that of the scenario with counter measures by 2025, and almost 9 times higher when compared to 2007 figures, per capita GHG emissions showed some stability between 2007 and 2025 even under the business as usual scenario (Ho et al, 2012). Some measures implemented include Green Building, Green Technology, efficient public transport system, urban farming and centralized cooling centre. This means that current measures in Putrajaya will have the potential of maintaining stable GHG emissions even with drastic increase in energy demand.

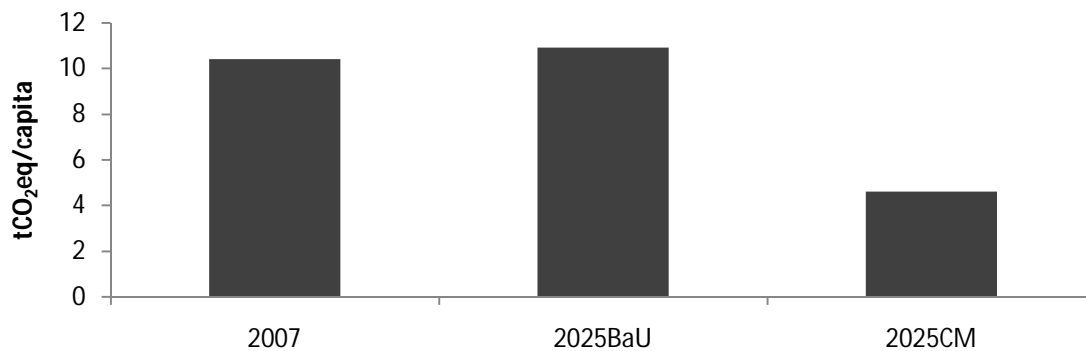


Figure 9 GHG emissions per capita for Putrajaya (Source: Ho, et al, 2012)

In the overall, the 9th Malaysia plan (2006 – 2010) has a target of 300MW and 50MW of renewable energy to be connected to peninsular Malaysia and Sabah respectively. However, as at September 2012, only 25% of the target has been achieved (Gee, 2012). This shows that while concerted efforts are observable in some cases (such as Putrajaya and Iskandar Malaysia), much still needs to be done towards meeting the national targets

Gee (2012) summarised the challenges for the implementation of Malaysia's NPP regarding the National Green Technology programme to include the following:

- Changing the mind-set of the public
- Making green financing more accessible
- Research and development
- Overlap of responsibilities among government stakeholders
- Sustainability in government subsidies on energy and water sectors
- Traditional and established business sector is slow in accepting transformation

In conclusion, it is stressed that Local Governance plays important role to achieve sustainable development as it is the closest to the people (to change the mind-set and attitude) and where implementation of strategies, rules and regulation as well as enforcement are materialized. Even though, the fact that the existing decision making structure and plan preparation process in Malaysia are still within the discretionary powers of planning authorities, makes them to be at odds with participatory democracy (Maidin, 2011).

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