



MYANMAR AGRICULTURAL DEVELOPMENT BANK:

Initial Assessment and Restructuring Options



THE WORLD BANK GROUP



Livelihoods and Food Security Trust Fund





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Cover Photo: Burmese Women Planting Rice by Eleven Media Group



Table of Contents

Preface	5
Executive Summary	7
1.Diagnostic of MADB	13
1.1 Overview of the Agriculture Sector and the Role of MADB	13
1.2 MABD’s Mission and Policy Mandate	16
1.3 Lending Operations	19
Seasonal Crop Production Loan (SCPL) and Term Loan (TL)	19
Breakdown of the Loan Portfolio	20
Loan Guarantees	21
Loan Amount per Farmer	21
1.4 Credit Policies	22
1.5 Pricing and Funding	23
1.6 Risk Management	26
1.7 Corporate Governance	27
Board	28
Internal Control System	28
External Audit System	29
1.8 Operations	29
1.9 Legal, Regulatory, and Supervisory Regime	30
1.10 Accounting and Financial Reporting	30
Human Resources	31
2.Options for the Transformation of MADB	34
2.1 Strengthening MADB in the Short Term	34
2.2 Issues to Consider for MADB’s Long-Term Transformation	37
3.Lessons from International Experience	40
3.1 Bank for Agriculture and Agricultural Cooperatives	40
3.2 Bank Rakyat Indonesia	42
3.3 Financiera Rural of Mexico	43
4.Conclusions	45
References	46

Figures

Figure 1 Composition of Myanmar's GDP by Sector	13
Figure 2 Breakdown of Loan Portfolio for the Agricultural Year 2011–12	20

Tables

Table 1 Indicators of Agricultural Incomes in Myanmar and Select Countries	14
Table 2 Select Financial Sector Indicators for Myanmar	15
Table 3 MADB at Glance: Select Indicators	16
Table 4 Typical Instruments for Agriculture Finance	18
Table 5 Type of Loans Offered by MADB	19
Table 6 Loan Disbursement Period and Loan Collection Period	20
Table 7 Loan Size per Acre for Seasonal Crop Production Loan	22
Table 8 Annual Interest Rates and Margin of MADB	24
Table 9 SWOT Analysis for MADB	32
Table 10 Overview of the Proposed Short-Term Strengthening of MADB	35

Preface

At the invitation of the Ministry of Agriculture and Irrigation of Myanmar, a World Bank (WB) team comprising José De Luna-Martínez (Financial Systems Global Practice) and Ratchada Anantavasilpa (East Asia Financial Sector Department) conducted a mission in Myanmar in 2013. The mission's main objective was to prepare a diagnostic report of the Myanmar Agricultural Development Bank (MADB), the largest financial institution serving the agriculture and rural sector of Myanmar, and formulate a series of proposals to strengthen it. The team met with the senior management members of MADB who kindly provided data, annual reports, and other internal guidelines and policies of MADB. They also arranged a visit to select branches in rural areas.

The team presents this document as an initial assessment of MADB. The report aims to provide the basis for dialogue between authorities, domestic stakeholders, and the donor community in Myanmar about the challenges faced by MADB and potential options to reform it.

Once more data and information on the agriculture and rural sectors in Myanmar become available, a second report will be prepared. The new report will take into account the results of the stakeholders' consultations on MADB. Moreover, it will sharpen some of the recommendations by aligning them to Myanmar's long-term vision and strategies to modernize the agriculture, rural, and financial sectors, which are currently in the formulation process.

This initial report was generously funded by the Livelihoods and Food Security Trust Fund (LIFT), a multidonor fund established in Myanmar in 2009. The donors to LIFT are Australia, Denmark, the European Union, France, the Netherlands, New Zealand, Sweden, Switzerland, the United Kingdom, and the United States of America.

The team is grateful to the senior management members of MADB who enthusiastically engaged in productive discussions and shared their valuable insights. The team also received valuable comments and suggestions from a group of technical experts from the World Bank, including Paavo Eliste, James Seward, Steven Jaffee, and Sergiy Zorya, as well as experts from LIFT, including Barclay O'Brien (former LIFT) and Myint Kyaw.

The team expresses its gratitude to Ulrich Zachau (World Bank Country Director for South East Asia), Tunc Uyanik (World Bank Director, EASFP), Kanthan Shankar (World Bank Country Manager for Myanmar), Julia M. Fraser, Hormoz Aghdaey, Constantine Chikosi, Nang Htay Htay for their valuable guidance and support. The team received excellent logistical support from Piathida Poonprasit.

List of Acronyms

ASEAN	Association of Southeast Asian Nations
CAR	capital adequacy ratio
CBM	Central Bank of Myanmar
GDP	gross domestic product
GM	general manager
HR	human resources
IAS	International Accounting Standards
IFRS	International Financial Reporting Standards
ISA	International Standards of Auditing
IT	information technology
LIFT	Livelihoods and Food Security Trust Fund
MADB	Myanma Agricultural Development Bank
MAI	Ministry of Agriculture and Irrigation
MD	managing director
MEB	Myanma Economic Bank
MOF	Ministry of Finance
SCPL	seasonal crop production loan
SMEs	small and medium enterprises
TL	term loan
WB	World Bank

Executive Summary

Myanmar is an agricultural country. It is estimated that the agriculture sector represents between 35 to 40 percent of gross domestic product (GDP) and that up to 70 percent of the labor force (of 32.5 million) is directly or indirectly engaged in agricultural activities or depend on agriculture for their income. Moreover, it is estimated that agriculture products generate between 25 and 30 percent of total export earnings. Given agriculture's important contribution to the economy, the modernization of the agriculture sector is a top priority in the economic and social development agenda of the Government of Myanmar.

Looking forward, Myanmar's agricultural potential is enormous given the country's rich natural resources and favorable geographical location. Myanmar's diverse topography, climates, water resources, and eco-systems offer farmers and investors the opportunity to produce a wide range of cereals, pulses, horticultural products, fruits, livestock, and fish. Because of its strategic location between the two enormous regional markets of India and China, and easy access to buoyant markets in the Association of Southeast Asian Nations (ASEAN), Myanmar's agriculture sector is well positioned to grow, develop a dynamic agribusiness industry, and provide people with the opportunity to improve their living standards.

Among the government institutions supporting the agriculture sector, the Myanma Agriculture Development Bank (MADB) plays an important role. MADB was established in June 1953 by the Government of Myanmar to support the development of agriculture, livestock, and rural enterprises in Myanmar. MADB is currently the largest financial institution serving the rural areas and financing agriculture activities. At the end of 2012, MADB served 1.87 million customers, mostly farmers, and had a network of 206 branches (which accounted for 23 percent of all banks' branches in Myanmar). Since its creation, MADB has played an important economic and social role by providing loans to a large segment of low-income households engaged in agricultural activities.

Despite the existing limitations in its information technology (IT), infrastructure, and operations platform, every year MADB disburses a large volume of short-term loans to farmers both during the monsoon and the winter agricultural seasons. Moreover, despite the inherent risks of the agriculture activities and lack of financial instruments to mitigate risks in its loan portfolio, MADB has historically had a strong track-record in loan recovery thanks to the various mechanisms it has put in place with local authorities to exert pressure on delinquent borrowers.

Notwithstanding its past success, MADB is in need of a profound reform to ensure that the institution is able to contribute to the modernization of the agriculture sector in a meaningful manner. Currently, MADB faces various weaknesses, such as the following:

- lack of diversification of the loan portfolio (the portfolio is highly concentrated on rice farmers)
- limited range of financial products to serve the financing needs of all participants in the agriculture value chains
- risk management—limited capacity to monitor, control, and mitigate credit risks

- unsustainable funding model—high dependence on subsidized government funding through the state-owned Myanmar Economic Bank (MEB)
- inadequate financial regulation and supervision
- weak corporate governance and limited operational autonomy of MADB's senior management
- rudimentary IT infrastructure and operations platform

Lack of diversification of MADB's portfolio: Despite the high volume of loans disbursed by MADB every year, MADB's loan portfolio is heavily concentrated on a single type of client (farmers) and one commodity (rice). MADB finances only up to 10 acres per farmer. Most farmers financed by MADB are engaged in subsistence agriculture and use rudimentary cultivation techniques that prevent them from reaching high yields for their crops. MADB does not finance large farmers engaged in commercial agriculture or other agribusiness firms. Furthermore, MADB does not serve traders, exporters, transport firms, warehouses, equipment sellers, and other type of firms along the agricultural value chains.

MADB finances the production of a limited number of crops and commodities nationwide, including paddy, groundnut, sesame, beans, cotton, and corn. In fact, 88 percent of MADB's loan portfolio is concentrated in paddy farmers. MADB does not finance the production of fruits and vegetables with a higher added value. More worrisome is the fact that MADB does not finance livestock, fish, the production of processed food or beverages, seeds, fertilizers, or any other high value-added products.

Limited range of financial products: Most loans granted by MADB are designed to support the working capital needs of the customers it serves by covering a fraction of the production cost. However, if MADB decided to expand business focus, it would have to offer a wider range of financial instruments and services to its clients, including: savings products, new types of investment loans, factoring, trade finance, warehouse receipt finance, leasing, letters of credit, loan guarantees, and so forth, which are already allowed under the MADB law but not yet implemented.

Risk management: The capability of MADB to measure, manage, and mitigate risks as other agriculture banks in other parts of the world do is limited. To start with, MADB's interest rates on loans and deposits are not set by MADB itself but by the Ministry of Agriculture and Irrigation (MAI) with no consideration to the risk profile of borrowers. Currently, the annual interest rate for loans is 8.5 percent, which is a subsidized rate (the market interest rate is 12 percent). Moreover, the total volume of credit to be disbursed by MADB each year is also set by MAI. MADB does not conduct any analysis nor does it take any measures to mitigate its risk exposure by commodity or region.

Although MADB has put in place an effective system for quick loan disbursement, in practice MADB carries out no credit analysis on existing or prospective borrowers. Loans are approved automatically after proper documentation has been reviewed by village credit committees, which are composed of representatives of local authorities, MAI staff, and farmers' representatives. MADB staff does not participate in the credit committees at village level,

review of loan applications, and does not take part in the appraisal and credit decision-making process.

Most loans granted by MADB are not collateralized. Farmers are required to join a group of 5 to 10 farmers to collectively guarantee each individual loan. Agriculture insurance products are not available yet in the marketplace. Thus, MADB's entire loan portfolio remains exposed to the occurrence of natural disasters, plagues, and commodity price fluctuations, which may severely affect the ability of borrowers to repay.

Unsustainable funding model: Funding is a major challenge faced by MADB. Although the business operations of MADB have remained profitable thanks to the ability to access funds at subsidized interest rates from the state-owned Myanma Economic Bank (MEB) and collect loans in full through pressure from local authorities on delinquent borrowers, MADB would not be able to remain financially sustainable without the access to cheap funding. MEB raises deposits from the public at 8 percent per year, but it lends to MADB at 4 percent. The ultimate cost of this funding scheme is borne not by MEB but by taxpayers, because the Government ultimately needs to compensate MEB for the subsidies it passes on to MADB. Thus, in the long term, MADB's access to subsidized credit from the Government or MEB is not a sustainable scheme and poses a growing fiscal burden.

Inadequate regulation and supervision: Even though MADB is established as a development bank, it is not licensed as a full-fledged bank. MADB is functionally and legally an arm of MAI. As a result, MADB is not regulated and supervised by the central bank as the other state-owned or private commercial banks are. Moreover, the prudential standards—on capital, loan classification and provisioning, accounting rules, liquidity, risk management, and so on—applicable to other commercial banks or financial institutions are not applied to MADB. MAI and the Auditor General Office of the Union are responsible for supervising the operations of MADB and auditing. In practice, however, both institutions lack the capability to assess the risks and potential vulnerabilities faced by MADB.

Weak corporate governance: The corporate governance of MADB is weak and far from the standards followed by the banking industry. MADB's internal control system is rudimentary and there is no audit committee. The internal audit function reports directly to the bank's management team, not to the board. The entire board is composed of government officials from MAI with no independent members. "Fit and proper" requirements for board members or senior management do not exist. Board meetings are few and far between and management is subject to strict administrative controls by MAI. Accountability of management and board members is limited. Transparency and information disclosure are extremely limited as well. MADB has not published its annual report for many years. MADB's accounts are not audited by a third party, and MADB's financial statements are not prepared according to international standards.

Information technology and operations: MADB operates with a rudimentary IT and physical infrastructure. Communication between headquarters and branches takes place through the post offices or fax machines due to the lack of an internal communication platform. Most files are not digitalized; they are kept physically in the branches with the risk of damage or loss. Reporting processes for management and clients is slow due to the absence of information technology. Cash management is also rudimentary with potential risk of loss.

Overall, MADB is in need of major investments in IT and physical infrastructure to be able to perform as a modern full-fledged bank.

To address the weaknesses and challenges of MADB, this report proposes various actions. In the short term, authorities should focus their efforts on ensuring that MADB is able to operate in a sound manner. MADB needs to become financially self-sustainable and able to operate in the agriculture sector without crowding out other financial intermediaries willing to serve the same segments of the market of MADB. To achieve that, MADB must be given the power to set and modify as necessary its interest rates on its deposit and lending products, reflecting the real cost of funding and risk profile of borrowers.

It could be argued that smallholder farmers would not be able to pay higher interest rates. In practice, however, MADB's current annual interest rate on loans (8.5 percent) is substantially lower than the annual interest rates charged by informal lenders (72 percent to 120 percent) operating in rural areas. In addition, before 2012 MADB charged higher interest rates, in the range of 13 to 18 percent per year. A gradual return to the 2011 interest rate levels, accompanied by an improvement in the quality of services, is desirable.

In addition, the following short-term actions are proposed:

- MADB must also be allowed to retain and reinvest a major portion of its profits. Under section 10 of its law, MADB is required to transfer 75 percent of its profits to the Government, leaving almost no resources to fund the much-needed modernization of MADB.
- MADB will also need to have independent sources of funding, gradually eliminating its dependence on subsidized funds from MEB, and using its ability to borrow from other (local or foreign) institutions at market interest rates.
- MADB should operate with the highest standards of transparency, integrity, and accountability. In particular, MADB must publish its annual report and be audited every year by a third party.
- MADB needs to be regulated with the same prudential standards (capital, loan classification and provisioning, liquidity, and so on) applicable to the rest of the banking system.
- MADB's management must be given more autonomy, decision-making power, and accountability to be able to steer the institution.
- MADB must invest in the training of its staff and the adoption of a modern HR framework that promotes and rewards high performance and ensures high levels of customer satisfaction.
- MADB should take full control of the credit screening and loan decision-making process.
- MADB should adopt a strong risk management unit able to monitor risks and suggest appropriate measures to the board and senior management.
- MADB should invest significantly in the modernization of its IT and operations platforms.

Finally, MADB's capital base of K 1 billion needs to be raised substantially to fund its own modernization and expansion.

For the long term, authorities will have to decide what type of institution MADB should be. There are at least three possible scenarios. Under the first one, MADB could maintain its focus on smallholder farmers while improving its funding structure and addressing operational deficiencies. Under the second scenario, MADB could be transformed into a microfinance-type institution, such as Bank Rakyat Indonesia, allowing it to serve more clients in the agriculture and rural sectors while addressing its weaknesses in funding and operations. The third option proposes to gradually transform MADB from a simple loan disbursement agency into a financially self-sustainable development finance institution able to support the modernization of the agriculture sector through a wide range of financial and advisory services.

Certainly, these options are not the only ones feasible for MADB, and authorities could explore new options for strengthening this institution. Policy makers should discuss what type of financial institution they need to reach the Government's objectives in the agriculture and rural sectors, taking into account the institutional context of Myanmar and valuable lessons and sound practices adopted from similar institutions in other parts of the world.

When thinking about the future of MADB, many issues should be considered: What role will private financial intermediaries be expected to play in the agriculture finance market in the future? To what extent and how fast will the Government liberalize the financial system? What are the key obstacles facing agriculture finance markets (e.g., bankruptcy regime, land ownership issues, creditors' rights, credit bureau, use of movable assets as collateral, and so on)? Which agriculture activities and subsectors have the most promising outlook in Myanmar? Who will finance the much-needed infrastructure for the agriculture sector (e.g., irrigation systems, rural roads, warehouses, sanitation centers, laboratories, ports, and so forth)? Who will provide the capital needed by MADB to grow (e.g., government, private sector, foreign investors, international finance institutions, or others)?

Most of the challenges faced by policy makers in Myanmar have also been faced by other policy makers around the world at different points in time. In fact, the World Bank has assisted countries in various regions of the world to reform their state-owned financial institutions. The report presents three successful cases of reform of large agriculture banks owned by the state, which could be useful references for Myanmar: Bank for Agriculture and Agricultural Cooperatives (BAAC) of Thailand, Bank Rakyat Indonesia, and Financiera Rural of Mexico.

The reform pattern followed by each of these three institutions is not uniform. Nonetheless, given the initial circumstances and problems that they faced, the reform outcomes are positive and have contributed to turning insolvent institutions into profitable banks with the capability to serve the agriculture sector on a sustainable basis and contribute to improving the living standards of farmers and raise the competitiveness of their agricultural sub-sectors.

Building a successful state-owned agriculture bank is not an easy task. Historically, several agriculture banks around the world have failed due to poor corporate governance, inadequate risk management capability, unsustainable business models, capture by their own clientele,

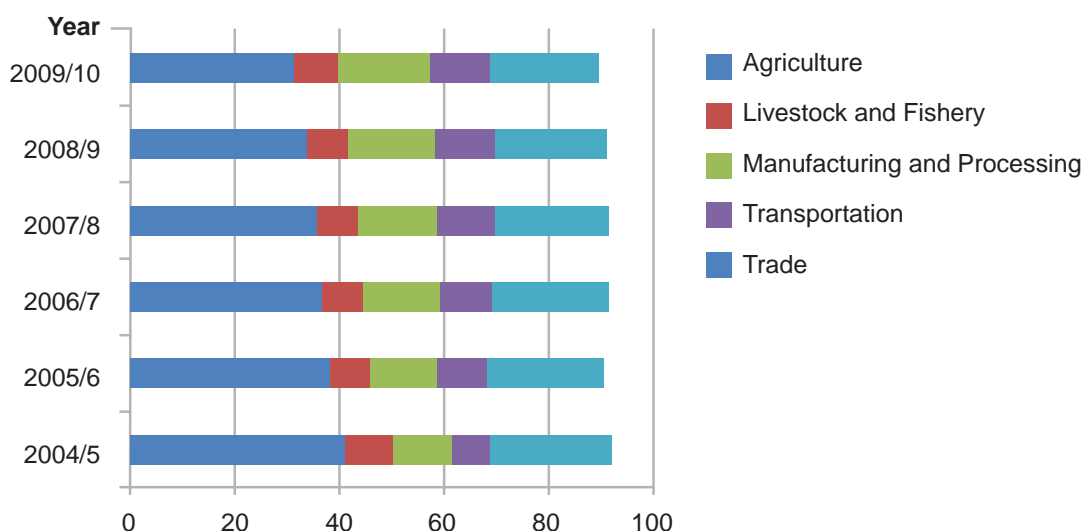
or undue political interference in their lending decisions. Therefore, authorities should ensure that MADB is transformed into a sound, well-administered, and financially sustainable institution, able to withstand undue political interference and able to operate with the highest standards of corporate governance and transparency.

1. Diagnostic of MADB

1.1 Overview of the Agriculture Sector and the Role of MADB

Agriculture is the largest economic sector in Myanmar.¹ The agricultural sector, including livestock and fisheries, is estimated to contribute between 30 and 40 percent to gross domestic product (GDP) (figure 1). In terms of employment, approximately 70 percent of the labor force (of 32.5 million) is reportedly engaged in agriculture or dependent to a significant extent on agriculture for its income. The agriculture sector also accounts for 25 to 30 percent of total exports by value. Pulses, rice, rubber, and fisheries constitute the main agricultural export commodities of Myanmar.

Figure 1 Composition of Myanmar's GDP by Sector



Source: Presentation to WB team by Central Bank of Myanmar.

Paddy dominates the agriculture sector, accounting for around 60 percent of the net sown area and around 80 percent of the total value of sector production (Vokes and Goletti 2013). Other key crops include pulses, oilseeds, and rubber. The country also produces, sugar, maize, a wide range of fruit and vegetables, palm oil, and coffee. Livestock currently is a relatively small sector of agriculture, contributing only 7.5 percent of total agricultural GDP.

Farmers generally grow lower value crops such as paddy, pulses, and oilseeds on relatively large surfaces, while high-value horticulture and fruit crops take place on much smaller plots. Paddy, pulse, and oilseed farmers cultivate an average of 4.0 to 5.0 acres per holding. In contrast, onions, garlic, and potato fields average about 1.5 acres each, while vegetables and cut flowers are grown on plots ranging between 0.6 and 0.7 acres in size (USAID 2013).

¹ Availability and reliability of data and statistics is still a concern in Myanmar. See Vokes and Goletti (2013).

The agriculture sector is undercapitalized, reflecting decades of insufficient levels of investment, including in basic infrastructure such as roads, warehouses, electricity, irrigation systems, research, sanitation centers, and extension services, among other basic infrastructure, resulting in low productivity in the sector and low rural incomes. It is estimated that agriculture annual income per worker in Myanmar was only US\$194 in 2012 compared to US\$6,680 dollars in Malaysia and US\$706 in Thailand (table 1).

Table 1 Indicators of Agricultural Incomes in Myanmar and Select Countries

Country	Agriculture income per agriculture worker (\$ per year)
Malaysia	\$6,680
Philippines	\$1,119
Indonesia	\$730
Thailand	\$706
Bangladesh	\$507
Cambodia	\$434
Vietnam	\$367
Myanmar	\$194

Source: Estimates from USAID (2013).

Agriculture finance remains underdeveloped due, in part, to the small size of the banking system. The banking system of Myanmar is composed of 4 state-owned banks with a network of 547 branches, 19 domestic private banks with a network of 347 branches, 1 private-owned finance company, and 16 foreign bank representative offices. In 2012, domestic bank deposits and private credit accounted for only 17.9 and 7.9 percent of GDP, respectively, according to data from the Central Bank of Myanmar (2013). Myanmar has 2 bank branches per 100,000 adults and 123 bank accounts per 1,000 adults. In all these indicators, Myanmar lags behind its neighboring countries, as shown in table 2.

Table 2 Select Financial Sector Indicators for Myanmar and Its Neighboring Countries in 2011

Indicators	Myanmar	Bangladesh	China	India	Lao PDR	Thailand
Domestic bank deposits / GDP (%)	17.9	54.2	164.4	67.0	34.0	104.0
Private credit per GDP (%)	7.9	48.6	127.4	50.6	20.0	108.6
Bank branches per 100,000 adults	2.0	8.0	n.a.	11.0	2.0	11.0
Bank accounts per 1,000 adults	123.0	378.0	n.a.	n.a.	n.a.	1,123.0

Source: World Development Indicators databases.

MADB is a relatively small financial institution, with 116.3 billion kyats in assets (around US\$130 million) at the end of March 2012, which accounted for only 1.3 percent of total assets in the banking system. However, in terms of outreach and number of branches, MADB is the second largest state-owned institution in the banking system, after Myanma Economic Bank (MEB). At the end of 2012, MADB served 1.87 million customers, mostly smallholder farmers, and had a network of 206 branches (which accounted for 23 percent of all bank branches in Myanmar).

MADB was established in June 1953 by the Government of Myanmar to support the development of agriculture, livestock, and rural enterprises in Myanmar. It is currently owned and supervised by the Ministry of Agriculture and Irrigation (MAI). Since its establishment, MADB has played an important economic and social role in Myanmar by providing loans to a large segment households in rural areas engaged in agricultural activities. Most MADB loan products are designed to cover the short-term working capital needs of farmers, such as purchase of seeds, fertilizers, and pesticides; payment of salaries for farm workers; and lease of agriculture equipment. MADB lends at subsidized interest rates, following the lending policies and programs issued by MAI.

During the past three years, MADB has grown rapidly. From March 2010 to March 2012, MADB's loan portfolio grew from K 20,392 million to K 116,275 million, an increase of 470 percent. As discussed in subsequent sections of this report, this increase was driven mainly by a substantial increase in the amount of money that MADB lends per acre and not by a substantial expansion in the number of customers the institution serves or a significant increase in the number of acres financed by MADB.

As of March 2012, MADB's capital adequacy, liquidity, and reserve ratios stood at 10.91 percent, 17.46 percent, and 5.14 percent, respectively. The loan-to-deposits ratio was 96.13 percent (table 3). However, these ratios should be taken cautiously, because MADB does not comply with the same prudent standards applicable to commercial banks, as described in subsequent sections of the report.

Table 3 MADB at Glance: Select Indicators

Indicators	2009–10	2010–11	2011–12
Total assets*	51,134	70,288	116,275
Loan portfolio*	20,392	36,236	84,221
Total liabilities*	48,627	67,114	110,980
Capital*	2,507	3,174	5,295
Prudential Ratios			
CAR	n.a.	26.12%	10.91%
Liquidity ratio	n.a.	25.42%	17.46%
Reserve ratio	n.a.	29.19%	5.14%
Loan to deposit ratio	n.a.	61.10%	96.13%
Other			
Staff		2,871	2,756
Number of borrowers (million)	n.a.	1.37	1.42
Acres financed by MADB (million)	10.5	11.2	12.4

Source: MADB.

*Kyats in millions.

CAR = The sum of paid up capital, the reserve fund, and profits divided by doubtful assets.

Liquidity ratio = Cash in hand and other liquid assets divided by deposits.

Reserve ratio = The total reserve fund divided by deposits.

Loan to deposit ratio = Total loans to total deposits.

1.2 MABD's Mission and Policy Mandate

MADB's mission is clearly stated in its law (article 5), which requires MADB to “support the development of agriculture, livestock, and rural socioeconomic enterprises in the country by providing banking services.” However, in practice MADB's business operations are not properly aligned to this goal; in fact, MADB's current lending portfolio is heavily concentrated on farmers engaged in only four commodities, leaving the rest of activities, products, and services in the agriculture sector completely beyond its business focus.

MADB provides loans to farmers to cover a fraction of the production costs for up to their first 10 acres. Most of MADB's borrowers are engaged in subsistence agriculture using rudimentary cultivation techniques that prevent them from reaching high yields for their crops. MADB does not support medium or largeholder farmers engaged in commercial agriculture or other agribusiness firms, traders, exporters, and other type of firms along the entire value chain, although the MADB law allows it to lend for production, processing, storage, distribution, and marketing activities relating to the agricultural and livestock enterprises. Even when its clients grow and diversify their business activities, MADB does not support them.

Moreover, MADB finances the production of only a limited number of crops and commodities nationwide, such as paddy, groundnut, sesame, beans, cotton, and corn. MADB does not finance the production of fruits and other vegetables with a higher value in the marketplace. More worrisome is the fact that MADB does not finance livestock, the production of seeds, fertilizers, processed foods, beverages, forestry activities, or any other high value-added product.

Restricting the business operations of MADB is counterproductive, because the financing needs of the agriculture sector in Myanmar are huge. Credit to the private sector in Myanmar amounts to only 7.9 percent of GDP, a low figure compared to other neighboring countries, such as Bangladesh (48.6), China (127.4), India (50.6), Lao PDR (20), and Thailand 108.6), as illustrated in table 2.

Although a growing number of microfinance institutions and informal lenders are serving farmers, they have limited capital, and the demand for credit in the agriculture sector remains largely unmet. Moreover, informal lenders usually lend at interest rates of 6 to 10 percent or more per “month,” or 72 to 100 percent per year, creating a trap for many debtors who have become highly indebted and unable to repay their loans. Reportedly, many farmers actually borrow from MADB simply to roll over debt or payoff the high interest loans provided by informal lenders (Ashe Center 2011).

There is plenty of room in the marketplace for MADB and several other private (or state-owned) banks, microfinance institutions, specialized financial institutions, and so forth (see table 4). In fact, it is estimated that more than 3.5 million farmers are not served by MADB due to lack of land titles. Moreover, the provision of modern instruments for agriculture finance, such as warehouse receipts financing, contract farming, supply chain financing, factoring, leasing, and trade finance is still at an incipient stage in Myanmar. The provision of loan guarantees, insurance products, and long-term credit for large infrastructure projects and land acquisitions is still unavailable.

² Ibid.

Table 4 Typical Instruments for Agriculture Finance

Instruments	Features
Microfinance	
Microcredit	Short term and small amounts
Group loans	Short term and no collateral required
Debt finance	
Loans	Collateral based (medium term)
Overdraft	Collateral based (short term)
Equity finance	
Venture capital	Suitable for firms with a unique selling point and potential for high returns
Private equity	Suitable for established companies with high growth potential
Other sources	
Leasing	Allows farmers the temporary use of equipment or assets
Factoring	Allows farmers to raise money against unpaid invoices
Mezzanine Finance	Debt capital that gives the lender the right to convert to an ownership or equity interest in the company if the loan is not paid back in time or full
Partial credit guarantees	A guarantor bears the credit risk in the event a borrower fails to pay back his loan.
Tailored instruments	
Contract Farming	A group of farmers agrees to sell its produce to a firm. The firm agrees to guarantee the loans granted by a commercial bank to the group of farmers. At the harvest season, the farmers deliver their produce to the firm, which retains a portion of its payments to farmers to pay off all loans provided by banks to farmers.
Parametric loans	For a given commodity, commercial banks estimate the total production cost per hectare (or acre) and provide a loan to a farmer covering a large part of the total production cost. All farmers receive the same loan amount. The larger the land surface a farmer cultivates, the larger the loan he or she gets.
Warehouse receipt finance	Farmers receive short-term credit from commercial banks by storing their inventories (grains, seeds, fertilizers, livestock, etc) in a warehouse and transferring their ownership rights to the bank in the event of default.

Therefore, it is advisable to lift all the administrative restrictions that prevent MADB from serving a wider range of clients and activities in the agriculture sector of Myanmar as mandated by its 1990 law. By doing so, MADB could have a higher developmental impact in the agriculture sector, leverage its extensive branch network in a more productive manner, diversify its sources of income, and mitigate risks.

1.3 Lending Operations

Loans are the main financial product offered by MADB to its clients. MADB offers two types of loans to its customers nationwide: the seasonal crop production loan and the term loan, which account for 98 percent and 2 percent of total outstanding loans in 2012, respectively. See table 5.

Table 5 Type of Loans Offered by MADB

Seasonal crop production loan	Term loan
S1 Monsoon loan (less than 1 year) (a) Paddy (b) Groundnut (c) Sesame (d) Beans (e) Long staple cotton (f) Corn	T1 Short-term Loan (1-3 years) (a) Solar salt production (b) Sugarcane plantation (c) Tea processing (d) Coffee plantation (e) Citronella grass
S2 Winter loan (less than 1 year) (a) Paddy (b) Groundnut (c) Sesame (d) Beans (e) Long staple cotton (f) Corn (g) Mustard	T2 Farm machinery loan (more than 3 years)
S3 Premonsoon loan (less than 1 year) (a) Paddy (b) Long staple cotton	T3 Special project loan (more than 3 years)

Source: MADB.

Seasonal Crop Production Loan (SCPL) and Term Loan (TL)

The SCPL is designed to cover the working capital needs of smallholder farmers at the beginning of the agriculture season. Loans are divided into three categories: monsoon, winter, and premonsoon loans, with the first being the most important type of loan for MADB. Loan maturity is up to one year and full repayment is expected at harvest time. The loan amount varies according to the number of acres owned or leased by the farmer and the intended crop. (See table 6 for all loan types.)

TLs are classified in three subgroups: Short-term loan, farm machinery loan, and special project loan. Most TLs are collateralized. The short-term loan is provided to finance sugarcane plantations, tea processing, and solar salt production. The farm machinery loan is the only type of loan that requires compulsory savings by the farmer. This type of loan is granted for the purchase of machinery for agricultural purposes and is given with a three-year maturity period. The repayment is divided into three installments, with an option to repay with the compulsory deposit at the end of each year. The last subgroup is the special project loan, which is a loan granted by MADB to finance rubber plantations under the Government's border area development projects.

Table 6 Loan Disbursement Period and Loan Collection Period

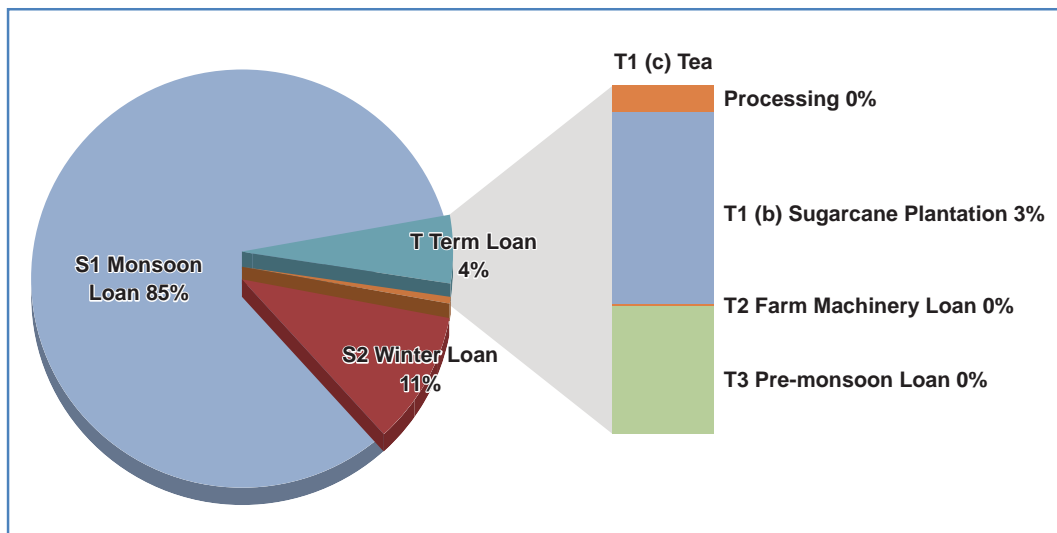
Type of loan	Loan disbursement period	Loan collection period
S1 Monsoon loan	May–August	December–March (following year)
S2 Winter loan	September–January	February–June (following year)
S3 Premonsoon loan	January–February	December (same year)
T1 Short-term loan		
(a) Solar salt production	October–December	August next year
(b) Sugarcane plantation	January–February	February next year
(c) Tea processing	April–June	March next year
(d) Coffee plantation	----	-----
(e) Citronella grass	June–July	May next year
T2 Farm machinery loan	Anytime	3-year loan
T3 Special project loan	Anytime	Not available

Source: MADB.

Breakdown of the Loan Portfolio

Monsoon loans dominate the lending portfolio. As illustrated in figure 2, the monsoon subtype of loan accounted for 85 percent of the total MADB’s lending portfolio in 2012, followed by the winter season loan (11 percent). The remaining part of the loan portfolio is composed of term loans in their different modalities.

Figure 2 Breakdown of Loan Portfolio for the Agricultural Year 2011–12



Source: MADB and mission team’s calculation.

One commodity dominates SCPLs. In terms of commodities, paddy (88 percent), beans (5 percent), and sesame (3 percent) are the top three crops financed by MADB under the SCPL in the agricultural year 2011–12. The average loan amount per borrower is kyat 195,000 (equivalent to US\$230).

Loan Guarantees

Most of MADB's loans (99.9 percent) require a joint guarantee of borrowers instead of collateral. Individual farmers must join a group of 5 to 10 members and collectively guarantee each individual loan. MADB grants loans to farmers only in townships with full repayment history. As a result of this strict requirement, up to now MADB has reported a high loan quality.

Despite the effectiveness of group guarantees and the historical high repayment ratio reported by MADB, MADB should treat these loans as unsecured loans and adopt more stringent standards on capital and provisioning. MADB may face serious financial difficulties due to its undiversified loan portfolio especially in the event of a widespread weather-related problem affecting the crops being financed. This means that MADB should maintain a higher capital adequacy ratio and accumulate more provisions to be able to deal with unexpected losses, whenever and wherever they arise.

Machinery loans require collateral. Under the farm machinery loan, which accounted for only 0.02 percent of total loans, the machinery is taken as collateral, and in addition a compulsory savings of 40 percent is required for machines sold by the Government and 50 percent for machines sold by the private companies. Tea-processing and coffee plantation loans are guaranteed by the Government under its special projects.

Loan Amount per Farmer

The size of the land that a farmer has the right to use for agricultural activities determines the loan amount granted by MADB to each farmer. Each farmer can get a loan for a maximum of 10 acres. Every year, MAI estimates the total production cost for each type of crop and the percentage of it that MADB will finance (usually less than 40 percent of the total production cost). For the agricultural year 2013–14, MAI mandated MADB to significantly increase its individual loan amount from K 50,000 to K 100,000 per acre for paddy and sugar cane, and from K 10,000 to K 20,000 per acre for other crops such as sesame and peanut.

The current loan amounts used by MADB do not cover the total cost of farming. For low-quality rice, for example, the production cost is estimated at around K 200,000 per acre and K 400,000 for high-quality rice such as Pearl Thwe rice. The labor contribution from family members is excluded from the aforementioned costs.

Table 7 Loan Size per Acre for Seasonal Crop Production Loan

Agricultural season	Paddy / sugar cane (kyat / acre)	Other crops (kyat / acre)
1994-1996	400	70-300
1996-2002	1,000	200-2,500
2002-2006	5,000	1,000-3,000
2006-2009	8,000	3,000-4,000
2009-2010	10,000	6,000
2010-2011	20,000	10,000
2011-2012	40,000	10,000
2012-2013	(summer crop) 50,000/80,000	10,000
2013-2014	100,000	20,000

Source: MADB.

The significant increase in the loan size per acre explains the rapid increase in the loan portfolio of MADB in the past years. As shown in table 7, the loan amount per acre for paddy production increased from K 10,000 in agriculture year 2009–10 to K 40,000 in year 2011–12, an increase of 300 percent. During the same period, the total number of acres financed by MADB increased only by 18 percent as there was a loan cap of 10 acres per farmer.

1.4 Credit Policies

Credit policies at MADB are weak and far from international best practices. To begin with, MADB is not fully involved in the credit decision-making process. MADB delegates the credit decision to the loan screening committees at the village level. Each village has its own committee. Each branch of MADB covers several villages in that particular township and manages several such committees, each of which is composed of the head of village, the representative from the Land Record Department, the representative from the Department of Agriculture, the representative from the Industrial Crop Department, and the representative from the farmers. There is no representative from MADB in these committees.

To apply for a loan, farmers have to submit a loan application to the loan screening committee at the village level for approval. MADB requires farmers to have a good credit history, to join a group of 5-10 farmers to mutually guarantee their loans, and to submit the Farmer Registration Book issued by the village authorities. The book is required to verify the farmer's right over the land leased from the Government year by year; it could not be used as a guarantee. However, a new farm law was recently passed by the parliament under which farmers will be issued ownership certificates, which could be transferred and thus pledged as collateral. Issuing certificates is under way, and MADB will need to adapt its lending terms and conditions to these new circumstances.

³ See an article on Asia News Network for more on this, May 9, 2013, <http://www.asianewsnet.net/Myanmar-seeks-US-aid-for-agri-loans-46486.html>.

Once the application is submitted to the loan screening committee at the village level, the committee reviews and approves all loan applications that meet the conditions. MADB's branch managers sign off the loan application after the committee's approval. MADB staff is not allowed to travel to the villages for loan operations; farmers must come to the bank in town to take out and to repay loans, incurring in considerable travel related costs. Loan screening committees also help to ensure that farmers pay off their loans on due dates. They exert pressure on delinquent borrowers with the argument that if a single borrower fails to repay its loan, the entire village will not be able to borrow from MADB in the next season.

Since the committee takes on the credit decision and monitoring process, MADB virtually performs only an agent role by acting as a money distribution channel for the Government. In the event of default, all members in the group are liable for repayment. If the group cannot repay, MADB has to bear the resulting losses. The branch manager at the township level is held responsible for following up with the delinquent borrowers and guarantors.

At the end, MADB is responsible for the loss even though MADB is not involved in the credit decision-making process. Clearly, this is not a healthy arrangement for the banking business. MADB must be fully involved in the credit decision-making process and the loan officers must be held accountable for their decisions.

1.5 Pricing and Funding

Interest rates for MADB's lending and deposit products are set by MAI with no consideration to the risk profile of borrowers, the need for MADB to reach profitability, or other prevailing conditions in the marketplace. In recent years, the Government of Myanmar has aimed at supporting smallholder farmers by providing loans through MADB at subsidized interest rates. As shown in table 8, in 2012 the lending interest rate dramatically dropped from 13.0 to 8.5 percent per year, while the interest rate for retail deposits remained unchanged at 8.0 percent. As a result, the interest rate margin for MADB has narrowed drastically. While in 2011 the interest rate margin was 5.0 percent, in 2012 it was only 0.5 percent. The current margin is clearly insufficient to cover operating expenses and absorb losses and it is also the major reason why MADB has stopped savings mobilization in spite of its specific objectives under section 6 of its law. In fact, historically MADB used to mobilize and accumulate a large base of compulsory and voluntary savings. But in 2011 up to 90 percent of retail deposits were returned on concerns at the parliament about difficulties with withdrawals, which practically wiped out the sizable capital base and liquidity of MADB.

Table 8 Annual Interest Rates and Margin of MADB

Period	Loan interest rate	Retail deposit interest rate	Interest margin
April–December 1998	21.0%	12.0%	9.0%
January–March 1999	18.0%	12.0%	6.0%
April 1999–March 2000	17.0%	10.0%	7.0%
April 2000–March 2006	15.0%	9.0%	6.0%
April 2006–August 2011	17.0%	12.0%	5.0%
September–December 2011	15.0%	10.0%	5.0%
January–March 2012	13.0%	8.0%	5.0%
March 2012–2013	8.5%	8.0%	0.5%

Source: MADB and mission team's calculation.

MADB depends on MEB funding. To deal with the drastic decline in the interest margin and avoid the bankruptcy of MADB, the Government has mandated the MEB, the largest state-owned commercial bank in Myanmar and one with very high liquidity, to provide subsidized funding to MADB. Thus, the MEB places a wholesale deposit with MADB at the rate of 4.0 percent so that MADB can lend at 8.5 percent which is far below market rate (market interest rate for loans in Myanmar is 12.0 to 13.0 percent) and thus could achieve an interest margin of 4.5 percent.

The subsidized funding provided by the Government through MEB has allowed MADB to remain afloat and continue its business expansion. Moreover, MADB's sources of funding have been changing rapidly in favor of the cheap funding provided by the Government through MEB. In 2013, it was expected that practically all funding to MADB would come from MEB.

The current funding model, however, is unsustainable for all parties involved. MEB raises deposits at the rate of 8 percent, but lends to MADB at 4 percent per year. Ultimately, to minimize losses, MEB needs to be compensated by the Government for the annual losses it incurs in this scheme. As a result, the ultimate cost of this funding scheme is being absorbed by taxpayers. See box 1 for more on this.

Box 1. Fiscal Burden of MADB's Operations

Because of its status as a state-owned institution, MADB's total liabilities are fully guaranteed by the Government of Myanmar. In other words, the Government is expected to honor MADB's borrowings from financial institutions and other domestic and foreign creditors in the event of default.

In 2012, the operations of MADB posed a contingent liability to the Government in an amount equivalent to 0.1 percent of Myanmar's GDP. However, because MADB's lending to farmers is predominantly granted on a short-term basis (six months or less), MADB's borrowing needs from MEB and other creditors are actually higher than its outstanding liabilities at the end of each fiscal year. In 2012, the contingent liabilities of MADB, calculated on the basis of its accrued total borrowings during the fiscal year, would have reached 0.2 percent of Myanmar's GDP. Both ratios are small, which reflect the small size of MADB's balance sheet.

Also, every year the Government of Myanmar must compensate MEB for lending to MADB at the subsidized interest rate of 4.0 percent per year, when MEB pays depositors 8.5 percent per year. In 2012, it is estimated that the Government spent approximately K 10 billion in compensations to MEB.

Although MADB's does not seem to pose a significant fiscal problem for Myanmar at this time, in the future this situation can change, as MADB's lending operations continue to grow, unless MADB's funding model is replaced with a financially sustainable one.

The practice of providing subsidized lending to smallholder farmers should end soon. This practice cannot be the basis for MADB's future growth. Such subsidies create long-term market distortions, hook farmers in cheap loans, and prevent any commercial financial institutions from ever entering the market.

As shown in table 8, MADB had previously been borrowing from MEB at higher interest rates and operated on a commercial rate for many years up to 2011. MADB should borrow from other financial institutions on market terms, and perhaps in the future also be able to raise money in the capital markets and even from outside the country as allowed by its law in section 20 (e). Like other agricultural banks in the region, MADB could also raise savings deposits from its clients as a source of capital. To do so, MADB must be allowed to lend to its clients at market interest rates, pricing its lending products according to the risk profile of borrowers or activities to be financed.

A transition from the current subsidized interest rates to future market-based interest rates should be done on a gradual basis to ensure that the provision of financial services to low-income farmers is not disrupted. Even at market rates, the loans provided by MADB would be by far much cheaper than the loans currently provided by informal lenders, which impose annualized interest rates of 72 to 120 percent to borrowers in rural areas, causing a serious problem in terms of indebtedness for many of them.

1.6 Risk Management

Currently, MADB has no written guidelines on risk management. It is recommended that MADB establish a risk management strategy in line with international principles to support its business growth. This risk management practice can ensure sustainable profitability and minimize adverse effects in the course of business difficulties. This risk management framework should cover all relevant risks related to MADB's business operations, such as credit, interest rate, liquidity, and operation risks.

The biggest risk faced by MADB is credit risk, namely the possibility that a farmer defaults on the loan agreement. Such a default may be caused by the client's deliberate intention not to honor the loan agreement due to political and/or other instigations or simply by the clients' inability to repay because of financial encumbrances caused by natural disasters or volatility of commodity prices, among other factors.

So far, credit risk has been contained by MADB's ability to exert pressure on delinquent borrowers through local authorities. Despite MADB's strong pressure on borrowers to repay, MADB's loan portfolio remains heavily at risk. MADB's loan portfolio is undiversified and uncollateralized. Loans are homogenous in nature, because they are concentrated on a few commodities. Even though MADB tries to diversify the loan book by crop type, there is high possibility of significant volatility in the bank's loan book due to high levels of covariant risk, especially in the case of natural disaster. In 2012, 99.9 percent of MADB's loans are short-term seasonal crop production without any collateral, only joint personal guarantees, which in a systemic event—plague, drought, or other weather event—will not likely be honored by farmers. Only 0.02 percent of the loan portfolio, namely loans for farm machinery, is partially protected, by at least 40 percent compulsory savings.

MADB has strict rules and grants loans only to farmers with full repayment history. The MADB requires joint guarantee in a group of 5 to 10 borrowers and farmer registration book. The newly passed farm law will give farmers certificates of ownership of their farms, which are transferable and MADB, like all other banks, will be able to take these certificates as collateral.

MADB also needs to substantially increase its capital and create more reserves to meet the growing demand and be able to absorb losses whenever they arise. Looking forward, MADB should also take actions to estimate the probability of default in the different segments of its loan portfolio. Moreover, MADB could develop insurance products for farmers, set limits to its exposure to borrowers likely to default, and diversify its lending portfolio by serving new types of clients and financing a wider range of commodities and activities in the agriculture sector.

Market risks may arise from changes in interest rates, exchange rates, securities prices, and unstable commodities prices. These changes affect the bank's present and future income. In the case of MADB, the interest rate is the only prominent market risk that MADB may face at the current level of operation.

The MADB so far does not have any exchange rate risk since its business is based on local currency. In terms of sources of fund, both retail deposit and wholesale deposit from MEB are denominated in kyat currency. The bank has never borrowed from overseas for its banking operation, although it is allowed to do so. In term of the use of funds, the MADB offers only kyat currency loans to farmers.

MADB does not have a clear legal framework to access liquidity in extraordinary circumstances. Liquidity risk is defined as the risk caused by the MADB's inability to meet its obligations when they come due. This may be because of an inability to convert assets into cash or to obtain sufficient funds to meet cash needs at appropriate costs within a limited time frame. Due to a change in funding strategy, the MADB has shifted its funding from retail deposits to wholesale deposit from MEB. As a result, MADB has less pressure from retail depositors. However, in the unlikely event that MEB calls back its short-term wholesale deposit, MADB would face significant difficulty in recalling thousands of small loans from individual farmers before harvest time. Moreover, MADB cannot automatically rely on MAI for financial support, nor can MADB go to the CBM as lender of last resort, because MADB is technically not a supervised bank.

Finally, MADB faces significant operational risks. The bank's documentation is in paper-based format, which is prone to loss, fire, termites, humidity, and so forth. The bank lacks a functioning IT system. These factors may result in unexpected losses to MADB. Therefore, it is recommended that MADB address this matter in the near term.

1.7 Corporate Governance

In practice, MADB serves as an instrument of MAI to reach a wide range of economic and social goals. MAI dictates the strategic direction of MADB, determines and adjusts interest rates at its own discretion, establishes lending programs, sets the annual growth rates for the bank, and so forth. Under this system, MADB's managers have, in practice, limited operational autonomy.

As the owner of MADB, the Government through MAI has the right to control and provide the strategic direction that the bank should follow. However, a certain degree of operational autonomy is needed to allow senior management to run the institution in an efficient manner and ensure its solvency. Managers do not have sufficient operational autonomy. Managers of MADB have no capability to mitigate the credit exposure of their institution to risky sectors and borrowers, as they must comply every year with the ambitious targets set by MAI in terms of volume of credit and number of borrowers receiving credit.

Three managing directors (MDs) of MADB were selected and replaced by the central Government during the past three years. The MD of MADB is ranked equivalent to a director general position in the central Government. Dating back to 1996, all MDs were retired military officials without any banking business exposure. The general manager (GM) who manages and controls the bank is internally promoted within the bank. The current GM,

who is also a retired military official, was an assistant general manager in MADB for twenty years. The GM is supported by three deputy general managers and seven assistant general managers some of whom, now retired, were also retired military officials. They are responsible for the main aspects of the banking business, including bank operations, lending operations, accounting functions, and administrative areas. The middle management is responsible for the daily work of MADB.

Board

According to MADB's law section 12 (b), the board of MADB is composed of nine members, all of them appointed by the Government:

- The chairman and four members appointed by the Government
- A member appointed ex-officio by the Ministry of Planning and Finance
- A member appointed ex-officio by the Ministry of Agriculture and Irrigation
- A member appointed ex-officio by the Ministry of Livestock, Breeding and Fisheries
- A member appointed ex-officio by the Ministry of Cooperatives

The board of MADB is composed only of government representatives and has no independent members. Practically all board members are obliged to follow and implement the mandates provided by senior officials in the Government or the institutions they represent, leaving no room to disagree with their decisions, even if they negatively impact the soundness of MADB. The current composition of the board consists of the agriculture minister as chairman, and the director generals from the Agriculture Planning Department, Land Records Department, Agriculture Services Department, and Farm Mechanization Department, all of them under the Ministry of Agriculture. The board is supposed to be independent of management, but like all boards it inevitably effects management, and the current board has limited expertise to adequately supervise or guide the management team in the exercise of its duties. Going forward, the composition of the board should be revised, introducing independent members and establishing strict fit and proper criteria for all board members.

Internal Control System

MADB has set up a simple internal control system. The Pre-Audit Department supervises and controls budget activities in the bank while the Post-Audit Department acts as an internal auditor. In practice, the audit function in MADB is not independent of the bank's management. The audit departments report to the their respective deputy GM, GM, and MD. The Post-Audit Department carries out regular and surprise audits for branches of divisions, states, districts and townships and then reports all findings to the board of directors through the bank's senior management team. There is no audit committee to oversee the audit function in MADB. This structure results in a weak internal control system.

MADB should have an appointed audit committee consisting of independent members. This committee should be independent of the management of the bank and responsible for (1) reviewing the bank's financial reports to ensure that they are reliable and adhere to generally accepted accounting principles; (2) reviewing the internal control systems and risk management systems of the bank; (3) overseeing the internal audit function of the bank, which includes ensuring that the function is adequately staffed, has a plan of operations, and maintains its independence of management; and (4) reviewing regulatory compliance, which includes ensuring that the bank complies with all relevant laws and regulations, including conflicts of interest.

External Audit System

MADB has never been audited by the central bank. MADB, like other state-owned enterprises, is audited by the Auditor General Office, which is responsible for financial and compliance audit for all state enterprises. The Auditor General Office does not have to comply with International Standards on Auditing (ISA). The Central Bank of Myanmar (CBM) has never audited the MADB. In order to gain trust from the public and improve transparency, it is important that the MADB be audited in accordance with the ISA by a qualified external auditor. The external auditor should express his or her opinion on the bank's financial situation. It is recommended that MADB adopt the key principles of International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS) and also be audited under the ISA.

MADB discloses little information to the public. For many years MADB has not published its annual report. A simple annual report is produced every year and submitted to the central bank and MAI. MADB does not have a website. Going forward, MADB should disclose more information to the public. As a state-owned institution, MADB is accountable to the people, and it is expected that beginning from this fiscal year its audited annual report will go to the parliament for public scrutiny.

Another major weakness is related to the lack of a monitoring and evaluation framework to enable the Government, in particular MAI, to assess the performance of MADB and the social and economic impact of its lending operations. Such a framework is needed to assess on a periodic basis the performance of MADB and its contribution to the development of Myanmar's agriculture sector.

1.8 Operations

MADB's operational infrastructure is rudimentary. All documents in the MADB system, including loan documents and customer's information, such as signature record and identity card, are paper based and thus in danger to loss or damage (e.g., by fire, termites, and so forth). The record-keeping system is outdated and inefficient. There is no electronic loan tracking system. The data processing is fully manual and not able to produce information in real

time. With the current database system, it is difficult for management to fully utilize its own information system for bank operations, internal management purposes, and planning.

As a result of its lack of IT infrastructure, the bank has a limited management information system. All internal reporting has to be performed on simple spreadsheets and shared between offices by fax and telephone. This comes at the cost of reliability, timeliness, and accuracy of the data. In term of customers' reporting, the bank should provide written documents/invoices to notify customers of their debt burden, including payment deadlines, outstanding debt, interest, and other charges. However, with the current operational system it is difficult for MADB to manage customers' accounts and notify customers of their debt burden. With the existing system, it is hard for the bank's management to perform its business functions and manage risks. It is urgent that the bank upgrade its IT infrastructure.

Since there is no Treasury Department in the MADB headquarters, branches have to manage their own cash inflows and outflows. Some branches install safe deposit boxes at the nearby police station. The cash flow of MADB is heavily dependent on MEB's cash flow position. So far, adequate communication and coordination between both institutions has helped to resolve the liquidity needs of MADB's branches. However, in the long run, as MADB continues to grow, it should upgrade its cash management policies and practices and diversify its sources of funding.

1.9 Legal, Regulatory, and Supervisory Regime

Even though MADB is established as a development bank, it is not licensed as a full-fledged commercial bank under the financial institutions law and operates under its own law. MADB was transferred from the Ministry of Finance to the MAI in 1996. As a result, MADB is not regulated and supervised by the central bank as are the other state-owned or private commercial banks, although the addendum to its law stipulates that it must submit to inspections by the central bank. Moreover, the prudential standards—on capital, reserve ratios, loan classification and provisioning, accounting rules, liquidity, risk management, and so forth— applicable to other commercial banks or financial institutions are not strictly applied to MADB. MAI and the Auditor General's Office are responsible for supervising the operations of MADB. In practice, however, both institutions lack the technical capability to assess the financial risks and potential vulnerabilities faced by MADB in a comprehensive manner.

1.10 Accounting and Financial Reporting

MADB is not in compliance with the International Accounting Standards. MADB, like other banks, follows bank practice and the double entry bookkeeping system and closes its books daily. However, its financial statements do not indicate which accounting standards were used for their preparation. It is clear that the MADB's financial statements do not strictly comply with the IAS. Even though compliance with the IAS is voluntary, many countries encourage their

state-owned enterprises to adopt the IAS in their regular accounting practices in order to encourage transparency and accountability.

In their current form and contents, the financial statements of MADB do not provide sufficient information to management, owners, or analysts. It is hard to identify the risk areas in the bank business. As a result, the existing financial statements of MADB are of limited value from both a management and financial perspective. It is recommended that MADB adopt key principles of the IAS practices, especially for revenue recognition, borrowing cost calculation, assets' impairment, and provisioning.

Similarly, the current annual financial report of MADB provides marginal information on capital fund, loan portfolio, income, expenditures, prudential ratios, and observance of anti-money laundering requirements. In terms of financial data, the report provides itemized figures of MADB balance sheet account, income statement, and cash flow statement. The audited accounts of the MADB do not contain the level of detail that would be required to meet the IFRS.

Human Resources

As of April, 2013, there were 2,688 staff members working in MADB Bank, comprising 254 officers and 2,434 administrative staff members. The officers hold a bachelor degree. The administrative staff must have a high school degree as minimum requirement but most of them are bachelor degree holders. On average, an officer and 10 administrative staff run a branch.

MADB needs to put in place a comprehensive human resources framework to be able to attract, retain, motivate, train, and develop their staff. Currently, MADB follows the HR policies established by the central Government in terms of staff recruitment, compensation, and promotion. Going forward, MADB will require more autonomy to develop its own HR policies that are commensurate to its business needs.

Table 9 SWOT Analysis for MADB

<p style="text-align: center;">Strengths</p> <ul style="list-style-type: none"> • MADB is the largest bank serving the agricultural sector in Myanmar. • It has an extensive branch network throughout the country. • It reports a high repayment rate. • MADB has set up an effective loan disbursement channel. 	<p style="text-align: center;">Weaknesses</p> <ul style="list-style-type: none"> • Loan portfolio is highly concentrated in small holder farmers and rice production. • The bank is dependent on subsidized funding from the Government through MEB. • There are weak risk management and corporate governance. • There is a rudimentary IT and operations infrastructure. • MADB is not a full-fledged bank but a department of MAI.
<p style="text-align: center;">Opportunities</p> <ul style="list-style-type: none"> • Demand for agricultural loans is large and unfulfilled. • The agriculture sector remains Myanmar’s major economic sector. • Government is very supportive of the agriculture sector. • MADB could play a meaningful role in the modernization of the agriculture sector. 	<p style="text-align: center;">Threats</p> <ul style="list-style-type: none"> • Climate, pests, and volatility of prices are inherent risks in agriculture finance. • The lack of modern payment and settlement systems in Myanmar may limit MADB’s ability to modernize its banking functions. • Farmers are used to subsidized credit from MADB and might find it difficult to accept a market rate system in the future. • Resistance to change and lack of long-term vision may discourage transformation of MADB.

Note: SWOT = strengths, weaknesses, opportunities, and threats.

MADB faces huge challenges and opportunities. As discussed in the previous section, MADB is facing enormous challenges, and a serious effort is required to ensure that the institution is able to fulfill its development role on a sustainable basis. At the same time, there are enormous opportunities in the agriculture sector, because the demand for credit is huge. Loans are required not only by existing MADB clients, which would prefer MADB to finance a larger percentage of their production costs, but also by the other 3.5 million smallholder farmers who so far have not received financing from MADB due to the lack of ownership certificates.

Myanmar’s agricultural potential is enormous given the country’s resource endowments and favorable geographic location. As water availability becomes scarce in various part of the world, and particularly in neighboring China and India, Myanmar’s water resources offer a significant agricultural competitive advantage. In addition, the country’s diverse topography and eco-systems enable farmers to produce a wide range of cereals, pulses, horticulture, fruits, livestock, and fish. Given its strategic location between two enormous regional markets—India and China—and easy access to buoyant markets in ASEAN, Myanmar’s agriculture sector is well positioned to grow.

Moreover, loans and financial services are required by practically all other participants along the entire value chain: seed producers, fertilizer companies, processing firms, transportation and equipment, traders, exporters, retailers, and so forth. Furthermore, the demand for credit in other subsectors, such as forestry, fishing, and livestock, is unmet. In terms of infrastructure, the need to finance new roads, warehouses, silos, markets, laboratories, dams, power plants, and so forth will exist for many years.

But MADB also faces various threats. Managing the inherent risks of agriculture—namely weather, pests, and volatility of prices—may prove difficult in the absence of a domestic financial system able to provide participants with risk mitigation tools. MADB's overall risk portfolio remains at risk. Moreover, problems with electricity supply and the lack of modern payment and settlement systems in Myanmar may limit MADB's ability to modernize its banking functions.

Farmers are used to subsidized credit from MADB and might find it difficult to accept a market rate system in the future. Nonetheless a market interest rate system is absolutely needed to achieve sustainability of MADB. Instead of a single interest rate, MADB could adopt multiple interest rates for its lending operations to better reflect the different risk profiles of borrowers, the commodities being financed, the sectoral risks, the proposed use of the loan, and the overall profitability of the investment project.

2.Options for the Transformation of MADB

2.1 Strengthening MADB in the Short Term

Building a successful state-owned agriculture bank is not an easy task. First, the agriculture activities entail various risks such as weather, plagues, and price volatility, among others. Second, around the world, there have been plenty of state-owned agriculture banks unable to fulfill their policy mandates. Many agriculture banks have become vulnerable to undue political interference in their lending decisions, causing them to generate enormous numbers of nonperforming loans. Moreover, many banks have been simply captured by their own clientele demanding subsidized loans or debt forgiveness. In various cases, state-owned agriculture banks are unable to survive without the financial support of the Government (World Bank 2013).

MADB should avoid following that path. Instead, it is important that authorities transform MADB into a stronger institution, following the sound practices adopted by successful agriculture banks that are well administered, able to withstand undue political interference, financially strong and self-sustainable, and able to fulfill their development mandate. To achieve that, several actions are recommended.

- MADB needs to be financially sustainable, able to generate and accumulate enough profits to finance its business operations without any government assistance. To achieve that, MADB must be given the power to set and modify as necessary the interest rates on its deposit and lending products. Moreover, MADB's very small capital base of K 1 billion must be substantially raised to at least K 30 billion and it must be allowed to retain a major part of its profits to fund its own modernization and expansion.
- MADB needs to be able to operate in the agriculture sector without crowding out other financial intermediaries. In particular, MADB should not prevent other banks and microfinance institutions from serving its market. MADB lending products such as heavily subsidized interest rates should not make it impossible for any private institution to compete with it. MADB should encourage and facilitate the participation of other formal intermediaries.
- MADB should operate with the highest standards of transparency, integrity and accountability and be regulated and supervised with the same standards applicable to the rest of the banking system.
- MADB must establish a strong risk management function able to identify, quantify, monitor, and recommend actions to mitigate risks.
- MADB must invest in the modernization of its IT platform and operations.
- MADB must invest significant resources in staff development and training.

Table 10 presents the proposed actions to reform and strengthen MADB in a period of three years.

Table 10 Overview of the Proposed Short-Term Strengthening of MADB

	Current situation (February 2014)	Actions in transition period (1 to 18 months)	Final stage (months 19 to 36)	Priority	Responsibility
Funding	High dependence on government funding through MEB	Introduction of market interest rates for most lending products, gradual reduction of government subsidies, and expansion of new sources of funding	Self-sustainable institution with full autonomy to determine interest rates and accumulate profits No government subsidies to MADB MADB may raise funds directly from local markets	High	MAI and MOF
MADP policy mandate	Wide mandate combining social and economic objectives	Broad application of mandate focused on agriculture sector	Broad mandate focused on agriculture sector and encouraging of other private intermediaries to develop	Medium	MAI
Regulation and supervision	Regulation and supervision conducted by MAI	Progressive transfer of regulation and supervision responsibilities to the central bank	Full compliance with the same prudential and supervisory standards applicable to private banks	High	MAI, MOF, CBM
Corporate governance	Board with limited responsibilities Lack of independent directors No third party audit	Gradual transfer of responsibilities from MAI to board and senior management At least 30% independent directors Audit by independent firm	Empowerment of senior management and new accountability framework At least 50% independent directors Audit by independent firm	High Medium High	MAI MAI MAI and MOF
Internal control system	Simple	Establish necessary internal control system	Strong and independent internal control system	Medium	MADB
Information disclosure	None Lack of compliance with international accounting and auditing standards	Publication of annual report and audited financial statements Partial compliance with IAS, ISA, and IFRS	Full and timely disclosure of audited financial statements Full compliance with IAS, ISA, and IFRS.	High High	MAI and MADB MAI and MADB
Lending operations	Mostly through retail operations and social organizations	Start wholesale lending through microfinance institutions	MADB able to lend through both retail and wholesale operations	Low	MAI and MADB
Credit policies	Delegation of credit decisions to local authorities	MADB assumes full authority of decision-making process	Credit committee oversees all credit policies and operations	High	MAI and MADB
Risk management	Nonexistent	New unit reporting to board with ability to set new risk framework for the whole institution	Risk management committee oversees all risk management policies and operations Implementation of modernization plan	High	MADB
IT and operations	Rudimentary infrastructure			High	MADB
Performance and monitoring	Limited	Modernization plan	Comprehensive performance framework	Medium	MAI, MOF and MADB
Profitability	Dependent to government's subsidy	New performance targets	Independent and sustainable	High	MAI and MOF
Main clients	Smallholder farmers	Partially subsidized by government Smallholder farmers and other types of firms as mandated by its law	Any type of private sector client in the agriculture value chain	Medium	MAI
Staff	No HR framework for staff development	Review of existing HR framework, policies, training, compensation, etc.	Implementation of a HR development plan	Medium	MADB and MAI

Inevitably, MADB will require substantial financial resources to upgrade its operation infrastructure, set higher capital and provisioning levels, ensure compliance with the same prudential standards applicable to other banks, and invest in staff training and development. Given the existing fiscal limitations in Myanmar, authorities will probably need to consider new sources of funds that are compatible with the Government's objectives in the agriculture sector.

2.2 Issues to Consider for MADB's Long-Term Transformation

In the long term, authorities will have to assess and decide on what type of institution MADB should be. Should MADB play a more active role in the much-needed modernization of the agriculture sector of Myanmar? Should MADB remain as a bank only for smallholder farmers, or should it broaden its business activities to support other participants in the agriculture sector? Should MADB be just a financial institution or should it become a development agency with broader tools (e.g., advisory services) to support the agriculture sector?

A broad spectrum of issues needs to be carefully considered by authorities. Providing detailed proposals for the long-term restructuring of MADB is not the goal of this report. That can happen only through a process of extensive consultations among authorities and other stakeholders. Nonetheless, to lay the ground for future discussions and consultations, this report outlines several questions and issues that need to be carefully analyzed by policy makers and other stakeholders in Myanmar, including the following:

Agriculture Financing Needs

- To achieve the Government's objectives in the agriculture sector, what are the total investments needed in the next five years (e.g., in dams, irrigation infrastructure, energy plants, warehouses, new roads, silos, ports, wholesale markets, sanitation centers, laboratories, agriculture research institutes, and so forth)? Where are the required investments expected to come from and who will finance them (e.g., private sector, government, international finance institutions, MADB, or others)?
- Given the fiscal constraints faced by the Government, how many resources can the Government devote from the budget for the modernization of the agriculture sector in the upcoming years? How many resources will be specifically devoted to carry out new investments?
- What is the total number of farmers in Myanmar and what percentage of them are subsistence farmers, smallholder farmers but with commercially viable activities, medium sized firms, and large farmers?
- How many farmers in each of the previous categories do not have access to finance from licensed financial institutions (including savings, deposits, loans, guarantees, insurance, and other financial products)?

- What is the total number of formal and informal SMEs operating in the agriculture sector that require access to finance?
- Are there specialized institutions already serving the agriculture market (leasing, factoring, insurance companies)?
- Will the agriculture finance market be open to new domestic and foreign investors?

Business Environment

- Are there any restrictions in laws that prevent other private financial institutions in Myanmar from serving smallholder farmers (e.g., interest rates floors and caps, administrative barriers to serve agriculture firms, licenses, and so forth)?
- Are there any administrative barriers that prevent MADB from serving new segments of the market, such as medium-sized SMEs, processors, traders, retail companies, and so on?
- Are creditors' rights properly addressed in the existing legal framework? Is there a proper bankruptcy law with an agile judicial system?
- Are there any land ownership issues that prevent expansion of rural finance in Myanmar (e.g., execution of collateral, availability of land titles, cost and speed to transfer land ownership, and so forth)?
- Is there a credit bureau in Myanmar with sufficient and reliable information about farmers?
- Can movable assets (agricultural equipment, grains, livestock, fertilizers, and so forth) be pledged as collateral in Myanmar?

Mandate of MADB

- Should MADB remain focused only on smallholder farmers or should it broaden its business operations to cover the rest of the market in the agriculture sector? Which new market segments should be covered by MADB? Who will cover the other remaining segments of the market?
- What are the specific value chains in the agriculture sector that the Government is planning to actively support in the future?
- Is it appropriate to prevent MADB from financing agriculture-related activities such as livestock, fisheries, or forestry?
- Is it appropriate to prevent MADB from providing export finance? Is this the role of another state-owned institution?
- Is there potential for merger between MADB and other state-owned financial institutions with similar mandates?

Business Model

- Should MADB be allowed to raise deposits as in the past? If so, should the Government guarantee deposits at MADB? If so, what should be the limit?
- Other than deposits, what other sources of funding should MADB have?
- Does MADB need long-term sources of funding to provide long-term credit? Should MADB be allowed to issue bonds or get credit from other domestic (and international banks)?
- How should MADB lend in the future (e.g., retail lending, wholesale lending, or a combination of both approaches)?
- Should MADB be allowed to lend only to households and private sector firms? Or, should it also be allowed to lend to other state-owned enterprises and government agencies? If so, what is the maximum percentage of its loan portfolio that could be allowed for lending to state-owned enterprises and government?
- What other financial services should MADB offer to its clients: payments, treasury, cash management, insurance, leasing, factoring, trade finance, export finance, loan guarantees, and fiduciary services, among others?
- Are extension services needed to enhance the projects financed by MADB? If so, who could offer them?
- Should MADB offer extension services to its clients?
- Is the number of existing MADB branches sufficient to accomplish its new mandate? Would more branches be needed? If so, where?
- What are the insurance products currently available for farmers? Who offers them? What is the coverage? What types of risks are covered? Is this a market for MADB?

Other

- Once MADB starts to adopt IAS, what is the expected impact on its capital?
- What is the amount of new capital needed by MADB, including the resources to increase the loan portfolio and fund new investments in the modernization of the bank (IT, operations, staff training, and so forth)? Where is the new capital going to come from (government, international financial institutions, donors, private sector, or others)?
- Would partial privatization of MADB be desirable in order to increase the capital of the institution?
- Would the temporary use of experienced international managers working under performance contracts and accountable to the Government of Myanmar be an option for the transformation of MADB?
- Should MADB be rated annually by an internationally recognized agency?

3. Lessons from International Experience

Most of the challenges faced by policy makers in Myanmar have also been faced by other policy makers around the world at different times. In fact, the World Bank has assisted countries in various regions of the world to reform their state-owned financial institutions. There is an array of valuable international experience from countries in Central and Eastern Europe, Latin America, and Asia that have undertaken the task of reforming and strengthening their large state-owned agriculture banks with success.

MADB should benefit from existing international experience and draw useful lessons from other countries. This section presents three successful cases of reform of large agriculture banks owned by the state, which could be useful references for Myanmar:

- Bank for Agriculture and Agricultural Cooperatives (BAAC) of Thailand
- Bank Rakyat Indonesia (BRI)
- Financiera Rural of Mexico (FR)

The reform patterns are not uniform and certainly these institutions could still find areas for improvement and do better. Nonetheless, given the initial circumstances and problems that the banks faced, the reform outcomes are positive and have contributed to turning insolvent institutions into profitable banks with the capability to serve the agriculture sector on a sustainable basis and contribute to improving the living standards of farmers and raising the competitiveness of their agricultural subsectors.

3.1 Bank for Agriculture and Agricultural Cooperatives

BAAC was established in 1966 by the Thai Government. BAAC's original policy mandate was to provide agricultural credit to farm households. During almost four decades, BAAC has gone through a process of transformation from being a specialized agricultural lending institution to becoming a diversified rural bank. There were four major phases of reform:

- 1966–74, laying the foundation for individual lending to farmers through joint liability groups
- 1975–87, expanding lending operations through access to commercial bank and donor funds and consolidating operations by substantially reducing loan channeling through cooperatives
- 1988–96, striving for viability and self-reliance, under conditions of controlled interest rates, through savings mobilization, improved loan recovery, and increased staff productivity
- 1997 onward, adjusting to prudential regulation by the central bank and diversifying into nonagricultural lending

⁴ For a detailed analysis of BAAC, please refer to Seibel (2007).

BAAC has achieved impressive results in terms of outreach and institutional viability.

In 2013, BAAC served a total of 7.27 million farm households or 95 percent of total farm households in Thailand. BAAC has now a total of 19,922 officers and staff in 77 provincial offices and 1,118 branches throughout Thailand. BAAC's reform has been guided by two, sometimes conflicting, objectives: outreach to all farm households as its political mandate and financial viability in the bank's own interest. Important elements in the reform process have been the following:

- Government's respect for the bank's relative operational autonomy
- A corporate culture emphasizing cost-effectiveness, productivity, and efficiency
- Decentralization and expansion of branch network operating as profit centers
- Individual lending through joint liability groups
- Substantial improvements in portfolio quality, which created depositor confidence
- A radical shift in the financial resource base to rural savings mobilization

Retail credit to individual farmers dominates the loan portfolio. BAAC delivers its innovative products and services through its extensive network. Its retail credit to individual farmers (which are organized into joint liability groups) accounted for 74.5 percent of the total loan portfolio, with the rest coming from wholesale credit to farmer institutions, consisting of agricultural cooperatives and farmer associations.

In addition, BAAC provides personal accident insurance, health insurance, funeral aid, and services to help Thai Muslims undertake their Hajj pilgrimage to Mecca. BAAC now goes beyond savings and loans to reach sustainable development. A concept of credit plus technical assistance has been implemented by BAAC to promote value addition activities with knowledge dissemination.

As of February 2013, BAAC had recorded total assets of 1.18 trillion baht or US\$39 billion with loans outstanding of 949 billion baht or US\$31 billion. The growth of BAAC assets is due mainly to growth of lending as a result of greater improvement of access to rural finance through its extensive network. Meanwhile its nonperforming loans stood at a low rate of 5.78 percent.

Previously, BAAC relied substantially on government budget, overseas borrowings, and forced savings from commercial banks as sources of funds. Later, BAAC started its savings mobilization and gradually built up its own strong deposit base and now has become self-reliant in its rural financing functions. Deposits become the main source of BAAC funds accounting for 84 percent of the total.

3.2 Bank Rakyat Indonesia

BRI used to operate with enormous subsidies from the Government of Indonesia.

Until 1983, interest rates in Indonesia were regulated, the financial sector was dominated by state banks, and BRI was the main provider of agricultural credit through a network of sub-district units, heavily subsidized. When oil prices dropped and GDP fell, the Government offered the bank two options: close or reform. In 1983, interest rates were fully deregulated, and BRI was placed under new management, which decided to commercialize the 3,600 rural outlets of hitherto subsidized credit into self-sustaining profit centers.

New products were introduced. With technical assistance from the Harvard Institute for International Development, the bank crafted two new commercial products. One was a scheme of voluntary savings that could be withdrawn at any time with a lottery component, SIMPEDES, which proved to be immensely attractive and at the same time served as an instrument of resource mobilization at the village level. The other one was a nontargeted credit scheme, KUPEDES, open to all and for any purpose, the only credit product offered by the units. Its features included simple procedures, short maturities, regular monthly installments (mainly from nonagricultural income), flexible collateral requirements and collateral-free microloans, incentives for timely repayment, repeat loans contingent upon successful repayment of previous loans, and market rates of interest amounting to 2 percent flat per month (equal to an effective rate of 44% per year - 11% for timely repayment = 33% p.a.) to cover all costs and risks.

BRI has a large outreach and strong financial performance. As of December 2012, BRI served 42 million customers through 9,052 outlets that are connected in real time and 59,241 e-channel networks (ATMs, kiosks, and so forth). In 2012, the bank reported a capital adequacy ratio of almost 17 percent and return on assets of 38 percent. For more than six years, BRI has successfully maintained its position as the bank with the biggest profit and holds second position in terms of assets within the nation's banking industry (Bank Rakyat 2012).

There are various factors that have contributed to the success of BRI, including the following:

- In the aftermath of the Asian financial crisis, the Government of Indonesia gave BRI sufficient autonomy to restructure itself.
- In 2003, BRI went public and has continued its commitment toward the MSME. The Government of the Republic of Indonesia is the majority shareholder of BRI with a 56.75 percent share, while the general public holds the remaining 43.25 percent.
- The bank also made major investments in corporate governance, adopting high standards for board and management selection and performance and raising its standards on information disclosure, internal controls, and accountability.
- Huge investments in information systems and risk management have enabled the bank to get real-time information from all branches and outlets and thus properly identify and mitigate risks.
- A wide range of financial products tailored to its clients' needs was introduced.
- Major investments were made in staff development and training, as well as competitive remuneration.

3.3 Financiera Rural of Mexico

A new agriculture bank was created in 2002. At the end of 2002, Mexico decided to close and liquidate the old agriculture bank Banrural due to its huge number of nonperforming loans (40 percent), growing losses, capture by its own clientele, and failed attempts to recapitalize and turn around the institution (Meade 2002). To replace Banrural, the Government established a new agriculture bank called Financiera Rural with the technical assistance and financial support of the World Bank. This new institution was established with a completely different set of features in the world of agriculture finance, including the following:

- The bank's board and management were required by law to preserve the capital of the new bank. Thus, board members and senior managers had to reprice all lending
- products to achieve profitability, discontinue nonprofitable activities, and fully adopt commercial principles for the bank's operations.
- The bank was banned from taking deposits and borrowing from other financial institutions. As a result, all lending had to be funded by the bank's own capital.
- Law prevented the Government from ever capitalizing the bank again. In the event of failure, no fiscal resources would be used to bail out the bank.
- The mandate of the institution was revised to focus it only on the rural sector and agriculture activities.
- The institution was placed under the regulation and supervision of the Banking and Securities Commission with no exception to rules and regulations given its status as state-owned financial institution.

In addition, the senior management of FR undertook various measures to ensure the success of the bank, such as the following:

- Recruitment of experienced managers from the private sector
- Major investments in risk management, enabling the institution to quantify risks by subsector, activity, region, size of firm, ownership structure, and so on and price lending products according to the risk profile of individual clients
- Adoption of conservative appraisal criteria for collateral and maximum loan to value ratios of 80 percent
- Strict loan exposure limits by client, sector, region, and commodities
- Prohibition to lend to other state-owned enterprises or local governments—only private sector SMEs and individual farmers can be served by FR
- Use of innovative financial instruments to reach out to customers in rural areas
- Mandatory use of insurance products for borrowers, whenever available
- Huge investments in market intelligence, including production costs per commodity, price fluctuations, yields per hectare, consumer demand, and so forth

Since its establishment 11 years ago, FR has remained a profitable institution with a growing ability to serve the market and crowd in other private financial sector intermediaries. The institution operates as a retail financial institution as well as a whole lender to microfinance institutions. As of December 2013, FR had a lending portfolio of US\$1.3 billion and a nonperforming loan ratio of 4 percent. It served more than 200,000 farmers in practically all agriculture value chains and supported through its wholesale lending operations more than 300 private sector nonbank financial intermediaries.

Even though there are differences among the business models adopted by the three institutions, there are also common some similarities in their restructuring efforts. A first common element is that all three institutions maintain autonomy from government. At different times, they have been able to withstand political pressure and even say no to government. BRI even became a partially privatized institution. A second element is that they all adopted strong corporate governance practices based on high standards on information disclosure and accountability of board and management. BRI and FR made use of private sector managers to turn around the institutions. Finally, a third important element in the success of these institutions has been the emphasis on risk management. All three institutions invested heavily in IT infrastructure to be able to capture, measure risks, and calibrate their interest rates in accordance to the risk profile of borrowers. Thus, a combination of managerial autonomy, professionalized management, sound disclosure practices, and strong risk management capability have been key ingredients in the success of these three agriculture banks. These ingredients should be present in MADB's transformation plans.

4. Conclusions

The modernization of the agriculture sector is a critical element for poverty alleviation and shared prosperity in Myanmar. It is estimated that the agriculture sector represents between 35 to 40 percent of GDP and that up to 70 percent of the labor force (of 32.5 million) is directly or indirectly engaged in agriculture activities or depend significantly on agriculture for their income. Moreover, it is estimated that agriculture products generate between 25 to 30 percent of total export earnings.

Among the government institutions supporting the agriculture sector, the Myanma Agriculture Development Bank plays a key role. MADB is the largest provider of credit to rural households engaged in agricultural activities. However, MADB needs to be deeply restructured. The way in which it currently operates is no longer sustainable; it poses a growing fiscal burden due to its access to subsidized funding and the practice of granting loans at subsidized interest rates. Its subsidized loans distort the market by discouraging private formal lenders from entering into the rural credit markets.

The agriculture sector remains largely underserved by MADB. MADB is excessively concentrated on the financing of rice farmers, leaving the financing of other crops and products with a high added value outside its business scope. Moreover, MADB is not financing other participants in the value chain, such as food processors, traders, retail companies, seed companies, and so forth. Firms in related activities, such as forestry, fish, and livestock, are not targeted by MADB.

Several weaknesses of MADB have been identified in the report in the areas of funding, pricing of lending products, risk management, corporate governance, operations, IT infrastructure, regulation and supervision, and HR. Addressing those weaknesses should become a priority for authorities of Myanmar.

Looking forward, MADB is expected to play an important role in the much needed modernization of the agriculture sector of Myanmar. Following successful international examples, MADB could be transformed from a simple loan disbursement agency into a full-fledged bank able to provide a wide range of financial services to the rural population on a financially sustainable basis without crowding out other financial intermediaries.

However, building a successful state-owned agriculture bank is not an easy task. Historically, several agriculture banks around the world have failed due to poor corporate governance, inadequate risk management capability, unsustainable business models, capture by their own clientele, or undue political interference in their lending decisions. Therefore, authorities should ensure that MADB is transformed into a sound, well-administered, and financially sustainable institution, able to withstand undue political interference and able to operate with the highest standards of corporate governance and transparency.

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