



Technical Assistance Consultant's Report

Project Number: 37280
June 2007

Sri Lanka: Implementing Products and Services for the Domestic Debt Market (Cofinanced by the Government of Sweden)

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For Ministry of Finance
Central Bank of Sri Lanka

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Asian Development Bank

FINAL REPORT

**Implementing Products and Services for
the Domestic Debt Market**

Sri Lanka

For

**The Asian Development Bank
Government of Sri Lanka
Swedish International Development Agency**

**Maxwell Stamp PLC
June 2007**

LIST OF ABBREVIATIONS

EXECUTIVE SUMMARY

1. The team of consultants of Maxwell Stamp PLC commenced the inception phase of the Project on June 20, 2005 in Colombo. After four weeks of assessment of capacity building needs, the inception phase was completed on July 15, 2005, and an Inception Report was submitted to the ADB, which was later accepted.
2. The original TOR contained five components, namely, Asset and Risk Management, Securitized Bonds, Bond Derivatives, Infrastructure Bonds, and Capacity Building on the Debt Market for the Ministry of Finance. In September 2005, the work on the infrastructure bond component was suspended, pending a decision by the Government on the various options presented by the consulting team. The work on the remaining four components continued.
3. Subsequent to the inception period, Maxwell Stamp team developed a comprehensive plan for delivering debt capacity building programmes during phase I of its implementation. A document titled "Debt Capacity Building Programmes: Phase I" was submitted to the ADB in January 2006, and was later approved.
4. A Tri-party meeting of the progress of the project was held in March 2006, which was attended by the ADB, SIDA, Ministry of Finance, Central Bank of Sri Lanka, and Maxwell Stamp project leadership. The review concluded that the project was being implemented successfully, and that the time period of the project would be extended beyond October 2006 to enable completion of all the tasks envisaged in the TOR.
5. The Phase II plan was developed on the basis of comments and feedback from the review meeting, from the participating institutions and individuals in line with the objectives of the TOR. The final version of the Phase II plan was submitted to the ADB in September 2006. The proposed activities during Phase II included the following: Training in risk management in bond portfolios, training of trainers in risk management, technical support for the Securities and Exchange Commission on securitization, residential workshop on best practices in securitization, awareness workshops on derivatives, press articles on derivatives, training of trainers for the Ministry of Finance, Employee Provident Fund training, Employee Trust Fund training, and training of trainers for the Treasury of the Ministry of Finance.
6. In December 2006, in place of the Phase II plan, the project was re-oriented towards carrying out output-driven policy work. We drafted two key policy issues papers relating to the Government debt management, and pension funds and the state banks.
7. The project concluded in April 2007. The project has proceeded according to the TOR. This report provides an overview of the project and a summary of tasks accomplished. Details of the various aspects of the project are contained in various documents submitted to the ADB and such documents are referenced in this document.

1. OVERVIEW OF THE PROJECT

The original Terms of Reference (TOR) of the project consisted of the following five components:

1. Component 1: Asset and risk management
2. Component 2: Securitized bonds
3. Component 3: Bond derivatives
4. Component 4: Infrastructure bonds
5. Component 5: Capacity building on the debt market for the Ministry of Finance

According to the TOR, the key task in each component was to develop and implement skill development programmes in the above areas, except component 4 where the task was to develop an infrastructure bond. The project proceeded in three stages and the following gives a brief description of each stage.

Stage 1: Inception phase (June 2005 to July 2005)

During the inception phase, we conducted an initial assessment of capacity building needs in respect of each of the above five areas as mandated by the TOR. This assessment resulted in a comprehensive work plan to accomplish the key objective of developing and enhancing skills in debt securities, risk management, securitized bonds and bond derivatives.

As for the infrastructure bonds component, the consultants completed an initial analysis of financial feasibility and alternative financing options for developing the Colombo South Harbour of the Sri Lanka Ports Authority (SLPA), which was the entity chosen by the ADB for this component. In September 2005, the work on the infrastructure bond component was halted at the request of the ADB, pending a decision by the SLPA on the various financing options presented by the consulting team.

The "Inception Report" submitted to the ADB in July 2005 contains a detailed description of the review of previous work; assessment of capacity building needs, and design of skill development programmes.

Stage 2: Implementation phase (August 2005 to December 2006)

We implemented the work plan presented in the inception report for the remaining four components during stage 2. This involved conducting the training and awareness programmes in risk management, bond derivatives, securitization, and debt securities. Upon completion of the inception period, given the large scope of the project, we decided to implement the project in two phases, where the first phase would focus on skill development and training activities and the second phase would concentrate on training of trainers and higher level training and awareness programmes. Accordingly, we developed a comprehensive plan for delivering debt capacity building programmes during phase I of its implementation. A document titled "Debt Capacity Building Programmes: Phase I" was submitted to the ADB in January 2006, and was later approved. This document contains a detailed description of the proposed training programmes along with the training methods and time table.

Project Status Reports were submitted to the ADB in November 2005 and September 2006. The Interim Report was submitted to the ADB in February 2006.

We completed substantially all the capacity building programmes planned for Phase I of the project by June 2006. As envisaged at the inception stage, we then proceeded to develop the programmes for Phase II of the project. A document titled "Debt Capacity Building Programmes: Phase II" was submitted to the ADB in September 2006.

Stage 3: Debt Policy work (January 2007 to June 2007)

At the request of the ADB, in January 2007, the focus of the project was changed from that of a training orientation, as presented in Phase II document, to a policy orientation. The new tasks of the project included identifying policy issues related to the debt management of the Government as well as pension funds and state banks. The policy work resulted in two documents which identified key policy issues along with recommendations for resolving them. The policy papers titled "Government Debt Management" and "Employee Provident Fund and State Banks" provide a detailed discussion of the issues and recommendations. The two policy papers were completed in February 2007, and submitted to the respective Government institutions in March 2007. Some follow-up work on the issue papers continued until June 2007, at which point the project ended.

2. SUMMARY OF THE TASKS ACCOMPLISHED

2.1 Training Programmes

The key objective of the project, excluding the infrastructure bond component, was to develop knowledge and skills in the theory and applications of debt securities. Towards meeting this objective, skill development programmes were designed after taking into account the specific needs of the Sri Lankan market and its participants. During the inception and design stage, each team met with key players and discussed with them the needs of the market considering the stage of development of the debt capital market. Table 1 summarises the training programmes implemented under each of the four areas including the number of participants in each module.

Table 1: Summary of Implemented Capacity Building Programmes

Component and Module	# of Participants
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Component 1: Risk Management	
1. Introduction to Risk Management	293
2. Bond Pricing, Yield and Risks	242
3. Asset and Liability Management Process	152
4. Duration, Convexity and Earnings Sensitivity Analysis	131
5. Operational Risk Management	98
Component 2: Securitized Bonds	
1. Introduction Securitization	71
6. Home Mortgage Securitization and Creation	55
3. Issues, Problems and Concerns in Developing a Market for Securitized Home Mortgage Bonds in Sri Lanka	44
Component 3: Bond Derivatives	
1. Introduction to Short Selling and Repurchase Agreements	183
2. Risk Management Strategies using Repurchase Agreements and Short Selling	142
3. Introduction to Forward Rate Agreements	83
4. Managing Market Risk through Derivatives - Future Developments	58
5. Debt Policy Issues in Short Selling, the Repo Market, and the Swap Market	50
6. Documenting Derivatives Transactions	48
7. Making a Market in Forward Rate Agreements	57
8. Making a Market in Interest Rate Swaps	42
Component 5: Debt Market Training for the MOF	
1. Fundamentals of Debt Instruments	65
2. Characteristics and Pricing of Debt Instruments	65
3. Analysis and Valuation of Treasury Bonds	65
4. Analysis and Valuation of Corporate Bonds	65

We spent considerable effort in marketing the courses. In the event, the demand for training, and the numbers attending the programmes, far exceeded expectations, and lead to us repeating several modules in order to accommodate the large number of participants.

2.1.1 Risk Management

The objectives of training in risk management were to enhance knowledge and understanding of the theory and practices of risk management in fixed income portfolios, with particular reference to bonds. The modules focused on techniques of managing market (interest rate) risk and operational risk, as well as asset-liability management. As one can see from the number of participants, there was a large interest in risk management modules. Risk management is not very well developed in the financial sector institutions of Sri Lanka. In fact, most institutions do not have a risk management framework or a risk officer. There is very little knowledge about the application of risk management techniques. The risk management workshops helped to increase the awareness of the need for proper risk management.

We believe that the financial sector institutions in Sri Lanka need substantial technical support to develop effective risk management functions leading up to a development of centralised enterprise risk management systems. Such systems must be capable of identifying and measuring risk exposures, setting risk tolerance levels, reporting risk exposures, monitoring risk exposures and taking corrective

action. It is important to put in place appropriate risk governance systems in banks and other financial institutions. A targeted approach to identifying specific risk management needs of institutions and providing appropriate interventions in terms of technical support is needed. It will be also important to provide targeted training since the skill levels in risk management at financial institutions and pension funds are very low. However, in order to be effective such training has to be provided in conjunction with establishing systematic, firm-wide, risk management systems.

2.1.2 Securitized Bonds

The training in securitized bonds was targeted towards regulators (CBSL, SEC, CSE) and originators, and intermediaries in the securitization process. At the time of commencement of the project, the SEC was in the process of drafting its securitization act and indicated the need for knowledge enhancement in this area. Three workshops were held to introduce the details of the process of securitizing home mortgages, and to discuss issues related to securitization in Sri Lanka.

A majority of participants indicated that the workshops enhanced their knowledge of securitization. The workshops were bringing together key players in the market to discuss various legal and financial issues of securitization in Sri Lanka. One key observation is that private sector participants seemed to have a good understanding of the securitization process while the participants from key regulatory organisations lacked people with right mix of finance and market background to fully appreciate the process, techniques and importance of securitized debt. It is worth pointing out that the key regulatory organisations such as the CBSL, SEC, MOF as well as the stock exchange lack capacity to move forward with the creation of an enabling regulatory and economic environment for developing a securitized debt market. This project has started the process, but there is a substantial need for further upgrading the expertise of these institutions not only in the area of securitized debt but also in all capital market related areas.

2.1.3 Bond Derivatives

The bond derivatives market in Sri Lanka is in its early stages of development. The market is dominated by government securities, with a thin market for corporate and bank debt. Apart from an active overnight repo market for government securities, secondary market liquidity is very thin. There are occasional over-the-counter derivatives transacted in the market, though no intermediary is committed to making a market in any derivative product other than repos. There are no exchange-traded derivatives; there is no futures exchange in Sri Lanka, nor have any foreign exchanges developed contracts based on Sri Lankan instruments or indices.

Given these initial conditions, seven training programmes were designed to develop the knowledge base largely in the areas of repurchase agreements, forward rate agreements, and interest rate swaps. The pre-conditions for developing bond derivatives are weak. For example, Sri Lanka needs to develop an efficient and liquid market with sufficient depth in various bond sectors before any meaningful market-based derivatives contracts can be introduced. Future work needs to focus more on developing primary and secondary bond markets, and derivatives market development.

2.1.4 Debt Market Training for the MOF

Based on the initial assessment of training needs in debt securities for the MOF, we designed and conducted four training modules for the staff nominated by various departments within the MOF. The training modules focused on discussing the operation and role of debt securities market in the economy, and understanding the interest rate structure and determination of prices and yields of various debt instruments. There was a request to conduct further advanced training as well as to broaden training to include other market instruments. These requests were included in the Phase II plan of the project.

Although the training is highly relevant, the MOF lacks capacity to use the training obtained. The MOF does not have a dedicated division and people in charge of capital market development, policy and regulation activities. As a result, training staff members from various functional departments does not necessarily translate into practical use of such knowledge or immediate productivity improvements. It is highly desirable that the MOF has a dedicated capital markets division in charge of development, regulation, as well as domestic and external debt management. This is particularly important in the context of creating an integrated government debt management framework such as a Debt Management Office.

2.2 Policy Reports

The second key output of the project was the drafting of two policy issue papers. The scope of the first policy issue paper was to identify key short-term and long-term policy issues of Government debt management and to make recommendations for addressing key problems.

Sri Lanka does not have an integrated debt management framework, and the issuance of Government debt has been conducted without an adequate long-term debt policy and management framework. As a result, the Government and the markets are faced with a multitude of problems. Key among them are the debt bunching problem at settlement, inefficient price discovery process, absence of a reliable benchmark yield curve, a weak and non-competitive primary dealer system, inactive and illiquid secondary markets, inadequate funding instruments, and lack of policy and management of external debt. Further, the captive pension funds are faced with maturity mismatches and low yielding portfolios, and are severely constrained in making independent investment decisions. We developed recommendations for addressing these key issues. A summary of key recommendations is provided in Table 2.

Table 2: Government Debt Management-Key Recommendations Matrix

Key Recommendation	Goals	Tasks
High Priority, Operational Issues		
1. Solve the debt bunching problem.	<ul style="list-style-type: none"> a. Issuance of bonds to create a fairly evenly distributed maturity structure across medium to long-term. b. Extend the duration of the stock of Treasury bonds. 	<ul style="list-style-type: none"> a. Identify the timeline of debt bunching and rollover risks. b. Select an appropriate mix of buyback and exchange operations. c. Design buyback / exchange guidelines. d. Implement buyback / exchange operations in a

Key Recommendation	Goals	Tasks
		properly phased manner.
High Priority, Strategic Issues		
1. Formulate a Government debt policy and debt management framework.	<ul style="list-style-type: none"> a. Determine the sustainable levels and mix of domestic and foreign debt. b. Establish debt issuance guidelines based on a market-based approach. c. Ensure an efficient price discovery process. d. Develop a benchmark yield curve. e. Establish debt and risk management guidelines. f. Develop an asset-liability management approach to managing Government debt portfolio. g. Facilitate asset-liability management of investors. 	<ul style="list-style-type: none"> a. Identify the levels of mix of domestic and foreign debt taking into account fiscal capacity, Government asset-liability characteristics, and debt sustainability. b. Determine and develop the types and maturity of appropriate short-term and long-term Government debt instruments. c. Formulate debt issuance guidelines. d. Formulate strategic and tactical debt management strategies.
2. Develop institutional and analytical capacity for debt management.	<ul style="list-style-type: none"> a. Bring both domestic and foreign debt issuance and management under a centralized Government Debt Management Office. b. Develop human capacity and skills required for an effective debt management operation. 	<ul style="list-style-type: none"> a. Identify the activities and divisions associated with all aspects of domestic and foreign debt operations. b. Determine the optimal institutional set-up taking into the best experience in comparable countries. c. Determine the necessary legislative changes. d. Identify the needs for training and skills development, and implement necessary programmes for fulfilling them.
3. Establish a competitive primary market system.	<ul style="list-style-type: none"> a. Deepen the market through a diversified investor base and to create stable demand. b. Enhance competition in the primary auction for efficient price discovery. 	<ul style="list-style-type: none"> a. Carry out a comprehensive study of the existing primary dealer system. b. Determine the primary market structure and mechanisms suitable for creating a more vibrant primary market for Government securities.

Key Recommendation	Goals	Tasks
		c. Determine the necessary legislative changes.
4. Establish a viable secondary market system.	a. Develop an active secondary market system. b. Develop the investor base and promote products necessary to support an active secondary market.	a. Carry out a comprehensive study of the secondary market system as a basis for identifying problems and developing recommendations for a viable system. b. Determine the policies and strategies needed to develop an active fund management industry. c. Determine policies and strategies to promote new products by primary and secondary market institutions.

The second policy paper examined key policy issues at the Employee Provident Fund (EPF), and two state banks [Bank of Ceylon (BOC) and People's Bank (PB)] as they relate to the development of the debt markets and investment management. The reason these institutions were chosen is due to the fact they represent the key investors in government securities in Sri Lanka. The development of the government debt market needs to consider the financial capacity, investment policies and needs of these key institutions.

The policy paper highlighted some key issues with regard to the pension portfolio of the EPF. The rate of return of the EPF portfolio of investments is low largely due to the concentration of the investment portfolio in low-yielding government securities. The investment opportunities available to the EPF to create a more diversified portfolio and enhance returns are very limited. The EPF has long-term pension obligations while the assets are concentrated in relatively short-term investments, thus creating an asset-liability mismatch. There are no actuarial estimates of the future liability structure of the EPF. The EPF does not provide investment options with different risk-reward structures to their subscribers.

Both BOC and PB are faced with a similar set of issues in regard to debt and investment policies. Their ability to manage asset and liabilities is largely affected by the government borrowing practices. The Treasury overdraft facility maintained at these two banks limits the financial management flexibility of state banks. The state banks have to invest in government securities at administratively determined rates. The need to finance the Government contributes to a large asset-liability mismatch for state banks.

It is critical that the EPF develop a comprehensive investment management framework that will address both the low return problem as well as the asset-liability mismatch. The state banks also need to establish comprehensive investment policy frameworks as well as proper risk management guidelines in investment portfolios.

The most important conclusion emanating from both issue papers is that the development of the domestic debt market is likely to meet with limited success without a coordinated financial sector development strategy of the government. The issues identified in the issue paper on debt market development, and the issues relating to the EPF and state banks are all interrelated to each other. A coordinated strategy has to take into account the needs of the government borrowing requirements as well as the needs of the investors. While raising funds for the Treasury at the lowest cost is important, that has to be done while preserving the stability of the financial sector in the long term. Currently, Sri Lankan Government lacks a properly formulated debt management strategy that addresses the issues related to the overall financial sector. While addressing issues of individual institutions are important, getting the overall financial sector development strategies right are more important for long-term success in developing debt securities and capital markets.

2.3 Procurement

In accordance with the TOR, we conducted three rounds of ADB-approved procurement of equipment at the request of the CBSL and the MOF. The first procurement included the equipment necessary for the project office which was established at the CBSL. The next two rounds of procurement occurred in response to requests made by the Development Finance Department of the MOF, which were approved by the ADB. All procurement was conducted in compliance with the ADB procurement guidelines. Three competitive quotations were solicited in respect of each equipment and the lowest bidder meeting the technical and quality specifications was selected. The equipment were directly received by the respective institutions. The details of the procurement are shown in Table 3.

Table 3: Procurement Details

	Qty	Cost (USD)
Procurement (1): Central Bank of Sri Lanka		
Photocopiers	1	4,083
Fax machine	1	863
Multi-media projector	1	2,602
Scanner	1	114
Notebook computers	2	4,848
Laser printer	1	871
Sub Total		13,381
Procurement (2): Ministry of Finance		
Notebook computers	5	8,500
Sub Total		8,500
Procurement (3): Ministry of Finance		
Desktop computers	10	5,015
Laser printers	5	1,540
Photocopiers	5	15,203
Fax machines	5	805
Sub total		22,563
Financial Calculators for training programmes*	66	1,977
Grand Total		46,421

*Financial calculators were handed over to the CBSL upon completion of training programmes.

3. CONCLUSION OF THE PROJECT

The project for debt capacity building implemented the tasks as mandated by the TOR. The original TOR envisioned a highly ambitious scope to be completed within a period of 17 months (June 2005 to Oct 2006). As a result, we split the work into two phases (Phase I and II) and implemented substantially all the work envisaged under Phase I. We proposed the remaining tasks of the original TOR along with further capacity building needs identified during the Phase I implementation to be carried out during an extended time period. However, the ADB indicated the intention to steer the project away from training to a more output driven policy work starting January 2007. Accordingly, we were engaged in policy work to identify issues in the government debt market from January 2007 to June 2007. The policy work was concluded and presented to the ADB as well as to the respective institutions. It is our understanding that the results of the policy work was relevant to develop capital markets in Sri Lanka.

References

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