

# Strengthening Key Sectors for Cambodia's Return to Growth, Sustainable Development and Poverty Reduction: Infrastructure and Energy

Cambodia, partly for understandable historical reasons, is suffering acutely from lack of infrastructure development, whether road, rail, water or energy. To be able to move into a sustainable high growth mode, the limitations and constraints that the country is faced with in this area should be addressed effectively. Although infrastructure provision of all types has been improving in recent periods, considerable limitations in this area persist, putting the producers in the country in a disadvantageous competitive position as well as imposing considerable constraint on Cambodia's general socio-economic development. The piece that follows is based on selected summary presentations of H.E. Hang Chuon Naron<sup>1</sup>, H.E. Hav Rathanak<sup>2</sup>, and Mr David Kerr<sup>3</sup> that address the state of infrastructure in Cambodia, its importance and prospects.

Dr Naron considered the role of infrastructure in its broadest sense of contributing towards Cambodia's economic development and prosperity. In doing so, he differentiated between different types of infrastructure and put these in the context of geopolitical policies necessary for long term growth.

In terms of types, he differentiated between hard and soft infrastructure, pointing out that historically, all types of infrastructure have improved over time. In terms of road rehabilitation for example, 550 km of roads were rehabilitated during 1993-97, 2,350 km during 1998-2003 and 600 km during

2004-2007. Telecommunications, especially mobile phones and Internet access has increased by 50 percent a year in recent periods. He went on to argue that Cambodia has experienced substantial renovation and rebuilding of transport networks, including roads, waterways, railways and airports.

Cambodia's railway is expected to undergo substantial improvements. In March 2007, the Royal Government of Cambodia signed the Rehabilitation of the Railways in Cambodia Project with the ADB for USD73 million, of which the government will contribute USD15 million. The project includes construction of the missing 257 km link from Phnom Penh to Loc Ninh. The government has also signed a thirty year concession agreement with Australian Toll Holdings Ltd. to operate the railways under a public-private partnership (PPP) and a French company TSO to rehabilitate the railways.

As far as soft infrastructure is concerned, Dr Naron argued for the protection of property rights, systematic land registration, One Window Service Office that facilitates shortening the approval period and reduction in transaction cost, and improving business climate through various governance reforms. Trade facilitation as well as cross-border transportation and insurance should also be given priority.

To put the infrastructure into perspective, Dr Naron discussed issues that relate to the government's policy on infrastructure and its role in achieving the country's development goals. The policy comprises the following important components:

- 1 Permanent Vice Chairman, Supreme National Economic Council, Secretary General, Ministry of Economy and Finance, and Chairman CDRI Board of Directors
- 2 Deputy Director of Budget Department, EDC State Controller, Deputy Secretary General, Supreme National Economic Council
- 3 CEO, Toll Cambodia Limited

- Rehabilitation and construction of the main and secondary roads, railways, airports, ports and irrigation systems
- Electronic communications, electricity production and delivery network
- Attracting private sector to invest in concessionary framework of public works (BOT-Build-Operate-Transfer)

**Table 1: EDC Production**

<b>I- Generation</b>	Unit	2007	2008	2009
Installed capacity,	MW	386	408	516
Available capacity,	MW	356	373	473
Total generation,	GWh	1,423	1,622	1,818
<i>EDC generation,</i>	GWh	294	163	100
<i>IPP generation,</i>	GWh	1060	1190	1,013
<i>Import</i>	GWh	69	269	705
Generation by DO	GWh	105	93	30
Generation by HFO	GWh	1,200	1,190	1,001
Generation by hydro	GWh	49	47	47
Generation by coal	GWh	-	23	34

**Table 2: EDC Customer Base**

	2000	2005	2006	2007	2008	2009
Resident		199,478	242,835	262,361	287,266	306,898
Foreigners		1,802	1,903	2,078	2,178	2,184
Commercial		14,292	17,576	19,698	23,355	26,543
Industrial		860	959	1,048	1,050	1,094
Government Offices		1,208	1,526	1,573	1,684	1,848
<b>TOTAL</b>	<b>124,269</b>	<b>217,640</b>	<b>264,799</b>	<b>286,758</b>	<b>315,533</b>	<b>338,567</b>

The main aim of infrastructure rehabilitation and improvement is to facilitate a growth corridor in Cambodia. This involves linking the growth poles within Cambodia on the one hand while simultaneously improving and effectively operationalising the Mekong-India Economic Corridor (MIEC) to facilitate regional trade.

As far as growth poles are concerned the objective is to promote Phnom Penh, Siem Reap and Sihanoukville. Phnom Penh plays an important role in garments production and export, Siem Reap in cultural tourism, and Sihanoukville in beach tourism as well as petroleum. Battambang is another growth pole which is important for agricultural production as well as commerce.

In the context of the Mekong-India Economic Corridor (MIEC), the objective is to link Cambodia, Myanmar, Thailand and Vietnam with India through Cambodia's east coast. This includes **Sihanoukville**

which is Cambodia's deep sea-port; the rail link between Sihanoukville and Phnom Penh is being upgraded. Sihanoukville also has a large number of Special Economic Zones (SEZs) and a number of industrial investments are planned for it. It is an emerging tourist destination and is in close proximity to oil & gas production area. The other major province is **Battambang**, the nucleus of Cambodia's agricultural belt with large production of rice, cassava and corn. Additional characteristics of the place are high population concentration, its role as main commercial hub and agri-service centre, and it is well-connected with Thailand and Phnom Penh. **Svay Rieng-Bavet** is another area of importance with its proximity to industrial clusters of HCM City, Dong Nai etc. It also has potential to emerge as a key service centre due to anticipated border trade with industrial clusters in and around HCM. A number of SEZs and industrial investments are

planned for this area which has large parcels of land suitable for industrial expansion. **Serei Soaphoan-Poipet** is another area of importance, partly due to its proximity to industrial clusters of Bangkok, the Eastern Seaboard and emerging Chachoengsao-Prachinburi (250km). It has potential to emerge as a key service centre due to anticipated border trade with industrial clusters in and around Bangkok and the Eastern Seaboard. Huge population in nearby provinces provides access to a large labour pool. Upgrading of road and rail links between Serei Soaphoan-Poipet and Phnom Penh as well as Bangkok is planned.

Mr Rathanak's presentation was largely confined to the analysis of the energy sector in Cambodia and in particular EDC. In terms of production and available supply of energy in the country, the substantial improvement over the recent past as indicated in Table 1 has been made possible by a combination of increasing local production as well as importing electricity from neighbouring countries. Data (not shown here) also indicated that EDC's efficiency in terms of reducing operational losses has marginally increased over the recent past.

EDC has been able to increase its customer base over the recent past in many categories; Table 2 provides a summary of these.

Mr Rathanak went on to discuss the Ministry of Mines and Energy/EDC development targets for 2009-2013 that include:

- Reducing production cost and increasing scope of supply;
- Promoting energy import from neighbouring countries;
- Building and operating main sources of power;
- Connecting national power grid between sources of production to major urban areas;
- Building transmission and distribution lines all over the country.

Priority activities for the sector were highlighted. In the case of **transmission system**, these include: enhancing stability, quality and confidence in Phnom Penh, Kandal, and Kampong Speu through building the Transmission Loop Line Project; implementing construction of three transmission lines: (i) Takeo – Kampot – Sihanoukville, (ii) Phnom Penh – Kampong Chhnang – Pursat

(Osom) – Battambang, and (iii) Phnom Penh – Kampong Cham; and implementing construction of the National Grid transmission centre. As for the **sub-transmission system**, the intention is to organise a workshop and implement construction of sub-transmission lines in order to increase energy supply to rural areas.

There are also a number of targets for **distribution systems**. These include: taking over, managing and developing Mondulkiri system; taking over and investing in the distribution system in Apsara 1 and 2, as well as Siem Reap Province; eliminating bulk purchase (R71) in 116 places in Phnom Penh; studying and investing in the distribution system in Phnom Penh to increase stability and supply quality; and continuing efforts to further reduce loss in the distribution system and taking serious measures to counter illegal connection.

Targets for energy production include: continuing to give priority to low cost investments to substitute the current remaining high cost of production; continuing to implement hydro and coal plants which are being constructed; and increasing productivity. Increased productivity is expected to be achieved through increasing the working efficiency of all branches under EDC through functional review, reducing bureaucracy, and prioritising improvement of customer services as well as making social contribution.

Mr Rathanak went on to discuss some of the challenges Cambodia faces in achieving the above targets. First among these is the timely implementation of development plan 2010-2013. This is followed by seeking additional concessional funding for expanding transmission and distribution lines in order to absorb electricity output as agreed in the existing PPAs. Other challenges include building National Grid capacity to absorb electricity supply and putting in place risk management to ensure the timely implementation of development plans.

The presentation by Mr Kerr, which followed that by Mr Rathanak concentrated on the discussion of Cambodia's railway system. He pointed out that the Cambodian government has outsourced its railway operations, giving Toll Royal Railway a thirty year exclusive concession to operate Cambodia's railway network. The arrangement is that ADB and AusAID provide funding for rehabilitation of the railway line and the railway concessionaire (Toll) maintains the infrastructure and operates the

trains, freeing up funding for other critical social and economic projects. Projects involved include the following:

- South Line (254 km) – Phnom Penh to Sihanoukville Port (line rehabilitation)
- North Line (340 km) – Phnom Penh to Serei Soaphoan (line rehabilitation)
- Missing Link (48 km) – Serei Soaphoan to Poipet (line reinstatement)
- Infrastructure – e.g. construction of new inter-modal freight terminal in the outskirts of Phnom Penh (Samrong).

He went on to consider a conceptual misunderstanding in comparing rail to road as well as some advantages that rail transport offers. He argued that comparative road/rail costing often fails to adequately reflect the cost of externalities e.g. congestion, pollution, accidents, emissions, environmental and social impacts. On the advantages he pointed out that connectivity of rail, port to intermodal terminal provides a seamless logistics supply chain, reduces the magnitude of government funded road construction and maintenance costs and creates a safer corridor for other road users. Furthermore, railway system opens up free cross-border trade zones allowing containers to travel quickly, safely, environmentally and economically between many Asian countries.

As CEO of Toll, the company that has been offered the thirty year concession to maintain the railway system, Mr Kerr next discussed why his company is interested in transport logistics in Cambodia, attributing this to the following factors:

- Cambodia is one of Asia's fastest growing countries and is undergoing significant economic reforms to promote development.
- Cambodia in the logistics sector is largely immature, fragmented and in need of significant overhaul to support the country's development and growth.
- Toll will build a transport solution across the Greater Mekong Region, and understands that Cambodia and its rail network are critical to the Singapore Kunming Rail Line project.
- Toll will design and deliver a fit for purpose,

safe, economical and viable rail freight business that has the capacity to self-fund in the medium to long term.

In order to be able to achieve its goal of improving Cambodia's railway system however, there are a number of requirements from the government of Cambodia. These include: (a) Direct port rail access – this must be provided into the Sihanoukville Port container terminal, requiring government assistance in agreeing direct rail access; (b) Customs clearance - containers must be able to travel by rail under-bond; (c) Fuel subsidies – these must be introduced for the railway concessionaire, every train movement will save 100 truck journeys on Cambodia's highways and arterial roads; (d) The missing link to be constructed in Thailand; (e) Cross-border customs and taxation - agreement for rail freight must be negotiated now; (f). Robust legislation – this includes truck registration, fuel emission, environmental and social issues; and finally (g) Rigorous road safety standards – these need to be introduced, monitored and enforced, non-compliant operations must be stopped.

As part of its contribution, Toll is expected to introduce a comprehensive **Human Development Programme** with the following provisions:

- Risk and safety - target zero lost time injuries
- Personal protective equipment - introduce, implement and enforce
- Competency based training - develop and deliver for the industry
- Environmental best practice - develop systems, ensure compliance
- Medical examinations - pre employment and periodic
- Community awareness - programmes to be developed and presented along the railway network.

Mr Kerr concluded his presentation by arguing that unless immediate action is taken by the Cambodian government to address policy issues *now*, the cumulative Asia Development Bank, AusAID and private sector will have spent over USD200 million rebuilding a rail network that will never operate a commercially viable and sustainable rail freight train. Immediate action is required.