TECHNICAL ASSISTANCE REPORT

BHUTAN

Development of an Interest Rate Corridor Framework

DECEMBER 2024

Prepared By

Oleg Churiy, Bernard J. Laurens

SARTTAC

SOUTH ASIA REGIONAL TRAINING & TECHNICAL ASSISTANCE CENTER

MEMBERS

Bangladesh, Bhutan, India, Maldives, Nepal, Sri Lanka

PARTNERS

Australia, European Union, Republic of Korea, United Kingdom

DM5 Reference:
Mission ID:
Funding Program ID:

DISCLAIMER

The contents of this document constitute technical advice provided by the staff of the International Monetary Fund to the authorities of Bhutan (the "CD recipient") in response to their request for technical assistance. Unless the CD recipient specifically objects to such disclosure, this document (in whole or in part) or summaries thereof may be disclosed by the IMF to the IMF Executive Director for Bhutan, to other IMF Executive Directors and members of their staff, as well as to other agencies or instrumentalities of the CD recipient, and upon their request, to World Bank staff, and other technical assistance providers and donors with legitimate interest, members of the Steering Committee of SARTTAC (see Staff Operational Guidance on the Dissemination of Capacity Development Information). Publication or Disclosure of this report (in whole or in part) to parties outside the IMF other than agencies or instrumentalities of the CD recipient, World Bank staff, other technical assistance providers and donors with legitimate interest, members of the Steering Committee of SARTTAC shall require the explicit consent of the CD recipient and the IMF's Monetary and Capital Markets Department and SARTTAC.

The analysis and policy considerations expressed in this publication are those of the IMF's Monetary and Capital Markets Department and SARTTAC.

MEMBERS

Bangladesh Bhutan India Maldives Nepal Sri Lanka

PARTNERS

Australian Government
The Treasury

European Union

Ministry of Economy and Finance Korea

UK Government

Contents

Glossary

BoB	Bank of Bhutan
CiC	Currency in Circulation
CRR	Cash Reserve Ratio
CRST	Central Registry for Secured Transactions
CSD	Central Securities Depository
DB	Department of Banking
DLMF	Domestic Liquidity Management Framework
DMRS	Department of Macroeconomic Research and Statistics
FMI	Financial Market Infrastructure
IMF	International Monetary Fund
IRC	Interest Rate Corridor
LiCo	Liquidity Committee
LT	Liquidity Team
MCM	IMF Monetary and Capital Markets Department
MDF	Marginal Deposit Facility
MLF	Marginal Lending Facility
MLMO	Main Liquidity Management Operation
MMCG	Money Market Contact Group
MoF	Ministry of Finance
OMO	Open Market Operations
RSEB	Royal Securities Exchange of Bhutan
RMA	Royal Monetary Authority of Bhutan
RMP	Reserve Maintenance Period
SARTTAC	IMF South Asia Regional Training and Technical Assistance Center
SF	Standing Facility
SLR	Statutory Liquidity Ratio
TA	Technical Assistance
TSA	Treasury Single Account

Preface

At the request of the Royal Monetary Authority of Bhutan (RMA), an IMF South Asia Regional Training and Technical Assistance Center (SARTTAC) visited Thimphu during August 20-29, 2024, to support the RMA in the development of an interest rate corridor (IRC) framework. The mission was led by Oleg Churiy (SARTTAC Monetary and Foreign Exchange Operations Advisor) and Bernard J. Laurens, expert of the IMF Monetary and Capital Markets Department (MCM).

The mission met with Governor Dasho Penjore, Deputy Governor Yangchen Tshogyel, Deputy Governor Ugyen Choden, the heads of the Department of Macroeconomic Research and Statistics (DMRS), Department of Banking (DB), Department of Technology and Innovation , Legal division and other senior officials and staff of the RMA. Meetings were also held with members of the Ministry of Finance (MoF), Royal Securities Exchange of Bhutan (RSEB), other financial sector stakeholders, including commercial banks and the National Pension and Provident Fund. The mission wishes to thank all stakeholders for their hospitality, cooperation, and for the productive discussions.

This report incorporates comments from the RMA and those received in the context of the IMF's internal review process.

Executive Summary

Delayed on several occasions despite intense and commendable preparation work, the introduction of active liquidity management by the RMA has now become an inescapable priority. In a context of international reserves below an adequate level, the RMA does not have an appropriate and functioning Domestic Liquidity Management Framework (DLMF) to support the peg. Neither has the RMA in place monetary policy instruments that would allow to deal with changing systemic liquidity conditions and challenges to financial stability in a flexible way. Exclusive reliance on administrative instruments and controls, such as Cash Reserve Ratio (CRR), sweeping arrangements, capital flow management measures, while appropriate price incentives (i.e., a level of domestic interest rates consistent with the peg to the Indian rupee) are lacking can only solidify the preference of Bhutanese residents for foreign exchange and, therefore, reinforce the pressures on the peg, in particular through measures to evade capital controls.

Several benefits can be expected from the activation of the DLMF, together with maintaining short-term money market interest rates well aligned with those in place in India. They include macroeconomic benefits, most notably limiting the scope for destabilizing arbitrage opportunities by supporting the attractiveness of the local currency for residents. They also include microeconomic benefits, particularly support for the short-term money market and an orderly development of the nascent capital market.

The mission provided the RMA with an IRC framework easy to understand and to implement. A phased approach is also suggested, so as to facilitate the introduction of the IRC and limit unnecessary disruptions on banks' operations.

Given the important and commendable preparation work undertaken in the past by the RMA, there are only a limited number of technical obstacles to the introduction of an IRC framework. The main one has to do with the collateral framework, in particular the technical capability to take government securities as collateral for the RMA's liquidity providing operations.

Appropriate communications by the RMA will be essential. As for any reform that will have significant implications for the way commercial banks go about doing their business, obstacles of a political economy nature can be the most difficult ones to tackle. RMA communications will be essential to facilitate an understanding by all stakeholders of the broader objectives of the reform, and to ensure an adequate understanding by the commercial banks of the policy instrument that are being introduced.

The mission recommendations covering the five building blocks for an IRC relevant for the RMA at this juncture are as follows:

- ***Sweeping arrangements.*** Re-instate broad sweeping arrangements of government-related accounts in the context of launching active liquidity management operations. By creating a structural liquidity deficit the measure would facilitate aligning short-term money market rates with the RMA Policy Rate.

- ***Liquidity monitoring and forecasting framework***. Enhance further the coordination and exchange of information with the Treasury (i.e., regular participation in bi-weekly meetings and transmission to the RMA of government cash flow forecasts). RMA's staff capacity can also be enhanced by their participating in the regional workshop for liquidity forecasting planned for the first quarter of 2025 and, if need be, follow-up TA.

- ***Collateral framework***. Operate under a narrow collateral framework for monetary operations, accepting only government securities. In that context, addressing the abnormally high fees charged by the RSEB in relation to the operations of its Central Securities Depository (CSD) is a matter of high priority.

- ***Money market development***. Phase out the fixed rate at which commercial banks currently trade liquidity among themselves and re-instate the Money Market Contact Group (MMCG) as a platform for communication with commercial banks to discuss monetary operations and initiatives for the development of interbank operations.

- ***Adopt a phased approach to the introduction of the IRC:***
    - *In the preparation stage*, finalize relevant external and internal documents and conduct mockup operations.
    - *At the initial stage*, introduce a one-week main Open Market Operations (OMO)s, conducted weekly at the Policy Rate and with full allotment. Ensure automatic access to the IRC's standing facilities (SFs). Adopt a width for the IRC wider than that of the anchor currency to stimulate interbank trading.
    - *Later*, rely on fixed-quantity, variable-rate OMOs, using liquidity forecasting to calibrate OMOs. At that time, move to averaging for the CRR.

Recommendations

Table 1. Key Recommendations

Recommendations and Authority Responsible for Implementation	Priority	Timeframe 1/
Topic 1. IRC Design and Implementation		
Recommendation 1. Finalize all internal and external documents related to the IRC (RMA) ¶ 30	High	Near term
Recommendation 2. Introduce a one-week main OMO, conducted weekly at the Policy Rate and with full allotment. Ensure automatic access to the IRC's standing facilities. Adopt a width for the IRC wider than that of the anchor currency (RMA) ¶ 34	High	Near term
Recommendation 3. Move to fixed-quantity, variable-rate OMOs, using liquidity forecasting to calibrate OMOs. At that time, move to averaging for the CRR (RMA). ¶ 38	Medium	Medium term
Recommendation 4. Allow banks to meet their reserve requirements by maintaining funds in their current accounts, while simultaneously introducing CRR averaging. (RMA). ¶ 39	Medium	Medium term
Topic 2. Supporting measures		
Recommendation 5. Re-instate broad sweeping arrangements of government-related accounts in the context of launching active liquidity management operations (RMA). ¶ 11	High	Near term
Recommendation 6. Addressing the abnormally high fees charged by the RSEB in relation to the operations of its CSD (MoF, RSEB, with RMA acting as facilitator). ¶ 32-33	High	Near term
Recommendation 7. Establish daily reporting from banks on interbank transactions (RMA). ¶ 25	High	Near term
Recommendation 8. Phase out the fixed rate at which commercial banks currently trade liquidity among themselves (RMA). ¶ 26	High	Near term
Recommendation 9. Re-instate the MMCG (RMA). ¶ 26	High	Near term

1/ Near term: < 12 months; Medium term: 12 to 24 months.

I. Introduction and Context

1. **Bhutan has a de jure and de-facto conventional peg vis-à-vis the Indian rupee, that provides a nominal anchor.** The ngultrum has been pegged to the Indian rupee at par since its introduction in 1974. Given close economic ties with India, the peg has served Bhutan well, and it is considered to remain appropriate. In particular, provided international reserves are sufficient, the peg allows Bhutan to borrow the monetary policy credibility of the Reserve Bank of India. Bhutan's economic characteristics also provide a strong case for a fixed regime, and countries with similar characteristics to Bhutan often have fixed exchange rate regimes.[1]

2. **However, currently, in addition to a level of international reserves below the adequate level, the RMA does not have an appropriate and functioning DLMF to support the peg.** While under preparation for several years, its introduction has been delayed, in part due to the financial costs the RMA would have incurred due to a structural excess liquidity situation in the banking sector. Instead, the RMA has been relying only on a CRR, and the daily sweeping to the RMA of government-related funds maintained in the commercial banks, as a way to mop up at no cost part of the structural excess liquidity. Yet, the absence of a Policy Rate[2], as well as the persistence of a large structural excess liquidity in the banking system, and no active liquidity management operations by the RMA, has resulted in a negative interest rate spread with the anchor currency.[3] In an effort to reduce pressures on the international reserves, the RMA has at times also resorted to capital controls. All in all, these policy measures have not prevented the depletion of the RMA's international reserves.

3. **In view of these adverse developments, and the risks they pose for the sustainability of the peg, the activation of an active DLMF, together with the maintaining of short-term money market interest rates well aligned with those in place in India, should be considered an inescapable priority.** The following benefits can be expected from such a move:

    - *Macroeconomic dimension.* Given the fixed exchange rate regime, ensure a level of domestic interest rates equal to the anchor's interest rate adjusted with a risk premium
        - Maintain the covered interest rate parity condition.
        - Limit arbitrage opportunities.
        - Support attractiveness of local currency for residents.
        - Limit incentives to circumvent capital controls (i.e., repatriation of export proceeds).
        - Limit the need to rely on capital controls which lose their effectiveness over time.

---

[1] For an elaboration, see the discussion in Appendix V (The Choice of Exchange Rate Regime) in the Staff Report for the 2024 Article IV Consultation.

[2] SARTTAC provided TA to the RMA on the determination of a desirable level for the Policy Rate relevant for Bhutan. The TA Report "Building Capacity at the RMA", by Bernard J. Laurens, and Muneesh Kapur, November 2018, addresses this topic. A May 2024 presentation by DMRS to management of the RMA also provided information on the way the RMA currently assesses a desirable level for the Policy Rate.

[3] Commercial banks have agreed to conduct interbank market operations at a fixed rate of 4 percent, that is well below the level of the RBI's policy rate.

- *Microeconomic dimension. S*upport emergence of the short-term money market, which is under the central banks' oversight
  - Critical to support the orderly development of the capital market (government securities market, corporate bond market, stock exchange).
  - The need for the orderly development of the capital market has been highlighted by all market participants met by the mission (commercial banks, RSEB)

4. **The design of an IRC should take into account the context of Bhutan, most notably the introduction of an IRC in times of pressures on international reserves.**[4] The more international reserves the central bank holds, the more room for maneuver to defend the peg using FX interventions, as opposed to the IRC and policy rate adjustments. Therefore, in times of pressures on international reserves, the introduction of the IRC in a situation of a structural liquidity deficit will provide greater comfort and can facilitate aligning short-term money market rates with the Policy Rate. Therefore, draining surplus liquidity structurally or on longer maturities can help.

[4] A discussion on these issues is provided in the following IMF Working Paper: (i) WP/19/58, *Liquidity Management Under Fixed Exchange Rate with Open Capital Account,* by Mariam El Hamiani Khatat, and Romain Michel Veyrune, and (ii) WP/20/180, *Monetary Policy Under and Exchange Rate Anchor,* by Mariam El Hamiani Khatt, Mark Buessing-Loercks, and Vincent Fleuriet.

II. Building Blocks for Developing an IRC Framework

A. General Considerations

5. **For the RMA at this juncture, there are five building blocks for developing an IRC.** Taking as background the work of previous SARTTAC TA missions that have focused on the development of a DLMF, the mission's recommendations on the five building blocks for developing an IRC take into account the latest developments with regard to five building blocks for developing an IRC: (i) the sweeping arrangements; (ii) the collateral framework; (iii) the liquidity monitoring and forecasting framework; (iv) money market development; and (v) monetary operations and instruments.

6. **While fully consistent with previous SARTTAC recommendations, the mission's objectives were to provide the RMA with an IRC framework easy to understand and to implement.** A passed approach was also suggested, so as to facilitate the introduction of the IRC and limit the potential for unnecessarily disrupting banks' operations.

7. **Given the important and commendable preparation work undertaken in the past by the RMA, there are only a limited number of technical obstacles to the introduction of an IRC framework**. The main one has to do with the collateral framework, in particular the technical capability to take government securities as collateral for the RMA's liquidity providing operations.

8. **As for any reform that will have significant implications for the way commercial banks go about doing their business, obstacles of a political economy nature have to be expected.** To tackle these obstacles, appropriate communications by the central bank is critical on two accounts: (i) to facilitate an understanding by all stakeholders (market participants, other public agencies, the public at large) of the broader objectives of the reforms, as they relate to the statutory responsibilities of the central banks, and in particular its mandate to ensure price and financial stability in the context of the exchange rate regime in place; and (ii) to ensure an adequate understanding by the commercial banks the "mechanics" of the reform and of the new policy instrument that are being introduced.

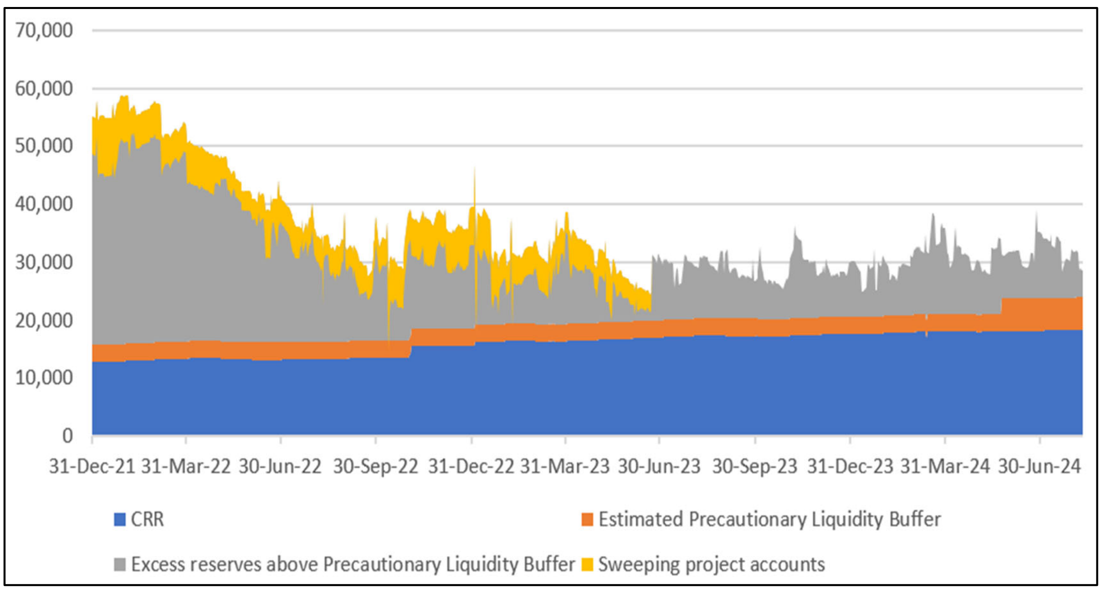
B. Sweeping Arrangements

9. **The sweeping of government and government-related accounts (in particular hydro-related projects) from the banks to the RMA at the end of the day has been a long-standing non-conventional liquidity management instrument.** The sweeping acts as an automatic, and free of cost sterilization instrument. Bhutan's specific circumstances legitimize reliance to sweeping on account on three accounts:

- As a substitute for a properly designed Treasury Single Account (TSA)[5], by sweeping the balances of government accounts fully controlled by the MoF and maintained in the commercial banks.
- To manage highly volatile hydro project-related accounts,
- To help establish a level playing field in the banking sector by sweeping to the RMA balances in large government-related accounts at Bhutan's largest commercial bank.

10. **Over time, the RMA has exercised discretion in its reliance on the sweeping instrument**. In particular, since end-June 2023, the RMA is only relying on the sweeping of accounts in the commercial banks fully controlled by the MoF. The decision was taken following concerns raised by the commercial banks, in a context where structural excess liquidity was shrinking, and to avoid lowering the CRR (Figure 1). This was in some way unavoidable given the absence of a DLMF that, had it been in place, would have allowed the RMA to convince commercial banks that it had all the tools to deal smoothly and flexibly with changing structural liquidity conditions.

Figure 1. Banks Reserves with the RMA



Sources: Royal Monetary Authority of Bhutan.

11. **In the context of the launching of active liquidity management and the IRC, the mission recommends activating sweeping arrangements on hydro-related accounts, as well as on the balances of large government-related accounts maintained at Bhutan's largest commercial bank.** Such a measure would have two important benefits:

- *Create a structural liquidity deficit,* which, in turn, would facilitate aligning short-term money market rates with the Policy Rate. It would also reduce excess liquidity absorption costs that previously prevented launching active liquidity management operations.

[5] The mission learned that the MoF will decide on the TSA design by 2026, with additional time required for its implementation. Additionally, it is important to note that the TSA will not fully resolve the issue, as a significant account of the Government in the BoB is not controlled by the MoF and, therefore, will not be captured by the TSA.

- *Help establish a level playing field in the banking sector.* As discussed by previous SARTTAC TA missions, a level playing field in the banking sector is desirable for monetary policy effectiveness in the context of the market-based DLMF. Measures aimed at reducing the dominant position of the Bank of Bhutan (BoB) in the distribution of excess reserves among the Bhutanese banks are therefore highly desirable.[6]

12. **The RMA should carefully consider the effects of comprehensive sweeping on individual banks.** Based on the magnitude of funds likely to be swept *at the time of the launching of the DLMF,* the measure will impact commercial banks unevenly. The following items will need to be monitored at the time of the implementation of the measure:
    - Impact of the sweeping on individual banks' free reserves.
    - Amount of collateral for RMA liquidity providing operations available at each bank, should the sweeping place the banking sector in a structural liquidity deficit.
    - Impact of the sweeping on individual banks' Statutory Liquidity Ratio (SLR).

C. Collateral Framework

13. **Currently, the RMA does not have a formal collateral framework.** As part of the preparation for developing the DLMF, the RMA is considering including the following assets into the list of eligible collateral: government securities, corporate and private bonds, commercial papers, certificate of deposits and any other eligible collateral approved by the RMA.

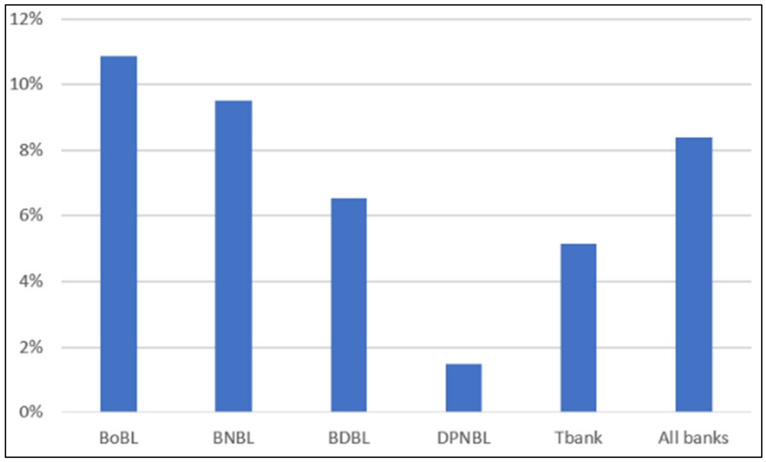
14. **The RMA should accept government securities as collateral, without restrictions on maturity or type of security (bills or bonds).** At present, the RMA lacks the capacity to assess the creditworthiness of other types of collateral, including that of state-owned enterprises. Additionally, the list of eligible counterparts should be limited to banks. A broader collateral universe would be considered at a later stage once the framework to process government securities has been developed.

15. **Government securities account for about 8 percent of banks' total assets, although their distribution is uneven across the system (Figure 2).** Collateral availability might pose a challenge for future monetary policy implementation, especially in the situations of an increasing structural liquidity deficit. Therefore, the RMA should frequently evaluate the banks' liquidity needs in relation to its collateral-handling capacities.

---

[6] For a discussion, see SARTTAC TA Report "*Building Capacity at the Royal Monetary Authority*", November 2018. The report also suggested additional measures to induce a more balanced distribution of liquidity among Bhutanese commercial banks: (i) implement a competitive mechanism for placing with the banks the government accounts not subject to sweeping. This would be relevant for entities which maintain large amounts of liquidity with BoB (i.e., Bhutan Health Trust Fund); (ii) set a limit to the amount of available funds that government entities can deposit with commercial banks, as is currently the case in some countries. For instance, in Bangladesh at the time, government entities that are allowed to place their available funds in commercial banks had the obligation to deposit some of it in private commercial banks. In 2018, the minimum to be deposited in private commercial banks was raised from 25 percent to 50 percent.

Figure 2. Share of Government Securities in Total Assets of Banks



Sources: Royal Monetary Authority of Bhutan.

16. **Establishing risk-mitigating measures for government securities is challenging in the context of Bhutan, as many components required by standard methodologies are missing.** Bhutan currently lacks country credit rating, and there is no secondary market for government securities. The mission proposes employing alternative methodologies, such as Benchmarking sovereign credit ratings.

17. **Benchmarking sovereign credit ratings can be employed to provide indicative credit ratings for unrated sovereigns or for forecasting sovereign credit ratings.** The benchmarking process utilizes an internal credit rating framework developed within MCM Central Bank Operations Division. This credit rating framework has four blocks and an Environmental-Social-Governance (ESG) overlay. The four blocks measure a country's economic strength, institutional strength, fiscal strength, and susceptibility to event risks, such as political turmoil, banking sector crisis, and natural disasters. The four blocks are combined as an index, which is converted to its equivalent credit rating score.

18. **The mission proposes conducting an additional TA mission on the collateral framework to assist the RMA in developing a benchmarking sovereign credit rating mechanism** This activity would be on virtual mode.

D. Liquidity Monitoring and Forecasting Framework

19. **The liquidity monitoring framework developed by previous SARTTAC TA missions is fully operational.** The daily Excel Liquidity Worksheet is based on a complete database reflecting the daily RMA balance sheet, and output spreadsheets with automated changes and qualitative analysis. A daily liquidity report is produced by DMRS that provides a comprehensive analysis of

liquidity developments (development in autonomous factors, liquidity surplus (or deficit), excess reserves).[7]

20. **The liquidity monitoring framework allows calibration of RMA's OMOs once forecasts for the main autonomous factors are incorporated, as well as an estimate for banks' demand for precautionary reserves**. Liquidity forecasts for currency in circulation (CiC) rely on an econometric model operated by DMRS. Regarding Net Foreign Assets, DMRS relies on forecasts provided by RMA's Department of Foreign Exchange and Reserve Management. Forecasts of the Net Government position rely on an econometric model. Recently, these forecasts have been supplemented with government cash flow forecasts provided by the Department of Public Accounts of MoF in the context of bi-weekly joint RMA/MoF meetings.

21. **RMA's staff forecasting capacity can be enhanced by their participation in the regional CDOT-SARTTAC workshop for liquidity forecasting planned for the first quarter of 2025.** If need be, this training could be followed-up by a SARTTAC TA mission.

E. Money Market Development

22. **Interbank market is in the early stages of development, and banks episodically use it to manage their liquidity.** Market is naturally small, with only 5 banks operating in Bhutan. Interbank transactions are concluded via telephone and are done on uncollateralized basis. A repo market has not developed given unresolved issues with CSD for government bonds, as discussed supra.[8]

23. **Due to the lack of guidance from the RMA on where the interbank rate should be the commercial banks have agreed to use a fixed rate of 4 percent for transactions among themselves.** The RMA does not collect data on interbank transactions, as banks are not formally reporting them to the RMA. Based on the discussions with banks, it is understood that deals typically have maturities from one week to up to six months.

24. **Banks do not have formal interbank agreements and instead rely on deposit applications, typically used for transactions with corporate or private clients.** However, it is unclear whether these documents adequately protect creditors' rights. Despite this legal uncertainty, banks tend to accept the risk due to a general belief that the banking system is secure, given that no commercial bank in Bhutan has ever failed.

25. **The RMA should establish daily reporting from banks on interbank transactions and publish this information on a daily basis.** Given the size of the market and the limited number of transactions, it will be challenging for the RMA to calculate a benchmark based solely on O/N interbank transactions, as done by many central banks. Moreover, it appears that currently banks do not deal on an O/N basis. Therefore, the mission proposes that the RMA publish anonymized

---

[7] For a detailed description of the Liquidity Report, see "*Bhutan: Liquidity Management and Forecasting*", April 2018, technical assistance report of SARTTAC TA mission that visited Thimphu during January 8 – February 9, 2018 (Appendix V in Volume II).

[8] The financial market infrastructure for the government securities is also fragmented: CSD for T-Bills is operated by RMA and CSD for T-Bonds operated by RSEB.

information on all interbank transactions on its web site, including details such as the volume, maturity, and interest rate.[9] Such information is also critical for the RMA to assess whether interbank market rates are well aligned with its Policy Rate.

26. **The mission recommends the following measures to stimulate interbank market activity:**
    - The interbank fixed-rate arrangement should be phased out once the RMA begins conducting active liquidity management operations, and therefore, announces a Policy Rate.
    - The RMA should reactivate the MMCG as a platform for communication with commercial banks to discuss monetary operations and initiatives for the development of the money market (Annex II).
    - Among those initiatives discussed at MMCG should be the establishment a Master Interbank Agreement.[10]
    - At a later stage, once government securities become tradable and pledge able, the RMA should promote the use of collateralized interbank transactions as a measure to minimize counterparty risk between banks.
    - Going forward, the RMA could consider introducing a money market trading platform to improve price transparency and ensure the settlement of transactions. However, the precondition for launching the trading platform should be the introduction of the building blocks of the IRC framework, as well as the basic elements of the money market discussed in this TA report.

F. Monetary operations and instruments

Current situation and preparatory steps for introducing an IRC

27. **Currently, the RMA relies on the unremunerated CRR as a main conventional monetary policy instrument.** During the COVID-19 pandemic, the CRR was revised downward from 10 percent to 7 percent. Thereafter, the CRR ratio was increased to the current level of 8 percent as a measure to influence liquidity conditions in support of the RMA monetary policy objective. The banks fulfill the CRR requirement by keeping funds in a blocked account for the one-month Reserve Maintenance Period (RMP).

28. **The RMA currently lacks the ability to conduct collateralized liquidity-providing operations with commercial banks**. This is due to the following reasons:

    - Most government bonds, which are supposed to be kept in the CSD operated by the RSEB are neither tradable nor pledge able. As the mission learned, due to a disagreement on the fee schedule, the MoF, as the issuer, did not deposit most of its bonds in the CSD operated

[9] Going forward, the RMA might consider publishing aggregated information on interbank transactions categorized into buckets such as up to 1 month, 1-6 months. However, this decision should be contingent upon a significant increase in the number of interbank transactions.

[10] As an example the RMA can use the Master Agreement for Financial Transactions, commonly known as the European Master Agreement (EMA): Microsoft Word - 02. General Provisions - Edition 2004.doc (ebf.eu) and Annex for deposits and loans EMA-Deposit-Annex_mark-up_-2020.pdf (ebf.eu)

by RSEB. Consequently, the RSEB did not “register” them. This situation prevents investors from holding, trading or pledging these securities in a centralized system. Currently, only BTN 700 million, or about 3 per cent out of total outstanding stock of BTN 23 billion of government bonds is “registered” with the RSEB.

- CSD’s transaction fees for government securities are excessively high (0,25 percent, which amounts to about 91 percent per annum). This renders collateralized liquidity monetary operations unviable for banks.[11]
- The RSEB does not have a dedicated procedure for pledging government bonds in its CSD. Instead, it proposes to use the procedure designed for pledging stocks. This procedure is complicated and requires numerous paper documents with original signatures, making it impractical for short-term monetary operations. The mission also learned that the RSEB developed a procedure for pledging of bonds in electronic format some year ago, but it has never been tested.
- The RMA operates a CSD for T-Bills, however it does not have an operational procedure in place for pledging them. Additionally, these securities are typically very short-term and are issued only occasionally to cover the MoF’s short-term liquidity needs as a last resort, when other options are not available. This could result in situations where no stock of T-bills is available, as was the case from the end of June to the beginning of August 2024.

29. **The mission recommends a phased approach to initiate active liquidity management operations.** This will enable the RMA to prepare procedures, documents, its staff capacity, and ensure that market participants understand the objectives and modalities of liquidity management operations. The mission suggests starting with relatively simple operations and gradually moving to more complex ones. This approach would allow the RMA and market participants to “learn by doing” and adjust the pace based on the success of the previous steps.

30. **In the preparation stage, the RMA needs to finalize relevant external and internal documents and procedures and conduct mockup operations.** The following documents needs to be elaborated and approved by the RMA:
    - *External documents*: (i) DLMF[12]; (ii) Terms of References for the MMCG. The proposed drafts are shown in Annex I and Annex III correspondingly; (iii) Loan and deposit master agreements between the RMA and banks.
    - *Internal documents***:** (i) Terms of References for the Liquidity Committee (LiCo) & Liquidity team (LT). The proposed draft is shown in Annex II; (ii) DLMF manual.

---

[11] The following are examples of CSD’s fee schedule for consideration:
https://english.keler.hu/Key%20documents/Regulatory%20documents/Fee%20Schedules/2023/2023_04_27_KELER-Fee-Schedule_.pdf?download

https://www.kdpw.pl/uploads/attachments/kdpw-table-of-fees-examples-participants.pdf

[12] As an example the RMA can use general terms and conditions of central bank operations including loans and deposits among other instruments in Hungary: https://www.mnb.hu/letoltes/terms-and-conditions-of-the-operations-of-the-central-bank-in-forint-and-foreign-currency-markets.pdf

31. **The RMA must communicate its intention on initiate active liquidity management operations to stakeholders including the government, media, business community and market participants, well in advance.** The external documents need to be published on the RMA's web site and discussed with market participants, who will need to prepare their internal procedures for participation in RMA operations. The mission also recommends conducting mock operations with all five banks to ensure that real operations will run smoothly once initiated.

32. **The RMA must ensure that all government bonds are "registered" in the CSD operated by the RSEB** [13] [14].The RMA, as a third party, cannot directly participate in the discussions between MoF and the RSEB, but it can facilitate finding a suitable solution. It is also in the interest of all parties to resolve this, as it will stimulate the development of the government securities market.

33. **The transaction fees charged by the RSEB's operated CSD for government securities should be reviewed.** They must be negligible for banks to avoid distorting the central bank's monetary policy signal.

Proposed IRC framework

34. **At the initial stage, the mission recommends introducing a one-week main OMO, conducted weekly at the Policy Rate and with full allotment (Table 2).** Adopting such a framework will help market participants better understand the objective of aligning the interbank market with the Policy Rate. As discussed supra, by activating sweeping arrangements, the RMA would create a structural liquidity deficit, thus enabling the RMA to conduct liquidity management operations from a deficit position.

Table 2. Proposed IRC Framework

Categories of Monetary Policy Operations		Types of Instruments		Maturity	Frequency	Procedure
		Absorption of Liquidity	**Provision of Liquidity**			
OMOs	**Main liquidity management operation-MLMO**	Collection of fixed-term deposits	Collateralised loans	One week	Weekly	Tender procedures (fixed-rate, or variable-rate)
Standing	**Marginal lending facility-MLF**		Collateralised loans	Overnight	Access at the discretion of counterparties	
	Marginal deposit facility-MDF	Deposits		Overnight	Access at the discretion of counterparties	

Source: mission's elaboration, as shown in the Monetary Policy Implementation Framework (Annex I).

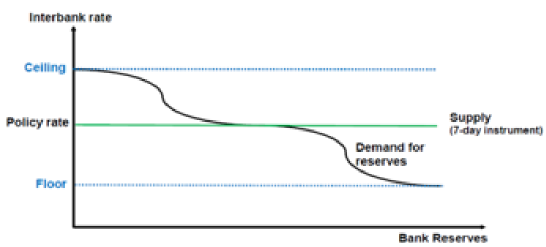
[13] The October 2023 World Bank mission on Domestic Debt Market Development recommended consolidating all the government securities at a single CSD.

[14] The RMA must also ensure that it has proper collateral arrangements in place so that banks can pledge T-bills to access the RMA's liquidity-providing instruments.

35. **At this stage, the RMA's LiCo will not need to define the volume of OMOs, as it will be determined by the banks.** The banks will decide on the volume of OMOs and the RMA will accept all bids from the banks. However, a meeting of the LiCo must be conducted before each weekly OMO tender to practice and learn how to assess liquidity developments. This will help to prepare LiCo for the calibration of OMOs once the RMA begins conducting variable -rate, fixed-amount tenders (see Box 1). In addition, in a situation where the overall position of the banks may shift from liquidity surplus to liquidity deficit, the RMA will have to shift from liquidity absorbing OMOs to liquidity providing OMOs.

Box 1. Types of Mid-Corridor Systems and Tenders

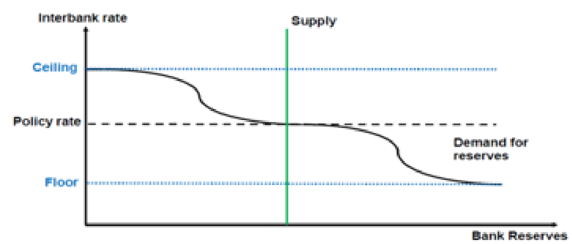
Mid-Corridor System with the Policy Rate Attached to a Central Bank Instrument



Tender type: **Fixed rate, Full allotment**

- Operations at Policy rate
- Setting the marginal price of liquidity
- Full allotment to avoid distortion
- Over bidding a problem

Mid-Corridor System Targeting a Market Rate



Tender type: **Variable rate, Fixed allotment**

- Banks offer their rates
- Challenges in forecasting
- Reserve averaging can help
- Incentivizes market activity

The Variable rate, Fixed allotment system may perform better than the Fixed rate, Full-allotment system when the central bank's short-term liquidity forecasts are accurate. There is some evidence that banks tend to overbid for liquidity under the Fixed rate, Full-allotment system, and for post-allotment interbank rates to dip below the tender rate.

Source: IMF Working Paper: (i) WP/20/26, Monetary Policy Implementation: Operational Issues for Countries with Evolving Monetary Policy Frameworks by Nils Mæhle.

36. **Standing facilities-SFs (MDF and MLF) must play the important role of buffers to limit interest rate volatility, and the RMA must ensure automatic access to them.** Banks must be able to access SFs on a daily basis through O/N operations. The criterion for accessing the MLF must be the availability of collateral to be provided by banks. The RMA must not limit the volume of MDF operations. Any restrictions on SFs due to cost or any other considerations could cause interbank rate to exceed MLF or fall below MDF, undermining the objective to align interbank rates with the Policy Rate.

37. **The mission recommends adopting a wider IRC than that of the anchor currency[15] to stimulate interbank trading.** While there are no specific rules on the IRC width, a wider corridor increases the opportunity cost for banks, discouraging them from using the SFs because it would be less profitable compared to interbank transactions. This helps distribute liquidity from banks with excess reserves to those with a deficit, enabling the central bank to target aggregate liquidity in the system rather than the individual needs of individual banks.

38. **At a later stage, the mission recommends moving to fixed-quantity, variable-rate OMOs.** The timeline to begin this migration will depend on progress in: (i) market participants' understanding of the role of the RMA's liquidity management operations, (ii) improving RMA's liquidity forecasting capacity, and (iii) coordination with the MoF on receiving reliable government cash-flow forecasts.

39. **The RMA should allow banks to meet their reserve requirements by maintaining funds in their current accounts, while simultaneously introducing CRR averaging during the RMP**. Averaging provisions will serve as a buffer against unpredictable change in autonomous factors. As a result, bank's precautionary reserves will become part of CRR, unlike the current situation where banks hold precautionary reserves above the CRR.

40. **The mission proposes linking CRR non-compliance penalty to RMA's Policy Rate.** While there are no specific rules regarding the margin applied to these reference rates, the mission recommends setting the penalty level above MLF to incentivize compliance but cautions against setting it too high to avoid liquidity hoarding.

[15] Currently Reserve Bank of India (RBI) maintains symmetric IRC of 25 bp above and below Policy rate.

III. Follow-up Capacity Development Program by SARTTAC

41. **The work of this mission could usefully be complemented by the following program of capacity development to be delivered by SARTTAC during FY25 and FY26.**

Table 3. Proposed Program of SARTTAC's Follow-Up Actions

CD Action	Comments
Workshop Scope: Regional course on liquidity forecasting and estimation of demand for reserves. **Objectives:** Improve understanding of the short-term autonomous factors forecast to calibrate short-term liquidity operations, and estimation of demand for reserves.	The course is planned during first quarter 2025.
TA Scope: Virtual TA on liquidity forecasting and estimation of demand for reserves. **Objectives:** Improve understanding of the short-term autonomous factors forecast to calibrate short-term liquidity operations, and estimation of demand for reserves.	Necessity to conduct onsite TA mission should be done based on the outcome of the virtual TA.
TA Scope: Collateral framework for liquidity-providing monetary operations. **Objectives:** Develop operational arrangements for collateral valuation, haircut, and margin requirements.	Could be done virtually during Q4-2024.
TA Scope: Development of Financial Market Infrastructure (FMI). **Objectives:** Developing the main elements for FMI including CSD for all government securities, securities settlement system. This could potentially include developing of MM trading platform.	
TA Scope: The Central Bank Stress Testing. **Objectives:** Projecting a central bank's balance sheet using a combination of macroeconomic forecasts and accounting techniques consistent with IFRS 9.	

Annex I. Domestic Liquidity Management Framework (DLMF)

PART I - SUBJECT MATTER, SCOPE AND DEFINITIONS

Article 1: Subject matter and scope

1. The RMA shall take all the appropriate measures to implement RMA monetary policy operations in accordance with the principles, tools, instruments, requirements, criteria and procedures laid down in this DLMF.
2. The RMA's [Executive Committee-relevant RMA decision-making body] may, at any time, change the tools, instruments, requirements, criteria and procedures for the implementation of RMA monetary policy operations.
3. The RMA reserves the right to request and obtain any relevant information from counterparties that is needed to carry out its tasks and achieve its objectives in relation to monetary policy operations. This right is without prejudice to any other existing specific rights of the RMA to request information relating to monetary policy operations.

Article 2: Definitions

'business day' means: (a) in relation to an obligation to make a payment, any day on which the payment system is operational to effect such a payment; or (b) in relation to an obligation to deliver assets, any day on which the RSEB through which delivery is to be made is open for business in the place where delivery of the relevant securities is to be effected;

'collateralised loan' means an arrangement between the RMA and a counterparty whereby liquidity is provided to a counterparty by way of a loan that is secured by an enforceable security interest granted by that counterparty to the RMA in the form of e.g. a pledge, assignment or charge granted over assets;

'collection of fixed-term deposits' means an instrument used in conducting OMOs, whereby the RMA invites counterparties to place fixed-term deposits on accounts with the RMA in order to absorb liquidity from the market;

'counterparty' means an institution fulfilling the eligibility criteria to access the RMA's monetary policy operations;

'deposit facility' means a standing facility offered by the RMA which counterparties may use to make overnight deposits at the RMA, which are remunerated at a pre-specified interest rate;

'deposit facility rate' means the interest rate applied to the deposit facility;

'eligible assets' means assets that fulfil the criteria laid down in this DLMF and are accordingly eligible as collateral for RMA credit operations;

'end-of-day' means the time of the business day following closure of the RMA's payment system at which the payments processed in the system are finalised for the day;

‘fixed-rate tender procedure’ means a tender procedure whereby the RMA specifies the interest rate or spread in advance of the tender procedure and participating counterparties bid the amount they want to transact at that fixed interest rate;

‘MLMOs means a category of regular OMOs that are executed by the RMA in the form of collection of fixed-term deposits (for liquidity absorption) or collateralised loans (for liquidity provision);

‘maintenance period’ means the period during each counterparty must comply with the defined level of its CRR;

‘marginal interest rate’ means the lowest interest rate in liquidity-providing variable rate tender procedures at which bids are fulfilled, or the highest interest rate in liquidity-absorbing variable rate tender procedures at which bids are fulfilled;

‘MLF’ means a standing facility offered by the RMA which counterparties may use to receive overnight credit from the RMA at a pre-specified interest rate subject to a requirement for sufficient eligible assets as collateral;

‘MDF’ means a standing facility offered by the RMA which counterparties may use to place overnight deposit from the RMA at a pre-specified interest rate;

‘MLF rate’ means the interest rate applied to the MLF;

‘maturity date’ means the date on which an RMA monetary policy operation expires;

‘multiple rate auction (American auction)’ means an auction in which the allotment interest rate equals the interest rate offered in each individual bid;

‘RMA monetary policy operations’ means OMOs and standing facilities;

‘settlement date’ means the date on which a transaction is settled;

‘single rate auction (Dutch auction)’ means an auction in which the allotment interest rate applied for all satisfied bids is equal to the marginal interest rate;

‘tender procedure’ means a procedure whereby the RMA provides liquidity to, or withdraws liquidity from, the market whereby the RMA enters into transactions by accepting bids submitted by counterparties after a public announcement;

‘valuation haircut’ means a percentage decrease applied to the market value of an asset mobilised as collateral in RMA credit operations;

‘variable rate tender procedure’ means a tender procedure whereby participating counterparties bid both the amount they want to transact and the interest rate at which they want to enter into transactions with the RMA in competition with each other, and whereby the most competitive bids are satisfied first until the total amount offered is exhausted.

PART II - MONETARY POLICY TOOLS, OPERATIONS, INSTRUMENTS AND PROCEDURES

Article 3: RMA monetary policy implementation framework

The tools used by the RMA in the implementation of monetary policy shall consist of:

(a) OMOs, in the form of MLMO;

(b) standing facilities: including a MLF and a MDF.

Article 4: Indicative characteristics of the RMA monetary policy operations
An overview of the characteristics of RMA monetary policy operations is set out in Table 1.

Table 1: Overview of Characteristics of the RMA Monetary Policy Operations

Categories of Monetary Policy Operations		Types of Instruments		Maturity	Frequency	Procedure
		Absorption of Liquidity	**Provision of Liquidity**			
OMOs	**Main liquidity management operations-MLMO**	Collection of fixed-term deposits	Collateralised loans	One week	Weekly	Tender procedures (fixed-rate, or variable-rate)
Standing Facilities	**Marginal lending facility-MLF**		Collateralised loans	Overnight	Access at the discretion of counterparties	
	Marginal deposit facility-MDF	Deposits		Overnight	Access at the discretion of counterparties	

Chapter 1 – Open market operations

Article 5: Overview of categories and instruments in respect of OMOs

1. The RMA may conduct OMOs to steer interest rates, manage the liquidity situation in the financial market and signal the stance of monetary policy. At this juncture, the RMA intends to conduct OMOs in the form of MLMO by means of the following instruments:
   (a) The collection of fixed-term deposits for liquidity absorption;
   (b) Collateralised loans for liquidity provision.

Article 6: Main liquidity management operations (MLMO)

1. The RMA shall conduct MLMOs by means of collection of fixed-term deposits (for liquidity absorption) or collateralised loans (for liquidity provision).
2. As regards their operational features, MLMOs:
   (a) Are normally conducted each week in accordance with the indicative calendar for the RMA's regular tender operations;
   (b) Normally have a maturity of one week, as indicated in the indicative calendar for the RMA's regular tender operations;
   (c) Are executed by means of tender procedures;
   (d) Are subject to the eligibility criteria laid down in Part Three which must be fulfilled by all counterparties submitting bids for such operations;
   (e) Are based on eligible assets as collateral when they are liquidity-providing.

3. The RMA's [Executive Committee-relevant RMA decision-making body] shall decide on the interest rates for the MLMOs on a regular basis. The revised interest rates shall become effective from the beginning of the new RMP.
4. Notwithstanding paragraph 3, the RMA's [Executive Committee-relevant RMA decision-making body] may change the interest rate for the MLMOs at any point in time. Such decision shall become effective at the earliest from the following business day.
5. MLMOs are executed by means of fixed rate tender procedures or variable rate tender procedures, as decided by the RMA.

Chapter 2. Instruments for Open Market Operations

Article 7: Collection of fixed-term deposits

1. The RMA may invite counterparties to place fixed-term deposits with the RMA.
2. The deposits accepted from counterparties shall be for a fixed term and a fixed rate of interest shall be applied.
3. The interest rate applied to the fixed-term deposit shall be a simple interest rate based on the actual day-count convention. The interest shall be paid at maturity of the deposit. The RMA shall not provide any collateral in exchange for the fixed-term deposits.
4. As regards their operational features, the collection of fixed-term deposits:
   (a) Is conducted in order to absorb liquidity;
   (b) May be conducted on the basis of a pre-announced schedule of operations with pre-defined frequency;
   (c) Is executed by means of tender procedures.
5. Counterparties participating in the collection of fixed-term deposits shall be subject to the eligibility criteria specified in Part Three.

Article 8: Collateralised loans

1. Liquidity-providing operations shall be conducted as collateralised loans based on eligible assets as collateral, pursuant to Part Four.
2. The operational features of collateralised loans shall depend on the category of OMOs for which they are used.

Article 9: Obligations for settlement for the collection of fixed-term deposits

1. In OMOs executed by means of collection of fixed-term deposits counterparties shall transfer a sufficient amount of cash to settle the amount agreed in the transaction.

Article 10: Obligations of collateralisation and settlement in collateralised loans

1. With regard to liquidity-providing collateralised loans, counterparties shall:
   (a) Provide a sufficient amount of eligible assets adjusted by valuation haircuts before participation in the tender;
   (b) Ensure adequate collateralisation of the operation until its maturity (the maturity of the collateral must exceed the maturity of the collateralized loan);
   (c) Ensure registration of the collateral in the Central Registry for Secured Transactions (CRST) maintained by the RMA [*RMA Legal Department to elaborate as needed*].
2. The failure to meet the requirements referred to in paragraph 1 would lead to rejection of the tender application.

Chapter 3 – Standing Facilities

Article 11: Standing facilities

1. The RMA shall grant access to the standing facilities offered by the RMA at their counterparties' initiative.
2. Standing facilities shall consist of the following categories:
   (a) The MLF;
   (b) The deposit facility.
3. The RMA may adapt the conditions of the standing facilities or suspend them at any time.
4. The RMA's [Executive Committee relevant RMA decision-making body] shall decide on the interest rates for the standing facilities on a regular basis.
5. Notwithstanding paragraph 4, the RMA's [Executive Committee relevant RMA decision-making body] may change the interest rate for the standing facilities at any point in time. Such decision shall become effective at the earliest from the following business day.

Article 12: Characteristics of the marginal lending facility (MLF)

1. Counterparties may use the MLF to obtain overnight liquidity from the RMA through a collateralised loan at the pre-specified interest rate using eligible assets as collateral.
2. There shall be no limit on the amount of liquidity that may be provided under the MLF, subject to the requirement to provide adequate collateral under paragraph 3, and registration in the CRST maintained by the RMA [*RMA Legal Department to elaborate as needed*].
3. Counterparties are required to present sufficient eligible assets adjusted by valuation haircuts as collateral prior to using the MLF. These assets should be delivered (pledged) to the RMA with the request for access to the MLF.

Article 13: Access conditions for the marginal lending facility (MLF)

1. Institutions fulfilling the eligibility criteria specified in Part Three may access the MLF.
2. Access to the MLF shall be granted only on business days.
3. Access to the MLF can be granted either based on a request of the counterparty.
4. A counterparty may send a request to the RMA for access to the MLF. Provided that the request is received by the RMA at the latest by 15:00 *[to be confirmed by Banking Department*], the RMA shall process the request on the same day. The deadline for requesting access to the MLF shall be postponed by an additional 30 minutes on the last business day of a RMP.

Article 14: Maturity and interest rate of the marginal lending facility (MLF)

1. The maturity of credit extended under the MLF shall be overnight. The credit shall be repaid on the next business day, at the time at which payment systems open.
2. The interest rate remunerating the MLF shall be announced in advance by the RMA and shall be calculated as a simple interest rate based on the actual day-count convention. The interest rate applied to the MLF is referred to as the MLF rate.
3. Interest under the MLF shall be payable together with repayment of the credit.

Article 15: Characteristics of the marginal deposit facility (MDF)

1. Counterparties may use the MDF to make overnight deposits with the RMA, to which a pre-specified interest rate shall be applied.
2. There shall be no limit on the amount a counterparty may deposit under the MDF.

Article 16: Access conditions to the marginal deposit facility (MDF)

1. Institutions fulfilling the eligibility criteria specified in Part Three may access the MDF. Access to the deposit facility shall be granted only on business days.
2. To be granted access to the MDF, the counterparty shall send a request to the RMA. Provided that the request is received by the RMA at the latest by 15:00 *[to be confirmed by Banking Department*] the RMA shall process the request on the same day. The deadline for requesting access to the MDF shall be postponed by an additional 30 minutes on the last business day of a RMP. The request shall specify the amount to be deposited under the MDF.

Article 17: Maturity and interest rate of the marginal deposit facility (MDF)

1. The maturity of deposits under the MDF shall be overnight. Deposits held under the MDF shall mature on the next business day, at the time at which payment systems open.
2. The interest rate that applies to the MDF shall be announced in advance by the RMA and shall be calculated as a simple interest rate based on the actual day-count convention.
3. Interest on the MDF shall be payable on maturity of the deposit.

Chapter 4 – Procedures for monetary policy operations

Article 18: Types of procedures for open market operations

OMOs shall be executed through tender procedures.

Article 19: Overview of tender procedures

1. Tender procedures shall be performed in six operational steps, as specified in Table 2.

Table 2: Operational steps for tender procedures
Step 1: Tender announcement by the RMA through the RMA's website and directly to individual counterparties [before 10:30 AM]
Step 2: Counterparties' preparation and submission of bids [at noon].
Step 3: Compilation of bids by the RMA [at 12:30 PM]
Step 4: (a) RMA allotment decision and (b) announcement of allotment results through the RMA's website and directly to individual counterparties
Step 5: Settlement of the transactions [by 17:00 PM]
[times to be confirmed by Banking Department]

2. The RMA conducts weekly MLMOs each [Thursday].

Article 20: Announcement of tender procedures for MLMOs

1. Tender procedures shall be announced by the RMA publicly in advance on the RMA's website and directly to counterparties.
2. The tender announcement represents an invitation to counterparties to submit bids, which are legally binding. The announcement does not represent an offer by the RMA.
3. The information to be included in the public announcement of a tender procedure is laid down in Annex 1.

4. The RMA may take any action it deems appropriate to correct any error in the announcement of tender procedures, including cancelling or interrupting a tender procedure under execution.

Article 21: Submission of bids

1. Counterparties shall submit bids in a format that follows the templates provided by the RMA.

4. Counterparties shall submit bids only after pledging the eligible assets for the RMA at the RSEB and registered in the CRST maintained by the RMA [*RMA Legal Department to elaborate as needed*].
2. In fixed rate tender procedures, counterparties shall state in their bids the amount that they are willing to transact with the RMA.
3. In variable rate tender procedures, counterparties may submit up to [3] bids. In each bid, counterparties shall state the amount that they are willing to transact and the relevant interest rate. A bid for an interest rate shall be expressed as multiples of 0.01 percentage points.

Article 22: Minimum and maximum bid amounts

1. The minimum bid amount for MLMOs shall be [BTN 1,000,000]. Bids exceeding this amount shall be expressed as multiples of [BTN 1,000,000]. The minimum bid amount shall apply to each individual interest rate level.
2. The RMA may impose a maximum bid amount, which is the largest acceptable bid from an individual counterparty to prevent disproportionately large bids. If imposed, the RMA shall include details of such a maximum bid amount in the public tender announcement.

Article 23: Minimum and maximum bid rate

1. In liquidity-absorbing variable rate tender procedures, the RMA may impose a maximum bid rate, which is an upper limit to the interest rate at which counterparties may submit bids.
2. In liquidity-providing variable rate tender procedures, the RMA may impose a minimum bid rate, which is a lower limit to the interest rate at which counterparties may submit bids.

Article 24: Deadline for submission of bids

1. Counterparties may revoke their bids at any time up to the deadline for the submission of bids.
2. Bids submitted after the deadline shall not be considered and shall be treated as ineligible.

Article 25: Rejection of bids

1. The RMA shall reject:
   (a) All of a counterparty's bids, if the aggregate amount bid exceeds any maximum bid limit established by the RMA;
   (b) Any bid of a counterparty, if the bid is below the minimum bid amount;
   (c) Any bid of a counterparty, if the bid is below the minimum accepted interest rate, or above the maximum accepted interest rate.
2. The RMA may reject bids that are incomplete or do not follow the appropriate template.
3. If the RMA decides to reject a bid, it shall inform the counterparty of such decision prior to the tender allotment.

Article 26: Allotment in liquidity-absorbing variable tender procedures

1. In a liquidity-absorbing variable rate tender procedure, used for the collection of fixed-term deposits, the bids of counterparties shall be allotted in the following manner:

   (a) Bids shall be listed in ascending order of offered interest rates.
   (b) Bids with the lowest interest rate levels shall be satisfied first and subsequently bids with successively higher interest rates shall be accepted until the total liquidity to be absorbed is exhausted.
   (c) If at the marginal interest rate, the aggregate bid amount exceeds the remaining amount to be allotted, the remaining amount shall be allocated pro rata among the bids, based on the ratio of the remaining amount to be allotted to the total bid amount at the marginal interest rate, in accordance with Annex 3.
   (d) The amount allotted to each counterparty shall be rounded to the nearest ngultrum.
2. The RMA may decide to allot a minimum allotment amount to each successful bidder.

Article 27: Allotment in liquidity-providing variable rate tender procedures

1. In a liquidity-providing variable rate tender procedure, the bids of counterparties shall be allotted in the following manner:
   (a) Bids shall be listed in descending order of offered interest rates or ascending order of offered rates.
   (b) Bids with the highest interest rate levels shall be satisfied first and subsequently bids with successively lower interest rates shall be accepted, until the total liquidity to be allotted is exhausted.
   (c) If at the marginal interest rate, the aggregate amount bid exceeds the remaining amount to be allotted, the remaining amount shall be allocated pro rata among the bids based on the ratio of the remaining amount to be allotted to the total amount bid at the marginal interest rate, in accordance with Annex 4.
   (d) The amount allotted to each counterparty shall be rounded to the nearest ngultrum.
2. The RMA may decide to allot a minimum allotment amount to each successful bidder.

Article 28: Type of auction for variable rate tender procedures

For variable rate tender procedures, the RMA may apply either a single rate auction (Dutch auction) or multiple rate auction (American auction).

Article 29: Announcement of tender results

1. The RMA shall publicly announce its tender allotment decision with respect to the tender results publicly on the RMA's website.
2. The information to be included in the public announcement with respect to the tender results is laid down in Annex 5.
3. If the allotment decision contains erroneous information with respect to any of the information contained in the public tender result announcement referred to in paragraph 1, the RMA may take any action it deems appropriate to correct such erroneous information.
4. After the public announcement of the RMA's tender allotment decision on the tender results, the RMA shall directly inform the individual allotment results to counterparties, whereby each counterparty shall receive an individual and certain confirmation of its success in the tender procedure and the exact amount allotted to it by email.

Article 30: Settlement procedures

1. Payment order to the participation in OMOs or use of the standing facilities shall be settled on the counterparties' accounts with the RMA.
2. On maturity date: counterparty return loan and RMA release pledge [*need to elaborate based on operational processes of the RSEB*].

3. In the event of default: The RMA shall debit the counterparty's current account with the RMA to settle the loan amount, including interest, provided to the counterparty. If the funds in the counterparty's current account are insufficient to settle the loan, the RMA shall initiate proceedings to possess the collateral. [*need to elaborate based on operational processes of RMA Banking Department*].

PART III - ELIGIBLE COUNTERPARTIES

Article 31: Eligibility criteria for participation in RMA monetary policy operations

With regard to RMA monetary policy operations, the RMA shall only allow participation by institutions that fulfil the following criteria:

(a) Licensed banks;
(b) They must be financially sound as assessed by the RMA, based in particular on their compliance with the Capital Adequacy Ratio as laid down in the RMA's Prudential Regulations;
(c) They shall fulfil all prudential regulations applied by the RMA.

Article 32: Access to OMOs executed by tender procedures and to standing facilities

Institutions fulfilling the eligibility criteria under Article 31 shall have access to any of the following RMA monetary policy operations: Standing facilities and OMOs.

PART IV - ELIGIBLE ASSETS AND VALUATION HAIRCUTS

Article 33: Eligible assets and collateralisation techniques to be used for RMA liquidity providing monetary operations

1. The RMA shall apply a single framework for eligible assets common to all RMA credit operations as laid down in this DLMF.
2. In order to participate in RMA credit operations, counterparties shall provide the RMA with assets that are eligible as collateral for such operations.
3. In order to be eligible as collateral for RMA credit operations, assets shall be debt instruments fulfilling the eligibility criteria.
4. Counterparties shall provide eligible assets by the creation of a security interest (i.e. a pledge) which takes the legal form of a collateralised loan.

Article 34: List of eligible assets and valuation haircuts.

The RMA shall publish an updated list of eligible assets and valuation haircuts on its website.

PART V - DISCRETIONARY MEASURES

Article 35: Discretionary measures on the grounds of prudence or following an event of default

1. On the grounds of prudence, the RMA may take any of the following measures:
   (a) Suspend, limit or exclude a counterparty's access to RMA monetary policy operations, pursuant to any contractual or regulatory arrangements applied by the RMA;
   (b) Reject, limit the use of or apply supplementary haircuts to assets mobilised as collateral in RMA credit operations by a specific counterparty on the basis of any information the RMA considers relevant.

2. Counterparties that do not meet the Capital Adequacy Requirements as defined by the RMA's Prudential Regulations shall be suspended, limited or excluded from accessing RMA's credit operations on the grounds of prudence. There is an exception for cases where the RMA considers that compliance can be restored through adequate and timely recapitalisation measures, as established by the Executive Committee.
3. In the context of its assessment of financial soundness of a counterparty and without prejudice to any other discretionary measures, the RMA may suspend, limit or exclude, on the grounds of prudence, access to RMA monetary policy operations by counterparties for which information on the Capital Adequacy Ratio under the RMA's Prudential Regulations is not made available to the RMA in a timely manner. Access may be restored once the relevant information has been made available to the RMA and the RMA determines that the counterparty fulfils the criterion of financial soundness.
4. Without prejudice to any other discretionary measures, the RMA shall, on the grounds of prudence, limit access to RMA monetary policy operations by counterparties deemed to be failing or likely to fail. The limitation shall correspond to the level of access to RMA credit operations prevailing at the time when such counterparties are deemed to be failing or likely to fail.
5. In the event that a discretionary measure is based on prudential information, the RMA shall use any such information in a manner strictly commensurate with, and necessary for, the performance of the RMA's tasks of conducting monetary policy.
6. In the case of occurrence of an event of default, the RMA may suspend, limit or exclude access to RMA monetary policy operations with regard to counterparties that are in default pursuant to any contractual or regulatory arrangements applied by the RMA.
7. All discretionary measures of the RMA shall be applied in a proportionate and non-discriminatory manner and shall be duly justified by the RMA.

PART VI - FINAL PROVISIONS

Article 40: Anti-money laundering and counter-terrorist financing legislation

Counterparties to RMA monetary policy operations shall be aware of, and comply with, all obligations imposed on them by anti-money laundering and counter-terrorist financing legislation.

Article 41: Taking effect

This DLMF shall take effect on the day of its publication on the RMA's website.

Annex 1

Tender Procedure: Public Announcement

The public tender announcement contains the following indicative information:

(a) The reference number of the tender operation;
(b) The date of the tender operation;
(c) The type of operation (absorption or provision of liquidity, and the type of monetary policy instrument to be used);
(d) The maturity of the operation;
(e) The duration of the operation (normally expressed in a number of days);
(f) The type of auction, i.e. fixed or variable rate tender;
(g) For variable rate tenders, the method of allotment, i.e. the single rate auction (Dutch auction) or multiple rate auction (American auction) procedure;
(h) The intended operation volume (for variable rate tenders);
(i) For fixed rate tenders, the fixed tender interest rate;
(j) The minimum or maximum accepted interest rate, if applicable;
(k) The start date and maturity date of the operation, if applicable, or the value date and the maturity date of the instrument;
(l) The maximum bid limit, if any;
(m) The minimum individual allotment amount, if any;
(n) The time schedule for the submission of bids;
(o) The maximum number of bids per counterparty (for variable rate tenders).

Annex 2

Allotment under Fixed-Rate Tenders

The percentage of allotment is:

$$all\% = A/\sum_{i=1}^{n} ai$$

The amount allotted to the *i*th counterparty is:

$$alli = all\% * (ai)$$

Where:

A = total amount allotted

n = total number of counterparties

a_i = bid amount of the *i*th counterparty

all% = percentage of allotment

all_i = total amount allotted to the *i*th counterparty

Annex 3

Allotment under Variable-Rate Tenders for Liquidity Absorbing Operations

The percentage of allotment at the marginal interest rate is:

$$all\%(rm) = (A - \sum_{s=1}^{m-1} a(rs)) \;/\; a(rm)$$

The allotment to the *i*th counterparty at the marginal interest rate is:

$$all(rm)i = all\%(rm) * a(rm)i$$

The total amount allotted to the *i*th counterparty is:

$$alli = \sum_{s=1}^{m-1} a(rs)i + all(rm)i$$

Where:

A = total amount allotted

r_s = *s*th interest rate bid by the counterparties

n = total number of counterparties

$a(r_s)_i$ = amount bid at the *s*th interest rate (r_s) by the *i*th counterparty

$a(r_s)$ = total amount bid at the *s*th interest rate (r_s)

$$a(rs) = \sum_{i=1}^{n} a(rs)i$$

r_m = marginal interest rate: $r_m \geq r_s \geq r_1$

r_{m-1} = interest rate before the marginal interest rate (last interest rate at which bids are completely satisfied): $r_m > r_{m-1}$

all%(r_m) = percentage of allotment at the marginal interest rate

all(r*s*)*i* = allotment to the *i*th counterparty at the *s*th interest rate

all_i = total amount allotted to the *i*th counterparty

Annex 4

Allotment under Variable-Rate Tenders for Liquidity-Providing Operations

The percentage of allotment at the marginal interest rate is:

$$all\%(rm) = (A - \sum_{s=1}^{m-1} a(rs)) \;/\; a(rm)$$

The allotment to the *i*th counterparty at the marginal interest rate is:

$$all(rm)i = all\%(rm) * a(rm)i$$

The total amount allotted to the *i*th counterparty is:

$$alli = \sum_{s=1}^{m-1} a(rs)i + all(rm)i$$

Where:

A = total amount allotted

r_s = *s*th interest rate bid by the counterparties

n = total number of counterparties

$a(r_s)_i$ = amount bid at the *s*th interest rate (r_s) by the *i*th counterparty

$a(r_s)$ = total amount bid at the *s*th interest rate (r_s)

$$a(rs) = \sum_{i=1}^{n} a(rs)i$$

r_m = marginal interest rate: $r_1 \geq r_s \geq r_m$

r_{m-1} = interest rate before the marginal interest rate (last interest rate at which bids are completely satisfied): $r_{m-1} > r_m$

$all\%(r_m)$ = percentage of allotment at the marginal interest rate

all(rs)*i* = allotment to the *i*th counterparty at the *s*th interest rate

all_i = total amount allotted to the *i*th counterparty

Annex 5

Announcement of Tender Results

The public tender result message contains the following indicative information:

(a) The reference number of the tender operation;
(b) The date of the tender operation;
(c) The type of operation;
(d) The maturity of the operation;
(e) The duration of the operation (normally expressed in a number of days);
(f) The total amount bid by counterparties;
(g) The number of bidders:
(h) The total amount allotted;
(i) For fixed rate tenders, the percentage of allotment;
(j) For variable rate tenders, the marginal interest rate accepted and the percentage of allotment at the marginal interest rate;
(k) Weighted average rate of the auction;
(l) For multiple rate auctions, the minimum bid rate and the maximum bid rate, i.e. the lower and upper limit to the interest rate at which counterparties submitted their bids in variable rate tenders, and the weighted average allotment rate;
(m) The start date and the maturity date of the operation, if applicable, or the value date and the maturity date of the instrument, in the case of the issuance of RMA bills;
(n) The minimum individual allotment amount, if any;
(o) The minimum allotment ratio, if any;
(p) The maximum number of bids per counterparty.

Start typing here

Annex II. Terms of Reference: Liquidity Committee and Liquidity Team

Objectives and Governance Structure

1. Objectives

Central bank liquidity management encompasses assessing the aggregate liquidity conditions in the banking system and conducting monetary operations with a view to adjust liquidity to the appropriate level. The demand and the supply of liquidity and more generally, the effect of the central bank's monetary operations can be best assessed from the analysis of the composition and changes in the balance sheet of the RMA.

The setting up of a liquidity forecasting and management framework will allow the RMA to fulfil its legal mandate to "formulate and implement monetary policy with a view of achieving and maintaining price stability" (Article 7 of the RMA Act 2010) in ways better aligned with current central bank practices. By allowing the RMA to broaden its monetary instruments toolkit, a liquidity forecasting, and management framework will: (i) facilitate monetary policy transmission, (ii) support the development of a nascent money market, and (iii) allow banks to enhance their treasury function, leading to reduced liquidity costs and settlement risks, and (iv) reduce the need to rely on capital flow management measures or capital controls.

2. Rationale

In order to adequately adjust liquidity to an appropriate level via periodic discretionary monetary policy operation (i.e., OMO), the RMA needs to accurately forecast to what extend the changes in the autonomous factors of liquidity-namely, Net Government Position, Net Foreign Assets (NFA), CiC, Other Items Net and sweeping of hydropower accounts -will impact the banks' net liquidity position at the RMA (i.e., excess reserves).

An increase in the autonomous factors on the asset side of the balance sheet of the RMA results in an injection of liquidity in the system, while an increase in the autonomous factors on the liability results in absorption of liquidity from the system. In order to balance the aggregate liquidity position, the RMA needs to conduct discretionary monetary policy operations, either to mop up excess liquidity, or to provide additional liquidity to the commercial banks.

Liquidity Committee-LiCo

3. Composition of the Liquidity Committee-LiCo

The LiCo is the RMA high-level committee which includes RMA senior managers directly involved in liquidity management matters. They include the following:

1. Deputy Governor (DG), LiCo Chair.
2. Executive Director, DMRS.

3. Executive Director, DB.
4. Executive Director, Department of Foreign Exchange and Reserve Management (DFERM).
5. Executive Director, Department of Currency Management (DCM).
6. Executive Director, Department of Financial Regulation and Supervision (DFRS).

Other Executive Directors/ Directors, while not members of the LiCo, may be invited to attend LiCo meetings as needed. RMA's LT directly involved in liquidity matters should attend to present the outcome of the liquidity monitoring and forecast exercise. In addition, other RMA officers may be invited as and when needed.

4. Terms of Reference of the Liquidity Committee- LiCo

LiCo is responsible for:

- Elaborating proposals for the RMA's [Executive Committee-relevant RMA decision-making body] for setting up and adjusting as needed, a functional liquidity management framework.
- Providing RMA's [Executive Committee-relevant RMA decision-making body], with best available, up-to-date, information and analysis on liquidity conditions at the aggregate level, as well as at individual banks.
- Making a weekly assessment of liquidity development and a related decision regarding the calibration of OMOs based on information and proposal presented by the DMRS with inputs from the LT.

Liquidity Team-LT

5. Composition of the Liquidity Team-LT

Members from the following RMA Departments will constitute the LT (at least one member from each Department):

- DMRS, coordinator.
- DB.
- DFERM.
- DCM.
- DFRS.

6. Terms of Reference of the Liquidity Team-LT

The LT is responsible for:

- Regular monitoring, analysing, forecasting of liquidity conditions, at the aggregate and individual bank levels.
- Since the liquidity management is multi-dimensional in nature, members will assume the following responsibilities:
    - ***DMRS*** is the LT coordinator, responsible for compiling and updating the liquidity data. DMRS will maintain the database with liquidity time series; spearhead the analysis, prepare daily liquidity monitoring, weekly liquidity forecasting report and proposal for OMO calibration in close consultation with LT members for submission to the LiCo. DMRS will also interact with the Department of Public Accounts of MoF regarding Government cash flow forecasting.

- ***DB*** will jointly analyze, forecast net domestic assets and, whenever relevant, make policy proposal regarding the current accounts of individual commercial banks.
- ***DFERM*** will jointly analyze and forecast NFA.
- ***DCM*** will jointly analyze and forecast CiC.

7. Timeframe and responsibility for Operational Steps before initiating OMOs

Days	Steps	Timeframe	Responsibility
Friday	i. Download daily balance sheet of the previous day	9.30-17.00 PM	DMRS
	ii. Prepare Autonomous Factors forecasts using statistical models.		DMRS
	iii. Enrich model-based forecasts with information received from relevant departments as well as from the Department of Public Accounts of MoF (Government cash flow forecast and latest update).		LT: DMRS, DB, DFERM, DCM
	iv. Estimate demand for reserves from banks, if necessary.		LT: DB, DFERM, DCM
Monday	i. Prepare and submit the Liquidity Forecasting Report to the LiCo together with proposal for OMO calibration	9.30-10.30 AM	DMRS
	ii. LiCo Decides on OMO calibration and Tender Procedures	10.30-12:00AM	LiCo, Chaired by DG
	iii. The relevant departments are informed on the decision	12:00-13:00	LiCo, Chaired by DG

Annex III. Terms of Reference: RMA Money Market Contact Group

1. OBJECTIVES AND MEMBERS

1.1. The MMCG shall be formed with representative from the RMA and commercial banks. The main purpose of the MMCG is to ensure the successful implementation of monetary policy operation in accordance with the principles, tools, instrument, criteria and procedures laid down in the Monetary Policy Implementation Framework, as well as the development of the money market.

1.2. The MMCG will comprise representatives from the following institutions with broad knowledge and experience about the money market, and also who are in position to speak on behalf of their institutions.

- Royal Monetary Authority of Bhutan

  i. DMRS.
  ii. DB.
  iii. Department of Financial Regulation and Supervision (DFRS).
  iv. Legal Division.

- Treasurers (principal member) from Commercial Banks

  i. Bank of Bhutan Ltd.
  ii. Bhutan National Bank Ltd.
  iii. Bhutan Development Bank Ltd.
  iv. T-Bank Ltd.
  v. Druk PNB Bank Ltd.

1.3. The institutions will nominate two members including a principal member. The additional member must have an equivalent position in his/her organization as the principal member. He will substitute for the principal members only when the principal members cannot attend the MMCG meetings due to unavoidable circumstances.

1.4. Any changes in the member's position within his or her institution should be reported to the RMA. The RMA will in-turn review his or her membership. Members should complete and submit the MMCG's form (Annex 1) along with relevant documents to the RMA.

1.5. The MMCG meeting will be chaired by first Deputy Governor or Head of DMRS.

1.6. The MMCG secretariat is chaired by the DMRS head.

2. ROLES AND RESPONSIBILITIES

2.1 MMCG members will be the first point of contact in relation to the RMA's monetary policy operations, or issues having to do with money market conditions.

2.2 Discussions will include:

2.2.1 Recent trends in the money market.

2.2.2 RMA monetary operations functioning, gaps, challenges, and improvements in regulatory framework that may be warranted.

2.2.3 Obstacles and shortcomings to money market functioning, along with ways to address them, including the establishment of an interbank master agreement, money market benchmarks, measures to mitigate counterparty risk, establishing collateralized transactions, measures to develop secondary market T-bills trading, development of financial market infrastructure etc.

2.3 The members will present the operational strategies and decisions agreed in the MMCG to the higher authorities in their respective institutions and coordinate with them their implementation.

3. PROCEDURES

3.1 The MMCG shall meet at least four times a year, according to a preliminary published schedule. MMGM meetings may also be held on an ad hoc basis in case of special circumstances or upon the request of any member. MMCG may use other modes of communication, such as teleconferencing, to convene and hold the meetings. Proper records of all meetings must be maintained.

3.2 The agenda for discussion will be circulated to the members prior to the meeting as schedule by the RMA. Members are free to make further addition/deletion to the agenda if it deemed necessary.

3.3 Confidential, sensitive information including information relating to member institutions or the RMA will not be discussed in the MMCG meetings.

3.4 Summary of the MMCG's discussion and outcome will be circulated to the members. Unless otherwise agreed, meeting summaries will not highlight views of any specific member.

ANNEX 1: THE RMA' S MMCG FORM

This form should be used by all MMCG Members. Members are requested to submit this application form, together with a CV to the RMA. The RMA will review the membership of the MMCG at the end of the calendar year as per the terms of reference.

INFORMATION

Institution:	
Personal Name	
Position Title	
Contact Details	
Email Address	
Phone Number (Office)	
Phone Number (Personal)	