CASE STUDIES

Last Update: June 2015

Nam Theun 2 Hydropower Project

1. Project description

1.1 Overview

The US$1.45 billion Nam Theun 2 Hydroelectric Project (NT2) is a development that began commercial operation in April 2010 and diverts the flow of the Nam Theun River from the Nakai Plateau in Khammouane Province, central Lao People's Democratic Republic (Lao PDR), to the Xe Bang Fai River via a tunnel drilled through karst mountain terrain. [54] Taking advantage of the 350-metre height difference between the Nakai Plateau and the Gnommalath Plain, the water can generate 6,000 gigawatt hours (GWh) of electricity per year. NT2 consists of:

- four 250 megawatt (MW) units for the purpose of supplying power to Thailand;
- two 37.5 MW units for the purpose of domestic power consumption within the Lao PDR; and
- a 138 km 500 kilovolt (kV) transmission line, which transmits power close to Savannakhet on the Thai border.

The majority of the electricity produced by NT2 is exported to Thailand, which over the first 25 years, is anticipated to earn the Lao PDR government an average of US$80 million per annum through taxes and royalties and dividends on its equity interest in NT2. [55]

The revenue for the Lao PDR government in exporting electricity to Thailand, combined with the investments made in the project, will be used to finance poverty reduction and economic and social enterprises across the Lao PDR. Given the small size of the Lao PDR economy, it was expected that NT2 would have significant positive impacts.

[54] NTPC. 'Project in Brief'. http://namtheun2.com/about-nt2/project-in-brief.html (accessed 26 June 2015).
[55] NTPC. 'Project in Brief'. http://namtheun2.com/about-nt2/project-in-brief.html (accessed 26 June 2015).

1.2 Concession Agreement

A 30-year concession agreement was signed in 2002 between the government of the Lao PDR and the Nam Theun 2 Power Company Limited (NTPC) (the Concession Agreement) under which NTPC was to build, own, and operate NT2. The agreement gives NTPC a 25-year period to operate NT2, after which NT2 will be transferred to the Lao PDR government.
NTPC is a Lao PDR company, whose shareholders are:

- EDF International, a subsidiary of Électricité de France (EDF), which holds 35 percent of the NTPC shares;
- Lao Holding State Enterprise, which is a Lao PDR state-owned entity holding 25 percent of the NTPC shares;
- Electricity Generating Public Company Limited, which is a Thai entity holding 25 percent of the NTPC shares; and
- Italian-Thai Development Public Company Limited, which is a Thai entity holding 15 percent of the NTPC shares.

Key terms of the Concession Agreement mean that:

- the responsibility for completing NT2 on time lay with the NTPC;
- EDF was contracted to carry out the main construction works; and
- the Government of the Lao PDR and the NTPC together are responsible for ensuring the social implications of the project are dealt with appropriately. [56]

1.3 Power Purchase Agreement

In 2003, the NTPC, EDF, and the Electricity Generating Authority of Thailand (EGAT) entered into a power purchase agreement (PPA). EGAT is a state-owned enterprise that owns

---

[56] Asian Development Bank Institute, *Trends in National and Regional Investors Financing Crossborder Infrastructure Projects in Asia* (No. 245, September 2010), page 18.

and manages the majority of Thailand's electricity generation capacity and the nation's transmission network. The main provisions of the PPA were that:

- EGAT should acquire 95 percent of the power produced by NT2 for the first 13 years, after which the power would be sold to the spot market to the extent that there was alternative demand;

- EGAT should be subject to penalties for not reaching the 95 percent power purchasing target; and

- the basis for determining the power price for EGAT is the mid-point between the cost of energy generation and the marginal cost for Thailand in acquiring the same volume of energy being provided by NT2 from other sources (for example, coal or gas) (a principle known as system avoided cost). [57]

1.4 Financing

From a financing perspective, in the private sector in Southeast Asia, NT2 is not only the largest hydropower scheme, but also the largest cross-border project.

The financing of the project closed in 2005. Just under a third of the project cost, being US$450 million, was equity finance (being provided by the shareholders of the NTPC who are listed in Section 1.2 above), with the remainder being debt finance. [58]

The debt finance was provided by a broad base of lenders, including two bilateral and five multilateral lenders, four export credit agencies, as well as the following commercial banks: the Australia and New Zealand Banking Group, BNP Paribas, Crédit Agricole, Fortis Bank, ING, Kredietbank ABB Insurance CERA Bank, Société Génerale, Standard Chartered, which lent under the US dollar, political risk, and export credit agency facilities.

The Bangkok Bank, Bank of Ayudhya, Kasikorn Bank, Krung Thai Bank, Siam City Bank, Siam Commercial Bank, and the Thai Military Bank provided the baht-denominated tranche of debt of US$500 million.

---

[57] Asian Development Bank Institute, *Trends in National and Regional Investors Financing Crossborder Infrastructure Projects in Asia* (No. 245, September 2010), page 19.

[58] Infrastructure Journal (2014), '*ADB considers Nam Theun 2 for project bonds*' *27 May.* http://www.ijonline.com/Articles/91737#article (accessed 26 June 2015).

There was also US$200 million in export credit agency debt, which was fronted by Coface and reinsured by Exportkreditnämnden (Swedish National Export Credits Guarantee Board; EKN) and The Garanti-instituttet for eksportkreditt (Norwegian Guarantee Institute for Export Credits; GIEK). [59]

Particularly noteworthy debt financing contributions with a view to aiding development were from:

a) the Asian Development Bank (ADB), which provided US$50 million loan assistance, US$16.1 million public sector loan to the Lao PDR government, and US$42 million guarantee in respect of political risk;

b) the World Bank's International Development Association (IDA), which provided partial risk guarantee in respect of commercial loans to the value of US$42 million and grant assistance of US$20 million; and

c) the Multilateral Investment Guarantee Agency, which provided a guarantee of US$42 million of debt.

ADB, the World Bank, and the Multilateral Investment Guarantee Agency provided political risk guarantees for loans amounting in total to US$126 million.

In addition to the above, financing was provided by the Lao PDR in the form of a 5-year period where no taxes will be payable in relation to the project, followed by a 10–15 percent rate of tax on corporate profits in the following 5-year period. [60]

ADB was reported in May 2014 to be considering NT2 for a project bond scheme, whereby a subordinated debt tranche would be issued (likely to be either mezzanine debt or a contingent credit line) for up to a fifth of the total senior debt value, with the purpose of allowing the project company to issue bonds at the investment grade level. [61]

---

[59] Infrastructure Journal (2014), *'ADB considers Nam Theun 2 for project bonds' 27 May.* http://www.ijonline.com/Articles/91737#article (accessed 26 June 2015).

[60] Asian Development Bank Institute, *Trends in National and Regional Investors Financing Crossborder Infrastructure Projects in Asia* (No. 245, September 2010), page 19.

[61] See Infrastructure Journal (2014). *ADB considers Nam Theun 2 for project* bonds. 27 May. http://www.ijonline.com/Articles/91737#article. We have not seen any further update on the status of this proposed bond issue.

2. Regulatory Analysis

2.1 PPP Regime Issues

NT2 is an Independent Power Producer (IPP) project. Although the IPP and PPP sectors share a number of similarities (since both are essentially long-term concessions), they have largely developed separately from each other and consequently have distinctive structures, risk allocations, and documentation. If PPP is given a very broad definition, it could be said that the IPP sector is a subset of the PPP sector. Indeed, both IPP and PPP could be regarded as part of, or having developed from, the project finance sector.

NT2 has a typical structure for an IPP project, with a long-term concession agreement, a PPA, an engineering, procurement, and construction (EPC) contract, and project finance facilities. The PPP regimes in the Lao PDR and Thailand were consequently not fundamental to the structure of the project. The Lao PDR has an underdeveloped PPP sector, with few formal government policies and regulations. Thailand is further advanced, with recent policies and a new PPP law seeking an inception of the market. However, Thailand is still at an early stage in terms of procuring projects on a PPP basis.

A cross-border PPP project (outside the IPP sector) involving the Lao PDR and Thailand would therefore have few reference points for determining its structure and the procurement approach to be used. The intergovernmental arrangements would be critical to pave the way for implementation of such a project. It is likely that significant support from organizations like ADB, both by way of technical assistance and funding, would also be necessary. It might also be necessary to reform or develop the enabling regulatory environment for PPP and the relevant sector in each country as part of this process. These issues would have to be considered in detail in relation to any proposed new cross-border infrastructure project between the Lao PDR and Thailand.

2.2 Sector Issues

The Lao PDR has made significant investment in its power sector, primarily in mining and hydropower and has committed to extending its transmission networks both within and outside the country. In order to exploit its hydropower export potential, the Lao PDR has encouraged investment from the private sector, by updating its regulatory framework and promulgating investment laws, which include incentives for investors in renewable energy projects. Various concession models are encouraged, including the build–operate–own–transfer model of NT2. The government's equity participation in NT2 also reflects the norm in the context of long-term concessions in the power sector.

Thailand has advanced power infrastructure relative to other Southeast Asian countries. While Thailand has projected that it will double its own generation capacity by 2030, it has also looked further afield in recent years, increasing imports of electricity. Under the PPA with the Lao PDR, the Thai government has taken another step towards ensuring energy security. EGAT is the sole purchaser and power transmission provider in Thailand, but major transmission system development is under way in order to connect NT2 with EGAT's power system. EGAT will sell imported electricity to the Metropolitan Electricity Authority and the Provincial Electricity Authority, which will distribute the electricity to end-users.

2.3 Key Challenges

NT2 was a large-scale hydropower project in a relatively undeveloped region within ASEAN. Key challenges to its financing and implementation are set out below.

Social and environmental issues: Social and environmental concerns typical of a hydropower project included downstream impacts, impacts on biodiversity, resettlement, and reservoir sedimentation. A number of critics and activists criticized NT2 for the damage they said that it was causing and had already caused, to the local community and the environment. The main complaints included:

- Communities on the Nakai Plateau had no means for a sustainable livelihood, which threatened their long-term food security.
- Tens of thousands of people living downstream along the Xe Bang Fai River suffered poor water quality, diminished fisheries, and flooding of their riverbank gardens. It was argued that the project's funding was inadequate to restore their livelihoods.
- NT2's reservoir opened up access to the Nakai–Nam Theun National Protected Area, exacerbating logging and poaching and threatening its ecological integrity.

- While the project was supposed to improve standards for hydropower development more generally in the Lao PDR, it was argued that there was little evidence that this actually happened. [62]

Foreign exchange risk: A lesson learnt from the 1997–1998 Asian financial crisis was the importance of minimizing foreign exchange risk. The approach taken with NT2 was to mirror the currency denomination of the project costs and project revenues with the currency denomination of the project financing, in order to remove exposure to currency exchange movements. The consequence of this was that approximately half of the debt, or B20 billion (approximately US$628 million), would need to be baht denominated. Borrowing such a sum from Thai lenders was unprecedented for the Lao PDR projects, and doing so initially seemed like a potential challenge. [63]

Political risks: The political risks associated with NT2 were a concern for both governments of Thailand and the Lao PDR, given the undeveloped regulatory framework in the Lao PDR and the cross-border nature of the project (in particular, the offtake to Thailand from the Lao PDR). There were concerns over whether the project would be able to raise the required large sums of financing required for the sizeable project, given that: (a) Lao PDR was eligible for debt relief under the heavily indebted poor countries initiative; (b) the large value of NT2 compared with the entire the Lao PDR economy; and (c) the Lao PDR had limited foreign exchange reserves. [64]

Regulatory environment: At the time the project was procured, neither the Lao PDR nor Thailand had a developed regulatory framework for PPP projects. Thailand has recently enacted specific PPP legislation and has developed a more coherent enabling policy environment for PPP. For a future cross-border PPP project between the Lao PDR and Thailand, there would consequently be a mismatch between the prevailing regulatory regimes in each country. The main issue to be addressed would be the lack of a specific enabling framework for PPP in the Lao PDR.

[62] Counter Balance (2011). 'Nam Theun II Hydropower Project, Laos' March 1. http://www.counter-balance.org/nan-theun-hydropower-project-laos/ (accessed 26 June 2015)
[63] Ifrasia (2013). 'Nam Theun 2 powers ahead'. 13 March. http://www.ifrasia.com/nam-theun-2-powers-ahead/21073485.article. (accessed 26 June 2015)
[64] Ifrasia (2013). 'Nam Theun 2 powers ahead'. 13 March. http://www.ifrasia.com/nam-theun-2-powers-ahead/21073485.article. (accessed 26 June 2015)

Given that the project was structured as an IPP project, the PPP regimes in each country were of less importance than would have been the case in other sectors such as transport. Both the Lao PDR and Thailand have experience in procuring power projects on a concession basis. The concession structure (in particular, the Concession Agreement, the PPA, and the financing documents) had to take account of differing regulatory regimes for the power sector in the Lao PDR and Thailand.

Natural risks: Due to the nature of the NT2 project, there were a number of concerns over natural risk such as water flow, seismic conditions and earthquake risks, flooding, sediment, and rock and geological conditions. Project research meant that lenders could be provided with technical and historical information and data, showing that the location of NT2 was well suited for such a hydropower project. [65]

Other financing and/or bankability risks: It was necessary to ensure sufficient certainty and protection of revenues in order to guarantee consistently timely and full debt service. The financing of the Lao PDR government's equity contribution of over US$100 million in the project was a potential concern, given the project was large in the overall economy, the country had relatively low levels of foreign exchange reserves, and the government had no previous experience raising commercial indebtedness. [66]

3. Solutions and Mitigation Strategies

Key solutions and mitigation strategies to the challenges outlined above included the following:

Social and environmental concerns: Environmental and social concerns included downstream impacts, impacts on biodiversity, resettlement, and reservoir sedimentation. NT2 has a multilayer environmental and social monitoring and evaluation mechanism consisting of a number of independent panels of experts reporting to the Lao PDR government and/or the World Bank on an ongoing basis. The comprehensive environmental and social measures designed to mitigate potential environmental and social impacts have received praise from some experts who cite the project as a potential 'global model'. However,

[65] Ifrasia (2013). 'Nam Theun 2 powers ahead'. 13 March. http://www.ifrasia.com/nam-theun-2-powers-ahead/21073485.article. (accessed 26 June 2015)

[66] Ifrasia (2013). 'Nam Theun 2 powers ahead'. 13 March. http://www.ifrasia.com/nam-theun-2-powers-ahead/21073485.article. (accessed 26 June 2015)

the project's social and environmental impact has also received criticism from various non-governmental organizations. [67] The NTPC and the Lao PDR government each have a variety of responsibilities to manage and fund environmental and social impacts, with the project being contractually committed under the terms of the Concession Agreement to spend more than US$100 million in mitigating environmental and social impacts during the construction period. The full costs of mitigation to be funded by the NTPC were factored in as part of the project budget to ensure that there would be no funding shortfall. For example, 6,300 people from 17 villages moved from the area that became the NT2 reservoir on the Nakai Plateau to custom-built villages built in consultation with the resettled communities. The NTPC and the Lao PDR have committed to doubling the income of resettled villagers through livelihood programmes within 5 years from the time they were relocated. According to a World Bank report, the health of villagers who have been resettled has significantly improved due to better water and sanitation, regular health check-ups, and the provision of mosquito nets, as documented by various assessments.[68]

Political risk mitigation: Political risk mitigation was a key challenge due to the cross-border nature of the project and an undeveloped regulatory framework. Political risk was dealt with by allocating Thai political risk to EGAT under the PPA (using the framework established previously for Thai IPPs) and the Lao PDR political risk to the government under the Concession Agreement (consistent with precedents for emerging market projects). Thai political risk was further mitigated by the favourable tariff under the PPA which EGAT benefited from and which consequently reduced the risk of breach of contract. Reassurance was also taken from the unbroken 30-year history of cross-border sales between the Lao PDR and Thailand, a memorandum of understanding on electricity exchange between the two countries, and the involvement of several Thai commercial banks and the Export-Import Bank of Thailand. In addition, all debt financing was guaranteed through political risk insurance provided by a number of ECAs and multilateral agencies. These guarantees covered risks such as expropriation, breach of contract, war and civil disturbance, as well as currency

[67] Letter to World Bank Executive Director Regarding Nam Theun 2 Concerns. 30 July 1997. http://www.internationalrivers.org/resources/letter-to-world-bank-executive-director-regarding-nam-theun-2-concerns-3300 (accessed 26 June 2015)
[68] The World Bank, 'Nam Theun Moves Forward; Livelihood Activities Require Acceleration' http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/EXTEAPREGTOPENERGY/0,,contentMDK:21587429~menuPK:574021~pagePK:2865114~piPK:2865167~theSitePK:574015,00.html (accessed 26 June 2015)

inconvertibility in both the Lao PDR and Thailand. These guarantees further lowered the project's risk profile and enabled the project to attract increased commercial financing and at better rates. [69]

Regulatory environment: The lack of a developed regulatory regime for PPP in the Lao PDR and Thailand at the time the project was procured was not a major impediment, given that the project was structured as an IPP concession. A future cross-border PPP project between the Lao PDR and Thailand (for example, in the transport sector) might require some level of reform of the enabling regulatory environment, including the PPP regime in each country (particularly in the Lao PDR). Technical assistance from institutions such as ADB or International Finance Corporation could facilitate such reform. Alternatively, regulatory issues could be dealt with mainly in the project documents, such as the concession agreement, inter-governmental agreement, and financing documents. The Concession Agreement, PPA, and financing documents for NT2 were structured to address regulatory issues such as requirements for licences and permits and change in law risk. The PPA in particular, could be regarded as containing the key terms of the cross-border aspects of the project, given that its parties included the project company, NTPC, and EGAT.

Revenue protection: The basis upon which Thailand was required to purchase 95 percent of the energy produced, or pay a penalty meant that the revenue stream was, to a large extent, guaranteed, and it was felt that this would be sufficient to cover the debt repayments, of which the debt denominated in US dollars had a 17-year tenor, whilst the baht debt had a tenor of 15.5 years. [70]

Foreign exchange risk: The currency profile of the project funding was developed to match the upfront project costs and the currency of the revenues received under the PPA in order to mitigate currency risk by providing a natural hedge. This was reflected in the long-term debt funding, which was denominated 50 percent in Thai baht and 50 percent in US dollars. Sponsors' equity was largely contributed in US dollars in order to better match funding source currency with project costs and revenues.

Host government funding: A significant proportion of the Lao PDR government's initial equity contribution (US$83 million) was funded by donors, including grants from the

---

[69] Water, Power and Dam Construction, Nam Theun 2 - Finance package. 30 April 2008. http://www.waterpowermagazine.com/features/featurenam-theun-2-finance-package/ (accessed June 26 2015)

[70] Infrastructure Journal (2014). *ADB considers Nam Theun 2 for project* bonds. 27 May. http://www.ijonline.com/Articles/91737#article.

International Development Association of the World Bank Group, ADB, France, and the European Investment Bank.

Natural risks: For a hydropower plant, natural risks include hydrology, geological conditions, seismic conditions, sedimentation in the reservoir, and flooding. Lenders relied on historical and technical data, which provided evidence that the site was suited for hydropower development. [71]

[71] Ifrasia (2013). 'Nam Theun 2 powers ahead'. 13 March. http://www.ifrasia.com/nam-theun-2-powers-ahead/21073485.article. (accessed 26 June 2015)

Last Revised: June 2015

Mactan–Cebu International Airport Passenger Terminal Project

1. Project description

1.1 Overview

The Mactan–Cebu International Airport (MCIA) is the second largest airport in the Philippines and serves as the southern hub of the air transportation system of the country. Passenger traffic at the MCIA has significantly grown over the last decade. The number of incoming and outgoing passengers, domestic and international combined, was 2.2 million in 2001 and 6.8 million in 2014, though the current facility is designed to handle 4.5 million per year. [72] Recognizing the urgent need to accommodate the increasing traffic, the Department of Transportation and Communication (DOTC) and its attached agency for management and operation of the MCIA, the Mactan–Cebu International Airport Authority (MCIAA), proposed construction of a new passenger terminal and renovation of the existing terminal under a PPP framework of the Philippines.

The scope of the project mainly consists of:

- construction of a new world class international passenger terminal (Terminal 2) with a capacity of about 8 million passengers per year, along with all associated infrastructure and facilities;
- renovation and expansion of the existing terminal (Terminal 1) along with all associated infrastructure and facilities to handle domestic operations; and
- operation and maintenance of both the passenger terminals (new and existing) during the entire concession period.[73]

[72] Mactan–Cebu International Airport Authority website. 'Passenger Movement'. http://www.mciaa.gov.ph/Passenger%20Movement.html (accessed 26 June 2015).
[73] Department of Transportation and Communication and Mactan–Cebu International Airport Authority. Project Background Sheet.

An invitation to pre-qualification and bid was announced in December 2012. The evaluation results of the pre-qualification documents were notified in May 2013 and the notice of award (NOA) was issued in April 2014.

Among seven pre-qualified bidders, the project was awarded to a consortium comprising India's GMR Infrastructure Limited and the Philippines' Megawide Construction Corporation. The Bangalore-based GMR is a leading global infrastructure player whose business portfolio covers airports, energy, transportation, and urban development. It has experience in the operation, management, and development of Delhi International Airport and Hyderabad International Airport in India. [74] Megawide is a local fast-growing constructor known for its cutting-edge technology, such as precast construction systems. [75] The company is active in the PPP market in the Philippines, having a strong track record in being awarded five PPPs (including PPP for schools and hospital projects) out of 10 projects tendered out as of today.

1.2 Concession Agreement

A 25-year concession agreement was signed in April 2014 between the GMR Megawide Cebu Airport Corporation (GMCAC) and the DOTC. The concession agreement gives the consortium a 25-year period to construct, develop, renovate, expand, and operate the existing and new passenger terminals at the MCIA.

The renovation of the existing terminal (Terminal 1) will be completed in 4 years, while the new terminal (Terminal 2) will be finished in 3 years, along with the completion of the landside development. The landside development shall comprise a road network, car park, commercial assets, and an airport village (meet–greet area). [76]

Since November 2014, the GMCAC has taken over the landside operation and management of the existing terminal and is entitled to receive landside revenues (while the

[74] GMR Group website. http://www.gmrgroup.in/hand-shake.aspx (accessed 26 June 2015).
[75] Megawide Construction Corporation website. http://www.megawide.com.ph/ (accessed 26 June 2015).
[76] Asian Development Bank (2014), 'Draft Initial Environment Examination Report, PHI: Mactan Cebu International Passenger Terminal Project (Philippines)'. http://www.adb.org/sites/default/files/project-document/150366/48271-001-iee-01.pdf (accessed 26 June 2015).

airside is operated and maintained by the MCIAA). Construction of the new international terminal has started in June 2015 and is expected to open in August 2018.[77]

1.3 Financing

The project cost for the entire works is estimated at around PHP17.5 billion (approximately US$380 million). In addition, the GMCAC's premium payment for the concession to the government as the winning bidder amounted to PHP14.4 billion (approximately US$320 million).[78] In total, the GMCAC needs to raise around PHP31.9 billion (approximately US$700 million), which was probably challenging through corporate-based financing (According to Megawide's financial statement, its total asset size is PHP36.6 billion (similar size as the total funding requirement) as of the end of September 2014).

The financial closure of its project-based financing of PHP20 billion from a consortium of six local banks was originally achieved in December 2014. After that, the loan agreement was amended in January 2015 to include the US$75 million direct loan from ADB, which increased the total debt financing of the project to approximately PHP23 billion, 72 percent of the project's total funding requirement. ADB noted that one of the determinants in providing the loan is the view that the project will support tourism, industry, and agricultural activity, thus creating employment opportunities.[79] The remainder of the funding, around PHP10 billion (28 percent) shall be sourced by the equity from each company, out of which GMR participated 40 percent, while Megawide invested 60 percent into the project.

2. Analysis and Lessons

Sector issues

The airport sector is regarded as one of the suitable fields for PPP in that the government can expect greater value for money from private party participation. The main

[77] *The Freeman* (2015), 'Airport's Terminal 2 Construction Starts', 3 June. http://www.philstar.com/cebu-news/2015/06/03/1461713/airports-terminal-2-construction-starts (accessed 26 June 2015).
[78] *Business World* (2015), 'Megawide-led Consortium Borrows P3.3B from ADB to Fund Mactan Airport', 29 January. http://www.bworldonline.com/content.php?section=Corporate&title=megawide-led-consortium-borrows-p3.3b-from-adb-to-fund-mactan-airport&id=101747 (accessed 26 June 2015).
[79] Asian Development Bank (2015), 'ADB Supports Cebu Airport Upgrade in Philippines First Large PPP Project', 27 January. http://www.adb.org/news/adb-supports-cebu-airport-upgrade-philippines-first-large-ppp-project (accessed 26 June 2015)

reason is related to dual income streams coming from the aeronautical and non-aeronautical businesses. The aeronautical revenue, on the one hand, includes aircraft landing and parking fees, terminal fees, and security charges. The non-aeronautical revenues, on the other hand, are created from car parking, retail and duty free, hotel and other commercial activities.

The non-aeronautical component is becoming a key contributor to the financial performance of airports globally. Increasing competition among airports is creating pressure for them to generate the majority of revenue from these 'side' businesses. For this non-aeronautical part of business in particular, the private sector has better ideas and skills to maximize its commercial potential.

In the MCIA Passenger Terminal Project, there is no protection against traffic risk. The master development plan of the concession is based on a traffic demand forecast of 15.8 million in 2024 and 28.3 million in 2039, domestic and international combined.[80] This implies that based on the current level of traffic of 6.8 million, the future growth rate is estimated at 8.8 percent (CAGR) until 2024, and 4.4 percent (CAGR) during 2025–2039. The historical rate of increase in passengers as well as the brownfield nature of this project could support the trajectory, but only if the trend sustains.

The seemingly aggressive concession premium, equal to 80 percent of the project cost, therefore, probably comes from high expectations for the non-aeronautical components as well as increasing traffic. Indeed, apart from the new airport and landside facilities, the GMCAC is planning the development of a commercial complex or hotel in an adjacent area, which would provide another source of revenue.[81] In addition, it is also reported that the consortium was the one that gave one of the highest traffic forecasts; and according to this estimation, it will build an airport terminal that can accommodate 25 million passengers, more than three times the government's requirement.[82] It should be noted here that since in theory, demand for aeronautical and non-aeronautical services are positively correlated, it

[80] Asian Development Bank (2014), 'Draft Initial Environment Examination Report, PHI: Mactan Cebu International Passenger Terminal Project'. http://www.adb.org/sites/default/files/project-document/150366/48271-001-iee-01.pdf (accessed 26 June 2015)

[81] *Philippine Daily Inquirer* (2014), 'DOTC, GMR-Megawide Ink Mactan Airport Deal', 23 April. http://business.inquirer.net/168845/dotc-gmr-megawide-ink-mactan-airport-deal#ixzz3dxnNBxVt (accessed 26 June 2015).

[82] *Infra PPP* (2013), 'MegaProject 137: GMR – Megawide Consortium Wins Mactan Cebu PPP Airport Project', 12 December. http://infrapppworld.com/2013/12/megaproject-137-gmr-megawide-consortium-wins-mactan-cebu-ppp-airport-project.html (accessed 26 June 2015).

would be crucial to see how the consortium will mitigate downside risks through diversifying its revenue portfolio in the project at its operation stage.

Foreign investors' participation

PPP projects in the Philippines have been attracting attention mostly from local investors or banks. Out of 10 projects which have been awarded to the private sector under the current administration, nine projects were given to local investors, and only this MCIA Passenger Terminal Project was won by a consortium with a foreign investor, GMR Infrastructure. In the bidding of the MCIA project, international airport operators or infrastructure investors from Asia-Pacific, Europe, and the United States, participated with local partners. The fact is encouraging to the government which is in the process of opening the market for more airport concessions, including the modernization of five regional airports (New Bohol [Panglao], Laguindingan, Davao, Bacolod, and Iloilo) and the US$1.6 billion Ninoy Aquino International Airport (NAIA) Development Project.[83]

Having said that, one of the structural impediments for international investors has been a limit on foreign investors' equity participation. In the Philippines, in most infrastructure sectors, foreign investors are allowed to participate up to 40 percent of the project company (that is why, GMR could only participate 40 percent of the equity). Therefore, foreign investors need to start with finding the right local partner before participating in a project. Only a project which does not require a public utility 'franchise', the facility operator or concessionaire may be foreign owned.[84] In this respect, a forthcoming project by the Department of Justice on the development and maintenance of regional prison facilities, which does not have a limit on such foreign ownership, will become a milestone to test international investors' enthusiasm in the market apart from such restriction.[85]

There should also be flexibility in concession agreements. One of the important factors that led to the successful tender of the MCIA project, was the adjustment of the concession agreement through one-on-one meetings with the pre-qualified bidders. Some of the crucial

[83] PPP Center, 'Pipeline of Projects'. http://ppp.gov.ph/?page_id=26075 (accessed 26 June 2015).
[84] PPP Center, 'The Philippine PPP Program'. http://www.iesingapore.gov.sg/~/media/IE%20Singapore/Files/Events/iAdvisory%20Series/Philippines%202014/420Opportunities20in20the20Philippines20Public20Private20Partnership20sector.pdf (accessed 26 June 2015).
[85] *Business Online* (2015), 'Regional PPP Deals Luring Big Investors', 20 March. http://www.bworldonline.com/content.php?section=TopStory&title=regional-ppp-dealsbr-luring-big-investors&id=104769 (accessed 26 June 2015).

amendments include lengthening the concession period from 20 years to 25 years, transferring the operation and maintenance from the grantors to the concessionaire, and increasing the duration of the period for prohibiting competing airports.[86] Since there is a large difference between foreign and local investors in their risk appetite for projects in the Philippines, close consultation with each prospective bidder and subsequent adjustment of commercial terms could create a competitive and attractive tension for both foreign and local investors.

Government's contract obligations

The project background document noted that 'MCIAA will grant right-of-way/usufructuary right/possessory rights over the project site and relevant existing assets in favor of the Project Proponent on the Handover Date.' Although land procurement for the new terminal is not required, since facilities of the Philippine Air Force are located at the project site of the new passenger terminal, on-time removal of these facilities is the major precondition to commence construction. However, due to the delay in this handover process, the company has been unable to start construction and the construction has been pushed backed from the initial schedule of January 2015.[87] It will affect the timely construction and commercial operation of the project, which in turn, are the responsibilities of the project company.

In the meantime, the MCIAA Board has approved an increase of the Passenger Service Charge in line with the contractual obligations of the government with respect to the concession agreement.[88] According to the project background paper, 'Broadly, MCIAA contemplates specifying a base tariff as identified upfront and also specifying modalities on tariff variations over the concession period.' However, there are risks in real implementation of the adjustment as this is not an automatic process and needs to be approved by the appropriate authorities due to its public nature.[89] For the future, it is hoped that potential economic losses from delays in relation to the government's obligations (including protection

[86] *Infra PPP* (2013), 'New Deadline for Cebu Airport PPP Project', 23 September. http://ppp.gov.ph/?in_the_news=new-deadline-for-cebu-airport-ppp-project (accessed 26 June 2015).
[87] *Sun Star Cebu* (2015), 'PAF Urged: Take Off', 22 April. http://www.sunstar.com.ph/cebu/local-news/2015/04/22/paf-urged-take-403683 (accessed 26 June 2015).
[88] *The Freeman* (2014), 'Airport Fee Hike Starts Nov 1', 14 October. http://www.philstar.com/cebu-news/2014/10/14/1380038/airport-fee-hike-starts-nov-1 (accessed 26 June 2015).
[89] For toll road projects, for example, the increase of toll rates must be approved by the Toll Regulatory Board.

from competition) can be guaranteed by a formal mechanism, such as through a contingent liability fund, so that private investors become more comfortable in engaging with governments' contracting agencies in the market.

Pre-qualification and tender issues

The issuance of the notice of award (NOA) was pushed back by issues raised by the second bidder, insisting that GMR did not satisfy financial, legal, and technical qualifications.[90] As a result, together with the delay by the adjustment of concession agreement, it took 16 months from the initial issue of the Instruction to Prospective Bidders in December 2012 and the NOA in April 2014. It was longer than its standard of 5–8 months (PPP Center) or several precedents, such as 10 months for the NAIA Expressway Project (Phase II), 8 months for PPP for School Infrastructure Project (PSIP) – Phase I; and 5 months for the Daang Hari–SLEX Link Road Project.[91]

As a policy initiative, institutionalization of the appointment of third party probity advisors to manage and provide and independent opinion has been planned, which would be a solution to handle such complex projects in a transparent and manageable way. In addition, it must be true that overall capacity enhancement of government contracting agencies in handling these complex issues is still required.

[90] *Manila Bulletin* (2014), 'Understanding the Mactan Airport Fiasco', 19 January. http://www.mb.com.ph/understanding-the-mactan-airport-fiasco/ (accessed 26 June 2015).
[91] PPP Center, The Philippine PPP Program. http://map.org.ph/attachments/article/288/CANILAO,%20COSETTE%20V.%20-%20The%20Philippine%20PPP%20Program.pdf (accessed 26 June 2015).

ERIA STUDY TEAM

Norihiro Kawasaki, Tadashi Takatsuka, Nobuyuki Mori, Toru Ishihara,

Takashi Okada, and Takashi Aoki

For inquiries, please contact:

Email: eaic@eria.org Tel: +62-21-57974460 Fax: +62-21-57974467