

Governance and Freshwater in the Greater Kuala Lumpur Area/Klang Valley: Success or Failure?

Urustadbir Air Tawar di Kuala Lumpur dan Lembah Kelang: Satu Kejayaan atau Kegagalan?

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ABSTRACT

Much of Malaysia's population is likely to be directly or indirectly affected by climate change-induced freshwater scarcity, which is related to changes in the amount, timing, and distribution of rainfall, and in the amount, quality and accessibility of surface and groundwater. Due to globalization, population growth, increasing agricultural, urban and industrial demands are creating more competition for water resources. The concept of governance is important to be explored as it has serious implications for freshwater availability and human security in Malaysia. This paper explores the relationship between climate change, freshwater and governance in the Klang Valley, Malaysia. It also discusses why those who are most likely to be negatively affected by climate change and freshwater scarcity, are also most likely to experience the negative outcomes of poor governance. It is demonstrated that actual and notional water scarcity is influenced by policy decisions as much as it is by changes in physical supply.

Keywords: Climate change, governance, freshwater, human security

ABSTRAK

Ramai penduduk Malaysia berkemungkinan besar terjejas secara langsung atau sebaliknya dengan masalah kekurangan bekalan air tawar akibat perubahan iklim yang menyebabkan waktu dan taburan hujan jadi tidak menentu sehingga mengurangkan jumlah, mutu serta akses kepada air berkenaan di permukaan bumi dan bawah tanah. Hakikat ini menyebabkan proses globalisasi, pertumbuhan penduduk serta kemajuan di sektor pertanian, perbandaran dan perindustrian meningkatkan lagi persilangan untuk memperolehi bekalan air tawar di hari muka. Lantaran inilah konsep urustadbir air tawar menjadi penting untuk ditikberatkan. Maka, berasaskan hakikat inilah juga kertas ini berusaha untuk menganalisis kaitan perubahan iklim dengan bekalan serta sistem urustadbir air tawar di Lembah Klang, Malaysia. Ia juga berusaha untuk menghuraikan mengapakah pihak yang berkemungkinan besar terjejas oleh perubahan iklim dan bekalan air tawar akan melalui pengalaman getir akibat sistem urustadbir air yang lemah. Selanjutnya, kertas ini berusaha untuk membuktikan bahawa masalah kekurangan bekalan air tawar akibat perubahan iklim ini juga turut dipengaruhi oleh keputusan dasar kerajaan dan pelaksanaannya.

Kata kunci: Perubahan iklim, urustadbir, air tawar, keselamatan insan

DESCRIPTION AND ADMINISTRATION OF GREATER KUALA LUMPUR/ THE KLANG VALLEY

This paper will refer to the Greater Kuala Lumpur area and the Klang Valley (Lembah Klang in Malay) as the "Klang Valley." It is an area in Malaysia comprising Kuala Lumpur and its suburbs, and adjoining cities and towns in the state of Selangor. An alternative reference to this would be Kuala Lumpur Metropolitan Area or the Greater Kuala Lumpur area. It is geographically delineated by Titiwangsa Mountains to the North and East and the Straits of Malacca to the West. The area is the heartland of Malaysia's industry and commerce. In the most recent census, the population in the Klang Valley had expanded to approximately 6.0 million in 2010. Also, the Klang Valley is home to a large number of migrants from other states within Malaysia and foreign

workers largely from Indonesia, India and Nepal. The valley is named after the Klang River, the principal river that flows through it, which is closely linked to the early development of the area as a cluster of tin mining towns in the late 19th century. Development of the region took place largely in the East-West direction (between Gombak and Port Klang) but the urban areas surrounding Kuala Lumpur have since grown South towards the border with Negeri Sembilan and north towards Rawang. There is no official designation of the boundaries that make up the Klang Valley but it is often assumed to comprise the following areas and their corresponding local authorities:

1. Federal Territory of Kuala Lumpur
 - a. Kuala Lumpur City Hall
2. Federal Territory of Putrajaya
 - a. Putrajaya Corporation

3. Selangor district of Petaling
 - a. Shah Alam City Council
 - b. Petaling Jaya City Council
 - c. Subang Jaya Municipal Council
4. Selangor district of Klang
 - a. Klang Municipal Council
 - b. Meru Municipal Council
5. Selangor district of Gombak
 - a. Selayang Municipal Council
6. Selangor district of Hulu Langat
 - a. Ampang Jaya Municipal Council
 - b. Kajang Municipal Council
7. Selangor district of Sepang
 - a. Sepang Municipal Council

The Klang Valley area in Peninsular Malaysia administratively involves a state authority and two Federal Territories. These administrative units include Selangor State, and the Federal Governments of Kuala Lumpur and Putrajaya. The climate of the Klang Valley generally is hot and wet with an average annual rainfall of between 2000-3000 mm. There is a number of government agencies, private sectors, local authorities, and NGOs that are involved in managing river and water resources in the Klang Valley. These have initiated activities pertaining to the integrated water resources management approach. But, the problem of integrated management lies in developing a sound cooperation and collaboration among federal, state and community agencies to ensure the well-being of the Klang Valley freshwater assets. The administration of rivers and water resources in this basin is being carried out by both the federal and various state government agencies. The federal agencies are generally responsible for the studies, planning and development of the water resources. The state agencies are responsible for water supply infrastructure development including financing, operation and maintenance.

There are various agencies under state control. These are:

1. Town and Country Planning Department; established both at the federal and state levels
2. State Economic Planning Unit
3. Land Administration/Land Office
4. Department of the Environment
5. Department of Irrigation and Drainage (DID); established both at the federal and state levels
6. State government agencies include the Water Supply Department (Jabatan Bekalan Air)
7. Forestry Department
8. Selangor Water Management Authority (LUAS)
9. Fisheries Department; established both at the federal and state levels
10. Wildlife Department; established both at the federal and state levels
11. Veterinary Department; established both at the federal and state levels

There are various agencies under federal control. The main agencies are:

1. Ministry of Housing and Local Government (Town and Country Planning Department and the Department of Local Government)
2. Ministry of Energy, Green Technology and Water
3. Prime Minister's Department (Economic Planning Unit)
4. Ministry of Natural Resources and Environment (Department of Mineral and Geosciences, National Hydraulic Research Institute, Department of Environment, Department of Irrigation and Drainage)
5. Ministry of Agriculture (Irrigation Division)
6. Department of Environment (DOE)
7. Malaysian Meteorological Service (MMS),
8. Public Works Department (PWD)
9. Health Department
10. Department of Agriculture (DOA)
11. National Hydraulic Research Institute Malaysia (NAHRIM).

RIVERS IN THE KLANG VALLEY: PROBLEMS AND CONCERNS

The Klang River, the largest and main river of the Klang Valley, flows through Kuala Lumpur and Selangor (i.e. the Klang Valley), and eventually into the Straits of Malacca. It is approximately 120 km in length and drains a basin of about 1288 square kilometers. The Klang River has 11 major tributaries. The two most important tributaries are the Selangor River and Langat River. There are two major dams upstream of the Klang River, namely the Batu Dams and the Klang Gates Dam. Selangor River supplies 60% of the Klang Valley's water supply to households. Much of the river pollution in the area is due to untreated sewage, untreated industrial waste, wrong connection of pipes and soil erosion. Sewage goes straight into the river due to inadequate water piping not being linked to the sewage connection pipes. Another problem is the lack of water sustainability in water courses and catchment areas. The natural environment of the coastal areas of Klang are under threat from many sources, including pollution from land and sea-based activities, indiscriminate and improperly planned coastal development, over fishing and destruction of natural habitats. Given the fact that the river flows through the Klang Valley which is a heavily populated area of approximately 6 million people, it is considerably polluted. Below are some of the threats to the quality of freshwater in the Klang Valley, which are cause for great concern.

The quality of coastal waters of the Klang and Langat Rivers is declining due to the increased dumping of waste into upstream catchment areas, especially from

housing and industrial areas, as well as discharges from agricultural and urban areas. In addition to the upstream sources, there are also direct discharges of surface runoff, domestic sewage, ship waste and industrial discharge into the coastal waters. The river and coastal waters are contaminated by *E. coli.*, in excess of the marine water quality standards. Water quality guidelines and standards used for the protection of the marine environment. Other contaminants, such as inorganic chemicals, are also present.

MAIN AREAS OF PROBLEMS AND CONCERNS

According to the Department of Environment, the main sources of water pollution are from livestock farms, domestic sewage, land clearings and a small percentage from agro-based and manufacturing industries.

Oil and grease, suspended solids and *E. coli* are the main pollutants in the coastal waters. Industrial, commercial and domestic activities produce solid waste, which enters coastal waters through the drainage systems and rivers. Excessive erosion and sedimentation occur due to uncontrolled development activities along the coast and upstream water catchments areas. Illegal logging in mangrove forests, cutting of forests in upstream coastal and hinterland areas has resulted in topsoil accumulation in key sources of freshwater. Contaminated water supplies (e.g., for drinking and cooking) and contaminated seafood pose risks to human health, and results in increased infrastructure and health care costs. The breeding, growth and quality of fish/shellfish are adversely affected by water pollution.

The deterioration of the quality of the coastal waters of the Klang and Langat Rivers make these areas unsuitable for recreational purposes, such as swimming and diving, resulting in a decline in tourism. Pollution adversely affects fishermen, indigenous communities and individuals who depend on these areas as sources of livelihood, which directly affects the economic resources of the country. Solid waste in rivers obstructs the flow of water in storm water drains and rivers, causing floods. Shallowing of coastal waters, affecting navigation and access to ports, resulting in increased dredging costs to deepen access routes. Increased costs to build and maintain beach stabilization / protection walls and other coastal structures. The destruction of mangrove forests and peat swamps, due to clearing of land for agriculture, logging and other development works, will result in losses of ecological functions such as breeding grounds and nurseries for a variety of marine life as well as a natural defense against coastal erosion.

WATER DEMAND AND SUPPLY MANAGEMENT AND PRIVATIZATION IN THE KLANG VALLEY

A number of large scale socio-economic projects have either taken shape or are currently being completed in the Klang Valley. The increase in population coupled with the growth and expansion of the economic activities inevitably lead to an increasing demand for water for diverse purposes such as domestic, industrial, and agricultural use, hydropower, navigation and recreation, etc. In order to address impending severe freshwater scarcity in the Klang Valley, we must focus on who and what is involved in water demand and supply management in the Klang Valley. Focus must move more towards demand management, which relies heavily on protection and conservation, and not on finding new sources of supply. Under the Malaysian Constitution, water is a State matter. Nevertheless, when it comes to water resources development, utilization and management, both the federal and state governments are involved. This is because the responsibility for water resource administration is fragmented and is shared among a number of federal and state agencies, each of them having their own specific involvement in water related issues (Elfitrie, Mokhtar, Shah & Idrus 2004b).

The federal agencies are responsible for the planning, research and development of water resources, while the state agencies are responsible for water supply infrastructure to consumers, and development including financing, operation and maintenance (Mohamad, Jamilah Mustafa, Firuza-Begham & Wan-Sobri 2008). As it usually happens, 'too many cooks spoil the broth,' so interaction between federal, state, community-level and civil society stakeholders have to be scrutinized, in order to identify stumbling blocks or potential successes connected with freshwater issues. In view of the need for a more holistic approach in water resources planning and development, the Malaysian Government introduced the Water Services Industry Act (WSIA) of 2006 to regulate the water industry in the country. In 2007, The National Water Services Industry Commission (SPAN or in Malay, Suruhanjaya Perkhidmatan Air Negara) was established and employs the WSIA to regulate the national water services industry in terms of licensing, supervision and monitoring. SPAN tackles all issues between federal, state and local levels. Proposals for tariff hikes have to go through SPAN and the WSIA.

SPAN also plays a role in getting state governments to privatize their water supply. Privatization allows SPAN to monitor the body and make it more efficient, so it is claimed. Any increase in water tariffs by states would have to be approved by SPAN after the body audited and evaluated the financial status of the state and its expenditures. Under the new regime, all capital expenditure required for the development of additional capacity and the maintenance of existing and future

assets are or will be financed by the federal government via a financing conduit, Pengurusan Air SPV Bhd., a wholly-owned subsidiary of PAAB (Pengurusan Aset Air Bhd). PAAB plans to sell bonds to fund the programme. Operators are to submit 30-year master plans and rolling three-year business plans to SPAN, detailing the expansion and maintenance strategies for these assets. Operators (be they state or private) that do not perform up to SPAN's requirements risk having their licences revoked. Under the new industry model, the state operators' core functions include monitoring the quality of water resources (still owned by the respective states), treating raw water, distributing water to consumers, monitoring water loss and running the water assets which have been leased from PAAB.

The federal government (Barisan Nasional, or National Front) privatized the water industry in Selangor (which includes the Greater Kuala Lumpur area and the Klang Valley) into four different companies (Syarikat Bekalan Air Selangor Sdn Bhd, (SYABAS), Puncak Niaga Sdn Bhd (PNSB), Syarikat Pengeluaran Air Sungai Selangor Sdn Bhd (SPLASH) and Konsortium ABASS) beginning in 1996 to supposedly increase efficiency. However, this has resulted in corruption, wastage and mismanagement. For example, the Federal Government has bailed out SYABAS (Syarikat Bekalan Air Selangor) one of the four companies, many times using Malaysian tax-payers' money. SYABAS is a purely privatized Barisan Nasional subsidiary. SYABAS is the end-supplier to households. Recently, SYABAS put in a proposal to SPAN seeking a tariff hike effective 2009. Since Selangor state, including the Greater Kuala Lumpur area/Klang Valley fall under the opposition party, the People's Alliance (Pakatan Rakyat), it wants to lower water rates which is not something taken kindly to by the federal government. The Selangor state government believes there should be a holistic water services industry that is streamlined, with no inefficiencies and with lower tariffs, better services, and continued 20 m³ of free water (the Chief Minister of Selangor approved to not charge households in Selangor for the first 20 cubic meters of water from April, 2008 onwards). Without this, Selangor residents could be paying 100% more in 2015. It is also questionable as to why SYABAS imported RM375 million worth of pipes from an Indonesian company owned by Tan Sri Rozali Ismail (Chairman of Puncak Niaga Holdings Bhd.) instead of sourcing locally in June 2005. Actually, more than 72% of contracts, worth RM600 million in total, were awarded through direct negotiation, and not through an honest open tender process.

Under the federal government the idea of privatization and consolidation is to centralize the water assets and put the onus of developing the water infrastructure on the federal government, who will then lease them back to the state asset operators who can then focus on providing clean and reliable water supply to households and industries under a more regulated landscape. The exercise was to

involve twelve states in Malaysia including the island of Labuan, which is under federal government territory. To date, only three states have completed the migration to the new licensing framework which is a reflection of the complexity of the exercise. It is at this juncture that we discuss privatization and the politics of freshwater demand and supply management between federal and state authorities in the Klang Valley. The success or failure of efficient demand and supply management of freshwater in the Klang Valley depends heavily on how politicized the matter becomes.

In December 2009, the federal government gave a RM320.8 million back-loaded interest-free unsecured soft loan to Puncak Niaga Sendirian Berhad, (PNSB) the holding company of SYABAS to settle their debts. PNSB is the second of the four companies to which the *Barisan Nasional* has privatized the water industry. PNSB owns 70% of SYABAS, which oversees the supply service and distribution for the state of Selangor, i.e. the Klang Valley.

Other players in the privatization of the Klang Valley's water resources are the following:

1. KDEB

Kumpulan Darul Ehsan Bhd (KDEB) which owns 30% of SYABAS. The *Barisan Nasional* has set up a funding mechanism through PAAB to take over the assets and liabilities, and will be responsible for the funding of any future capital expenditures. KDEB aims to end monopolization of water tariffs by the privately-owned water contracts or concessionaires by September 2008. KDEB made a proposal in 2008 to take over the entire water operations in Selangor after the federal government assured them that it will help fund a buyout plan.

2. PUSPEL

Supposedly, PUSPEL provides the most convenient one-stop center for consumers to voice complaints, concerns, or queries. It assists in identifying the cause of water related concerns and provides the appropriate solution to consumers' water supply-related problems. PUSPEL promises to share information or views to better serve consumers. SYABAS has divided PUSPEL into three major components in an effort to provide efficient and transparent services to all consumers from different walks of life. PUSPEL has developed the following:

- a. PUSPEL Call Centre
PUSPEL Call Centre is specifically set-up for the public and consumers to channel their problems, queries and sharing of information related to water supply.
- b. ICU (Industrial Customer Unit)
ICU claims to understand the needs and importance of having high quality and reliable water supply systems to support the industrial and commercial sectors.

3. YAKIN (Unit Kerjasama Informasi Pelanggan)

YAKIN is a unit of the Customer Services Department of SYABAS, specifically set-up to meet the needs of domestic consumers in the Klang Valley where YAKIN is currently serving via a direct, personal and proactive approach. YAKIN takes consumer service to the next level by going down to the grassroots level in order to troubleshoot problems and grievances faced by the individual consumer. Its function is similar to PUSPEL, which demonstrates an overlapping of responsibilities of the various Federal agencies.

4. PAAB (Pengurusan Aset Air Bhd.)

PAAB has been tasked with the protection of water resources. It is a wholly owned government company and leases water infrastructure to various local and foreign water operators. PAAB was formed in May 2006 paving the way for the federal government's new regime, aiming to consolidate ownership of and responsibility for funding water assets in Peninsular Malaysia and Labuan (in the Eastern Malaysian State of Sabah), hence separating the roles of water operator and asset owner. The intended goal of the federal government is to achieve full-cost recovery and financial independence by all the operators and PAAB.

5. NAHRIM (National Hydraulic Research Institute)

NAHRIM is the research wing of the Department of Irrigation and Drainage (DID). It is a government institute (Ministry of Natural Resources and Environment) engaged in research and specialist consultancy in all aspects of water hydraulics and the water environment.

6. LUAS (Lembaga Urus Air Selangor, Selangor Water Management Authority)

LUAS aims to educate consumers on methods of detecting river pollution sources and creating awareness of the importance of caring, protecting and appreciating rivers as the main source of water supply.

7. DID (Department of Irrigation and Drainage)

The DID is under the Ministry of Natural Resources and Environment. It has split into 2 functions: i. Irrigation and ii. Flooding. The Department is part of the Ministry of Natural Resource & Environment (NRE). The DID has over the years taken on new and expanded responsibilities such as:

- a. River Basin and Coastal Zone Management
- b. Water Resources Management and Hydrology
- c. Special Projects
- d. Flood Management
- e. Eco-friendly Drainage

8. SPLASH (Syarikat Pengeluar Air Sungai Selangor Sdn. Bhd.)

Syarikat Pengeluar Air Sungai Selangor Sdn. Bhd. or better known as SPLASH, is the concessionaire appointed by the State Government of Selangor in January 2000 to build, operate and maintain the Sungai Selangor Water Supply Scheme Phase 3 (SSP3). The 30-year SSP3 concession also includes taking over the operation and maintenance of the Sungai Selangor Water Supply Scheme Phase 1 (SSP1). SPLASH also took over the operation and maintenance of the Sungai Tinggi Dam in January 2006. SPLASH shareholders comprise Gamuda Berhad (40%), The Sweet Water Alliance (30%) and the Selangor Government's investment arm, Kumpulan Darul Ehsan Berhad (30%). With combined capabilities and expertise, each being well-known names in their own fields and possessing individual strengths, SPLASH has the competitive edge in the water industry.

THE POLITICS OF FRESHWATER MANAGEMENT IN THE KLANG VALLEY: CONCERNS

A 2006 United Nations report focused on issues of governance as the core of the water crisis, saying "There is enough water for everyone" and "Water insufficiency is often due to mismanagement, corruption, lack of appropriate institutions, bureaucratic inertia and a shortage of investment in both human capacity and physical infrastructure" (United Nation 2006).

For Malaysia, it seems that the *Barisan Nasional* has not really taken care of the needs of the people because of seven factors. These are:

1. Failure to recognize the state ownership of water catchment areas. The issues to address are that water, under Federal Constitution does NOT recognize water to be a wholly-owned state matter. Hence, the Federal Constitution has to be amended because land, and resources that go with it (including raw water and catchment water) is a state concern.
2. Need to compensate the states for the development and use of water assets (such as the building of dams, the use of treatment plants and the supply of piping) which are all managed by the states. States should be compensated for water assets and infrastructure since they are treating raw water only to deliver it back to PAAB since all the infrastructure is leased from PAAB.
3. The need to promote transparency in the award of contracts/concessionaires for the supply of water as well as the construction of water assets. There are concerns about the manner in which capital expenditure has been spent particularly with regards to the award of contracts that may have resulted in

overspending of capital expenditure. There seems to be no standardization on the construction of water infrastructure.

4. The need to facilitate inter-state water transfer subject to royalty compensation. This makes sense because raw water is a state-owned commodity and the state should be compensated because it is transferred to operators who treat and supply the water to consumers. SPAN should facilitate inter-state transfer and compensation. Royalty for raw water should be standardized and be made affordable to the state operators so that the end-user, i.e. the private consumer will not bear extra cost.
5. The need to collectively raise funds through PAAB.
6. The need to have a reasonable return on investment which is fair because the water services industry is a monopolistic industry and does not warrant such a high rate of water.
7. The need to keep water tariffs in check.

The Prime Minister of Malaysia, Najib Tun Razak has mentioned that the differences in view between the Federal and Selangor governments should solve the impasse that exists now, in relation to the seven suggestions mentioned above (The Star 2010). Charles Santiago, Member of Parliament for Klang as well as the Coordinator for the Coalition Against Water Privatisation said that it was crucial that the state of Selangor take over the entire water industry in order to ensure that the people received cheap and good quality water. He says further that if the state does not take over, there will be a 37% tariff increase followed by a subsequent 25% and 20% increase within the next six years. Santiago says that if the state takes over there will only be a 12% initial tariff increase, followed by 12% and another 12% within the same time frame (i.e. within the next six years). As such, the state will not make any profit but merely produce and provide cheap and clean water for the people. 90% of residents in the Klang Valley rely on polluted river water for their domestic and industrial use. It seems obvious that the federal government or rather SYABAS is using the notion of scarcity of freshwater to promote the intention to privatize and generate revenue for the government. Santiago says that instead of bickering over concessions and ownership of raw water, effort should be put into conservation and cleaning up the rivers.

A Memorandum on the Selangor state water issue was written in 2010 to be handed over to the King (*Yang di-Pertuan Agong* Tuanku Mizan Zainal Abidin) at the National Palace. Among the contents of the memorandum was to request the King to order the rights over water resources, now handled by SYABAS, to be returned to the Selangor State Government and for the King to review the objectives of the constitution as indicated in the Water Services Industry Act of 2006. A memorandum of this nature was necessary, given the current stand-off between the State government and the *Barisan Nasional*-led federal government over a proposed inter-state water

transfer project (The Star 2010). An important reason for the impasse is that the federal and state governments disagree over the magnitude of the freshwater situation in the Klang Valley. The federal government claims that come 2012, Selangor could face a serious water crisis if the stakeholders involved in water management failed to come up with early solutions. This was made very clear in an interview by Bernama, Malaysia's official state news agency, by the Chief Operating Officer of SYABAS, Lee Miang Koi. His aim, and to him, a sound solution, is to highlight the impending danger of an acute freshwater shortage by 2012, so that it would be necessary to move ahead with the Pahang-Selangor raw water transfer project as well as the Sungai Langat 2 Water Treatment Plant. Many stakeholders, both in the federal government and private concessionaires could benefit financially by this project. Charles Santiago and others from non-governmental organizations and civil society have repeatedly called for a halt to the expensive project as freshwater scarcity was not at such a crucial state right now. The Chief Minister has also stressed that there was enough water to meet the demand until 2019. So, why the haste in proceeding with the water-transfer project and the Sungai Langat 2 Water Treatment Plant? It is both costly and unnecessary according to non-federal stakeholders and civil society. Santiago, and like-minded others have instead called for more community and state-based projects to clean up the rivers, conservation and to educate the people of the dangers of polluting Malaysia's largest source of freshwater, i.e. the rivers, and the inevitability of global climate change that will affect the availability of freshwater in the long run. There should be no misunderstanding, though, whether Malaysians are aware or not, of the impending doom that climate change could bring to the catchment areas of river basins. On the contrary, Malaysians are very aware. What is desperately needed are advocacy groups from civil society to continue to educate the population on pollution, wastage and complacency, and how not to throw all forms of garbage, including sewage, into rivers. This should be a long-term project, carried out by the federal and state governments, as well as conscientious citizens of civil society. This is what constitutes governance in the water industry.

CONCLUSION: GOVERNANCE, CHALLENGES AND OPPORTUNITIES IN THE WATER SECTOR

In Malaysia, according to the Town and Country Planning Act 1976, private sectors, NGOs and CBOs (community-based organizations) are encouraged to participate in consultation for water sector development projects and provide a collaborative decision making framework in preliminary water resource planning in national and local development plans. Although the participation of NGOs and CBOs in planning water resources is encouraged,

the implementation of development plans and projects are still handled by the related federal ministries and agencies. There is a lack of a provision that allows for active and effective participation of local communities and NGOs in the management of water resources. In order to ensure the integration of upstream and downstream management, the administration boundary should be based on the river basin boundary. The development of multi-stakeholders agency is needed in order to anticipate and resolve water-related challenges across traditional political boundaries and focus the laws, policies, programs and projects of various communities toward more efficient, integrated solutions. It seems that Barisan Nasional claims that climate change is the main reason for the federal government to step in to solve an impending freshwater crisis. The federal government's reading of the freshwater situation in the Klang Valley is, however, not true. As has been mentioned above, the Klang Valley has enough water to last till 2019, if not further well into the 21st century. All stakeholders believe that climate change is real and will be a serious threat to Malaysia's freshwater resources, but we must also be pragmatic. Pragmatism involves realizing that all stakeholders, ranging from the federal and state governments, to NGOs and civil society should beef up the education and awareness to the public of the impending crisis, as well as instilling mitigation projects, such as conservation, recycling, and cleaning up the rivers and catchment areas.

As responsible citizens of the country, it is our duty to:

1. Recognize that access to clean water is a fundamental human right, as declared by the UN.
2. Stop the federal government from bailing out failed privatized companies.
3. Stop privatizing profits and socializing losses.
4. Support the Selangor State Government in taking over the water industry in Selangor.
5. Fight for better, cleaner, water and more efficient services.

The Malaysian Nature Society (MNS) says that a positive way to manage freshwater resources is to combine focusing on both demand management and supply management, putting more emphasis on demand management. What is needed is a comprehensive water demand and supply management plan, especially since the Klang Valley has a very high consumption rate. In 2009, the MNS, together with a number of stakeholders and professional and civil society bodies, drafted a proposal for such a plan which they presented to SPAN as well as to the Selangor government (of which the Klang Valley is a part of). At the national level, what is needed is a National Water Policy. While most countries adopt a decentralized water management scheme, Malaysia has chosen to centralize it through SPAN.

Malaysians must also be educated that the solution to water woes is not to build more dams and treatment plants to meet demand. What is needed is a demand-management scheme, to teach consumers how to save water, reduce Malaysian per capita daily water usage from the current 300 liters per person per day, to at least 200 liters, according to Chan Ngai Weng, who is the President of Water Watch Penang. S. Piarapakaran, Senior Manager (Environment, Energy and Water) of FOMCA says that Malaysia lacks a holistic management in the water usage cycle. He says, "When inefficiency plagues the sector, due to the different implementing agencies that work without coordination, managing this precious resource becomes more difficult." Many non-governmental organizations and civil society say that while climate change gives direct impact to water sources, the inefficiency of the water management sector in Malaysia is causing more damage than climate change. WECAM says that although climate change can cause direct impact on water resources, there are many simple measures that consumers in the domestic, industrial and agricultural sectors can apply. One possibility is to unify water-related activities under one ministry. The Ministry of Energy, Green Technology and Water is the most suitable, entrusting it full responsibility for the implementation of water supply and demand management. Under this ministry, all agencies, both federal and state, should be restructured to better manage the water sector. Suggestions have been made to utilize ground water, but both WWP and WECAM say that it is unsustainable due to the rate of recharge, i.e. the amount of rainwater would not be in sync or enough to replenish lost/used groundwater. For example, cities like Bangkok and Mexico City are sinking because of extensive over-pumping of groundwater. Furthermore, unlike other countries, such as India, Malaysia's groundwater is limited. Besides there are ample rivers and other sources of surface water from which we can sustainably extract.

Since 97% of Malaysia's water supply comes from surface resources, such as rivers, lakes, ponds and wetlands, consumers or the end-users have a lot more to learn on conservation and sustainable consumption. So, is water management in the Greater Kuala Lumpur Area/Klang Valley a success or failure? If one looks at all the different angles, one might see that the basic reason why it is a failure is because of the politicization of the freshwater industry and 'get rich quick' policies among the different agencies involved. Even though NGOs and other consumer groups have consistently called for an integrated management of Malaysia's rivers and other freshwater bodies, more needs to be done in the area of conservation, recycling and demand management, i.e. teaching the public how to save water and not mistreat and neglect Malaysia's sources of freshwater.

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