

Formulation of Agenda 21 Process Indicators for Malaysia

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Abstract

This paper consists of formulation of Agenda 21 progress indicators for Malaysia from its establishment in 1992 which calls on countries, organizations and non-governmental organizations to develop and use indicators of sustainable development. It provides a firm basis for decision-making on the impacts of economic activities on the environment that have to be clearly understood and taken into account. The initiatives taken by Malaysia in response to the needs identified in Agenda 21 as well as those identified through its own development planning, monitoring system and development plans. Also included are initiatives undertaken by the Federal Government, by the State Government of Selangor, and by non-governmental organizations. The approach adopted by each category of stakeholder is unique but appropriate to the mandate and modus operandi of the relevant organization. Policy- and decision-makers are becoming increasingly aware of the need to address the uncertainties and complexities of Agenda 21 more realistically. In order to do this, progress indicators must reflect the nature of relationships between disparate issues adequately. In future, the development and use of indicators to assess progress towards fulfilling the nation's Agenda 21 requires continual commitment and activities. The development of such indicators requires the participation of policy- and decision-makers, scientists, international organizations, and a knowledgeable public to work together in a joint initiative that would result in better-informed choices of indicators that capture the inter-linkages between sectors towards achieving national Agenda 21 targets.

Keywords: Formulation, Agenda 21, Indicators, Sustainable, Development, Initiatives

1. Introduction

Agenda 21, endorsed by the United Nations Conference on Environment and Development (known as the 'Earth Summit') held in Rio de Janeiro in 1992, constitutes an unprecedented commitment by the international community to an integrated framework of shared values, objectives, priorities and actions. Recognized as the most important about the Rio Conference, Agenda 21 reflects the emerging global consensus over two decades on the concept of sustainability introduced by the 1972 Stockholm Conference, interlocking environment and development, as well as introducing a new understanding of human-centered sustainable development.

Agenda 21 calls on countries, organizations and non-governmental organizational organizations to develop and use indicators of sustainable development. This was made in two chapters of Agenda 21; in Chapter 35 (Science for Sustainable Development) and in Chapter 40 (Information for Decision Making). Sustainable development requires an integral approach towards achieving social, economic, and environmental objectives. In order to determine the success or failure of decisions for sustainable development, it is necessary to use indicators to provide a measure of progress towards achieving these objectives.

Traditionally, the gross national product (GNP) and other pure economic indices provide a gauge of economic activity and are used to indicate progress towards development goals. However, even though these economic indicators are a reliable measure of economic development, they provide an inadequate assessment of social and environmental conditions and progress. Changing the traditional patterns of development is essential for achieving sustainability. In order to assist with decision-making for sustainable development, it is important not only to have an indication of the state of the economy, but also to evaluate the quality and quantity of natural resources and the state of the environment, as well as social conditions.

Many developing countries, including Malaysia, are entering the stage where the economy is growing at a high speed. In order to provide a firm basis for decision-making for sustainable development, the impacts of economic activities on the environment have to be clearly understood and taken into account. This will ensure that long-term sustainability is not sacrificed for short-term expediency. The changes in values, attitudes, and behaviour required for sustainability have to be firmly based on reliable information about the state of the environment and society, as well as the economy.

2. The Call of Agenda 21

There is little agreement internationally on how to measure or evaluate sustainable development. Most information is only available on a sectoral basis and is unsuitable for use in an integrated manner. It is vital, therefore, that reliable indicators of progress are developed to provide a basis for rational decision-making. Although information is ubiquitous to modern life, the availability of information on environment and development that fulfills the needs of policy and decision-makers is still rather limited.

While the quest to achieve sustainable development is not new, the urgency to improve the capacity to assess progress towards it is mounting. The advent of the sustainable development ideology has pushed the agenda of measuring socio-economic and environmental dimensions of sustainability to greater heights. Many international organizations demonstrate optimism in the design of Agenda 21 progress indicators as a solution to inadequacies in the decision-making process that results in development that is not sustainable (see Table 1).

Further impetus is provided by Chapter 40 of Agenda 21 which states that. "indicators of sustainable development needs to be developed to provide solid bases for decision-making at all levels and to contribute to a self-regulatory sustainability of integrated environment and development systems" (United Nations, 1993).

In Chapter 35, Agenda 21 notes that one of the roles of the sciences is to provide information to better enable formulation and selection of environment and development policies in the decision-making process. It recognized that it will be essential to enhance scientific understanding, improve long-term scientific assessments, strengthen scientific capacities and ensure that sciences are responsive to emerging needs. Agenda 21 recommended that countries with the assistance of international organizations develop, apply and institute the necessary tools for sustainable development including developing quality-of-life indicators covering, for example, health, education, social welfare, state of the environment, and the economy (United Nations, 1993).

While Chapter 35 addressed the role of the sciences, Chapter 40 focused on the need to bridge the data gap. It was recognized that more and different types of data needed to be collected at the local, provincial, national and international levels that would indicate the status and trends of Earth's ecosystem, natural resources, pollution and socio-economic variables. It was also noted that there was a general lack of capacity in many countries for

the collection and assessment of data, for their transformation into useful information, and for their coordination and dissemination.

Agenda 21 recognized that commonly used indicators such as the gross national product (GNP) and measurements of individual resource flows do not provide adequate indications of sustainability. Methods for assessing interactions between different sectoral, environmental, demographic, social, and development parameters were not sufficiently developed or used. It noted that indicators of sustainable development need to be developed to provide solid bases for decision-making at all levels and to contribute to a self-regulating sustainability of integrated environment and development systems.

3. Malaysian Initiatives towards Agenda 21: Some Examples

The initiatives taken by Malaysia in response to the needs identified in Agenda 21 as well as those identified through its own development planning and monitoring systems, namely the five-yearly Malaysia Development Plans and the longer-term Outline Perspective Plans, are many (Nordin, 1998). Also included are initiatives undertaken by the Federal Government, by the State Government of Selangor, and by non-governmental organizations. The approach adopted by each category of stakeholder is unique but appropriate to the mandate and modus operandi of the relevant organization. However, the framework they developed were not always viable.

3.1 The Malaysian Quality of Life Index (MQLI)

The MQLI initiative was undertaken by the Economic Planning Unit (EPU) of the Prime Minister's Department, which is the Central government agency that has ultimate responsibility for national development planning and coordination. The EPU produces the five-yearly Malaysia Development Plans (or 'The Malaysia Plan') and determines major policy directions for the country.

The EPU first published the MQLI in 1999 (Economic Planning Unit, 1999). The initiative took almost two years to prepare. The preparation of the MQLI coincides with the call of Chapter 35 of Agenda 21. The MQLI was prepared without external assistance. It is a composite index that aggregates indices for ten variables (see Table 2) spanning a period of nineteen years (1980 to 1998). The year 1990 was demarcated as the base year for comparison.

3.2 The Federal Town and Country Planning (TCPD-F) Initiative

The TCPD-F is responsible for physical planning at the national level. Although the department's mandate encompasses entire individual States, it has the most relevance in urban areas, and the policies it adopts can significantly influence the patterns of urban development in Malaysia. The TCPD-F Act is adopted by the individual States' legislature. In this way there is some uniformity among individual States in terms of physical planning policies and implementation.

The TCPD-F is currently in the process of developing a set of urban sustainability indicators based upon information gathered from five Malaysian cities; Georgetown (State of Penang), Kuantan (State of Pahang), Kuching (State of Sarawak), Batu Pahat (State of Johore), and Pasir Mas (State of Kelantan), of varying achievements and urban densities from plans originally developed in 1998 (Zainuddin Mohamed, 1998).

A total of fifty urban sustainability indicators in 11 categories of activities have been selected and are being tested. Data for these indicators were obtained from existing sources in relevant government agencies at the Federal, State, and Local levels (see Table 3).

3.3 The State Government of Selangor Initiative

In 1998, the government of the State of Selangor commissioned a suite of studies aimed at shifting the development paradigm in the State towards that of sustainable development. Phase one of the research involved the determination and inventory-keeping of all environmentally sensitive areas (ESAs) in Selangor (LESTARI, 1999). A strategy for sustainable development was developed in the second phase (LESTARI, 2000). In the third and final phase of the research, an action plan for sustainable development known as 'Agenda 21 Selangor' was developed (LESTARI, 2001), along with pilot projects at two municipalities, namely Petaling Jaya and Shah Alam, for developing Local Agenda 21 plans.

An initial set of 103 indicators of sustainable development was developed in consultation with key stakeholders from the public, private, NGOs/CBOs communities within the State. Of these, 14 were indicators of economic sustainability, 16 indicators for environmental sustainability, 11 for natural resources sustainability, and 52 for social sustainability. The time frame required for the development of each indicator was given as short- (immediate to 3 years), medium- (3 to 5 years), or long-term (5 to 10 years) prospects. Indicators of social

sustainability was given emphasis because it was perceived that continual social adaptation and reduction in the development and manifestation of negative social trends within communities were crucial in making progress towards sustainable development in Selangor.

3.4 The Sustainable Penang Initiative

The Sustainable Penang Initiative (SPI) is a pilot community indicators project launched in 1997 and coordinated by the Socio-economic and Environmental Research Institute (SERI). SERI is a non-governmental organization that serves as a 'think tank' for the State Government of Penang.

The SPI is supported by the Canadian International Development Agency (CIDA) and endorsed by the United Nations Development Programme (UNDP). The project's aim is to establish a broad set of indicators to monitor development in the State of Penang. SERI envisaged that these indicators would be used in integrated development planning and to educate the public about sustainable development and the ways the means it may be achieved.

A comprehensive report was produced that elaborated on five key elements of sustainable development viz. ecological sustainability, social justice, economic productivity, cultural vibrancy, and popular participation (see <http://www.seri.com.my/spi>). The project identified 14 indicators for the environment, 12 for community well-being, 6 for the economy, 4 for culture, and 4 for public participation. The SPI also produced a 'People's Report Card' on 40 issues of concern to the people of Penang. These included matters related to the economy, environment, community, culture, and participation. However, very little is known as to whether the indicators studied in the SPI were ever incorporated in development planning and management in the State of Penang.

4. An Integrated Agenda 21 Progress Indicators System for Malaysia

Simple indicators may assist the analyses of status and trends of single issues and sectors. However, in planning for Agenda 21, a holistic, multi-sectoral, and integrated perspective is required and is more apt. Policy- and decision-makers are becoming increasingly aware of the need to address the uncertainties and complexities of Agenda 21 more realistically. In order to do this, progress indicators must reflect the nature of relationships between disparate issues adequately.

In Malaysia, the legislative powers are shared between the Federal and State governments. To ensure minimal overlap of powers and responsibilities, the Constitution of Malaysia provides the formal definition of the federal design by specifying the extent of power between the Central (that is the Federal government) and the State governments (Shafruddin, 1988). The division of legislative powers between the Federal government and State governments is described in List I, II, and III of Table Nine of the Constitution of Malaysia as the Federal List, State List, and Concurrent List (see Table 4).

Naturally, the division of Federal and State executive powers follows the divisions of legislative powers (Harding, 1996). It is also obvious from the Table above that the Federal government possesses more legislative/executive powers relative to State governments. By design of federalism in Malaysia, State governments appear to have limited capacity in maneuvering its policy direction towards Agenda 21. The implication is that, for some issues, the State governments will only be involved in the implementation of programmes and projects decided by the Federal government. Likewise, the Federal government has minimal control over the exploitation of natural resources (e.g. mining, forestry) in the individual States.

In the individual States, the key agency responsible for socio-economic development planning is the State Economic Planning and Development Unit. The agency responsible for environmental protection is the Department of Environment (DoE), which is a branch of the Federal government administrative machinery in the State. This institutional set-up sometimes complicates the coordination of programme implementation or trouble-shooting with respect to environment and development issues. This is where the notion of cultural values comes into play in Federal-State politics encompassing the issue of attitudes, work orientation, concepts of power and hierarchy, and attitudes towards authority. The idea of full-fledged public participation in decision-making is also a questionable approach in a country that upholds 'Asian Values' which in effect does not guarantee individual freedom of speech (Mahathir, 1999). Thus, it is surmised that to design a definitive set of Agenda 21 Progress Indicators for all government agencies at every level to adopt would be a fallacious proposal as indicators are information, which is closely related to the issue of power.

Nevertheless, second generation Agenda 21 Progress Indicators are urgently needed to enable adequate assessment of strategic performance towards sustainable development in Malaysia. The development of such indicators requires the participation of policy- and decision-makers, scientists, international organizations, and a

knowledgeable public to work together in a joint initiative that would result in better-informed choices of indicators that capture the inter-linkages between sectors towards achieving national Agenda 21 targets.

5. Conclusion

The development and use of indicators to assess progress towards fulfilling the nation's Agenda 21 requires continual commitment and activities. In Malaysia, this has been the role of government agencies working in isolation or as part of a larger group of government agency stakeholders. This present situation calls for an 'incremental' and 'participatory' approach in designing an Agenda 21 Progress Indicators system. Incremental steps in establishing Agenda 21 Progress Indicators in Malaysia should bring better results as compared to conventional methods of establishing a 'definitive' set of Agenda 21 Progress Indicators. To paraphrase Lindblom, "Incrementalism does not rock the boat, does not stir up the great antagonisms and paralyzing schisms as do proposals for more drastic change." (Lindblom, 1979). For the Agenda 21 Progress Indicators System to be useful, it must be seen as being influenced by both the rational and political elements of decision-making. These political realities must not only be acknowledged but coupled when prescribing policies and institutional design.

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Appendix

Table 1. The Importance of Indicators as Envisioned by Countries and Institutions

<i>Organization</i>	Objectives
United Nations Division for Sustainable Development	To make a core set of indicators of sustainable development accessible to decision makers at the national level by year 2000.
United Nations Environment Programme	Measure state of and trends in the environment and guide policy-making towards sustainable development in the implementation of UNEP Environmental Observation and Assessment Strategy.
World Bank's Environmentally and Socially Sustainable Network (ESSD)	To develop a realistic and sustainable program for environmental indicators that responds to environmental needs inside and outside the World Bank.
The Federal Government of Malaysia	To develop an integrated database in analyzing sectoral sustainability as well the sustainability of the states. Indicators will also assist the government in determining the impacts of various sectors on the environment.

Source: United Nation, 1993

Table 2. Values of Indices Used in the Preparation of the Malaysian Quality of Life Index (MQLI) and the MQLI for the Years 1980 and 1998

<i>Index</i>	<i>1980</i>	<i>1998</i>	Change (%)
1. Income and its Distribution	77.39	105.82	36.7
2. Working Life	106.13	118.94	12.1
3. Transport and Communication	87.36	112.78	29.1
4. Health	83.24	109.58	31.6
5. Education	85.79	117.31	36.5
6. Housing	90.52	107.72	19.0
7. Environment	103.86*	100.94	-2.8
8. Family Life	85.46	113.86	33.2
9. Social Participation	81.55	97.98	20.1
10. Public Safety	78.40	72.11	-8.0
MQLI	86.22	105.71	22.6

*1985 value

Source: Economic Planning Unit, Prime Minister's Department, 1999.

Table 3. List of Indicators Tested in the Federal Town and Country Planning Department (TCPD-F) Sustainable Cities Project

<i>Category</i>	<i>No.</i>	Indicator
Demography	1.	Percentage of Urban Population
	2.	Population Density
	3.	Proportion of Population with Tertiary Education
	4.	Population Growth Rate
	5.	Dependence Ratio of Local Authority
Housing	6.	Ratio of House Price to Income
	7.	Ratio of House Rent to Income
	8.	Available Floor Space per Person
	9.	Rate of Production of Private Dwellings
Economy	10.	Unemployment Rate
	11.	Employment Growth Rate
	12.	Workforce
	13.	Urban Poverty
	14.	Income Distribution
Utility and Infrastructure	15.	Rate of Water Use per 1,000 Population
	16.	Rate of Water Loss
	17.	Flood Affected Areas
	18.	Total Solid Waste
	19.	No. of Houses Connected to Central Sewage System
Social Amenities and Recreational Facilities	20.	Hospital Beds per 1,000 Population
	21.	Recreation areas per 1,000 Population
	22.	Number of Pupils per Teacher in Primary Schools
Environment	23.	Yearly Allocation for Environment-Health-Sanitation (%)
	24.	Asthma cases per 1,000 Population
	25.	Yearly Allocation for Landscape and Tree Planting Activities
	26.	River Water Quality Above Preset Thresholds
	27.	Total Solid Waste Recycled
	28.	Number of Complaints from Noise Disturbance
Sociology and Social Impacts	29.	Poverty
	30.	Health
	31.	Crime
	32.	Divorce Cases per 1,000 Population
	33.	Social Deviance
Land Use	34.	Plan Approval Time
	35.	Area of State Land Available for Public Amenity Development
	36.	Number of Residential Homes in City Centre (%)
Urban Form and Heritage	37.	Area of City Allocated for Beautification Programmes
	38.	Area Allocated for Conservation
	39.	Number of Students Cycling to Schools
	40.	Percentage of Public Transport Users at Peak Hours
	41.	Area Allocated for Footpaths and Cycle Lanes
	42.	Number of SOV in City Centre During Peak Hours
	43.	Number of Vehicular Accidents per 1,000 Population
	44.	Time Consumed in Commuting to Workplace
Management and Finance	45.	Local Authority Revenue per Person
	46.	Percentage of Local Authority Revenue Collected
	47.	Level of Cash Flow for Emoluments
	48.	Capital Expenditure per Capita per Annum
	49.	Population to Staff Ratio at Local Government Level
	50.	Local Authority Operating Cost per Capita

Source: Modified from Sham Sani, 2001

Table 4. The Division of Legislative Powers of the Federal List, State List, and Concurrent List in Malaysia

<i>Federal List</i>	<i>State List</i>	Concurrent List
1. Foreign Affairs	1. Islamic Law and Affairs	1. Social Welfare
2. Defense	2. Land	2. Planning
3. Home Affairs and Internal Security	3. State Government Machinery	3. Soil Erosion
4. Civil and Crime Law	4. Malay Custom	4. Scholarships
5. Administration of Justice	5. Local Government	5. Animal Husbandry
6. Federal Citizenship	6. Riverine Fisheries	6. Wildlife and Bird Protection
7. Machinery of Government	7. Forestry	7. Town and Country Planning
8. Finance and Taxation	8. Roads and Bridges	8. Irrigation and Drainage
9. Trade and Industry	9. Public Nuisances	9. Mining Land Reclamation
10. Shipping	10. Agriculture	10. Vagabonds and Hawkers
11. Communications	11. Housing	11. Cleanliness, Public Health, and the Prevention of Vector Diseases
12. Transport	12. Malay Reserves	
13. Education	13. Water (so far as not Federalized)	
14. Health		
15. Energy		
16. Social Security		
17. Labour and Professions		
18. Newspapers and Censorship		
19. Joint-Venture Companies		
20. Investigation and Research for Federal Purposes		
21. Fisheries		
22. Public Works		
23. Water Supply, Rivers, and Canals		
24. The Welfare of Orang Asli (Aborigines)		

Source: Harding, 1996