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Kedah's future tied to judicious use of coastal zone

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THE statements made by Kedah Menteri Besar Datuk Seri Sanusi Junid on the proposed mammoth coastal reclamation project to be implemented along the coastline of Kedah have drawn interesting comments and critiques from several readers and organisations.

The first disclosure by Sanusi was made on Nov, 6 1996, followed by clarifications, public comments/critiques, and an articles on Nov 16, 17, 19, 21, and 26, respectively in the New Straits Times.

Honestly, I am not surprised by the wide attention focused on the subject since reclamation project is new to this country; even the practising civil engineers are generally not well-versed in the subject let alone the public. Coastal reclamation involves to certain extent geotechnical engineering, but it resides mainly within the domain of coastal engineering, which is represented by a very small community of professionals currently, available in the country.

These practising coastal engineers like myself, are considered pioneers in the field and have been involved in most reclamation projects currently in planning and implementation stages in this country.

Over the years we have accumulated valuable experience and knowledge in coastal reclamation and related fields.

Together with other professionals/scientists of other disciplines, we have contributed, directly or indirectly, towards the formulation of relevant policies/laws and regulations/guidelines.

These are carefully, thought out, tested policies/guidelines designed to guide the implementation of reclamation projects in order to ensure the protection of the environment and resource sustainability. These policies/guidelines are gazetted in the Environmental Quality Act 1987 and govern the conduct of Environmental Impact Assessment studies for coastal projects.

This suggests reclamation and its related works need to have prior approval from local authorities and Department of Environment (if more than 50 hectares) before it can proceed and be implemented. These are the normal procedures and all state agencies and consultants are aware of these requirements.

With the appointment of National Hydraulic Research Institute of Malaysia to plan, advise, carry out relevant studies, and monitor the implementation of the project, it is only natural that the existing policies, statutes and guidelines will be followed stringently; after all Nahrin is formed to provide expert advice on the stewardship and wise use of the country's water and coastal resources and space.

Prior to the Press statement made by the Menteri Besar, Nahrin and Kedah's state agencies have deliberated in great details on the pros and cons of the project. We concluded that proper planning, detailed studies and design, and the adoption of the right methods and technologies are prerequisites to a proper execution of the proposed project.

We are very well aware that the planning of such a mammoth project requires a broad overall perspective in identifying the important economic, management, environmental, commercial, development, and social issues.

For example, we, are very well aware that the adoption of unsuitable method of mining the offshore sand and dumping on the nearshore area could lead to long-term alteration of sediment budget, coastal erosion and

flooding, damage to mangroves and fishing ground, and degradation of other coastal resources, e.g. beach.

In this regard, the planning of the project to be carried out by Nahrin will be guided by three basic principles: the principle of sustainability, principle of accountability, and principle of equity. The project will be planned, designed, and implemented with the assurance of resource sustainability.

The project will be implemented with full responsibility or accountability resting with the state and Nahrin. The project will be governed with equity in relation to its responsibilities and obligations to the protection of the interests of local communities in relation to environment, renewable resources, and social conditions.

This objective can be translated into action via the preparation of the Kedah Coastal Reclamation Master Plan (currently in progress), the conduct of macro EIA, the conduct of detailed hydraulic study, and the execution of post construction monitoring programme. All these actions will be taken at certain levels during the implementation period of the project.

About 64 per cent of the coastal zones of the country have been developed for agriculture, aquaculture, housing, infrastructural, industrial, commercial, and recreational purposes. The demands for these coastal lands are rising and are partially being met via reclaiming from the sea.

In fact, coastal land reclamation in Malaysia has always been an on-going activity since time immemorial. We need land reclaimed from the sea because we need suitable, flat lands for development and for accommodating the growing population. The much publicised earlier (1989) proposal to reclaim the entire west coast of Peninsular Malaysia by Prime Minister Datuk Seri Dr Mahathir Mohamad was made on similar grounds.

The true scale of this need is revealed during a survey conducted by Nahrin recently, on behalf of the government. The survey indicates that currently there are 67 coastal reclamation projects being planned and gradually, implemented in this country covering a potential 67,500 hectares of coastal and nearshore area.

These statistics include the acreage of about 12,800 hectares proposed for Kedah. The choice of shifting future development to reclaimed land is logical and justifiable because the existing coastal areas are either not available since they, are already, heavily used, developed and gazetted for other types of development (e.g. padi farming in Kedah) or development is totally forbidden due to environmental reasons or other factors. Converting coastal lands, e.g. in Kedah, from existing usage for padi farming into commercial or industrial purposes will not only create social problems but, in the long run, cause food security problems to the country.

Coastal land of Kedah which are currently heavily used for padi farming shall not be disturbed as 41 per cent of rice production in the country is produced in this area. The total acreage of land dedicated to padi cultivation in Mada and surrounding areas amounts to 213,843 hectares and this represents 35 per cent of the country's padi fields.

At the same time, heavy development in the hinterlands (including, catchment areas) must be discouraged as it disturbs the sensitive hydrological system of the State's river and drainage systems which will seriously affect water requirement for padi planting. On the other hand, reclamation of the sea does not involve land acquisition and therefore social problem is insignificant, if there is any.

There is no denial that coastal reclamation project will cause some environmental problems since about 50 per cent of the coastline of the country is fringed by mangroves. Of the total acreage of about 641,000

hectares (1993, Forest Research Institute of Malaysia), 365,00 hectares can be found in Sabah, and 168,000 hectares in Sarawak.

Of the remaining 110,000 hectares in Peninsular Malaysia, only 8,000 hectares can be found in Kedah. The recent survey (1996) conducted by, Nahrim via GIS mapping and aerial surveillance points towards further degradation of this coastal resource. In Kedah, relatively medium size areas of mangroves can still be found at Kuala Sanglang and Kuala Muda areas.

Outside these areas pockets of mangroves can be found with width less than 50m and total destruction of mangroves was observed and recorded in most other areas along the state's 100km long coastline. No doubt, extensive reclamation of the coastal area of Kedah for development may still consequently result in a conflict of policies - between the need to conserve and the need for development. However, the master plan of reclamation project for Kedah currently being prepared by Nahrim will take into account the importance of mangroves in the marine ecosystem balance and the potential conflicting land uses.

Realising that coastal land reclamation cannot go together with the inshore fishing and sustainable harvesting of mangrove forests in the same area without affecting the latter, the reclamation project in Kedah will be planned with a provision of preserving the existing mangroves as well as encouraging the proliferation of new generation of the forest.

This can be achieved via the provision of channel or water body between reclaimed land and existing and through replanting mangroves. In fact, Nahrim is allocated a substantial fund by the government to experiment in mangrove forest enhancement or replanting project and two sites have been chosen - one at Kuala Selangor, and another at Yan, Kedah. It is envisioned that replanting of mangroves will be made mandatory in certain zones of any reclamation project in the country in the future.

Zoning of the reclamation project area according to types of industries further help in minimising impacts on the environment. Locating industries that have the potential to affect the quality of the coastal water away from mangrove areas, for example, helps to preserve the particular marine resource.

Zoning for the Kedah case is currently being implemented in the master planning stage of the project.

In summary, Kedah, like any other state in Malaysia is experiencing an intensification, and diversification of economic and socio-economic development. These developments are generally centred along the coastal zone of the country and development pressures have changed tremendously the trend of land use pattern.

Kedah, being the rice bowl of the country, cannot afford to convert these valuable, important agricultural areas into other forms of economic activities. This being the case, reclaiming from the sea is the only natural choice.

Reclaiming from the sea, developing the area, and ensuring resource sustainability can be achieved with the application of existing legislating acts, statutes, and some ingenuity. I am of the opinion that the sea is the last frontier and Kedah's future is inexorably tied to its judicial use of the coastal zone.

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