PPIAF Assistance in Thailand

Since 2000 PPIAF has provided funding for 11 activities in Thailand worth $2.2 million, one of which is ongoing. These activities have supported the Royal Government of Thailand build capacity within the Ministry of Finance to support policy development and market liberalization in the utility sectors, and assisted in transforming and reforming the telecommunication sector. PPIAF has also assisted the government to design and pilot a rural water supply demonstration project and explore options for reforming the railway sector.

Technical Assistance for Enabling Environment Reform in Thailand

In 2000 PPIAF provided assistance to the Privatization Group in the Ministry of Finance to support regulatory reform and policy development and market liberalization in the utility sectors. The objective of this activity was to provide capacity building assistance to the Privatization Group to effectively and efficiently coordinate and manage the corporatization process consistent with the master plan for reform of state-owned enterprises.

The PPIAF-funded consultants provided capacity building support and inputs on a draft holding company law, policy documents, and corporatization plans for the Telephone Corporation of Thailand and Communications Authority of Thailand. These activities provided important inputs to the Ministry of Finance’s privatization program and built capacity in the Office of State Enterprise to manage the corporatization and privatization program. Several stakeholder workshops were held on water, transport and telecommunication sector regulations and privatization, and regulating and reforming state-owned enterprises.

Results of PPIAF’s Activities for Enabling Environment Reform in Thailand

<table>
<thead>
<tr>
<th>Category</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity and awareness building</td>
<td>On-the-job training for junior staff at the Privatization Group, Office of State Enterprise and Government Securities, and Ministry of Finance on international best practices for developing policies for privatizing infrastructure, 2000–2002</td>
</tr>
<tr>
<td></td>
<td>Stakeholder workshops on water, transport, and telecommunication sector regulation and privatization, 2002</td>
</tr>
<tr>
<td></td>
<td>Stakeholder workshops on reforming and regulating state-owned enterprises, 2002</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity and awareness building</td>
<td>Privatization Group, Office of State Enterprise and Government Securities, and Ministry of Finance strengthened, 2002</td>
</tr>
</tbody>
</table>

Technical Assistance for Thailand's Water Supply and Wastewater Sector

In 2000 PPIAF provided support to assist the Pollution Control Department, Ministry of Science, Technology and Environment analyze options for private sector participation in the Samut Prakarn Wastewater Management Project. The project consisted of a large wastewater collection and treatment facility in Samut Prakarn Province, a heavily industrialized province within the Bangkok Metropolitan Region. The overall objectives of the activity were to identify the preferred institutional and management structure for the project and prepare basic plans for implementing the preferred options.
The PPIAF-funded final report analyzed various institutional options in detail. Each of the 34 identified options were evaluated on the basis of comprehensive institutional, technical, legal, and financial criteria, and five options were deemed to have met the minimum threshold requirements. Of the five options, the study recommended the establishment of an Autonomous Public Organization to assume the overall authority for the management of the wastewater treatment project. The organization was to enter into operating & maintenance contracts with the private sector for the Samut Prakam plant. The report further recommended that after testing the functioning of the organization and the private sector operator for two to three years, the arrangement could be scaled up into a concession. However, due to the suspension of the main construction project by government the recommendations of the study could not be implemented.

In 2002 PPIAF provided further assistance to the government to support the development of a comprehensive framework to meet public service obligations in the water and wastewater sectors. This included developing related instruments for delivering subsidies, including output-based aid solutions.

The PPIAF-funded study provided guidelines for achieving public service obligations through the design of transparent subsidy systems for all sectors. The five principles recommended by the report for redesigning the public service obligations included: i) subjecting funding to explicit analysis to ensure responsiveness to the need of the beneficiaries; ii) using contract-based agreement between the procuring agency and service providers; iii) implementing an output-based subsidy to ensure value for money subsidy budget; iv) integrating public service obligation reform into decentralization or sector reform plans to leverage the natural energy existing among other reform initiatives; and v) introducing competition into the market. The public service obligation framework developed in the study was used as a key input by the Ministry of Finance into their privatization and PPP proposals for the infrastructure sectors including rail, airports and water and wastewater sectors.

Continuing its support for restructuring Thailand's water and wastewater water management sector, PPIAF provided assistance to the Office of State Enterprise and Government Securities in the Ministry of Finance in 2002. The objective of the PPIAF activity was to assist the government to develop a strategy to expand rural water infrastructure by analyzing microfinance-based rural water infrastructure schemes implemented by local non-governmental organizations and the Population and Community Development Association that mobilizing private capital.

The PPIAF-funded activity included discussions with representatives of various organizations active in water supply and rural development and a field survey in 100 villages to understand in depth the water-supply related needs and experiences. International best practices in the sector were also reviewed and lessons learned were incorporated into the final report’s recommendations.

The final report concluded that the Virtuous Circle Village Piped Water System model would be most appropriate model with private sector participation to deliver water to rural populations. The distinguishing feature of this model is that it includes water for income generation purposes, such as providing water for cash crops, in addition to water for household use. This feature helps villagers to increase their income, which boosts the economic viability and financial sustainability of the water system. The report suggested that the following key factors should be included in the water system to ensure its implementation would be successful: i) capacity and institution building with the villages to ensure local ownership of the project; ii) village preparation and buy-in at all levels and stages of the program; iii) using low cost technology that is simple to operate and maintain; iv) detailed training and follow-up by implementers; and v) the major water-volume use is for cash-generation projects. The study further suggested that the Virtuous Circle model needed to be rigorously tested in a significant pilot program. It recommended the model be piloted in 500 villages and subsequently scaled-up once any weaknesses had been identified.

PPIAF provided follow-up support in 2007 to assist the government with the design and implementation of a rural water supply pilot demonstration project. The objective of this activity was to initiate a two-stage, 40-village pilot program to demonstrate the scalability of the study's findings. PPIAF supported the first stage of the pilot, which covered 15 villages. The specific objectives of this pilot project were: i) to
demonstrate that rural water infrastructure services could be provided in a cost-effective manner by adopting the Virtuous Circle model; ii) to build a case for a government-funded scale-up of the model in order to speed up expansion of rural access to clean water; iii) to ensure private sector financiers participation and commitment in financing rural piped water systems; iv) to enhance local communities capacity in operating, managing, and maintaining village piped systems; and v) to promote the use of water for income generation.

The final report documents the first phase of the pilot, outlining the work completed, providing data on each village and on income generating projects, and presenting recommendations for a continued pilot program. The report noted that although the model worked well, the government’s decision to introduce the Village Development Fund and a “free” water program removed the incentive for the villagers to commit to private financing for the systems. While there was no commercial borrowing, the remainder of the pilot project was implemented as planned and all 15 villages received access to piped water networks. As a result of this access, the incomes of all 15 participating villages increased.

Results of PPIAF’s Activities in Thailand’s Water and Wastewater Sector

<table>
<thead>
<tr>
<th>Category</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enabling environment reform</strong></td>
<td></td>
</tr>
<tr>
<td>Analyses/assessments prepared</td>
<td>• A Framework Report: Advice on Subsidy Levels and Instruments in Relation to Tariffs for Utility and Infrastructure Services, 2003</td>
</tr>
<tr>
<td></td>
<td>• Designing a Community-Based Public-Private Partnership Model for Rural Water Supply in Thailand, 2004</td>
</tr>
<tr>
<td>Plans/strategies prepared</td>
<td>• Study to develop a strategy to expand rural water infrastructure within the restructured water and wastewater sector in Thailand, 2004</td>
</tr>
<tr>
<td><strong>Project cycle-related assistance</strong></td>
<td></td>
</tr>
<tr>
<td>Transaction support</td>
<td>• Samut Prakarn Wastewater Management Project Institutional Study, 2000</td>
</tr>
<tr>
<td></td>
<td>o Volume 1: Evaluation of Institutional Options</td>
</tr>
<tr>
<td></td>
<td>o Volume 2: Strategic Plan for Samut Prakarn Autonomous Public Organizations</td>
</tr>
<tr>
<td></td>
<td>o Volume 3: A Case for the Fundamental Restructuring of the Wastewater Management Authority</td>
</tr>
<tr>
<td></td>
<td>• Private Sector and Community Participation Pilot Demonstration Project for Rural Water Supply and Wealth Creation in Thailand, 2009</td>
</tr>
<tr>
<td><strong>Capacity and awareness building</strong></td>
<td></td>
</tr>
<tr>
<td>Workshops/seminars</td>
<td>• National Seminar held in Bangkok, Thailand on October 29, 2004 to discuss the findings of restructuring rural water infrastructure</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enabling environment reform</strong></td>
<td></td>
</tr>
<tr>
<td>Institutions created or strengthened</td>
<td>• Office of State Enterprise and Government Securities, Ministry of Finance, 2003</td>
</tr>
<tr>
<td></td>
<td>• Department of Groundwater Resources, Ministry of Natural Resources technical capacity enhanced, 2009</td>
</tr>
<tr>
<td>Plans/strategies adopted or implemented</td>
<td>• Strategy to expand rural water infrastructure adopted and pilot projects implemented, 2007</td>
</tr>
</tbody>
</table>
### Category

**Impacts**

| **Increased number of poor people with infrastructure services** | • 15 villages benefitted from newly installed and operational piped water systems, 2009 |

---

**Technical Assistance for Thailand's Telecommunication Sector**

Since 2000 PPIAF has supported the Royal Government of Thailand to reform and transform the telecommunications sector. These activities have assisted in establishing an independent regulator, the National Communication Commission (NTC); developing and strengthening the institutional and technical capacity of the NTC; modernizing radio frequency management in the country; and developing and formulating a rural broadband strategy. PPIAF is currently supporting the Ministry of Information and Communication Technology to develop and formulate initiatives to leverage broadband access in rural areas.

In 2000 PPIAF provided assistance to the Post and Telegraph Department to develop organizational and regulatory capacity of the independent regulator, the NTC. The objectives of the activity were to review existing legislation and regulations; identify the priority agenda for the NTC over the next two years; identify the financial and human resource requirements to undertake the work program; develop an organizational structure along with job descriptions; develop a practical start-up plan to achieve the new organization and begin operations; and develop a detailed implementation plan for the NTC addressing its four to five top issues over the next two years, including the formulation of a mandated master plan.

The PPIAF-funded report developed proposals for the implementation of a practical work plan over the first two years of the Commission’s life, including an outline of the issues likely to confront the agency at the outset of the mandate. The report proposed rules of procedure/an operations manual and tariff regulations, and also included an outline for the process for developing an ongoing telecom master plan. In addition, the report outlined the necessary human resource development, contract information, and timeframes for implementation. Comments on the then newly-introduced Telecom Law were also incorporated into the report. Finally, the report laid down the strategic plan for the key issues likely to be faced by the regulator, along with timing, process, and required resources. The National Telecommunications Commission was established by the government in 2004.

In 2000 PPIAF also provided assistance to the Post and Telegraph Department to develop a comprehensive program to improve radio spectrum management, including economic, revenue generation, administrative, and technical aspects involving computer systems, software, database creation and maintenance, monitoring equipment, and compliance activities.

The PPIAF-funded report detailed a comprehensive program to improve spectrum management. It covered key strategies for improving spectrum management options including revenue generation, administrative and technical, and compliance activities. The study proposed an organizational structure for integrated spectrum authorization-licensing and assignment and outlined a consultative process to gather support for spectrum planning and assignment involving various stakeholders. It also proposed spectrum-assignment strategies to increase revenues and recover the cost of managing the spectrum, recommended modernizing spectrum monitoring, and provided an implementation strategy and plan for the department to achieve improved spectrum planning, management, and monitoring. The department adopted the report’s main recommendations and the Frequency Management Operations unit was created as a result of this activity.

In 2005 PPIAF provided follow-up assistance to the NTC to strengthen the regulator’s capacity and institutional structure. The specific objectives of this activity included: supporting organizational development, adoption, and implementation of best practices; and successfully implementing priority
regulatory initiatives on licensing processes, interconnection, universal service costing methodology, the competition code, and consumer protection.

A number of outputs were produced as part of this activity, including briefing notes and project memos on interconnection administration, universal service, the regulation of VoIP services (voice over internet protocols), the regulation of telecommunication prices, consumer protection, quality of service, and the competition code. A training plan for the regulatory was also developed as part of this activity, as were the terms of reference for experts on various topics.

The activity provided timely advisory support for the priority activities of the then newly-established NTC. One important outcome of the PPIAF-funded support was the liberalization of the international internet gateway provision in Thailand, which resulted in significant reduction in internet gateway fees. Overall, the advisory assistance helped build capacity of the NTC as an independent regulator, especially its capacity in licensing, which was necessary to helping Thailand meet its commitments to the World Trade Organization to liberalize its telecommunications sector.

In 2010, continuing its support to the government's telecommunications sector reform agenda, PPIAF provided assistance the Ministry of Information and Communication Technology to prepare a rural broadband development strategy. The objective of this activity was to take stock of the deployment of broadband networks in rural areas, with a particular focus on access by priority groups such as medical clinics and schools. The activity also identified relevant examples of approaches to rural broadband deployment and access from international experience, including successful innovative approaches to promote efficient private sector participation, and developed concepts for programming and policy initiatives for Thailand.

The PPIAF-funded report on policy options made several recommendations to the National Broadcasting and Telecommunications Commission, which replaced the NTC in 2010. These recommendations included: i) furthering competitive licensing and expediting the opening of the market, particularly in rural areas, to new investors; ii) making provisions for licensing smaller telecommunications network and service operators to provide local or regional services in designated rural areas; iii) developing a national network infrastructure by adopting a multi-pronged approach to promote accelerated and universal rollout of broadband infrastructure; iv) deploying a broadband-based government information network throughout Thailand, particularly in rural areas; v) providing substantial financial resources and expertise to the development of a national rural broadband strategy through the Commission’s Telecommunications Development Fund for Public Benefit; vi) supporting rural telecenter facilities through the Commission’s development fund; and vii) encouraging the Ministry to continue to take a leading role in reinforcing the national broadband policy process. A workshop was held in May 2011 to discuss the findings of the reports.

Based on the recommendations of the PPIAF-funded study, the Ministry sought further PPIAF assistance in 2012 to develop practical designs for new and upgraded initiatives to leverage broadband access in rural areas. The main objective of this ongoing activity is to review and assess the Ministry’s existing telecenter program, identify strengths and weaknesses, identify international best practices from other countries, and determine the potential role of the private sector in leveraging broadband access for accelerated rural development.

**Results of PPIAF’s Activities in Thailand’s Telecommunications Sector**

<table>
<thead>
<tr>
<th>Category</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enabling environment reform</td>
<td></td>
</tr>
<tr>
<td>Analyses/assessments prepared</td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on Interconnection Administration, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on Universal Service Issues, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on Publication Consultations (in English and Thai), 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on Training Program, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on VoIP: Regulatory Challenges and Implementation Trends – Three Modes of VoIP Implementations, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on VoIP: Regulatory Challenges and Implementation Trends – Practices in Other Jurisdictions, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on VoIP: Regulatory Challenges and Implementation Issues – Regulatory/Policy Issues, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on Regulation of Telecom Prices in Thailand, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on General Authorization, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on Consumer Protection, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on Quality of Service, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on Competition Code, 2005</td>
<td></td>
</tr>
<tr>
<td>• Summary of Recommendations on Hiring a Consultant for Cost Structure, 2005</td>
<td></td>
</tr>
<tr>
<td>• Summary of Comments and Recommendations on Draft Regulation on Licensing Criteria and Process, 2005</td>
<td></td>
</tr>
<tr>
<td>• Notes for NTC Future Work Program (in English and Thai)</td>
<td></td>
</tr>
<tr>
<td>• Comments on Conditions of License, 2005</td>
<td></td>
</tr>
<tr>
<td>• Comments on Universal Service Issues, 2005</td>
<td></td>
</tr>
<tr>
<td>• Comments on the NTC Public Consultation Regulation Document, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Notes on Allocation of Scarce Resources – Radiofrequency Spectrum Licenses, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on 3G Licensing, General Principles, Best Practice, and Issues, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on Spectrum Management Issues, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on 3G Indonesia: Issues, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on 3G Indonesia: Evolving Policy to Support Allocations of Licenses, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on Pricing Issues: Introduction to Principles of Economically Rational Pricing, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note on Pricing Issues: Telecommunications, 2005</td>
<td></td>
</tr>
<tr>
<td>• Briefing Note of Pricing Issues: Radiofrequency Spectrum Management, 2005</td>
<td></td>
</tr>
<tr>
<td>• Terms of Reference for Consultancy to Determine the Regulatory Framework of Interconnections in Thailand, 2005</td>
<td></td>
</tr>
<tr>
<td>• Terms of Reference for Competition Code Consultancy, 2005</td>
<td></td>
</tr>
<tr>
<td>• Terms of Reference for Consulting on USA-Thailand Free Trade Agreement, 2005</td>
<td></td>
</tr>
<tr>
<td>• Summary of the NTC Announcements, 2005</td>
<td></td>
</tr>
<tr>
<td>• Request for Expression of Interest – Telecommunications Consultant Services, 2005</td>
<td></td>
</tr>
<tr>
<td>• Terms of Reference for Consultancy Services to Determine Cost-Based Model for Retail and Interconnection Rates, 2005</td>
<td></td>
</tr>
<tr>
<td>• Thailand Rural Broadband Infrastructure Policy Project, April 2011</td>
<td></td>
</tr>
<tr>
<td>• Rural Broadband Infrastructure Development in Thailand – Policy Concepts and Options, 2011</td>
<td></td>
</tr>
</tbody>
</table>
### Plans/strategies prepared
- National Telecommunications Commission: Organizational Development, 2002
- Options for Improving Spectrum Management Practices, 2005
- Guidelines for the Determination of International Internet Gateway License Terms and Conditions and Related Issues, 2006

### Policies prepared or legal or regulatory changes recommended
- Draft Tariff Regulations, 2003
- Comments on Master Plan for telecommunications Business in Thailand, 2005
- Comments on NTC Regulation on Telecommunication Business Licensing, 2005

### Capacity and awareness building
#### Workshops/seminars
- Workshop on rural broadband infrastructure policy, May 2011

### Category | Outcomes
---|---
**Enabling environment reform**
- **Institutions created or strengthened**
  - Frequency Management Operations Unit created
  - National Telecommunications Commission strengthened, 2001, 2005

- **Policies adopted, legislation passed/amended, or regulations issued/revised**
  - Liberalization of international internet gateway provision adopted, 2006

- **Plans/strategies adopted or implemented**

**Capacity and awareness building**
- **Technical capacity enhanced**
  - National Telecommunications Commission technical capacity enhanced, 2005

- **Consensus achieved**
  - Consensus achieved on recommendations on rural broadband policy, 2011

### Impacts
- **Improved level of services**
  - The liberalization of the international internet gateway resulted in a 18–63% reduction of fees for the service, 2006

---

**Technical Assistance for Thailand's Transport Sector**

In 2001 the Ministry of Transport and Communications sought PPIAF assistance to begin the process of corporatizing the State Railway of Thailand and to explore options for private participation in some key aspects of the business.

The main objectives of the activity were to prepare a regulatory framework for the railway and explore opportunities for private participation in the railway sector. The PPIAF-funded study included a series of
components reports on sector policy issues, tariff regimes, drafting legislation, options for private sector participation, and the regulatory framework and the role of the authority. A stakeholder workshop was held on February 12, 2003 in Bangkok to present an overview of the final report and outline the report’s major recommendations.

The main recommendations for reforming the railway sector included: i) restructring the railway into commercially-focused business units within a single integrated organization; ii) introducing a public service obligation contract and a transitional funding regime; iii) establishing an interim regulator; iv) corporatizing the railway as a vertically integrated entity using the Corporatization Act; v) passage of a new Railway Act to complete the reform process; and vi) setting milestones, responsibilities, budgets, technical assistance, and implementation plans to carry through the reform. A transitional plan for the railway regulatory agency and sector reforms was also developed as part of the assistance.

Additional PPIAF support was provided to define and outline the process by which the government and the State Railway of Thailand could proceed with one of the first preparatory steps in the structural change, the separation of core from non-core assets. This activity also provided guidelines for assigning assets between the core business units of Infrastructure and Train Operating. An approach to cost allocation to measure the net results of businesses was also produced, key franchising issues were identified, and general principles for railway asset valuation were also discussed under this activity.

The PPIAF-funded final report concluded that clarity about the organization’s structure was essential to completing the asset allocation process and that core assets should be assigned to business units on the basis of operational need and commercial effectiveness. The report identified the low quality of records as a potential problem for restructuring efforts, and recommended that the accounting and control systems be made to match the organization structure to increase accountability for each business unit. It also noted that although the Franchise Agreements varied in practice and reflect different policies, operating circumstances, and markets, there was plenty of international experience to draw upon in preparing franchise agreements for Thailand. Finally, the report noted that the reform process was complicated and would require assistance with the development of control systems and accounting capacity, the identification of core assets with the business units and profit centers, the establishment and implementation of new business policies and processes, and the future development, evaluation and letting of franchise agreements.

The report suggested that the government and the railway concentrate on the following four key steps in moving to the implementation phase: i) provide experienced “hands on” support to restructure the railway; ii) assist the railway to undertake a coordinated, operating, engineering and accounting study; iii) assist the railway to develop the capacity of its financial and management accounting systems; and iv) work with the railway to develop and implement a reliable and responsive public service obligation process. The government is still reviewing the findings of the report.

Results of PPIAF’s Activities in Thailand’s Transport Sector

<table>
<thead>
<tr>
<th>Category</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enabling environment reform</td>
<td></td>
</tr>
<tr>
<td>Analyses/assessments prepared</td>
<td>• Regulatory Regime and Private Participation Options for Rail Business in Thailand, 2003 and Extension, 2004</td>
</tr>
<tr>
<td>Capacity and awareness building</td>
<td></td>
</tr>
<tr>
<td>Workshops/seminars</td>
<td>• Stakeholder workshop to present findings and major recommendations of the final report held in Bangkok, Thailand on February 12, 2003</td>
</tr>
</tbody>
</table>