

TECHNICAL ASSISTANCE COMPLETION REPORT

Division: Energy (SEEN)

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| TA No., Country and Name | | | Amount Approved: \$1,350,000.00 | |
| TA 7764-REG: Ensuring Sustainability of Greater Mekong Subregion Regional Power Development | | | Revised Amount: N/A | |
| Executing Agency Asian Development Bank (ADB) | | Source of Funding Agence Francaise de Developpement (AFD) | Amount Undisbursed: \$145,332.30 | Amount Utilized: \$1,204,667.70 |
| TA Approval Date: 12 Nov 2010 | TA Signing Date: ¹ 14 Dec 2011 | Fielding of First Consultant: 20 Jan 2012 | TA Completion Date Original: 30 Sept 2012 Actual: 30 Nov 2014 Account Closing Date Original: 30 Sept 2012 Actual: 4 Mar 2015 | |
| <p>Description: In 2007, ADB supported the Greater Mekong Subregion (GMS) countries² to prepare the GMS Power Transmission Master Plan (2010-2025) under the regional technical assistance (RETA) 6440.³ This plan identified new power generation and transmission infrastructures to satisfy growing electricity demand. However it employed a traditional least-cost approach taking into account only the financial costs of electricity generation and transmission. In this regard, the GMS countries requested the Asian Development Bank (ADB) to assist them to undertake the Strategic Environment Assessment (SEA) of the GMS Power Transmission Master Plan to include environmental and social considerations into power development planning. The GMS countries also requested capacity building and knowledge sharing programs on SEA. Against this background, ADB approved RETA 7764 on Ensuring Sustainability of the Greater Mekong Subregion Regional Power Development in 2010 in the amount of \$1,350,000, which was fully financed by the Agence Francaise de Developpement (AFD).</p> <p>Expected Impact, Outcome and Outputs: The project aimed to contribute to developing more environmentally and socially sustainable regional electricity supply system in the GMS countries. The expected outcome was enhanced capacity of the GMS country energy and environmental planning agencies and utilities to undertake SEA in energy planning. The expected outputs were (i) SEA for the GMS Power Transmission Master Plan; (ii) alternative scenarios for the GMS Power Transmission Master Plan and a SEA undertaken for each alternative scenario; and (iii) strengthened capacity of GMS government agencies and utilities to develop SEAs.</p> <p>Delivery of Inputs and Conduct of Activities: TA implementation was delayed due to (i) the time required for the signing of the co-financing agreement with AFD; and (ii) the change of TA scope which included the production of knowledge products (KPs) instead of a TA final report. This resulted in the late recruitment and fielding of consultants and recruitment of new individual consultants, thereby requiring several TA extensions of 26 months cumulatively. During this extended period, however, all the TA activities were completed successfully. An international consulting firm, provided a total of 80 person-months comprising 51 person-months of international consultants and 29 person-months of national consultants from January 2012 to February 2014 for a total contract amount of about \$1 million. In addition, a power sector modelling tool called Optgen software, previously used to develop the power planning database under RETA 6440, was also used under this TA. The primary recipients of the TA outputs were the GMS Regional Power Trade Coordination Committee (RPTCC)⁴ as owner of the GMS Power Transmission Master Plan as well as representatives from ministries and agencies responsible for environmental planning and management.</p> <p>Due to the absence of relevant data in public domain, regional and national workshops played an important role in gathering necessary data and information. In this regard, three regional workshops were conducted as follows: (i) inception workshop in Ha Noi, Viet Nam on 25-26 July 2012; (ii) interim workshop in Siem Reap, Cambodia on 27-28 February 2013; and (iii) a final workshop in Kunming, People's Republic of China on 19-20 June 2013 in conjunction with the 14th RPTCC meeting. Four national workshops were organized in Cambodia, Lao PDR, Thailand, and Viet Nam and a country visit to Myanmar was made for meetings with relevant ministries and agencies. A visit to Yunnan</p> | | | | |

¹ Signing date of AFD's co-financing agreement.

² Cambodia, Yunnan Province and Guangxi Zhuang Autonomous Region of the People's Republic of China, Lao People's Democratic Republic, Myanmar, Thailand, and Viet Nam.

³ ADB. 2007. *Technical Assistance for Facilitating Regional Power Trading and Environmentally Sustainable Development of Electricity Infrastructure in the Greater Mekong Subregion*. Manila (TA 6440-REG)

⁴ The RPTCC is composed of GMS country representatives from ministries responsible for power development, electricity regulatory authorities, power transmission organizations, electricity supply utilities, and other ministries and institutes associated with power trade.

PRC was planned but postponed. While capacity building and knowledge sharing activities were undertaken in all six GMS countries, only four countries, i.e. Cambodia, Lao PDR, Thailand, and Viet Nam were included in the scope of the SEA study due to the sheer size of PRC and the absence of an existing Power Development Plan (PDP) in both PRC and Myanmar. However, despite such constraints, the formulation of inputs under the TA was considered appropriate and the inputs were provided adequately. The performance of the consultants was satisfactory having completed their assignments with good quality in a timely manner. During project implementation, ADB conducted review missions three times through organizing regional workshops and provided adequate guidance to the consultants. In this regard, ADB's performance as executing agency is assessed as satisfactory.

Evaluation of Outputs and Achievement of Outcome: All TA outputs were achieved. Three main scenarios were developed to compare impacts and benefits such as current PDP scenario (as a reference case), renewable energy (RE) scenario, and energy efficiency (EE) scenario. The comparison was guided by a set of indicators developed to capture the impacts on energy security, pollution, land and terrestrial biodiversity, ecological security, rivers and aquatic biodiversity, climate security, food security, social, health and safety security, and the financial costs. As a result, it was demonstrated that the wider application of RE and EE measures can provide a greater sustainability of power sector development at a relatively low additional financial cost in comparison to the reference case. In addition to those envisaged outputs, the KPs were prepared for publication as follows: (i) Integrating Strategic Environmental Assessment into Power Planning; (ii) Identifying Sustainability Indicators of Strategic Environmental Assessment for Power Planning; and (iii) How Strategic Environmental Assessment can Influence Power Development Plans-Comparing Alternative Scenarios for Power Planning. These KPs were not printed within the TA implementation period due to the meticulous steps and lengthy timeline involved in the publication process including gathering internal and external comments and seeking several clearances prior to printing. Capacity building was an integral part of the consultation process and participants from the energy and environmental planning agencies and utilities from the GMS countries averaged 40-45 people at each workshop. The outcome of the TA, which was set to be measured by incorporation of SEA in preparation of national PDP according to the design and monitoring framework of the TA report, was almost achieved because the capacity of GMS countries was improved significantly⁵ although they still require more experience and greater knowledge to apply SEA in their PDPs except for Viet Nam which requested a subsequent national-level SEA assistance for its PDP-VII update.

Overall Assessment and Rating: Overall, the TA is assessed as less than successful. The TA was well designed, quality inputs were provided, and intended outputs were achieved. However, the outcome was not fully achieved. Despite this performance, the TA contributed to developing a more environmentally and socially sustainable regional electricity supply system in the GMS countries. The KPs were well received and appreciated by the GMS countries.

Major Lessons: The TA successfully introduced the SEA in the GMS power development planning on a regional level and generated a great deal of awareness among the GMS power sector planners. However, due to limited TA scope, country-level assistances were not sufficient under the TA to build the necessary capacity for all GMS countries to apply SEA into their PDP on a national level, especially when each country had a different level of capacity in SEA and differing policies on RE and EE. Further, RE and EE are not typically seen as separate and exclusive strategies but are pursued jointly. Therefore, a more country-focused and integrated approach would have been more effective. The partnership with AFD was financially and technically beneficial to the project. However, it took some time for AFD to understand ADB's guidelines and procedures particularly related to consultant recruitment, which resulted in delaying AFD's endorsement on co-financing agreement. In the future, more regular communication between ADB and the partner agency can mitigate such risk.

Recommendations and Follow-Up Actions: Built on the outcome of this TA, the GMS countries requested ADB to continue its assistance in further strengthening SEA capacity of GMS countries. AFD's co-financing agreement already included its financing support for a follow-on TA. As a next step, it is recommended to (i) deepen capacity building activities at a country level using the KPs developed under TA 7764; (ii) broaden knowledge sharing programs with other countries beyond the GMS; and (iii) assist the national PDP development using an approach integrating RE and EE potentials and engaging a wider range of policy makers responsible for RE and EE as well as public stakeholders for social sustainability.

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⁵ The people who had SEA related training before this TA were only 10% among national workshop participants in the case of Cambodia, 29% in the case of Lao PDR, 35% in the case of Viet Nam, and 65% in the case of Thailand.