Infrastructure and Development – Malaysia's experience

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Abstract

The Malaysian experience highlights the importance of public investment in infrastructure in facilitating technological and economic development. This article outlines the country's milestones in infrastructure development. It argues that the state must actively facilitate technological change by providing the infrastructure necessary to attract foreign direct investment and encourage local entrepreneurship.

Introduction

Malaysia has just celebrated the 50th anniversary of its independence from United Kingdom on 31st August 2007. 50 years ago, there was no such country called Malaysia, but a territory called the Federated Malay States or Tanah Melayu, consisting of four small Sultanates from the federated Malay states and five unfederated Malay states, which were separate British territories. In addition, the North Borneo and Sarawak both in the Island of Borneo joined the Federation of Malaysia in 1963. The Federation of Malaya and later Malaysia was very a poor country. Ghana, a country in West Africa also obtained independence from United Kingdom in the same year. At that time, Malaysia was less developed than Ghana.

Nevertheless, in 2008, Malaysia has become one of the success stories in Southeast Asia, despite still having many weaknesses which are also prevalent in many other multiracial emerging nations that have to manage the many demands and interests of the different ethnic groups. Malaysia is now an upper middle income country by the World Bank's standards and one of the 20 important trading nations in the world. This is not surprising as the land where Malaysia is now located has always been part of the main Asian trading routes. Its trade activities at that time peaked during the Melaka Sultanate between the 13th and 16th century.

Malaysia's ability to climb out of poverty and renewed rise as a trading nation is related to the government's the long term planning in the form of five year plans (the current Malaysia plan is the 9th Malaysian Plan which ends on 2010) This Industrial Master Plan, includes the Malaysia Third Industrial Master Plan 2006-2010 and the Overall Perspective Plans (OPP). These plans are not just a statement of good intentions but have a clear focus on implementation to ensure that the whole country benefits from the plans. There is no doubt that pork-barrel bargains tend to benefit certain organized interest groups more than others but the problem is not unique to Malaysia.

Malaysia has developed its infrastructure based on the various master plans. This infrastructure enabled Malaysia to facilitate the country's development. This article focuses on two areas, namely road and highways, and industrial and technology parks.

Roads and highways

According to the Highway Division of the Ministry of Works Malaysia, in Malaysia, Road transportation accounts for 96% of total passenger and goods transport in the country. It is not surprising that roads and highway play an important role, to connect people and industries and a proper road and highway network has managed to contribute towards economic development in the country. The road and highway networks also contributes towards the increase in the number of privately owned public transportation network in the form of express buses. As these express bus operators are run on a profit making basis, some areas are not in their routes, leaving the population to continue relying on privately own transport.

The Ministry of Works Malaysian states that in 2006, Malaysia has a road network infrastructure of 90,129 km of which 79% were paved roads. The highways in operation total 1,890 km comprising mostly of interurban highways across a country surface of 329.750 km^2 and designed for population of 25 million people.

Malaysian development plans have always believed that development efforts including roads and highways will

contribute towards a significant reduction in the incidence of poverty and a more equitable distribution of income. Comprehensive planning for roads in the country began in the 1st Malaysia Plan (1966-1970). During the 7th Malaysia Plan (1996-2000), the overall development of roads is guided by the Highway Network Development Plan that was formulated in 1993. In the 8th Malaysia plan, road and bridges were allocated a budget of US$5 billion and which was 11% of the total budget for 2000-2005 and in the current 9th Malaysia plan the amount allocated is US$ 4.7 billion which makes up about 9% of the total budget from 2006 - 2010.

Spending on roads and highways by the government does not include several privatized highway projects which mainly connect the southern part of Malaysia bordering Singapore with the northern part of the country bordering Thailand. In 1983, the Government introduced privatization as a national policy and a new approach in national development. This is due to the budgetary constraints in the highway network expansion program. Privatized highways are very successful in Malaysia and these highways have become an engine of growth in the country's development.

Under the privatized system, private companies are given concessions for up to sixty years in certain cases to collect tolls from the highways. The concession companies are responsible for obtaining all the finance, both debt and equity, necessary to construct, operate and maintain the highways. The private sector's main challenge to access funding is to have a financial model that passes sensitivity test analyses involving fluctuation in toll revenue, increase in costs, delay in construction and changes to concession agreement. The government benefits from the privatization program in terms of savings in capital expenditure amounting to RM 28.7 billion (US$ 8.9 billion). In addition a total of 3,590 employees were transferred to the private sector.

Due to the 1997 economic crisis in Malaysia and other parts in Southeast Asia, many of the highway concession companies have been bought over by government related companies, thus, whilst maintaining a private status, these companies are de-facto owned by the government's investment arms. For example, United Engineers Malaysia (UEM) which is by far the biggest concession company with many important highway links in Malaysia is 100% owned by the Khazanah Nasional, which is the sovereign investment arm of Malaysia.

The importance and the impact of these privatized highways to the Malaysian economy cannot be understated. For example, the traffic volume for the month of December 2006 for the North South Highway, the most important highway link in Malaysia as reflected in million passenger car units/kilometer (pcu-km), saw an increase of 0.8% as compared to December 2005. Annual traffic volume in 2006 has increased by 1.6% (Works Ministry, 2007).

Industrial and Technology Parks

According to the Malaysian Industrial Development Authority (MIDA), Malaysia has more than 200 industrial estates or larger parks developed and operated by State Economic Development Corporations, Regional Development Authorities, port authorities and municipalities. Private developers are also developing industrial parks. Among these industrial and technology parks, two of them, Kulim Hi Tech Park (KHTP) in the Northwestern State of Kedah and the Technology Park Malaysia (TPM) in the south of the capital Kuala Lumpur require special mention.

Covering an area of 1,450-hectare KHTP is the country's first, fully-integrated high technology park. Besides providing one of the best infrastructures for high technology manufacturing and R&D, the Park's Master plan also puts emphasis on the quality of life within a self-contained township. Amenities incorporated in the plan include a shopping centre, a hospital, educational institutions and recreational facilities. To meet the increased demand for industrial land at the park, KHTP will be extended to cover an area of 1,600hectares.

To-date, KHTP has attracted some RM21 billion (US$ 6.48 billion) investments and houses over 20 companies including Intel, Infineon Technologies, Fuji Electric Malaysia, Celestica, Frontken, BCM Corp and wafer fabrication makers such as SilTerra and Hamadatec. Among major tenants of the Kulum Hi Tech Park are Intel and Fuji. Fuji is building its second substrates manufacturing plant, while Intel is setting up its facility for the design and development of chipsets, scheduled to begin operations next year as well as its new administration facility.

KHTP has also set up its own subsidiaries such as the Kedah BioResources Corp Sdn Bhd (KBioCorp). The new company is expected to spearhead the overall biotechnology initiatives of Kedah, including developing a biotechnology cluster over a 20 hectares designated site in the Park.

KBioCorp is also geared towards joint collaborations with the private sector and institutes of higher learning to further boost its biotechnology programmes.

Technology Park Malaysia (TPM) has been established to facilitate the eventual commercialisation of the R&D outputs of its tenants, mostly from the private sectors. Public sector research continues to concentrate within the campuses of universities and public research institutions. TPM offers low rental rates, incubators and some form of venture capital assistance towards seed organisations. Organisations conducting research in the IT sector may qualify for special incentives in the form of tax benefits, fast tracked approval for foreign professionals and other benefits from the multi media super corridor scheme.

In other words, TPM is to promote an environment which brings together key stakeholders in technology commercialisation. These include the technology providers (universities/RIs), the business community (industry), and the financial institutions (venture capital companies). In order to be more pro-active in its role, TPM has recently launched the Technology Intelligence Network to help prospect for potential technologies within Malaysia as well as outside the country. In addition, TPM will formalise the Technology Business Consultative Panel which will have representation from key stakeholders in the technology commercialization exercise. Apart from the technology providers, the other stakeholders include the business community, the government and venture capitalists.

TPM has been given the task to facilitate the technology commercialisation of herbal and nutraceutical products, especially those derived from the country's vast biodiversity. In order to carry out the mandate given, TPM management has decided to initiate a new mechanism to promote better linkages between the technology providers which include the universities and research institutes, the industry and business community and the financial establishments including venture capital companies.

Over the years, the linkages have not been sufficiently strong. As a result, there has been a lot of mismatch between the technologies that are generated by the R&D community and what the industries need. Lately this has developed into a media issue, the R&D group blaming the local industry for not being forthcoming in taking up the technologies they have developed and the industry complaining that the R&D findings have no relevance to market needs.

However, the Government is starting to recognise the problem and is encouraging universities and public research institutions to have more strategic linkages with the private sectors and potential employers. In addition, private sector research institutions such as those owned by Sime Darby, the biggest plantation conglomerate in the world has also started to have more linkages with the public sector.

Conclusion

The many projects to build roads and bridges to connect the various parts of the country fosters and smoothes the flow of goods, services and people, which contributes to economic development in Malaysia. Whilst the road and highway networks connect the various parts of the country and provide smooth flow of goods and traffic, industrial parks play an important role in the providing the necessary infrastructure for high technology companies that require specialist facilities. In addition, many indigenous research and development activities are also nurtured in these technology parks.

Knowing the importance of this physical infrastructure for economic development, Malaysia has been persistent in ensuring that physical infrastructure remains a top priority, including its operation and maintenance.

Malaysia's experience may be a good lesson to some other developing countries such as those in Africa. A good network of roads and highways and research and development facilities in the form of technology parks is ideal to foster economic growth across a vast region. Nevertheless, these infrastructure requires huge public sector and private sector investment, including the involvement of foreign investors and foreign funds. The current international economic climate may not be as favorauble as the time when Malaysia started its drive for infrastructure development.

Thus, African countries have to rely to international development fund such as the World Bank to continue improving the infrastructure network. These countries may also decide to have research and development hubs by expanding existing facilities instead of building a new purpose built technology park.