

Study on risk management in rural and agricultural finance in the Near East and North Africa (NENA) Region



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Acronyms

AB	Agricultural Bank (Sudan)
ACB-I	The Agricultural Cooperative Bank (Iraq)
ACB-S	Agricultural Cooperative Bank (Syria)
ACC	Agricultural Credit Corporation (Jordan)
BNA	Banque Nationale Agricole (Tunisia)
CACB	The Credit and Agricultural Cooperative Bank (Yemen)
CAM	Crédit Agricole du Maroc (Morocco)
DEF	Development and Employment Fund (Jordan)
FAO	Food and Agriculture Organization of the United Nations
FCB	Farmers' Commercial Bank (Sudan)
ICDB	Islamic Cooperative Development Bank (Sudan)
NENA	Near East and North Africa
NENARACA	Near East North Africa Rural and Agricultural Credit Association
PBDAC	Principal Bank for Development and Agricultural Credit

Preface

This study was undertaken in early 2010 to better understand and describe the current risk management practices, and their related issues, among the agricultural and rural finance organizations in the Near East and North Africa (NENA) Region.¹ It highlights many of the results achieved and challenges faced by those organizations providing financial services to the agricultural sector and presents case studies to describe the various settings and current practices that led to these results.

The study, involving 11 institutions in eight countries, provides illustrations of good and bad practices in the Region, which are compared in a series of tables. The institutions included are:

1. The Principal Bank for Development and Agricultural Credit (PBDAC) – Egypt;
2. The Agricultural Cooperative Bank (ACB-I) – Iraq;
3. Agricultural Credit Corporation (ACC) – Jordan;
4. Development and Employment Fund (DEF) – Jordan;
5. Agricole Crédit du Maroc (CAM) – Morocco;
6. Agricultural Bank (AB) – Sudan;
7. Farmers' Commercial Bank (FCB) – Sudan;
8. Islamic Cooperative Development Bank (ICDB) – Sudan;
9. Agricultural Cooperative Bank (ACB-S) – Syria;
10. Banque Nationale Agricole (BNA) – Tunisia;
11. The Credit and Agricultural Cooperative Bank (CACB) – Yemen.

Recommendations are made for bankers and those involved with other rural and agricultural finance organizations and for their policy makers to overcome or at least cope with these challenges.

The study is intended for managers, directors and other leaders in financial institutions in the Region as well as for policy makers and development agencies whose varied policies and interventions currently both support and hinder financial services and their performance in the Region. It is also of interest to agricultural and rural finance researchers and financial sector specialists who can draw lessons learned from the practices described in this study.

The focal areas of analysis used in the case study topics include collateral management and loan management, insurance banking services. It also looks into governance, processes of loan recovery management and use of information technology.

The case study topics are:

1. Collateral management;
2. Loan management;
3. Insurance;
4. Banking business;
5. Governance;

¹ In this report, we have used the acronym NENA to refer to the Near East and North Africa (NENA) Region, although more recently, FAO has been using Middle East and North Africa (MENA).

6. Recovery management;
7. Information technology.

The authors would like to express their appreciation for the in-depth review of the document by Calvin Miller, Frank Hollinger and Ake Olofsson of FAO and the editing of Barbara Hall. The work of the study was carried out in Arabic and is available in English and Arabic is available on NENARACA and FAO websites.²

² See www.fao.org/ag/ags ; and www.nenaraca.org/.

Executive summary

The study on risk management in the Near East and North Africa (NENA) Region shows the multiple strategies and practices used by the agricultural banks. The results indicate that all banks are largely alike in some of the measures they take to reduce risks, such as concentrating on strong and effective collateral, assuring the credit-worthiness and repayment capacity of the borrower and his/her project and making use of information technology.

However, it is also important to note the many variances among the countries and institutions. With regard to insurance, it is very important in some countries, yet, for example, there is no insurance in Jordan, Syria or Iraq. Some kinds of insurance are mandatory for certain types of loans in Tunisia and Morocco, whereas in Sudan, insurance is mandatory for all borrowers. It is provided by a state-owned company and covers almost all kinds of farming. There is mandatory insurance for investment projects and livestock in Egypt. Generally, in the countries of the Region, agricultural insurance is limited to specific kinds of agricultural activities and does not include all types of insurance nor does it apply to all kinds of borrowers. However, there is a great deal of ambiguity concerning the size of insured loans and the impact of insurance on the bank's performance.

The study also found considerable variance in the governance structures between the banks. The two commercial banks that participated in the study are fully independent, while the rest of the banks are owned by the governments and are therefore bound by the latter's policies and are not fully independent in making their important decisions, with some having more independence than others. The state-controlled institutions have risks of the kind that occur in any state-managed government organization. The most important weaknesses are governmental interference and the fact that the incentives for improving service and the bank's competitive capacity are below the norms prevailing in the private market. The low loan repayment level of these banks, as noted in the study, is one indication of such weaknesses.

There are variances between banks in the degrees to which full-service banking activities, mobilization of savings, and diversification of loan portfolio are carried out. It is noted that the banks who provide these services are well advanced in decision-making and in adopting banking policies that promote the principles of profitability, competitiveness and innovation, even if they are government banks. There are a number of banks that started to fully adopt this kind of commercial banking, as in Morocco, Tunisia and Yemen; other banks, such as in Egypt, Syria and Sudan, perform part of this work; others still, as in Jordan and Iraq, continue to restrict their activities to giving agricultural loans.

While many risks have been discussed in this study, there are others that were not studied, which relate to: the earnestness and exactness in implementing the rules, regulations and policies that deal with risks; administrative efficiency and caliber; and level of financial and administrative corruption. These are internal matters that require an investigation and assessment by an independent organization, attached to the government. The study did not include an analysis of the macro-economic environment, which would require extensive in-depth studies to delineate the impact of this factor.

The study also provides an overview of the risks that relate to capital adequacy as well as the axes of Basel II agreement and the risks defined therein, as discussed in Chapter 1 and in Annex 1. However, as noted

in the analysis, some of the Basel agreements focus on pure commercial banking organizations, which are often not the case in the agricultural banks.

Accordingly, from the research and analysis of the study, it can be concluded that the most salient risks faced by agricultural lending in the Region can be summarized in the following three work areas:

Administrative risks:

- A bank's lack of qualified, devoted, elected leadership, in part because they are owned by the governments, and the governments appoint their management;
- Weak management control and business oversight with slowness and/or negligence in taking the necessary administrative measures at the right time;
- Weakness of the banking spirit toward initiative, innovation, competitiveness and incentives for improvement;
- Overworked staff and the resultant weakness in follow-up;
- Bribery and disloyalty of the administrative staff.

Politics-related risks:

- Unfavourable policies, political instability and weakness or lack of security;
- Government interference in employment, lending decisions, repayment, exemption and scheduling;
- Borrower inattention to his/her financial and legal commitments when the institution is governmental owned.

Climatic and other agricultural production risks:

- Unfavourable and unpredictable weather conditions;
- Product marketing problems and/or a drop in product prices;
- Health problems, accidents or death that affects the borrower and or the borrower's animals.

In summary, the study provides useful information on the practices and comparison of the institutions with regard to: (i) collateral management; (ii) loan management; (iii) insurance; (iv) banking business services; (v) governance; (vi) recovery management; and (vii) information technology. It is noted that those that are stronger in these areas had better results. However, overall, there is much room for improvement as the level of loan repayments and financial sustainability remains low.

1. Risk management in rural finance in the Near East and North Africa (NENA) Region

1.1 FOREWORD

When discussing rural finance in the NENA Region, the foremost issue that merits mention is that loans to agriculture are generally offered only by specialized agricultural banks, since commercial banks and microfinance institutions largely refrain from financing the sector. There are many reasons for this, the most important of which is that this finance is strewn with risks, some of which the state is most likely to address. Hence, the governments hold ownership of these banks and their capital, and finance and support them.

There are two kinds of risks: banking risks, which plague all finance transactions regardless of the type of financial institution, and their clients' risks, which in agricultural finance, include climatic and other production risks, as well as the field-to-market agricultural processing and marketing risks.

Agricultural banks are exposed to the above two risks. These dual risks continually expose them to losses and bankruptcy unless they have excellent risk management practices and/or are financially supported by the government. Some of the risks that the banks encounter are, *inter alia*: operational risks, market risks, credit risks, and inadequacy of capital. These interrelated banking risks are faced by all commercial banks, agricultural banks and governmental banks. They may be created as a result of inadequate fund allocation, weak labour regulations, mismanagement, an unsuitable operating environment, weak training programmes, bad credit transactions and price fluctuations.

Two problems must be mentioned in this regard: difficulty in measuring banking risks, and the lack of specialized management of most agricultural banks to monitor and measure them. It is difficult to precisely measure the banking risks for any particular agricultural bank in the region in order to know the specific risks and issues. Research and close scrutiny are the only means to achieve this, which need to be carried out by the departments themselves or the control systems in the concerned countries. However, generally, most agricultural banks suffer from these risks, perhaps more intensely and manifestly than do commercial banks, because they are generally owned by the public sector.

Climatic and any other nature-related risks are considered difficult and costly to deal with by banks. Banking risks have not hampered commercial banks from widely practising financial intermediation, because they have invented many tools and measures to tackle them. Climatic risks have made banks reluctant to enter the rural finance business because they are beyond control, complicated, unpredictable and costly. For this reason, agricultural banks have been established and owned by the state. This practice was initiated first by many developed countries and then by developing countries. It was based on the assumption that agriculture was important and needed financing, and that the state was more financially capable of incurring the cost of agricultural risks.

Some explanations of the two kinds of risks and the methods of dealing with them are provided below.

1.2 BANKING RISKS

The financial sector in all its aspects faces many risks, which have increased in intensity over the last decade. This may be a result of the abrupt changes in the economy and operating environment, especially with the emergence of new technological products, due to new practices and market requirements. Consequently, the economy requires new products and policies, and hence new risk management measures.

This change in the economical environment is increasing the risks facing the financial sector, forcing it to look for and develop methods and tools to deal with them efficiently. One of the factors in economic advancement and success is, undoubtedly, the sound, strong financial establishments operating in a suitable financial environment.

The primary discussions of governments and Central Banks regarding banking risks focused on the adequacy of capital, which is the first line of defence in the protection of banks from insolvency in case of exposure to the many banking risks. In this regard, international discussions were held to develop guidance and agreements for the banking industry. Basel I for Banking Control and Supervision and later Basel II Committee were formed to deal with this matter in detail at a global level. The Basel II Agreement works to reduce risk in the banking sector with a primary focus on three major areas: minimum capital requirements, supervision and market discipline. While these areas address some key banking risks that are relevant to all banks and countries, neither address primary risks related to agricultural finance. A background history of these two important committees and their decisions is presented below and with more description in Annex 1.

The Basel Committee for Banking Control was established at the end of 1974. Its objective was to formulate consolidated rules for banking control for the banks' guidance, rather than compulsory adherence. In the late 1970s, the Committee started to pay attention to capital adequacy, aiming at reaching definite controls that would lead to the strengthening, soundness and stability of the world banking system. The Committee completed its final report, Basel I, which suggested a unified average of the banks' capital adequacy. This included an integrated system for banks' capital adequacy by establishing a minimum of 8 percent divided between capital components in a wider sense, on the one hand, and assets and liabilities weighted by credit risks, on the other hand.

Building on the earlier agreement, the Basel II Agreement was issued in its final form in June 2004. The new agreement kept the required minimum for capital adequacy at 8 percent, with no change from Basel I, and authorized the Central Banks to raise the minimum required of banks operating under their supervision.

The difference between the resolutions of Basel I and Basel II lies in the emphasis given to particular risks. Basel I gave prime attention to credit risk and, to some extent, to country risk. It also gave due consideration to the market risks in its 1996 amendments. The Basel II agreements aimed at establishing a more extensive sense of the banking risks and stated the importance of calculating the operational risks. It also provided more accurate methods for measuring banking risks to suit modern banking products. These include the use of financial tools not mentioned in Basel I, most importantly, the financial derivatives, with reinforcement of the control authorities' role, and emphasizing the necessity of disclosure and transparency. More explanation of the principles of Basel II is given in Annex 1.

Despite the early adherence to Basel II resolutions by the banks in developed countries, it has not achieved the aim of these resolutions nor prevented bankruptcy. Consequently, these countries suffered from deep financial crises that hit the financial markets in 2008 and 2009, which led to the close-down of more than

180 banks in America alone and negatively affected the largest banks, such as Merrill Lynch and City Group. The latter was rescued by huge government support.

Adherence to Basel II resolutions is not, therefore, a magic wand that protects banks from risks of bankruptcy; rather, the issue requires a level of responsibility and assessment of risks that cannot be measured only by complicated equations and calculations. Managerial, financial and technical precautions must also be taken, in addition to observance of solid codes of conduct and societal ideals that do not seek easy and quick exorbitant gains, and that are reinforced by unflagging government control.

The following example represents the measures taken in line with the Basel II agreement to cope with banking risks by one of the biggest agricultural banks in the region, Principal Bank for Development and Agricultural Credit (PBDAC). This unique example explains what administrative and financial steps can be introduced by risk management departments in other agricultural banks to tackle the issue of risks in an organized manner.

1.3 MEASURES OF RISK MITIGATION IN THE PRINCIPAL BANK FOR DEVELOPMENT AND AGRICULTURAL CREDIT (PBDAC) – EGYPT

The plan for structuring PBDAC was drawn up by the experienced Rabobank of Holland and the local establishment of KPMG Hazim Hasan and Partners. Implementation of the plan started in January 2008 and will be completed in 2010. It has a new strategy for the management of banking risks with the following recommended features.

An independent department for risk management

- Create an independent department with experienced banking staff to identify, evaluate and monitoring on financial and operational banking risks that the bank faces. This department would be charged with the formulation of policies and controls that ensure minimization of the risks to a controllable level, and would perform a quantitative and qualitative evaluation of each risk in order to make appropriate decisions on whether to accept or refuse it;
- Raise awareness of executive employees on the risks that the bank faces by providing training courses and establishing organizational relationships and communication channels with the management. This would allow to determine the risks step by step and communicate them to those concerned, who would then take the necessary protective actions.

Committee for the management of assets and obligations

- Establish a specialized committee for managing the bank's assets and obligations to provide the material and human components needed to ensure determination of the optimal proportion designated between assets and obligations as regards maturity, monetary centres and interest rates. This committee would: further define and develop the banking products that the bank provides to its customers; determine the ideal investment tools; and manage real estates and transferable property acquired by the bank in settlement of debts.

Importance of the economic operations of the bank

- Give due regard to the economic dimension of the bank's activities with respect to fixing the interest rates based on funds available to the bank;
- Seek the optimum use of international loans obtained by the bank;

- Reconsider the methods of reducing the effects of sovereignty decisions to which the bank is obligated to adhere that negatively affect its financial and banking performance.

Consideration of the finance gap

- Study the restructuring of the sources of the bank's funds in order to ensure reinforcement of the bank's liquidity position and correct any flaw in the sources and uses of funds;
- Consider increasing the bank's basic or subsidiary capital, or both, so as to maintain the minimum level of the average capital sufficiency;
- Reconsider the ban on opening current accounts for individuals, since this kind of deposit provides a cheap source of funds;
- Study the possibility of preparing advanced collection policies that would contribute to increasing loan collection rates from customers, and of tying the incentives and bonuses to increases in the collection rates of active and inactive loans separately.

Investment policy formulation

- Promote the role of the bank's investment committee in order to design an advanced investment policy and on developing the bank's investment method in order to increase the return on financial investments and to delimit the minimum of the targeted return;
- Reconsider investments currently maintained by the bank, determine the profitability of continuing them, and take the necessary decisions to divest unprofitable investments;
- Conduct a new financial evaluation of all financial investments and monitor changes in the fair value of such investments as they take place.

Adherence to the laws, legislations and control instructions

- The bank must commit itself to comply with all of the Central Bank's instructions and be subject to its direct surveillance;
- Management must issue internal instructions and decisions to all executive departments responsible for the implementation of the Central Bank's instructions and guidelines that relate to banking work;
- It must reconsider the method of loan portfolio evaluation and adherence to the principles of defining customers' credit-worthiness so as to ensure that appropriations for customers' loans are created in accordance with these principles;
- The principles and rules for exclusion of unrealized profits that relate to inactive loans from the bank's actual revenues must be complied with;
- It must be fully committed to adhering to the rules of banks' financial listings, the evaluation principles issued by the Central Bank, and the accounting standards; and make the necessary rectification called for by the auditors' observations.

Plan for raising the efficiency of the banking operations department

As called for by the bank's plan to raise the efficiency of the banking operations department, first and foremost risk management, an independent department was created for this purpose and charged with measuring and monitoring the bank's various risks. The goal here is not only to help alleviate the risks, but also to partake in making decisions that are consistent with the bank's policies and strategy, shore up the bank's competitiveness in the market, help in pricing the different banking services, formulate policies for taking proper precautions against all risks, and maximize the return of those risk-filled bank activities

(credit risks, risks of exchange rates, operational risks, market risks). The aim is to fully control the various risks so that the bank may be able to:

- Perceive and understand the risks that threaten its very existence and be able to devise and execute tools and procedures for alleviating them;
- Calculate the likelihood of risks and the effectiveness of the means of alleviating them;
- Reevaluate the risks.

Governance framework

The general framework of the Risks Department at the PBDAC consists of:

- A Board of Directors, which is basically responsible for approving the risks strategy management, defining acceptable limits of the risks, and seeking to avoid risks that are difficult to evaluate;
- A Risk Management Committee, headed by the Chairman of the Board, with some of the bank's executive staff as members. The Committee is responsible for formulating risk management policies based on the risk strategy and on the bank's general strategy drafted by the Board of Directors;
- An independent specialized unit for risk management that assumes responsibility for: the implementation of Risk Department policies; the day-to-day task of measuring and monitoring risk to ensure that the bank's activities are carried out in accordance with approved policies and within the approved limits. Further, the unit answers to the Risk Management Committee, and is responsible for defining the main risks that the bank faces, especially credit, market, liquidity and operational risks.

The Department conducts an analysis of the data and available information. It devises systems for the various units' reports and monitors the level of adherence to compliance. It also clearly classifies all types of risk (credit risks, operational risks, market risks, liquidity risks, and legal risks, etc.) in all transactions and activities undertaken by the bank to enable the latter to take appropriate decisions regarding:

- Measuring the size of the risks and determining their impact on the bank, by using effective tools;
- Suggesting explicit, effective procedures and policies for monitoring risks and taking preventive measures to restrain their spreading;
- Seeking to control the size of the risks in order to reduce negative effects on the bank.

Risk Department structure

- The Risk Department is divided into four divisions, each with a role that is interconnected with, and complementary to, the roles of the other divisions. The Risk Department of the bank is tasked to: supervise the monitoring of compliance with Basil II Committee resolutions; take part in formulating policies for investing the bank's assets based on cost and risk averages; promote the principles of evaluation of credit risks; formulate policies for exchange rates risks and the methods of measuring and controlling them; and define the standards and risks of banking transactions and market risks.
- The Risk Department has the following divisions: The Operational Risks Management Division, the Market Risks Management Division, the Credit Risks Management Division and the Risks Control Division. These divisions are charged with a number of tasks and assignments. The Credit Risk Management Division has two functions: one pertains to the management of risks of credit, credit policy and loan portfolio, and the other, to the management of company's credit risks. An additional function will be added in the future, i.e. the management of risks of small- and medium-sized enterprise credit and risks of banking retail credit.
- The future plan target is for the bank to qualify to implement the Basil Committee resolutions that relate to risk measurement and management. The first stage is to use the standardized approach

to develop methods of risk calculation followed by the basic indicator approach to calculate the operational risks and by establishing a database on losses resulting from operational transactions and classifying the data in accordance with Basil Committee's resolutions. These developments must be tied to the availability of internal and external specialized programmes for developing the skills of the Department's employees in using the risk management and measurement tools.

Risk Department steps to follow in risk management

- The first step of the Risk Department starts with diagnosing and outlining the current situation of the risks the bank faces, focusing on the major ones, i.e. the operational risks, the credit risks and the market risks.
- At the outset, a questionnaire was prepared for operational risks, which was based on the operational risk incidents set forth in Basil II resolutions. The questionnaire is a new idea for obtaining difficult-to-obtain operational risk data, which is the biggest challenge to the bank's risk managers. Operational risks were delineated in a report on the current situation of the operational risk at the bank, which had been based on an analysis of the results of the questionnaire and other data sources. On the strength of the results of the report, the most important operational risks that the bank faces were identified based on the average of their recurrence and their expected impact on the outcome of the bank's activities. The Risks Committee at the bank discussed the report and recommended that the Operational Risk Division of the Risks Department, in cooperation with the concerned sectors at the bank, prepare a plan for alleviating these risks. Additionally, the Risks Department suggested that a crises management task force be formed to tackle crises that the bank is likely to face.
- A study was conducted on the risks of interest rates, foreign currency exchange rates, stock prices and commodity prices. A report on the results of this study was prepared and submitted to the Risks Committee, which recommended that a work plan be formulated to cope with these risks through cooperation between the Market Risks Division and the bank's Treasury.
- A study was also conducted of the current situation of the credit risks at the bank, the credit-granting process, and on the risks of disbursements made by the bank's loans portfolio.
- The process of risk management starts with an accurate description, measurement and diagnosis of the risks in order to begin rectifying them. Therefore, it is an important and basic step to understand the concepts of risk management and to raise awareness among the employees before effectively dealing with these risks.
- The second stage of risk management started with an attempt to spread awareness of risks among the bank's employees of all levels. The risk awareness programme consists of one-day workshops targeting PBDAC's employees as well as employees in all sectors and branches at the Governorates. Trainees' feedback proved a clear understanding of the programmes' contents and disseminated the sought-after risk awareness among workers. This is a preliminary step of high standard training in the different risks and risk management methods, as well as in preparing reports on the risks, and making efforts to alleviate them. An agreement was made with certain specialized training centres to train selected employees from all Governorate branches to instill acquired concepts of the risk awareness programme and build cumulative risk management experience.
- A very important and effective project in risk management began simultaneously with the implementation of the risk awareness programme. This programme calls for the preparation of descriptions of the current operational processes and procedures used at the bank in order to identify risk spots within these procedures and devise means for rectifying such risks towards redesigning or engineering these risk-based processes in accordance with a standardized model of standards agreed on in the design of work procedures. The start-up of this project is the rewriting of the current procedures according to the standardized model suggested by the Risk Department and approved by the Risk Committee and top management of the bank.

- For credit management risks, the designing of the scorecard system for the retail loan customers (cards classifying customers' risks) began as a means of alleviating credit risks and adhering to the credit-worthiness standards issued by the Central Bank to monitor the companies' loan risks.
- As concerns the market risks of operation, the Assets and Liabilities Department works to achieve a good balance between assets and liabilities in terms of maturity dates, currency centres and interest rates, as well as by the identification and development of banking products that the bank provides its customers, defining the ideal means of the bank's investment, and management of real estate and transferable property acquired by the bank in debt settlement.

1.4 CLIMATIC AND NATURE-RELATED RISKS

These are risks that result in partial or complete damage of a crop and are attributable to unfavourable weather conditions such as floods, drought, strong winds, cold and frost. There are other environmental risks of wide-spread diseases, such as wheat rust, mad cow disease, or Newcastle disease, which inflicts poultry. In addition, there are other risks to crops, such as fire, animal deaths, theft, and destruction of machines. Further, there are risks related to the borrower, such as death and illness, which could inhibit repayment. This will be discussed in some detail in the following section.

2. Credit risk management policies and practices in rural finance in the NENA Region

Banking institutions in the Region, particularly the agricultural ones, use numerous methods to cope with banking and production risks. Banking risks, and most importantly, the implementation of Basel II agreement concerning capital adequacy, discussed earlier have not been followed closely in the Region. In the study, it was noted that few of the agricultural banks operate in accordance with the Basel principles for the following reasons: this subject is a new one, having gained attention only recently; risk management divisions were only recently created at the banks; some of the banks do not do commercial banking work; and finally, the governments frequently own these banks and bail them out with funds if they are exposed to crises and/or suffer financing shortages. But instead of Basel II, or sometimes in addition to it, there are many measures and precautions that the agricultural banks can and do take to overcome risks. These may be policies, and administrative, technical, or financial methods, and or a form of insurance.

In order to review these methods in a way that reflects the facts on the ground governed by the banks' policies and practices, and in order to base the analysis on true information, Near East North Africa Rural and Agricultural Credit Association (NENARACA) conducted a study based on information collected on 25 policies and work practices under seven major titles, each serving as an indicator of the various risks that have negative or positive impacts on the bank's performance.

A summary of the results of the case study and the information collected from two commercial banks, eight agricultural banks and one microcredit institution in the Region is provided below. This information was converted to show the ratio of the number of banks that perform a given function or adopt a specific policy in relation to the overall study sample group of institutions. Additional information is provided as needed to better understand a particular context. These also include discussion, analysis and explanations of these results with respect to risk management. Annex 2 provides the information and the data collected from six agricultural banks in the Region, representing the kind of data and information collected for the 11 banks included in the study.

2.1 SUMMARY AND DISCUSSION OF THE CASE STUDY RESULTS

Collateral management

The case study results on immovable collateral:

- 100 percent of the banks and financial institutions require real estate mortgage (immovable collateral) for short-, medium-, and long-term loans;
- 100 percent of the banks and financial institutions are tolerant as far as seasonal and small loans are concerned;
- The average amount of loans secured by real estate mortgage exceeds US\$5 000;
- All banks mortgage real estate (collateral) at the competent courts in the Land Department;
- 80 percent of the banks charge the cost of mortgage and mortgage redemption to the borrower;
- Only the Syrian Agricultural Bank and the Agricultural Credit Corporation in Jordan exempt their borrowers from the cost of the mortgage according to their laws;
- The average cost of mortgage ranges between 0.016 and 0.200 percent of the loan principle;

- The value of the immovable collateral is determined as follows:
 - 12 percent of the bank (estimated by the Land Department);
 - 22 percent of the bank (estimated by the Loan Officer);
 - 66 percent of the bank (estimated by the private sector, such as companies and experts; the completed valuation is checked by the bank);
 - 100 percent of the banks estimate the collateral value at the prevailing rates (current market rates), and as a precaution, envision an average of 70 percent of the value as collateral for the loan.

The case study results on movable collateral:

- Eighty-nine percent of the banks accept movable property collateral under certain stipulations; 11 percent do not;
- Movable property collateral is accepted for loans amounting to less than US\$5 000;
- Movable property collateral is accepted for seasonal loans, short-term or medium-term loans (if loans are designated for the purchase of equipment, instruments, tractors, plows and fishing boats);
- All banks register these guarantees at the courts and the competent departments, such as the Traffic and Vehicle Registration Department;
- Thirty percent of the banks and institutions accept bank guarantees or personal guarantees that are registered at the courts;
- Thirty percent of the banks accept movable property as collateral; 30 percent of it is assessed by the banks themselves, 30 percent by private sector companies and experts, and 40 percent by government offices;
- Sixty percent of the estimated value is acceptable as loan security, and the full values of the banks' guarantees and deposits are acceptable.

Discussion:

The effectiveness of risk management depends on the legal, regulatory and institutional environment. Agricultural banks demand fixed and movable collateral to secure their debts. Large loans are usually guaranteed by immovable property, such as land or real estate, which the borrower cannot dispose of except through government offices; in case the collateral is mortgaged, the mortgage cannot be voided unless the guaranteed debt is repaid. Yet, despite its legal force, this kind of collateral has some risks because, for example, in case of delinquency, the bank may be unable to take possession of the collateral due to the owner's social or political influence, and even if the bank has appropriated the collateral, it may be unable to liquidate (convert into cash) it because of the unavailability of buyers who may be either scared away by or sympathetic to the debtor. Moreover, agricultural banks are often reluctant to take liquidation measures because legal proceedings are numerous and long-winded, or due to the bank's unwillingness to hurt the borrower's esteem or it for its public reputation.

Many of the immovable collaterals in the countries of the Region have no ownership deeds because land in these countries is not officially surveyed and registered. This is more often the case in the Maghreb and in the Gulf countries, such as Sultanate of Oman and Yemen. In such cases, the bank is unable to mortgage such an estate in a legal, documented manner.

There are many problems in pricing the collateral as needed to determine the size of the loan for which the collateral owner qualifies. In some countries, such as Jordan, the pricing is done by the bank itself in collaboration with concerned government offices; in some other countries, pricing is done by private sector organizations or individuals for a fee. In most countries, save Jordan, the borrower pays these fees,

which constitute a financial burden. Additionally, there is a cost for registering a mortgage at the land registration offices in all countries except Jordan (where registration is free if the lender is a government-owned organization). This cost may be a specified percentage of the amount of the loan and is to be paid by the borrower, adding to his or her financial burden.

Most of the Region's countries set a specific percentage of the collateral value as a maximum amount of the loan that the borrower may qualify for, provided that the rest of loan prerequisites are also met. At the Arab area banks, this percentage is 50 to 100 percent. This precaution is usually taken to fend off possible future risks, such as the possibility of a drop in the real estate value due to a change in the state of demand and supply, or because of overall high loan levels, which may result from accumulating loan delinquency and interest for a number of years.

Immovable collateral is considered a stronger kind of guarantee for fending off risks of non-repayment – although this may only be psychological – despite their disadvantages, or despite possibly depriving some farmers without real estate of possible loans.

To make it easier for the farmers, the Region's countries substitute immovable collateral with movable collateral, for example, crops, machinery and livestock, and personal guarantee. These collaterals are determined according to the value of the loan; the smaller the loan, the easier the change from immovable to movable collateral or to personal guarantee.

Some of these collateral guarantees may still have risks because the lender may not be able to appropriate the collateral in case of non-repayment since the borrower may, unknown to the lender, dispose of the mortgaged crop, livestock or machines. However, some countries, such as Sudan and Syria, accept the crop as collateral for a seasonal loan because the bank itself or some other government organization is responsible for receiving, buying, or marketing the crop.

The case study results on guarantees of warehouse receipts:

- Twenty-seven percent of the banks accept warehouse receipts as guarantees; most of them stated that this practice was very small and offered no percentages concerning it. These transactions concerned potatoes stored in cold warehouses in Sudan and cooperatives specialized in the marketing of grain in Morocco.

Discussion:

Storage or warehouse receipts is a relatively advanced method of a loan collateral substitute. It is rarely applied in the region for two reasons. First, it requires warehouses that are suitable and secure for storing agricultural commodities. Second, it requires a system of rules and regulations that govern the appropriation of merchandise stored in them in case of default, which is lacking in the Region. Third, it works best when commodity management companies are in place to manage the warehouse receipts, which is not the case. Therefore, since these arrangements are generally not in place in the region, especially for agricultural commodities, the use of warehouse receipts has been more applicable to non-agricultural commercial businesses.

Loan management

The case study results on the credit-worthiness of the loan applicant:

- All banks and organizations conduct loan appraisal of the loan applicant. Eighty percent of these appraisal studies are carried out in detail, and 20 percent are simple, relying largely on financial and technical reports. Uniform forms are used for the agricultural plans;
- Seventy percent of the short-term and seasonal loans depend on the uniform forms and the technical reports;
- Ninety percent of these studies are conducted by the bank, or the small projects support centres;
- Only 10 percent of the studies, particularly those on medium- and large loans and investment loans, are conducted by the borrower or the private sector, and checked by the bank;
- One hundred percent of the study subjects emphasized that loan decisions are based on these studies;

Discussion:

Undoubtedly, this form of coping with risks is no less important than the collateral itself, and an organization that has a successful lending operation must embrace this method as a first line of defence in debt collection. This method first determines the applicant's credit-worthiness by studying the budget and the agricultural income for a number of the preceding years in order to know whether the agricultural operational trend is good or bad, as well as by studying cash flow budget. This is an ideal method to determine the size, maturity date, and repayment schedule of the loan. A simple version of this method is used in the Region. An individual study is rarely conducted, but rather, standardized studies are adopted and applied for lending to a specific area, crop, or loan purpose.

Even if such studies are carried out, very seldom are they given the proper attention because their results are approximate and do not show the true and verified situation of the loan applicant. This is because the vast majority of these applicants do not keep accurate historical accounting records; the studies therefore rely on information supplied by the loan applicant and on the loan analyst's experience and familiarity with the area.

If the requested loan is for investment, these analytical methods must be combined with a feasibility study for the project. This would require specialists to conduct a financial feasibility study for the projects to be financed, using discounting methods to determine the internal financial rate of return of the project in order to determine its profitability and repayment capacity. This kind of analysis is rarely used in the Region's countries; if it were used in a few establishments, data and information would be inexact, the proper assessment mechanism would be lacking, and no account would be taken of the project's sensitivity to adverse circumstances with which the Region abounds, such as sudden rises in input prices, sudden drops in output prices, wars and unfavourable weather conditions.

Loan assessment studies give little attention to the living conditions of the loan applicant. The cash flow budget rarely takes into consideration the loan applicant's cost of consumables and off-farm income. Many projects seem to have a good cash flow, but their owners fail to repay their debts because family expenses deplete the funds, leaving little or nothing for debt repayment. Here, the business budget and the operator budget must be taken into consideration.

The above assessment methods, although important, are not used in most of the institutions and, where in place, are not utilized when the loans are approved due to the aforementioned reasons. A sizeable part of non-repayment can be attributed to financing credit-unworthy persons or unprofitable projects.

The case study results on the number of job levels (tiers) at which loans are approved:

- The average number of job levels according to the study subjects is 4.6;
- In Jordan, the Development and Employment Fund uses two to three levels of authority in its loan process; in Sudan, the Agricultural Bank has nine levels with loaning authority;
- In Egypt, PBDAC makes at all levels of decisions on loan approval through the use of committee;
- The Sudanese banks classify the branches into three levels (A, B and C) within a financial and administrative framework, resulting in the classification of the loan approval into three levels;
- Approximate amount limits authorized, as given by the study subjects are:

– Branches	US\$5 000
– Provincial department	US\$15 000
– Principal/central loaning committee	US\$20 000
– Board of Directors	more than US\$20 000

Discussion:

The study undertaken by NENARACA shows that all agricultural banks in the Region have multi-tier loan appraisal and approval. This procedure restricts individual, one viewpoint decision-taking concerning lending. The effective methods of avoiding the risks of giving loans to persons who are not credit-worthy include: the use of several tiers of appraisal at which a loan approval is conducted and proper recommendations are made concerning the size and maturity dates of the loan; due consideration given to the borrower's ability and inability to repay the loan; and proper decision-making regarding the loan.

This procedure is a sound one for coping with the risk of non-repayment; however, there is a fear that level-multiplicity would become a routine action not subjected to scrutiny and audit at all levels, and may in some cases delay the issuing of loans due to the long time needed at these levels to study and scrutinize the loan application and the related studies.

The case study results on diversity of loans and geographical areas:

- The kinds of investment and finance in the banks varied, so loan distribution was based on loan goals;
- Study subjects were granted direct or indirect agricultural loans – 100 percent;
- Consumption and personal loans – 36 percent of the study subjects;
- Rural development loans – 63 percent of the study subjects;
- Commercial loans and loans for the purchase of vehicles – 54 percent;
- Crafts, professional, and industrial loans – 63 percent of the study subjects;
- Agricultural loans – 63.5 percent of the total value of loan portfolio of banks;
- Agricultural loans – 100 percent of the portfolios of Agricultural Credit Corporation in Jordan and the Agricultural Bank in Sudan;
- The percentage of agricultural loans was less than 1 percent in the Yemeni Cooperative Agricultural Credit Bank. It amounts to YER321 million out of 41.3 billion, which is the lowest percentage among the banks covered by the case study;
- The Development and Employment Fund in Jordan provides indirect agricultural finance. It provides wholesale loans to microfinance institutions (MFIs) and the Agricultural Credit Corporation in Jordan for on-lending to agricultural purposes;
- All banks target all geographical areas in their countries, focusing on rural and nomadic areas. The share of the rural, nomadic and agricultural areas averaged about 46 percent of the total loans.

Discussion:

Loan portfolio diversification is an effective instrument to mitigate risk. Confining credit to agriculture would subject the bank to a difficult financial position in years of drought or other calamities. This is one of the reasons that encouraged some agricultural banks to divert a great part of their operations to non-agricultural activities.

Many of the agricultural banks started to diversify their loan portfolios to include different economical sectors and to not restrict them to agricultural credit. Banks in Morocco, Tunisia, Egypt and Yemen started operating as comprehensive banks, giving loans to all sectors. They raised capital for this expansion in the lending operations through the collection of savings for use. In many instances, this helped realize profits from non-agricultural credit to defray agricultural credit losses. It also improved the financial position of these banks compared to banks that remain specialized only in agricultural credit.

Loans to farmers with diversified agricultural activities, such as crop farmers who are also livestock raisers, have a better chance of being repaid than loans to farmers who engage in a single, specific agricultural work. This may seem sound and logical, but there *are* farmers in certain areas who grow only a single crop, such as grain, or do a single agricultural work, such as raising sheep. The governmental banks cannot exclude such farmers from lending, even though when they receive loans, their loan risks will tend to be high, which has caused difficulties for most of these banks in the Region.

The case study results on irrigated and less risky projects:

- Finance for irrigated projects constituted 27.8 percent of the overall volume of the agricultural finance at banks and institutions studied.

Discussion:

All agricultural banks in the Region encourage low-risk and risk-decreasing projects. For example, all banks finance projects that have a permanent source of irrigation or that afford the borrower a chance to acquire one, such as well-drilling in Tunisia and Jordan. Loans are given to large numbers of farmers who use sheltered vegetables and banana farming, as a precaution against frost risks; loans are given for drilling deep wells, as in Jordan; and loans are given for building terraces and stone walls, and planting trees to prevent soil-erosion, as in Yemen and Jordan.

The case study results on the financing of ongoing projects, inception, development, and participation percentage:

- All the banks and organizations covered by the study finance ongoing or new projects regardless of their stage of development. However, all of them stipulate that the parts of a project that were in place before the loan may not be financed;
- The banks are not strict about the percentage of the borrower's participation in the project. Theoretically, the loan applicant's participation is limited to constructing infrastructure, demonstrating his own commitment, within a limit of 30 percent of the project value.

Discussion:

Most of the MFIs in the Region finance ongoing enterprises with high levels of sustainability and success. Their loans are typically used for expanding and increasing working capital. Therefore, these institutions' collection percentages are very high compared to that of agricultural banks in the Region, because a large part of the risk has been surpassed by the nature of the project's sustainability; hence, the level of repayment is high. Where development-oriented agricultural banks must not only fund working capital of ongoing enterprises, but must provide financing for new projects. This creates a number of big risks, such as the borrower's management capability, marketing risk and weather risks. This is the situation facing most agricultural banks in the Region, since they are obligated to finance the establishment of new projects in addition to ongoing ones, with the size of the portfolio of financing the new projects being many times that of financing the ongoing projects.

The agricultural banks in the Region do not finance the entire start-up costs of the projects. They stipulate that the borrower finance part of the costs in advance, with the bank financing the remainder. For most banks, the borrower's contribution is no less than 20 percent. Most agricultural banks stipulate that the borrower's contribution be made in advance, which means that the project would be a fact on the ground before the bank releases the loan. The banks believe that this gives the borrower the feeling that he owns part of the project and has invested part of his savings, which gives a feeling of responsibility and adequate attention to its achievement.

Additionally, all agricultural banks have staff to monitor project implementation, who make surprise field visits to monitor implementation. Some of the banks even make these trips after completion and startup of the project to verify project continuity. The percentage of projects visited may vary from one bank to another, but the maximum number is made by banks whose loan interest is subsidized or is lower than commercial interest, as in Tunisia, Morocco, Jordan and Yemen. A random pattern of visits may be applied to hard-to-reach sites. These visits are extremely beneficial because they enable the banks to ensure implementation of new projects, anticipate risks, and collaborate with the borrower to mitigate future or actual risks in the case of ongoing projects.

Box 1: Modes of Islamic finance

According to Islamic laws, financing is based on a general rule known as the Principle of *Al-Ghonm Bil Al-Ghorm*. *Al-Ghonm*, in this context, means economic gain, profit and yield, whereas *Al-Ghorm* means loss, risk and liability. *Bil* means against or equals. This principle therefore means that no person is ever allowed to invest his property in a way that brings him gain without exposing him to the risk of loss (*Al-Ghorm*). An Islamic mode of finance, unlike a usurious mode, does not protect any party to it from the risk of loss. Rather, it equally or almost equally exposes all the parties involved to the risk of their dealings. The principle of the Islamic instrument of investment is that it is just and fair to all involved and does not take sides with any of the contracting parties to the disadvantages of the other. Nevertheless, Islamic financing encourages all parties to take all precautionary measures and make efforts to avert or minimize any possible losses. This may be achieved by collecting adequate information and using it correctly to read and analyse such information. Accordingly, the principles of Islamic financing are closer to Islamic *Shari'ah* in its implementation: the more it conforms to the rules and definitions of the principle of *Al-Ghonm Bil Al-Ghorm*, and is weaker from a *Shari'yah* point of view, the more it deviates from the rules and meanings of this principle.

The case study results on advance contracts and *Bai-As-Salem*:

- Not all banks and organizations give loans under advance contracts;
- Only Sudanese banks, which made up 18 percent of the sample group, use *Bai-As-Salem* within the Islamic finance methods network. The *Bai-As-Salem* loans constitute 8 percent of the Farmer Commercial Bank's loan portfolio.

Discussion:

Forward contracts and the use of value chain financing, which can involve price pre-fixing and delivery of crops to the financier, are rarely used in the Arab region. They are not commonly used in Jordan for agricultural products exported to Europe, such as cucumber and sweet pepper at a limited scale. In Sudan, the Islamic versions of lending are implemented, the most widely spread version being *Bai-As-Salem* sale, under which the borrower repays his/her loan by delivering the crop to the bank at a price prefixed at the time the loan is obtained. More information about Islamic modes of finance, including *Bai-As-Salem*, is given in Box 1.

A summary of the modes of Islamic financing:

- ***Murabaha Lil Amir Bil Shira* (mark-up lending).** This is a sale negotiated by two or more persons. The intended buyer asks the would-be seller to buy a commodity, promising him to buy it back at a profit to the seller. This mode is suitable for agricultural credit where the credit is in the form of a movable commodity, such as machines, animals and seeds. The buyer has the right to reject the commodity after it is bought to him by the bank if it does not comply with the specification agreed on. This mode to some extent resembles the traditional mode of finance in terms of the distribution of risks. Therefore, some view it as less secure among of Islamic modes of finance. Nevertheless, it is widely applied in the agricultural and commercial banks that follow Islamic modes of finance.
- ***Musharakah* (partnership).** This is a contract (mode of investment) between two or more persons, all contributing to the capital and sharing in the profit. *Musharakah* is the Islamic investment mode in which the rules and meaning of the principle of *Al-Ghorm Bil Al-Ghorm* are best met. It renders the financing party a partner in the project being financed, having the same risk as that of the customer – the other partner – making the same profit or suffering the same losses together. There are numerous types of *Musharakah*, such as continued *Musharakah*, *Musharakah* in the working capital, and the diminishing *Musharakah*. This mode is more suitable when financing big projects. It does not fit the traditional agricultural businesses, especially with small loans. It would involve close monitoring by the lender of every joint project financed. This would entail an additional cost for the lender.
- ***Mudarabah* (speculation).** This is a type of partnership in which one party provides the capital and the other provides the labour and experience. One of the partners, *Rab Al-Mal*, provides the funds. The other partner, *Al-A'mil* or *Al-Mudarib*, undertakes to develop and invest them. The profit is shared by the two partners according to agreed on percentages. The need for close monitoring, as in the former mode, applies here. It can be added that the lender would incur additional risks concerning the creditability and honesty of the borrower.
- ***Bai As-Salam* (advance contracting).** This is a type of sale with immediate payment for deferred delivery of the goods sold. The creditor makes immediate payment of the funds to the debtor, who promises to deliver to the creditor a specified commodity available in the market after a specified and agreed on period of time. A farmer who wishes to have his farming season financed applies to a bank for the required financing. When he applies for the loan, he agrees to sell a specified amount of his future crop, receiving the price immediately from the creditor, the bank. At the time of the

harvest (the agreed on delivery date), he delivers the product, from his own farm or from the market, to the bank. This mode is more compatible with traditional farming businesses, especially with small loans. It is similar to advance contracting where the price of the commodity is agreed on in advance. It also guarantees the borrower to be able to market his crop at an already known price (no matter if the price goes up or down at the time of delivery or repayment). It is widely applied in agricultural banks because it involves a fair distribution of time risks and is suitable for small loans.

It is worth noting that it was traditionally not allowed in all the Islamic modes of finance to add any interest on loans not repaid on time. However, now, it has become allowed to add a specific fine on intentional defaulters who do not have acceptable reasons to default.

Generally speaking, Islamic principles reject specifying in advance an interest rate for loans. The profit or the loss of the bank must be determined later, depending on the profit or the loss the business realized. Therefore, it provides a protection of the borrower's interests by distributing the risks more evenly between both the lenders and the borrower, rejecting usury activities or exploitation of the borrower.

In Tunisia, some banks take in-kind loan payments by accepting delivery of some of the crops, such as grain, olive oil and tobacco. Alternatively, private/public organizations may do so on behalf of the government. Jordan subsidizes the farmers' grain by having the Ministry of Agriculture receive (buy) it. The Syrian Government and the agricultural bank take delivery of grain and store it in the agricultural bank's stores.

The importance of these measures is that in different countries, the agricultural bank is often involved in these measures, since it uses them to collect its debts. These measures are generally considered important means of coping with the risks. The drawback here is that only a small number of farmers borrow money to use for this kind of farming because the number of crops and area of land used is limited, except for grain. There is also some manipulation by some borrowers who have their crops delivered to the government office by persons other than themselves.

The case study results on diversity of sources of borrower's income:

- 100 percent of the study subjects do not stipulate diversity of the applicant's income.

Discussion:

Diversity of income sources is vital for dealing with the issue of risks. Other income resources would become the last resort for settling the loan in case of default. This is an added value to risk measures if other income sources are available, but agricultural banks cannot make it a prerequisite for making loans. The dilemma is that most small-scale and poor farmers lack this source of off-farm income.

The case study results on loans to cooperative societies:

- 100 percent of the banks finance certain cooperative societies;
- These societies have little clout or weight at all banks, despite the theoretical financing possibility consistent with the banks' laws and regulations. The size of the Syrian Agricultural Bank's finance to the cooperative societies was about 40 percent of the portfolio; the Sudanese Agricultural Bank percentage was 16 percent. The other banks and organizations made no mention of this percentage because it is very limited.

Discussion:

Group lending, either informally or formally, is often seen as one of the best practices of risk management measures in agriculture. This often occurs in Thailand, India, Bangladesh and other Asian countries where joint liability groups are common. However, this type of lending did not prove successful in the NENA Region, and beyond microfinance, it is rarely practised. With respect to lending to organizations, such as cooperative societies, the experience of the Region has been very frustrating and no sustainable success can be mentioned in the Arab region. Lending to cooperatives showed poor results compared to individual or other types of lending. Although there are many reasons for this, one main cause is that cooperative work is often very politicized. Also, the cooperatives in Syria, Egypt and Sudan are borrowers of the agricultural bank, but do not possess their own on-lending to members.

Insurance**Case study results on agricultural insurance for risk mitigation:**

Agricultural insurance services in the Region differ from one country to another. Generally, they are not available in most of the Region's countries, and wherever they are available, only a small number of farmers participate. However, there are a few countries that stipulate prior insurance for obtaining a loan. A summary of the situation in some of the Arab countries is given below:

- The PBDAC in Egypt requires life insurance for the borrower, insurance for the project against any damages, and insurance for the animals in a farm financed by the bank. The borrower and his project are insured with private insurance companies, and animals are insured with the Animal Insurance Fund of the Ministry of Agriculture;
- In Sudan, all kinds of insurance, including agricultural insurance, are provided by Shikan Company, a government company independent of the Ministry of Agriculture that insures crops such as wheat, cotton, sorghum and sesame, and animals. The Ministry of Finance defrays 50 percent of the insurance premiums. To date, this insurance is not mandatory for the borrowers, but it will become so for the Agricultural Bank's clients in 2010. The Islamic Cooperative Bank has also begun to insure short-term loans;
- In Tunisia, insurance is mandatory for farmers who have agricultural loans, since banks require insurance as a prerequisite for obtaining a loan. Agricultural insurance is provided by the Tunisian Fund for Cooperative Agricultural Insurance and by a number of private insurance companies;
- In Morocco, private insurance companies provide hail insurance against crop damage, against storms for greenhouses, fire insurance, as well as insurance for equipment and agricultural structures. The Moroccan Collaborative Agricultural Insurance Company, which provides insurance against drought, is considered the most important organization in agricultural insurance, and has a 70 percent share of the market. Agricole Crédit du Maroc (CAM) requires a borrower who is requesting a housing or an investment loan to have insurance against drought, equipment insurance, and life insurance. The former type of insurance is provided by the Moroccan Collaborative Company and the latter by private insurance companies;
- In Algeria, insurance is provided by the National Fund for Agricultural Cooperation, which accounts for 70 percent of the agricultural insurance services. There are also private companies that provide this type of insurance. This Fund provides insurance against weather risks, fire, animal deaths and accidents. Insurance is mandatory for obtaining a loan;
- There is no crop insurance of any kind in Syria, and insurance is not a precondition for obtaining a loan. The Syrian Government sought to introduce this kind of insurance, but regulations for it have not yet been approved. There is an animal services fund in Syria, which is a semi-government fund for insurance against death of livestock or other insured animals. This is a mandatory insurance for cattle financed by the bank;

- There is no agricultural insurance of any type in Jordan. Private companies refrain from engaging in this field because of the high cost. The Government is seeking to establish a fund for this under the name of the “Agricultural Risk Management Fund”. The regulations for this Fund have been approved, but the Fund has not yet started functioning;
- There is no agricultural insurance of any form in the other Arab countries and their agricultural banks do not require any insurance of the borrower. The CACB in Yemen, however, is examining the possibility of establishing its own insurance company;
- A detailed discussion on agricultural insurance in the Region is provided in Chapter 3.

Banking

The case study results on savings deposit programmes:

- 72 percent of the banks have deposit mobilization programmes for building member savings or reserves. None of them stipulate that savings or current accounts be opened before a loan account is opened;
- The National Agricultural Bank in Tunisia has savings programmes for housing, study and education;
- The CACB in Yemen mobilizes savings deposits equivalent to 72 percent of their total loans; this percentage was 155 percent in CAM in Morocco and 140 percent at the PBDAC in Egypt.

The case study results of bank specialization vs. comprehensive banking:

- 72 percent of these banks carry out comprehensive banking activities, partially or fully;
- 27 percent of these banks remain specialized finance institutions, particularly the Development and Employment Fund and the Agricultural Credit Corporation in Jordan, which continue to only offer loans and perform no banking activities.

Discussion:

Providing loans is only one side of financial intermediation; the other is deposit mobilization and the provision of other banking activities. These are not well established or may not even be offered in some of the agricultural banks in the Region. Attracting deposits is one of the most important tools of coping with liquidity risk, and failure to do so distorts the loan pricing process and the entire rural finance market, and nullifies the banking principles that are based on initiative, innovation, competition and profitability. However, some of the Region’s governments started appreciating the importance of attracting deposits and savings, and engaging in banking activities, and have permitted their agricultural banks to do such work. Morocco, Tunisia, Algeria, Sudan, Egypt and Yemen are active in all aspects of banking, which has led to the restructuring of the interest system to reflect the true cost of funds and the prevalence of actual banking principles, especially competition.

Proper banking operations lead to realizing a profit and reinforcing the bank’s ability to cope with risks. For example, the agricultural bank in Morocco bought a purely commercial bank to attract urban deposits for use for commercial loans. This improved the bank’s financial position and provided it with a new source of liquidity and profitability.

Some people may object to this trend because the agricultural bank’s function may become replaced by these practices, and the agricultural share in the bank’s portfolio may become negligible. However, there are successful international experiences in this field: for example, the French agricultural bank and the

Turkish agricultural bank, two of the largest banks in the world, successfully and efficiently practise both agricultural and commercial banking locally and abroad. Additionally, CAM in Morocco, the National Agricultural Bank in Tunisia, and recently, the Cooperative and Agricultural Credit Bank in Yemen have successful experiences in the Region. The volume of agricultural loans at these banks has not decreased, but its ratio to the commercial loans is decreasing, which is understandable considering that commercial activities progress at a faster pace than agricultural activities.

Governance and governmental intervention

The case study results on governmental independence:

- 55 percent of the study subjects were financially and administratively independent government institutions; 45 percent were private sector or mixed organizations;
- The government's interference is in favour of rescheduling or exemption from interest in case of general disasters or natural calamities that have country-wide effects. Such interference can have important implications on repayment and sustainability. However, within the Region, it occurs in coordination between the government departments and the banks.

Discussion:

It must be recalled that agricultural banks in the Region are owned by their governments, which entails many pros and cons with respect to risks. These banks have their own Boards of Directors and are financially and administratively autonomous. Yet, they nevertheless come under a government ministry, such as the Minister of Agriculture, as is the case in Jordan, Lebanon, Morocco, Egypt, Yemen and Tunisia; the Minister of Economy, as in Syria and the Minister of Finance, as in Sudan. This setup is advantageous in many ways, most importantly of which the government is closely aware of the banks' problems and it endeavours to address them in the interest of the government and social welfare. In case of a shortage of funds, the concerned Ministry/Minister hastens to provide these banks with funds from any available source or from the state budget to raise their capitals. All banks in the Region have had their capitals repeatedly increased by government support or by financial facilities in the form of rediscounting from surplus funds held by the Central Bank, as is done in Syria and Jordan. These are the best measures for coping with risks that a financial organization can resort to in case of a crisis. This has enabled agricultural banks to overcome many crises that would have led to their shutdown had they been commercial banks owned by the private sector.

On the other hand, however, these banks suffer from all kinds of disadvantages in terms of government management's laxity, low levels of salaries and incentives, and lack of sound banking principles that would encourage initiative, innovation, competition and profitability. Calling these banks developmental banks corroborate the view that they are non-profit and, accordingly, are called on to give loans at negative interest, i.e. not enough to cover expenses that include operating expenses, the cost of funds, the cost of the loan default, inflation and growth prerequisites. This means a loss of sustainability and leads to a dependency on the government for endurance. Additionally, this view on the banks, which has been set in the minds of the loan beneficiaries, has caused them to consider the banks' funds as public funds or as government grants, which can be abused or left un-repaid. These are the most severe risks, which have resulted in weakening the banks' financial capacity and sustainability, making them continually in need of government support.

Another disadvantage is that the Region's countries view the banks as an instrument for attaining, by design or unintentionally, political ends. Governments can make sudden political decisions to reduce the

repayments of bad debts, exempt them from interest payment and/or reschedule their payments. While it is true that any bad debts require study or rescheduling, but this must not be done en masse, suddenly, or without pre-coordination with the concerned bank, because otherwise, it will solidify the misconception of their role. This may encourage non-repayment while waiting for such government decisions to be made. Although the governments in the Region compensate the banks for the losses entailed by these decisions, they have adverse effects on the operation and future of the banks, and on the ideal distribution of resources, in particular depriving the non-borrowers and the poor of government subsidies.

The government may also interfere through cronyism and nepotism to ensure that members of the ruling party, large landlords and influential persons obtain subsidized loans or have loan repayment deferred. This rarely occurs – as it is embarrassing and subject to criticism and investigation – but it does happen. Non-repayment of loans made under such circumstances is highly probable. In addition, it can hurt the bank's reputation.

The case study results on risk management administration:

- 63 percent of these banks have no risk management departments;
- Loan repayment is low across the region.

Discussion:

Although the agricultural banks in the Region are owned by their governments, some of them, especially those that started to do commercial banking in addition to agricultural credit, started to take notice of the importance of Basel resolutions concerning capital adequacy (i.e. take into consideration the different above-mentioned risks). As a result, a Risk Management Department was recently created in some of these countries, namely Egypt, Sudan, Morocco, Yemen and Jordan. However, most of these countries are beginners in this analytical method and lack the experience. Commercial banks in the Region are in no better shape, since they too are beginners and have little experience in this field. This situation is so compelling that the Central Banks have recently started to give it attention. They have called on the agricultural banks, which perform non-agricultural commercial banking operations, in addition to agricultural credit to observe Basel resolutions. They are also requiring Central Banks to give periodic instructions on risk definition and mitigation, especially that which pertains to capital adequacy, other risks pertinent to policies and work operations, designation of uncollectable debts. The banks are also being required to make the necessary appropriations for these risks and deduct the risk provision expenses of such appropriation from their declared profits. It is expected that greater consideration will be given to such risks and that there will be an increase in experience and knowledge of the method of defining and calculating them through bilateral agreements with the more developed countries. The study indicates that this is already in place in Egypt.

The case study results on the training of potential borrowers:

- 23 percent of the banks provide no training or advisory support to their customers; 27 percent of them only provide training to the small borrowers and to customers of microfinance;
- The most important training topics are the improvement of management and financial skills for the small entrepreneurs. Some banks also provide training in trade and crafts, conducting family business and computer courses to improve work performance;
- Training is conducted by the banks' credit officers, NGOs, or concerned ministries. In Egypt and Jordan, training for the potential microcredit borrower is provided at a very low cost by concerned ministries.

The case study results on agricultural extension and marketing:

- Forty-five percent of the financial institutions in the case study praised the role of agricultural extension in improving farmers' performance, particularly in Syria, Tunisia, Jordan, Egypt and Morocco; 55 percent of the organizations emphasized the weakness of the capabilities and role of agricultural guidance in their countries (Sudan, Yemen and Iraq).

Discussion:

Training is multi-faceted: one facet is necessary for raising the financial, administrative, and technical efficiency of the bank's administrative staff. This must be done in accordance with short-, medium-, and long-range plans that serve the training objectives and requirements.

Most of the agricultural banks do not give enough attention to training, sometimes due to the lack of awareness of its importance or in order to try to save on expenses. Lax training efforts suppress knowledge of new processes, tools and innovations and sustain old and conventional Ways of doing business. No bank can grow without strengthening its employees' knowledge. Employees are a vital asset and the bank must provide them with ongoing training to up-grade their performance, in addition to decent living and incentives.

An indication of lack of attention to training is that some banks do not give enough attention to enrolling trainees in the right training programme; trainees are sometimes enrolled in training programmes for which they are not qualified and their job requirements do not justify. The reason for this is that employee's nomination for training programmes may be based on personal rather than on objective considerations. A large part of the training is usually conducted abroad; therefore, attending such programmes is seen as personal prestige or as a grant from the bank to the employee, and the selection of an enrollee is based more on personal relations than on his or her needs. On the other hand, some banks do give this matter due attention and enroll good quality employees who do very well during and after training.

Most agricultural banks have training departments or divisions that provide training to the bank's employees. Most of these departments use part-time trainers from among the bank's own employees or from local educational institutes or universities. A number of institutes specialized in training in banking operations have been established in most of the Region's countries. These institutes are either independent of, or attached to, the Central Banks, nevertheless provide a high level of training. NENARACA is the only organization in the Region that provides rural finance training. It conducts three to four training programmes per year attended by over 100 trainees from member banks.

Another kind of training in the region is provided within the framework of microfinance to the small-scale borrowers under consideration. Many of the NGOs or concerned ministries organize training programmes to equip the enrollees with skills to start small family businesses, such as dressmaking, raising house animals, and making pastry, cheese, jam, pickles, juices, etc. This kind of training is necessary to enable the poor and women to find jobs and pay living expenses.

Some banks and the Ministries of Agriculture and of Development may help prepare, organize and finance such programmes. Agricultural banks also give loans to these people as part of their microcredit programmes. This is implemented in most of the Region's countries, with training sponsored by local NGOs strongly supported by international organizations concerned with microcredit. The overall aim of these interventions for the bank is to reinforce the borrowers' ability to obtain and repay loans.

Agricultural extension is a fundamental element of improving borrowers' performance and their repayment capacity. Advising the farmer on the kind of fertilizer that suits his farm, the proper time for planting, the effective insecticides for combating plant and animal diseases, and best agricultural practices is a fundamental factor in successful farming. Guidance must be combined with research to arrive at the best practices and advice appropriate to the farmer's environment and capabilities. Guidance must be directed at changing the traditional agricultural methods to help introduce new technology that improves product quality and increases productivity.

Marketing is equally important, since a farmer/borrower who is unable to market his crop will be unable to repay his debt. Due to its relations with the Ministry of Agriculture and the agricultural sector, the agricultural bank must give attention to the marketing question and must help the farmers find markets for their products. This can be achieved through agreements with foreign markets and/or the encouragement of time contracts, together with organizing the domestic markets, preventing monopolies, making marketing information easily accessible to the farmers, and having the bank give marketing loans to farmers and marketers for marketing and storing the crops until they can be sold.

Despite the lack of resources for the agricultural banks, the Arab governments and ministries of agriculture are generally making effort to improve their services of marketing, research and extension. To this end, there is a notable improvement in these services brought about by the availability of a large number of graduate agronomists hired by the ministries of agriculture and the agricultural banks, and continually taught and trained for these tasks.

Loan recovery management

The case study result on the loan recovery rate:

- In 2009, the average collection percentage for banks and companies covered by the study was about 72 percent.

Discussion:

Loan recovery was low among all institutions and is a major issue to be addressed. Monitoring of loan collection is important and must be treated accordingly, without losing sight of the other necessary positive factors that enable the borrower to repay his loan on the agreed maturity dates. The problem of delinquency on repayment has exposed the agricultural banks to the collapse of their financial positions and to a bad reputation in the country concerned and at the international development organizations. Reputation is a fundamental gauge of the bank's financial performance, and claims its full attention and absolute priority. A borrower, even if a successful entrepreneur, is likely to hold repayment of his debt to use the money for other businesses if not continuously reminded to repay his debt on maturity dates. This requires close monitoring by staff to continuously contact the debtors and demand debt repayment.

Most of agricultural banks have this monitoring setup to a certain extent, but the collectors are overloaded and therefore unable to contact their clients more than once; sometimes they cannot cover all of them. MIFs and most of the commercial banks collect almost all of their debts, while agricultural banks collect only 40–70 percent. This results from the assignment of a limited number of customers to a collector at MFIs and the commercial banks versus huge numbers of customers assigned to one agricultural bank's collector, thereby overloading him.

The case study results on incentives for loan collection staff:

- 63 percent of the banks use the incentive method for all employees and are not limited to top performers; however, they link this to levels of collections;
- 27 percent of these institutions use no incentive methods;
- 15 percent of these institutions use the inclusive incentive method by allocating a certain part to hard-working employees and top performers;
- In the past, the Iraqi Agricultural Bank set aside 0.1 percent of the loan amounts for use as incentives for the collection committees;
- None of the banks, except for the CAM in Morocco, use the method of assigning a maximum credit portfolio to a single credit officer.

Discussion:

Incentives at the commercial banks and MFIs are commensurate with the collector's performance, while incentives at the agricultural banks are low or are distributed to the employees uniformly without consideration to the employees' individual performance, except in few cases.

The case study results on incentives for borrowers' timely repayment of loans:

- 45 percent of the banks give encouragement incentives to customers who are dutiful in repayments.
- The most important incentives offered to customers who are dutiful in repayments are:
 - Raising the ceiling of future loans;
 - Offering new credit facilities;
 - Offering interest rate incentive discounts;
 - Lowering the interest rate for new loans;
 - Raising the borrower's credit-worthiness;
 - Improving the quality of service;
 - Reducing the guarantee requirement, disbursement mechanism and documentation;
 - "Super client service" incentives.

The case study results on penalties for default on repayment:

- 81 percent of the banks have measures and penalties (for non-repayment), and all of them have the right to legal persecution that may culminate in the sale of the collateral.
- The most important penalties against borrowers' default on repayment are:
 - Imposition of fines for default on installment payment at the rate of 1.5–4 percent;
 - Placing the name in the black list at the central bank;
 - Withholding approval of new loans.

Discussion:

Most of the banks do not give incentives to borrowers who make their repayments on maturity dates. Even fewer benefit from reductions in interest, although it should be noted that rates are often subsidized for all borrowers.

Also, very rarely does the agricultural bank impose fines against those who procrastinate in debt repayments. All these factors must be given due attention, because they reinforce the bank's financial

ability to meet the demand for loans, improve its profits, and help it cope with the different risks. Nothing impacts the bank's sustainability more severely than the problem of non-repayment and the accumulation of uncollectable debts.

The case study results on the evaluation of bad loans:

- All banks covered in the study emphasized that they conduct an overall evaluation of their financial portfolio.
- 82 percent of them make appropriations of a certain percentage for their non-performing loans, as is required by their bylaws.
- The loan-loss percentage ranges between 5.5 and 8 percent, or as provided for in the instructions of the central banks in their countries.
- The highest percentage of appropriations for uncollectable loans was made by the CACB in Yemen, amounting to 8 percent, and the lowest, 5.5 percent, by the Farmer's Commercial Bank in Sudan.
- The Agricultural Credit Corporation and the Development and Employment Fund in Jordan do not make any appropriations for uncollectable loans.
- Estimation of uncollectable loans:
 - Eighteen percent estimate the number of uncollectable loans.
 - Thirty-six percent of the banks comply with the conditions and instructions of the central bank.
 - In addition to the central bank's instructions, 46 percent of the banks have their own instructions concerning the extinction of loans.
- Uncollectable loan criteria:
 - That a loan has gone un-repaid from one to five years; this condition varies from one bank to another;
 - That an individual's or a company's bankruptcy has been filed;
 - That in case of death of a customer, he leaves no inheritance;
 - That it is impossible to prosecute a customer or that a customer has escaped from his country;
 - Legal persecution and debt redemption.

Discussion:

The appropriation for reserve allocation for non-performing loans is a duty of the banks. They need to care about transparency and about disclosing their true financial positions, because including the percentage of the bad debts in the closing accounts decreases the profit percentage or increases the percentage of the losses declared by these organizations. It is also an effective method that neutralizes the effect of risks that the bank had faced earlier. In addition, when it is undertaken periodically or annually, the bank rids itself, step by step, of the effects of risks it had faced previously and can avoid the accumulation of risks. If risks accumulate due to a lack of annual appropriations, eventually the effect will suddenly show, exposing the bank's financial status and exposing it to bankruptcy. Hence, the matter does call for periodical step-by-step treatment.

The problem remains as to how to determine the doubtful or non-recoverable loans, which is usually decided based on the Central Bank's instructions. The question continuously raised is this: Is it fair to treat agricultural loans like commercial loans? This issue is argued but has not been settled in many of the Region's countries. However, undoubtedly, the matter does not relate to the Central Bank's instructions alone; the bank must feel that this is a vital matter that affects its future and, therefore, the rules that it believes in must be established to reveal its true status.

In the Region, the agricultural banks' use of this loan loss reserve tool – to account for risks when they occur and to neutralize previous risks – and the resulting accumulation of bad debts or ageing of arrears in the portfolios of these banks is weak. Currently, it is used only by banks engaged in banking activities that come under the Central Banks and are bound by their instructions. For others, the accuracy of specifying non-recoverable loans and the appropriations is therefore known only by the departments that determine their size.

The case study results on exclusive (monopolistic) marketing organizations:

- Twenty-seven percent of the banks deal with exclusive (monopolistic) marketing organizations in their countries, Syria, Morocco and Tunisia. The rest of the countries do not have this practice.

Discussion:

This arrangement is effective to reduce the risk of delinquency because there would be one party that monopolizes the receipt of the crop as in Syria, where the Agricultural Bank receives grains, and in Tunisia, where the purchase of grain, tobacco and olive oil is the responsibility of specific government organizations. Although there are some exceptions of limited violation, it is one of the good measures of avoiding the problem of non-repayment of loans. This arrangement is not widespread in the Region, and when in place in some countries, as in the examples given above, some clients reject its monopolistic arrangement.

The case study results on the monthly salary deduction:

- 100 percent of the study subjects consider the monthly salary deduction optional;
- For 72 percent of the study subjects, the monthly deduction does not constitute a significant percentage of the repayment or guarantee of the loan;
- 28 percent of the study subjects (the Agricultural Credit Corporation, the Development and Employment Fund in Jordan, and the Agricultural and Cooperative Bank in Iraq) stated that the monthly deduction constitutes about 50 percent of the total loan repayment;
- All banks consider the regular monthly deduction from the employees' salaries as some kind of guarantee or guarantee reinforcement, except the Agricultural Credit Corporation in Jordan, which considers the deduction merely a mechanism for loan repayment with no relation to collateral.

Discussion:

Some banks may find some means to raise the level of debt collection, such as lending to farmers who have off-farm income from their public or private sector jobs. In this case, the borrower's repayment capacity and credit-worthiness would be better than in the case of farming alone. An agreement may be made with the borrower to transfer part of his/her regular salary to an account for repayment of his/her debts, which is done in Jordan and in many other countries. However, in most cases, this is done on an optional basis and with the approval of the borrower himself, and is not a precondition for obtaining the loan.

Information technology

The case study results on financial information:

- All banks, except the Iraqi Agricultural Bank, have a database and consider themselves to have efficient computer programmes;

- All banks and organizations deal with the central banks and have accessibility to their database.

Discussion:

All agricultural banks in the Region have software programmes that enable them to monitor loan and repayment activities and to show accurate and comprehensive financial positions of the banks. Additionally, these programmes are undergoing continual development and improvement. Many, but not all of them provide a banking core system to interconnect the central office and the branches, so that information may be received by the centre on a daily basis. Thus, the information is provided to the departments as it develops, enabling them to take the right decision at the right time. These programmes allow the branches and the centres to review the repayment status of every borrower, which facilitates monitoring of collection and classification of loans, specifying the yearly appropriations for doubtful debts and other needed information.

Other sources of information available in the Region are credit bureaus located in the Central Banks, which maintain an accessible list of black-listed customers so that agricultural banks may avoid or beware of dealing with them.

3. Agricultural insurance

3.1 INTRODUCTION

Worldwide, insurance is considered one of the methods adopted in some countries to cope with the various kinds of risks. In the NENA Region, insurance has formed an integral part in bank risk management practices for agriculture. The following section highlights the insurance mechanisms used by the agricultural banks.

Insurance companies aim at protecting the insured from likely losses. The premise of insurance consists in combining a large number of unpredictable small risks so that the annual losses caused by the entire group of risks can be statistically predicted. The more the number of insured cases increases, the more the actual results tend to equal anticipated results. This is called “the big numbers law”, which is generally not present in agricultural insurance in the Region. Insurance risk becomes small when it is possible to predict its occurrence and estimate the cost it entails. The insured (policy holder) pays a specific premium to the insurance company for insurance against risks designated by the policy holder. This premium usually covers part of the entire group’s losses in addition to another part of the insurance company’s expenses.

The most important risks the farmer faces are climatic risks, such as drought, floods, hail, frost, strong winds, dry *khamsin* and floods, which at times destroy the entire crop or part of it. There are other risks resulting from falling prices due to market dumping and an increase in supply, as well as those from plagues and diseases that strike crops and animals, partly or totally destroying them. All these risks may require taking certain measures to overcome their effects. Most often the various countries and their agricultural sectors seek a suitable tool to curb these risks; agricultural insurance, in its numerous forms, is one of them. Some parties may establish insurance or disaster funds to combat calamities.

Agricultural insurance is given serious attention worldwide, especially in developed countries because agriculture is concerned with the most important needs of human beings – those related to the life and preservation of mankind. The wide protection of agricultural activities against the risks that they are exposed to – at times catastrophic and large – is considered one of the methods used to cope with the problem.

Insurance companies specialized in agricultural production usually have statistics on the average number of risks to which a specific crop is exposed during a certain time period in a designated area. Using these statistics, these companies can determine the size of probable losses to the group of farmers in that area, the expenses it would sustain, and accordingly, the premiums required of the whole group.

For example, when the insurance company has statistics on the number of flood cases in a certain area during a specific time period (perhaps one year), it can determine the probable losses to the group of farmers in that area during that time period. On this basis, the company can determine the insurance premium required of the policy holder to cover these losses and the administrative expenses of the insurance company during the specified period. Therefore, the higher the number of policy holders whose farms are insured against flood, and the closer that number gets to the actual overall number of farmers in that area, the more accurate the insurance company’s expectation is with respect to losses and, consequently, the more practicable the specified premiums.

In consideration of the premiums paid to the insurance company, the company compensates the policy holder for losses caused by risks covered in the policy. The amount of compensation is determined in accordance with the agreement (policy) made between the insurance company and the policy holder. Such compensation may be equal to part or all of the losses incurred by the insured, depending on the pre-agreed conditions.

There are several forms of insurance, one of which is a general form applicable to all citizens who wish to use it and is offered by private insurance companies operating in the concerned country. Terms, conditions and rights applicable to a farmer under this form apply to the ordinary citizen. This may include life insurance for the farmer and his family, insurance against accidents, property insurance against theft and vandalism, health insurance and, at times, social insurance provided by social insurance organizations. More discussion on insurance philosophy and impact with some experiences of non-Arab countries in the Region is given in Annex 3.

3.2 EXPERIENCES WITH AGRICULTURAL INSURANCE IN THE REGION

Some of the agricultural banks covered in the study have some kind of insurance, including crop and animal insurance, provided by multi-purpose insurance companies owned by the private sector, as in Morocco and Tunisia, or by a multi-purpose insurance company owned by the government, as in Sudan. In both cases, insurance is voluntary, excluding Sudan, where the Agricultural Bank began requiring the borrowers to insure their crops and livestock as of the beginning of this year. There is another method of voluntary livestock insurance provided by a government or quasi-government department, as in Egypt and Syria. Most organizations have insurance on machinery that is financed by loans. In other organizations, there is life insurance for the borrower, as in Iraq and Egypt.

It can be generally stated that insurance on crops and on a borrower's life, which are most important, are not extensively available in the Region; and if available, they are limited, have only recently been implemented, and are not given due attention by the banks.

The sections below review the types of insurance available in the Arab countries.

The experience of insurance in Egypt

There is no insurance for crops in Egypt but there is livestock death insurance. There are also organizations and companies that guarantee repayment of small loans; their details are as follows:

- **The Egyptian Society for Cooperative Insurance:**
Founded in 1999, it is specialized in guaranteeing small loans, especially those financed directly or indirectly by the Social Fund for Development. The insurance policy guarantees repayment of up to 80 percent of the un-repaid loan.
- **Credit Risk Guarantee Company:**
Established in 1989, it is a joint stock company, jointly owned by a group of commercial banks. Its objective is guaranteeing repayment of small, medium, and microcredit.
- **The Orient Company for Insurance:**
This company issues policies for insuring poultry farms, livestock pens and agricultural crops against the risks of robbery and fire. It pays compensation in consideration of premiums paid by policy holders.
- **Livestock Insurance Fund:**
This is a semi-government fund attached to the Ministry of Agriculture. Its objective is to provide

veterinary services and fodder at subsidized prices. It also provides insurance for livestock against perishing, fire, accidents and robbery. Insurance premiums range from 1.5 to 2 percent of the value of the insured animal and compensation ranges from 94 to 100 percent of its value, depending on the type of insurance (ordinary or comprehensive). During the period 2003/2004 to 2007/2008, the number of insured animals increased from around half a million to approximately 700 000. The number of compensation claims paid for animals increased from approximately 1 000 to 1 700, with the value of compensation increasing from EGP6 million to EGP3 million.³

Forms of insurance which PBDAC deals in or requires

Life insurance for the borrower: The bank demands life insurance for the borrower and insurance for an investment project (to be in the bank's name and in its favour) as a prerequisite for granting credit, especially for investment loans, regardless of their terms. Insurance is required to cover the full amount of the credit and to remain valid until credit has been repaid in full. The borrower bears all insurance costs, which amount to approximately 0.35 percent (EGP3.5 for every EGP1 000). In case of the borrower's death or damage to the project, the insurance company compensates the bank by settling the remaining balance of the loan.

Insurance for the farm animals: The bank insures, in his name and in his favour, all the livestock heads purchased by the customer and kept at the project against all risks including perishing and emergency slaughtering. Additionally, large projects must be insured before the Notary Public against breach of trust, and all project assets must be insured at the customer's expense. The cost of this insurance comes to about 0.15 percent (EGP15 pounds for every EGP1 000).

Insurance for machines and equipment: The foregoing system applies here. Insurance costs are approximately 0.7 percent (seven pounds for every 1 000 pounds).

Vehicle insurance: Insurance must be comprehensive for vehicles for which a loan is being taken. The insurance cost is 4 percent (four pounds for every 100 pounds). However, this rate fluctuates from one company to another.

The experience of insurance in Sudan

- Insurance in Sudan is the responsibility of Shikan Company. It is a government establishment and provides all types of insurance including agricultural insurance. Agricultural insurance for products began with its implementation in the al-Jazirah project for cotton crops. Approximately 6 000 farmers benefited. Coverage was then extended to all the project areas and shifted to the irrigated areas to rainfall-dependent areas, and then to the horticulture sector and the forestry sector. In 1992, livestock resources were included in insurance coverage;
- The financial and technical indicators show the expansion of crop insurance from 2002 to 2008: premiums increased from SDD685 000⁴ in 2002 to SDD26 million in 2008; and claims raised from SDD80 000 in 2002 to SDD11 million in 2008;
- Also, the financial and technical indicators show the expansion of livestock insurance from 2002 to 2008. Premiums raised from SDD300 000 in 2002 to SDD1.4 million in 2008, while claims increased from SDD187 000 in 2002 to SDD383 000 in 2008;

³ US\$1 = EGP5.45 as at January 2010.

⁴ US\$1 = SDD2.3 as at January 2010.

Reinsurance:

- Reinsurance is considered one of the bases of implementation of the agricultural insurance programme; therefore, Shikan Company engaged reinsurance companies in the preparation for the implementation of insurance and in conducting the necessary studies. PartnerRe, one of the largest insurance companies in the world, was chosen for this task. In collaboration with the Shikan Company, it established the technical grounds for implementation and then conducted a training seminar on agricultural insurance operations attended by several parties concerned with agricultural insurance. Several agricultural insurance training programmes and seminars were held locally and abroad, including visits to Iran, Morocco, Tunisia and Niger;
- The Sudanese Government provided a large subsidy to reinforce agricultural insurance application in Sudan. The data indicate that the share of the Government in terms of insurance premiums payment has reached 33 583 559 pounds during the 2002–2008 period, which is equivalent to approximately 50 percent of the total premiums;
- At the end of 2003, the Government instituted the law on reducing agricultural risks through subsidizing agricultural insurance. The goals in establishing an agricultural insurance fund were to:
 - Mitigate agricultural risks;
 - Support and draw attention to agriculture, development of agricultural sector, and bringing in new technologies;
 - Develop areas affected by agricultural risks;
 - Encourage and support insurance companies engaged in agricultural insurance;
 - Stabilize the producers by compensating them for their losses;
 - Instill of a spirit of solidarity among the farmers;
 - Make reinsurance coverage available.

Agricultural insurance and the Sudanese Agricultural Bank

As can be observed, agricultural insurance in Sudan is completely independent of the agricultural bank and is operated by an autonomous government company. In the past, agricultural insurance against certain risks was not made compulsory by the agricultural bank, but it has recently become compulsory. Shown below are the kinds and conditions required of insurance by the bank:

Equipment and machinery insurance

Insurance for self-propelled agricultural machines (tractors, harvesting combines, etc.) is comprehensive. The bank insures these machines, and then the premium is added to the installments paid by the farmer. (The farmer is thus obligated to get insurance and pay the costs.) Insurance for other agricultural machines (towed machines, irrigation units, etc.) is optional. The bank, however, prefers that such machines are insured.

Insurance margin:

- For comprehensive insurance, it is 1 percent of the value of the machine;
- 1.5 percent of the value of the machine for comprehensive insurance with insurance against riots added, if so desired by the farmer.

Crop insurance

- Irrigated farming: Strategic crops, such as wheat and cotton, were designated to be insured, and the concerned farmer is required to produce the insurance policy to prove it. The insurance cost amounts to 7 percent of the production cost, 50 percent of which is borne by the farmer and the

other 50 percent by the Ministry of Finance. As of 2010, insurance for other irrigated crops has become compulsory to the farmer; the same percentage is applied and the Ministry of Finance bears 50 percent of the insurance cost;

- Rainwater-fed mechanized farming: All crops of this sector are to be insured, the most important ones being corn and sesame. The farmer is required to produce the insurance policy. Insurance cost amounts to 7 percent of the production cost, 50 percent of which is borne by the farmer and the other 50 percent by the Ministry of Finance.

Livestock and animal insurance

- Insurance for cattle: The insurance cost is 5–7.5 percent of the value of the animal, depending on the condition of the herd and the farm supplies. In practice, insurance cost ranges between 5–5.5 percent, and the farmer is required to produce the insurance policy and to bear the cost;
- Insurance for poultry: The cost of insurance for egg-laying poultry is 3 percent per year, and for meat poultry, 1.5 percent every 45 days. The farmer is required to produce the insurance policy and to bear the cost.

Noting the above examples, finance policies that have mandated compulsory insurance have contributed to its becoming a prerequisite for finance, except in certain cases in which the branches are unable to enforce it. However, beginning with the current season, insurance is compulsory for all activities. In the past, insurance was limited to machines but now covers crops, animal production and all activities. Premiums fixed by Shikan Company apply. The agricultural bank insures its properties, such as crops, warehouses, machines and cash, with the Shikan Insurance Company.

The experience of insurance in Morocco

Driven by the natural calamities' threat to agricultural production and curtailment of investment in this sector, the Government encourages the introduction of all kinds of agricultural insurance. It was established that private insurance companies would provide insurance against risks, such as fire and hail and calamities such as drought would have special assistance from the Government.

Agricultural insurance in Morocco aims at the following:

- encouraging the farmers to invest, especially in promising areas;
- reinforcing farmers' borrowing and financial capabilities;
- assisting in repayment of loans that the banks give to farmers, thereby encouraging finance to the agricultural sector;
- alleviating the Government's burden of giving financial assistance to farmers in case of natural calamities.

Types of insurance in Morocco

Insurance against hail:

- This insurance, which the specialized insurance companies provide in the agricultural field, seeks to estimate the quantitative and qualitative losses that hail causes to fruits and grain crops. Insurance against hail covers the value of crops declared by the farmer. There is a 10 percent deductible borne by the policy holder. It is notable that, due to a rise in the amounts of premiums paid by policy holders, the insured areas are shrinking.

Insurance against fire:

This covers grain, hay, herbage, citrus, agricultural machines, and agricultural buildings. Farmers insure grain against fire before harvesting (in May and June). The total insured grain area in a good farming season does not exceed 200 000 ha, i.e. 4 percent of the total grain-cultivated areas in Morocco.

Insurance against strong winds and storms:

This insurance concerns only the owners of the greenhouses and must be tied to insurance against fire. Insurance against strong winds and storms is conditional on the sheltered houses being designed and established by experts as well as on the erection of wind breakers.

Insurance against drought:

Drought has occurred on average once every two years during the last two decades instead of once every four or five years as it did prior. To cope with the situation, the Ministry of Agriculture is working to develop agricultural insurance, particularly against drought, as part of a strategy based on an institutional remedy for drought. The Moroccan Collaborative Agricultural Insurance Company is considered the major agricultural insurer, having a market share of more than 70 percent.

Insurance against livestock death:

This insurance covers only risks of death of cows and not of other livestock. Compensation amounts to 80 percent of the price of the insured animal as declared by the policy holder. The amount of the premium, however, does not exceed the pre-estimated value of each head of cow. Nonetheless, farmers' participation in this kind of insurance remains very limited, to a maximum of ten policies. This is attributable to difficulties in the identification of herds. The cattle identification system now underway at the Ministry of Agriculture will give a new momentum to this kind of insurance.

The Government's role in developing agricultural insurance services and the greatest hindrances to spreading them:

In addition to formulating legislation for insurance systems and working to implement them, the Moroccan Government plays an important role in developing insurance services by spreading insurance education among farmers and providing direct financial support for some kinds of insurance, such as insurance against drought.

Despite the efforts made by the Government and the private sector to develop the agricultural insurance services in Morocco, trust in insurance remains limited in the rural areas, for many reasons, *inter alia*:

- The high cost of insurance, especially against hail, because of the small number of participants and because they reside in areas that are more exposed to risks (adverse selection);
- Lack of confidence of some farmers in insurance due to religious considerations;
- Insurance coverage of some risks to the exclusion of others, rather than providing one comprehensive insurance policy;
- Difficulty of issuing individual insurance, especially one that is drought-related;
- Lowness of the level of compensations paid;
- Consideration of insurance as an additional production cost, especially since in times of drought, the Government intervenes to exempt farmers from repayment of their debts in case of drought in successive years;

- A lack of marketing of insurance products to farmers and weaknesses of farmers' vocational organizations for assisting in insurance support.

Development of agricultural insurance services in Morocco

A study is now underway of the possibility of implementing a new system for insuring grain farming against drought, i.e. weather-based index based on the following:

- Comprehensive coverage of many risks (drought, fire, and hail) founded on an individual insurance approach and individual evaluation of crops taking into consideration the particularities of each farm. These packages vary according to the agricultural areas, with consideration given to the most important natural risks;
- The amount of rainfall on small farms. It should be mentioned here that the Ministry of Agriculture is strengthening the network of meteorological stations in agricultural areas suitable for insurance; 56 automatic meteorological stations have been established.

It should be pointed out here that marketing this new system remains conditional on the Government's subsidization of the required installments in order to make them affordable by the farmers.

Agricultural insurance and Agricole Crédit du Maroc (CAM)

CAM stipulates that a borrower obtain insurance in the following cases:

- Insurance against drought for grain production loans, which is insured through the Emergency Fund;
- Insurance against hail for loans for fruit trees in areas facing hail risks;
- Insurance on tractors and transport vehicles with private insurance companies;
- Life insurance for housing or investment loans with private insurance companies;
- Insurance on material in storage in case of loans for storage (grain, oil, etc.).

The experience of insurance in Tunisia

The insurance sector in Tunisia comprises 13 organizations, the following six of which are involved in insuring agricultural activities:

- Tunisian Fund for Cooperative Agricultural Insurance (CTAMA), the only specialized organization in the agricultural sector whose work volume constitutes 86 percent of the agricultural insurance transactions;
- Tunisian Company for Insurance and Reinsurance (STAR);
- Mediterranean Company for Insurance and Reinsurance;
- Insurance Complex of Tunisia (GAT);
- Lloyd Insurance Company;
- Union Company.

The Tunisian Fund for Cooperative Agricultural Insurance (CTAMA)

The Tunisian Government established the cooperative fund for agricultural insurance (CTAMA) in 1966.

The Fund's activity evolved to include many risks, such as hail, crop fire, agricultural equipment and fishing. The Fund pays compensation for losses resulting from agricultural risks. It is a non-profit-oriented operation with a cooperative feature, and it depends on its members for its funding. It insures

farmers in all Tunisian provinces, without exception, including even those known to be hail-stricken. The Fund has nine provincial departments and 46 branches.

Insurance premium: The policy holder pays for insurance against hail, as follows: 8.5 percent for grain; 11 percent for grapes, olive trees, and winter vegetables; 13 percent for citrus, palm trees, and summer vegetables; and 15 percent for fructuous trees and nurseries.

The Nature Calamity Fund: The Cooperative Fund for Compensation for Agricultural Losses, founded in 1986, is specialized in climatic insurance. The Tunisian Fund for Cooperative Agricultural Insurance (CTAMA) was entrusted with the payout claims of this Fund. This Fund's objective is to compensate the farmer for part of his agricultural expenses when his major crop is damaged by drought or heat. Participation is optional. The premium is 6 percent of the expenses in return for 30 percent of the value when damages occur. Every time participation is increased by 1 percent, compensation is increased by 5 percent up to a maximum of 95 percent of the expenses. However, this Fund is currently not operational because of lack of participation, which, according to the farmers, is attributed to high participation cost and low compensation rate.

Kinds of risks covered by insurance are:

- Insurance against hail. Compensation is based on the member's declaration and on the CTAMA's report. It covers grain, all kinds of olive trees, all kinds of citrus, fructuous trees, grapes, and irrigated farming (vegetables);
- Insurance against fire (buildings, fields and fodder, haystacks, goods and supplies, etc.);
- Insurance against perishing of livestock (cows, horses, goats, sheep, poultry, camels, etc.);
- Agricultural equipment (tractors, harvesting machines, and vehicles);
- Insurance against the sinking and damage of ships and fishing craft;
- Insurance of greenhouses and the plantations they contain against damages caused by winds. Insurance offers guarantees for covering these greenhouses, irrigation supplies, heating, aeration and medical treatment, as well as the plantations inside these houses.

Accomplishments of agricultural insurance:

- Despite the importance of insurance in compensating the farmer for his losses and in enabling him to persist in his agricultural occupation, insurance has not been a big attraction and it remains largely limited to cases in which banks make loan-giving contingent on the availability of insurance;
- The appeal of insurance coverage remains under the desirable level, since policy holders make no more than 40 000 out of a total of 516 000 farmers, i.e. about 7.7 percent of the overall number of farmers;
- Agricultural insurance constitutes 4 percent of the overall total of the insurance sector's transactions;
- Insurance coverage in the agricultural sector comes to no more than:
 - 3 percent of the number of fructuous trees;
 - 10 percent of the total area of major plantation;
 - 3.5 percent of the number of olive trees;
 - 7 percent of the number of heads of purebred cattle;
 - 20 percent of the fishing fleet.

Insurance is compulsory for all farmers who have agricultural loans, because banks set insurance as a precondition for obtaining a loan.

In view of the weak participation in insurance against agricultural risks, a revised plan for this system was made in 2001, which focuses on the following:

- Expanding insurance coverage to include agricultural activities that are currently uncovered, such as frost, excessive heat and beekeeping;
- Using multi-risk insurance agreements and making insurance service easier for the farmer to access by having banks distribute the insurance agreements;
- Establishing more branches of the insurance companies in areas where they are lacking;
- Simplifying the insurance agreement articles, setting up maximum time spaces for the preparation of loss reports and filling the shortage in the number of field experts;
- Facilitating the payment of insurance premiums by small farmers and speeding up payment of their compensations;
- Expanding insurance to include all activities financed by loans;
- Combining insurance costs with the costs of any agricultural project financed by banks and considering them part of the investment costs;
- Encouraging farmers to engage in group insurance at a reduced rate.

A study conducted by the Tunisian Insurance Fund to determine the extent of farmers' acceptance of this service shows the following:

- 60 percent of the farmers are aware of the importance of insurance;
- 50 percent of the farmers who participate in compulsory insurance (being borrowers) are contemplating participating voluntarily;
- 63 percent of farmers currently with insurance intend to renew it;
- 70 percent of the uninsured farmers suffered damages to their crops.

The National Security Fund

This Fund was established in 1981 with the objective of securing the repayment of all kinds of loans including agricultural ones. The farmer pays to the Fund 2 percent of an investment loan, and 1 percent of a seasonal loan in consideration of the Fund's compensation to the banks in case of non-repayment of a loan, according to the following:

- Settlement of 70 percent of the un-repaid investment loans and 90 percent of the un-repaid seasonal loans, after all legal methods for collection have been exhausted (applicable to small and medium farmers);
- Settlement of the interest in case of loan rescheduling in areas stricken by calamities, after the Government has announced the occurrence of a calamity in the concerned area.

This Fund benefits small- and medium-scale farmers, as well as all kinds of farmers (small-, medium-, and large-scale) who have seasonal loans for major plantations (grain), especially in case of drought.

Agricultural insurance and the National Agricultural Bank of Tunisia

The bank requires the borrowers to sign an insurance agreement, with an amount equal to the loan amount by which the insurance company commits itself to compensate the bank in case of a calamity resulting in damages to mortgaged crop or machines. If the loan collateral is the borrower's salary (if the borrower is an employee), life insurance for the borrower becomes necessary.

The borrower chooses the insurance company that suits him, and insurance is completed under the terms and conditions in force at the chosen company. The borrower bears the insurance costs that differ from those agreed on, including the following:

- Major plantation (grain): Insurance against fire and hail;
- Fructuous trees: Insurance of the crop against hail;
- Purebred milk cows: Insurance against perishing of cattle;
- Tractors and trucks: Insurance against fire, theft, accidents, and personal liability;
- Fishing vessels and supplies: Insurance against loss (sinking, damage, or fire).

The agricultural insurance experience in Syria

There is no crop insurance in Syria, governmental or otherwise. The Livestock Fund is now the only institute that renders quasi-agricultural insurance services in Syria. This Fund was established in 1999 pursuant to a decision by the Ministry of Agriculture. It began operation in 2000, aiming at rendering services to livestock producers (milk cows as a first stage), and compensating them for loss of their livestock resulting from sudden death or compulsory slaughtering, at the rate of 75 percent of the value of the insured animal. The office building of the Fund houses the Agricultural Chambers Union, and the Fund's Manager is the Manager of the Syrian Agricultural Chambers Union and has no connection with the Syrian Insurance Organization or the private insurance companies. The main features of the Fund are:

- The Fund's revenue is derived from membership fees, interest on deposits with the banks, proceeds from investment and advertisements, and grants;
- The Fund's membership is acquired by completing an application form. The term of membership is six months to a year, and is renewable. The animal being insured is examined by the membership committee, and immunized against epidemic and contagious animal diseases. The membership fee is determined on the basis of the animal's market value or purchase invoice;
- Compensations are disbursed in accordance with the terms and conditions of the Fund's regulations. Compensation is limited to 75 percent of the perished animal; however, only half of the compensation is paid in case of negligence. No compensation is paid in case of non-compliance with the regulations or death resulting from failure to treat the animal.

The Syrian Government is seeking to introduce crop insurance, but has not decided if a Government or a national insurance company should assume this responsibility. The Government has prepared a regulation for the establishment of an agricultural insurance fund, which has not yet been approved due to administrative and financial difficulties.

The experience of insurance in Jordan

Agricultural insurance services are not available in Jordan. Despite repeated Government's attempts and those by the donor organizations in the 1990s to introduce this kind of insurance, no effective steps were taken at the time. Private insurance companies were refusing to embark on agricultural insurance under the pretext that it would entail high costs and cause losses. The Government did not take any serious measures, perhaps for the same reasons given by the insurance companies.

In 2007, the Government issued a law to establish an Agricultural Risk Management Fund, which aims at tackling the effects of the calamities of nature. The basic principles for the Fund's operation were prepared and a Fund's manager was appointed, reporting direct to the Minister of Agriculture. However, the Fund has not begun to operate due to lack of the necessary finance. The Fund's work method is summarized as follows:

- Premiums would be determined on the basis of the productivity of one unit of area for the last three years for insured crops. The same applies to insured livestock;
- The farmer must contribute no less than 50 percent of the premium;

- It is preferable that, in the beginning, insurance be made for specific crops against specific risks, giving priority to drought and un-irrigated crops, and projects financed by loans from the Agricultural Credit Corporation;
- Compensation must be no more than 75 percent of the insurance value, and no compensation would be paid if the losses are less than 25 percent of the insurance value.

Among the often-occurring risks that afflict the farmers are frost and floods, which often occur in the Jordan Valley. The Government usually compensates the farmers whose farms are stricken by these calamities, on the basis of estimates of losses made by specialized committees.

The almost yearly droughts have forced the Jordanian Government to step in to compensate the farmers and livestock producers who depend on pasturing. Compensation was provided in a number of ways, the most important ones being:

- Exempting borrowers from interest on loans, and rescheduling of the loans;
- Supplying the livestock raiser with fodder at subsidized prices;
- Giving financial compensations.

During the 1985–2005 period, compensation caused by the above-mentioned calamities totaled JOD35 million⁵, given in the form of exemption from the interest on agricultural loans. Also, the Government paid cash compensation totaling JOD2.5 million during the 1990–2005 period. Such payments can be considered a kind of quasi-insurance.

5 US\$1 = JOD0.708 as at January 2010.

4. Assessing risk management measures examined by the case studies

4.1 AN ANALYTICAL REVIEW

A bank's ability to manage risks is determined by the extent of its commitment to adopt the policies and practices that alleviate risk severity. The study divided these policies and practices into seven categories and a total of 32 indicators was used to measure them. A summary of the findings from the detailed information and data collected on each indicator is given below.

Collateral management: The study assumed that whenever the collateral presented for securing a debt is of the immovable kind, the bank's position is better in terms of risk, because movable collateral may entail some risks. Therefore, most banks stipulate immovable collateral for large, medium, and long-term loans, and they accept movable collateral and personal guarantees for short-term loans, small loans and microcredit.

Loan management: The study assumes that the bank's ability to cope with risks is strengthened whenever it evaluates the credit-worthiness of the borrower and his project so accurately as to reflect his circumstances and his project, as well as when the lending decision is taken based on the results of this study at a number of staff levels, i.e. such a decision is made collectively rather than individually. This is in addition to the sheer importance of loan portfolio diversification to include agricultural and non-agricultural loans.

Loan recovery management: The study assumes that the bank's financial position can become better whenever collection is done in accordance with accurate and sound mechanism, and that collection efficiency is enhanced if there is a mechanism for automatic loan repayment through government organizations that take delivery of and/or market the crops, or through deduction from the salary of the borrower or a member of his family. Also, it assumes that the collection level improves if: fines are imposed on defaulters; those who repay on time are awarded, and branches and agencies are awarded based on their collection performance; and the bank uses transparency in preparing collection statistics and its financial position. Also, the bank becomes more capable of averting risks when it has timely and accurate determination of the amount of non-performing loans and makes appropriations for them as they occur, because it thus identifies and addresses risks earlier and does not allow them to accumulate in the financial portfolio for subsequent years.

Insurance: The study assumed that all kinds of insurance reduce risks. Crop insurance may reduce risks of natural calamity and crop loss; insurance on the borrower's life and on his property, buildings, machines and livestock against various calamities is a primary factor of risk reduction. Therefore, banks in countries where agricultural insurance is available are in a better position to cope with risks than banks in countries where insurance is unavailable.

Information technology: The study assumes that the bank will not be able to monitor its financial position and take the right financial decisions unless clear and fully transparent financial information is available. Hence, it is important to have available a computer program that produces individual and collective financial data of the borrowers and of the complete institution. This is an important factor for

following up on collection processes and taking the right decisions. Also, a central database on previous financial dealings history of the borrowers is an important source that can be consulted when decisions are being taken on loans, especially large ones. The availability of both sources of accurate and timely information allows the bank to make sound loan decisions.

Governance: The study infers that the indicators shown under governance have direct relation to the risks. When the bank is owned by the private sector, is completely independent, and takes its decisions according to market mechanisms, it attains better results. This applies to guidance and training of the customers or the employees. The availability of these services improves performance and reduces risks. Also, the availability of a department specialized in risk management enables the bank to monitor all kinds of risks and to bring them to the management's attention before they occur in order to take the necessary measures, mitigate their negative effects, or improve positive effects. Also, governmental ownership and the expectation of periodic bailout also serve as strong deterrents to agricultural banks adopting sound risk management practices and are a major cause for the better performance of private banks who must protect the investment of their shareholders.

The banking business: The study accepts that carrying out various banking activities, including savings mobilization, is advantageous to the agricultural banks because it improves the bank's financial sources and independence, and instills the right banking spirit among its employees, such as competitiveness, profitability, innovation and performance efficiency. All of these constitute an effective tool for dealing with risks. The bank's practice of these activities, despite the additional risks they entail, is advantageous to the bank if sound financial and administrative standards are observed.

4.2 ASSIGNMENT OF NUMERICAL VALUES TO THE CASE STUDY RESULTS

Table 1 shows a summary of data and information collected on risk management in the Region. It was based on the findings given in Chapter 2 of the study. It comprises seven categories totaling 32 indicators related to risk management, each containing a number of indicators that define the bank's position with respect to each of them. This table contains information on distinct kinds of banks, six of which are primarily agricultural banks that also provide non-agricultural banking activities. These six banks are the agricultural banks in Egypt, Morocco, Tunisia, Sudan, Syria, and Yemen. Two other banks, the Islamic Cooperative Bank and the Farmer's Commercial Bank in Sudan, principally do banking in addition to agricultural credit. There is also one microcredit institution, the Development and Employment Fund in Jordan, and two institutions, the Agricultural Bank in Iraq and the Agricultural Credit Corporation in Jordan, which do only agricultural credit. The information contained in the table was taken as the basis for the numerical evaluation (assigning weights) of the policies and methods contained therein. Many of these indicators are qualitative assessments and thus, the relative differences among organizations should be noted more than the actual numeric value.

In order to make a numerical evaluation (assign weights) of the risk management policies and practices adopted in the banks covered by the study, the 32 risk management indicators were divided into seven categories, as mentioned above: collaterals, loan management, loan recovery management, insurance, information, governance and banking business. Based on the research experience and their discretion, hypothetical weights, as shown below, were assigned to each category on basis of their importance in reducing the risks. These weights are as follows: collateral management, 15 points or percent; loan management, 18; loan recovery management, 12; insurance, 15; information technology, 10; governance, 15; and banking business, 15. As is evident, these scores total 100 points or 100 percent. Thus, any bank fully committed to complete implementation of the sound policies and practices of risk management would be given a score of 100, and a bank with partial implementation receives a lower score. These scores

are determined based on the evidence of a bank's implementation of the 32 indicators of risk management policies and practices.

Hypothetical weights were also assigned to each of the categories' components or indicators. Accordingly, the extent of commitment to the implementation of the risk management policies and practices is estimated at the highest level of 100 percent in case of full implementation, and proportionally less depending on the policies and practices implemented within a certain category. For instance, full implementation of the components of the category "collateral management" was given a score of 15 points. Collateral management, which consisted of five indicators each, was given hypothetical weight depending on its importance in relation to risk management within the same category. As shown in Table 2, the five indicators within collateral management category were given the following hypothetical weights: requesting immovable collateral = 6 points; acceptance movable collateral = 2 points; percentage of the loan of total value of collateral = 4 points; cost of mortgage = 2 points; warehouse receipts = 1 point; i.e. the total points of collateral management indicators will be 15.

To find a bank's score for each one of the seven categories, and if using the collateral as the example again, the real position of the bank may be compared with respect to the five indicators of collateral management in Table 1 and scores assigned to each one of them. For instance, if we take the ACB-S of Syria in column one in Table 1, we find the following: for "requesting immovable collateral", the answer is yes, which means that the score of this indicator for the ACB is 6; if the answer is no, the score will be zero. The same method is applied to the other four indicators. Thus, the total score of ACB-S for collateral management was 14, which means that the ACB-S commitment of applying the collateral measures against risk was nearly fully achieved – 14 points out of 15.

This process is repeated for each of the 32 indicators for the 11 banks. A bank's points for each category are determined: the points are added together and their overall total is its score in implementing the necessary policies and methods to stave off the suggested risks. Table 2 has been prepared showing these scores within each category. Table 3 then summarizes these results and shows each bank's score with respect to capacity for staving off risks.

Here, it must be noted that this mathematical model has some weaknesses, as follows:

- This model assumes that Table 1, on which the analysis was based, is factual, while the true situation of the bank is perhaps in some aspects different from what is shown in the table, owing to human errors or gray areas in some of this information;
- The study assumes that the risk management factors that it includes are all the risks that the bank faces. This is an incorrect assumption because other risk factors were not taken into consideration, such as the caliber of bank management and the policies under which the bank operates. These factors are of utmost importance, but are very complex to measure and would need a separate study. In sum, this study assumes that the other factors are constant;
- The study assumes that as long as the bank's rules contain certain measures for risk management, the bank implements these measures fully and correctly. This is not certain because the application efficiency is different from one bank to another. However, this is not easy to evaluate and examine by external experts; the risk department in the concerned bank can better deal with it;
- The assignment of weights totaling 100 points to the seven categories, and assignment of weights to the components of each category is a subjective matter;
- Thus, determination of a bank's score in each group is greatly dependent on personal discretion and is very subjective because of the gray areas involved.

Therefore, the final criteria of the 11 banks' standing with respect to management of risk covered in this study are approximate to a large extent and may not accurately represent the true situation; they could be said to be nearly-true relative estimations, suitable for comparison.

4.3 DISCUSSION AND ANALYSIS OF THE CASE STUDY RESULTS

A summary of the 11 banks' scores is given in Table 3. The results show the following salient points:

- Most banks excel in the management of collateral — the average is 13.1 out of 15; in loan management, the average is 14.5 out of 18; and in the availability of good information technology system at the bank level and the country level, the average is 10 out of 10;
- Weaknesses are evident in loan recovery management, the average being 6.5 out of 12: in insurance 6.7 out of 15; in governance, 8.6 out of 15; and in the application of banking business, 10 out of 15;
- The study showed that the most efficient banks in risk management mitigation among the 11 banks included in the study were: CAM of Morocco, with a score of 84, PBDAC of Egypt, with 83; ICDB of Sudan, with 83; the Banque Nationale Agricole (BNA) of Tunisia, with 80; and FCB of Sudan, with 79. These banks are therefore applying appropriate risk management measures to an acceptable extent relative to other banks in the study. These scores reflect the kind of policies and practices that these banks are applying in terms of banking, diversification of loans portfolio to include agricultural and non-agricultural loans, and in adopting certain types of insurance;
- The major factors that created the differences in scores among the banks were related to whether the bank is executing banking business, diversifying its loan portfolio to include non-agricultural loans, and adopting any type of insurance. For instance, the low scores of ACC of Jordan (54), ACB-I of Iraq (45), DEF of Jordan (55), and ACB-S of Syria (59) are related to the lack of the above-mentioned three factors or practices in these banks. Other factors or practices are similar or close to the average scores and close to good banks' scores;
- It is obvious that the commercial banks such as ICDB (scored 83) and FCB (scored 79) of Sudan are in a better position than the agricultural banks, which do not practise commercial banking. No significant differences are seen in other factors. Some agricultural banks provide full-scale banking services, such as CAM/Morocco (scored 84) and PBDAC/Egypt (scored 83) and BNA/Tunisia (scored 80). All these agricultural banks scored similarly to or higher than at least one of the two commercial banks;
- As regards the only microcredit institution included in the study, DEF of Jordan, which scored 55, showed low risk management capability. This is the result of only engaging in microcredit and not microfinance, i.e. not mobilizing savings and other banking business. This is a very important factor for such institutions to consider towards achieving sustainability. It is true that this institution is backed by the Government of Jordan, but this cannot be guaranteed in the long term. Most microcredit institutions face the same dilemma because they are dependant on donors. To order to achieve sustainability, they charge the poor exuberant interest rates;
- All of these limitations must be taken into consideration when examining and evaluating the given results.

The research did not include the interest rate as a factor within the examined categories, yet some banks probably lend at a negative real interest rate. The justification is that the category of banking indirectly includes the interest rate factor. The banks that carry out commercial banking must have a positive interest rate or they would not be able to compete in a free market. The banks that provide only agricultural credit charge low or negative interest rates. Therefore, adding this factor would duplicate the counting. The scores would be higher for those that carry out non-agricultural banking and lower for those that do not.

Table 1. Summary of bank risk mitigation measures: policies and practices

No.	Item/bank	ACB-S Syria	BNA Tunisia	ICDB Sudan	FCB Sudan	AB Sudan	DEF Jordan	ACC Jordan	CACB Yemen	PBDAC Egypt	CAM Morocco	ACB.I Iraq
First: Collateral management												
1	Requests immovable collateral	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	Accepts movable collateral	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	Percentage of loan/collateral	80%	70%	65%	70%	75%	60%	75%	60%	70%	100%	80%
4	Percentage of mortgage cost to client	Free	2%	n.a.	n.a.	2.5%	0.016%	Free	n.a.	n.a.	n.a.	n.a.
5	Warehouse receipts collateral	No	No	No	Yes	Yes	No	No	No	No	Yes	No
Second: Loan management												
1	Bases loan decision on credit-worthiness and repayment capacity assessment	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	Number of tiers in the loan decision	3	5	6	6	9	3	5	4	5	4	3
3	Has a diversified loan portfolio	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	No
4	Issue advance contract loans/ Bai-As-Salem	No	No	Yes	Yes	Yes	No	No	No	No	No	No
5	Permits lending to cooperatives and groups	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	Percentage of loan/total investment cost	70%	70%	High	80%	80%	75%	75%	65%	55%	70%	n.a.
Third: Loan recovery management												
1	Evaluates loan portfolio	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	Makes provision for bad debts	n.a.	6.5%	n.a.	5.5%	n.a.	No	No	8%	Yes	7%	n.a.
3	Imposes loan default fines	Yes	Yes	No	No	No	No	No	Yes	No	Yes	No
4	Presence of state monopolistic marketing agencies	Yes	Yes	No	No	No	No	No	No	No	Yes	No
5	Percentage of loan pledged by a monthly salary	No	No	No	No	No	60%	50%	No	No	No	No
6	Staff incentives for loan collections	No	No	No	No	No	No	Yes	No	Yes	Yes	Yes

No.	Item\bank	ACB-S Syria	BNA Tunisia	ICDB Sudan	FCB Sudan	AB Sudan	DEF Jordan	ACC Jordan	CACB Yemen	PBDAC Egypt	CAM Morocco	ACB.I Iraq
Fourth: Insurance												
1	Insurance is mandatory	No	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
2	Crops/trees insurance	No	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No
3	Insurance on asset/project	No	No	Yes	Yes	Yes	No	No	No	Yes	No	No
4	Livestock and animal insurance	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
5	Equipment and machinery insurance	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
6	Life insurance	No	No	No	No	No	Yes	No	No	Some loans	Yes	Yes
7	Insurance against drop of prices	No	No	No	No	No	No	No	No	No	No	No
Fifth: Information technology												
1	Has effective bank software	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	The Central Bank has a loan client database	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sixth: Governance												
1	Independent bank governance	Autonomous	Autonomous	Private bank	Private	Autonomous	Autonomous	Autonomous	Autonomous	Autonomous	Autonomous	Autonomous
2	Training provided to some potential borrowers	No	No	Yes	No	No	Yes	Yes	No	Yes	No	No
3	Provides agricultural extension	Very good	Very good	Fair	Fair	Good	-	Good	Fair	Excellent	Excellent	Fair
4	Has a Risk Management Department	No	Yes	Yes	No	Yes	Special arrangement	Yes	Yes	Yes	Yes	No
Seventh: Banking business												
1	Undertakes full banking services	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
2	Mobilizes savings	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No

Table 2. Evaluation scores of case study mitigation measures: policies and practices

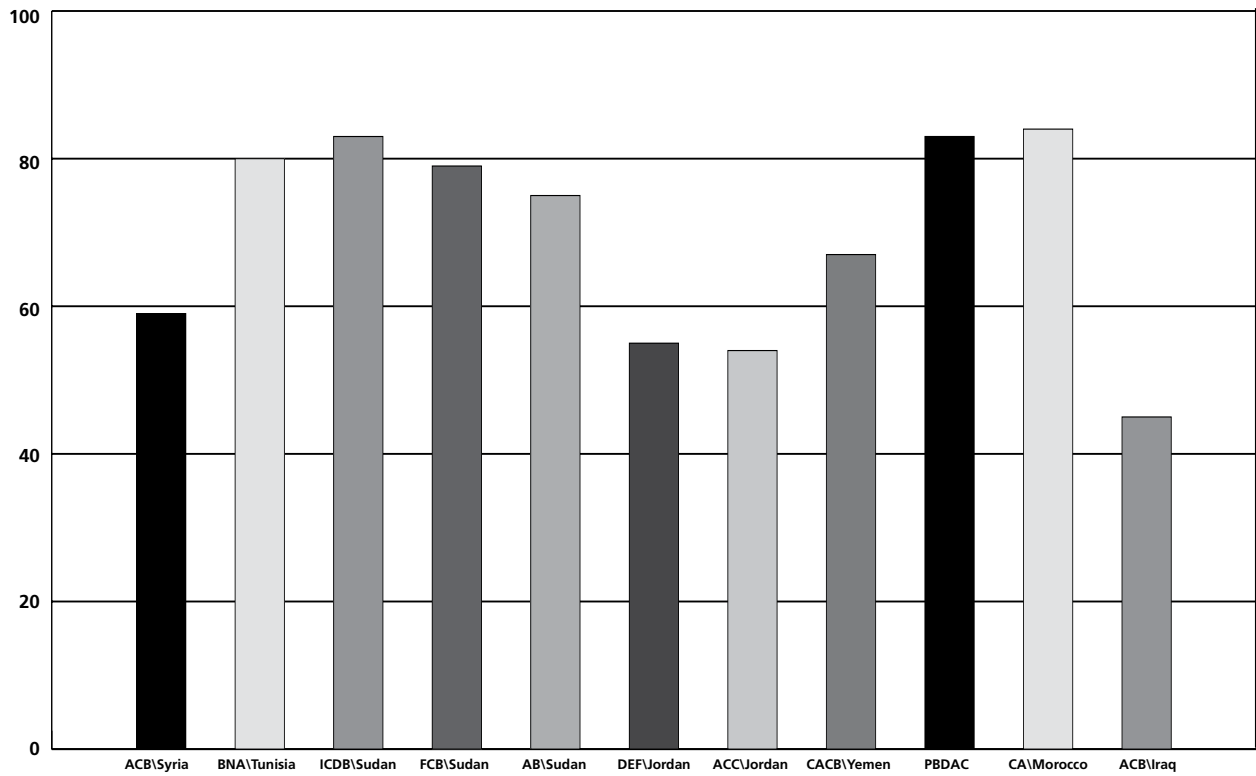
No.	Categories Score (out of 100)*	ACB-S Syria	BNA Tunisia	ICDB Sudan	FCB Sudan	AB Sudan	DEF Jordan	ACC Jordan	CACB Yemen	PBDAC Egypt	CAM Morocco	ACB-I Iraq
First: Collateral management (15)												
1	Requests immovable collateral (6)	6	5	6	6	5	6	6	6	5	5	5
2	Accepts movable collateral (2)	2	2	2	2	2	2	2	2	2	2	2
3	Percentage of loan/collateral (4)	4	4	4	4	4	4	4	4	4	3	4
4	Percentage mortgage cost to client (2)	2	2	1	1	1	2	2	2	1	1	1
5	Warehouse receipts collateral (1)	-	-	-	1	1	-	-	-	-	1	-
Second: Loan management (18)												
1	Bases loan decision on credit-worthiness and repayment capacity assessment (5)	5	5	5	5	5	5	5	5	5	5	5
2	Number of tiers in loan decision (4)	4	4	4	4	3	4	4	4	4	4	4
3	Has a diversified loan portfolio (3)	-	3	3	3	-	3	-	3	3	3	-
4	Issues advance contract loans/Bai-As-Salem (3)	-	-	3	3	3	-	-	-	-	-	-
5	Permits lending to cooperatives and groups (1)	1	1	1	1	1	1	1	1	1	1	1
6	Percentage of loan/total investment cost (2)	2	2	2	2	2	2	2	2	2	2	1
Third: Loan recovery management (12)												
1	Evaluates loan portfolio (3)	3	3	3	3	3	3	3	3	3	3	3
2	Makes provision for bad debts (2)	2	2	1	2	1	-	-	-	2	2	1
3	Imposes loan default fines (2)	2	2	-	-	-	-	-	-	2	2	-
4	Presence of state monopolistic marketing agencies (2)	2	2	-	-	-	-	-	-	-	1	-
5	Percentage of loan pledged by a monthly salary (1)	-	-	-	-	-	1	1	-	-	-	-
6	Staff incentives for loan collections (2)	-	-	-	-	-	-	2	-	-	2	2

No.	Categories Score (out of 100)*	ACB-S Syria	BNA Tunisia	ICDB Sudan	FCB Sudan	AB Sudan	DEF Jordan	ACC Jordan	CACB Yemen	PBDAC Egypt	CAM Morocco	ACB-I Iraq
Fourth: Insurance (15)												
1	Insurance is mandatory (4)	-	4	4	4	4	-	-	-	4	4	-
2	Crops/trees insurance (2)	-	2	2	2	2	-	-	-	-	2	-
3	Insurance on asset/project (3)	-	-	3	3	3	-	-	-	3	-	-
4	Livestock and animal insurance (1)	1	1	1	1	1	-	-	-	1	1	-
5	Equipment and machinery insurance (1)	1	1	1	1	1	1	1	1	1	1	-
6	Life insurance (3)	-	-	-	-	-	3	-	-	2	3	3
7	Insurance against drop of prices (1)	-	-	-	-	-	-	-	-	-	-	-
Fifth: Information technology (10)												
1	Has effective bank software (7)	7	7	7	7	7	7	7	7	7	7	7
2	The Central Bank has a loan client database (3)	3	3	3	3	3	3	3	3	3	3	3
Sixth: Governance (15)												
1	Independent bank governance (6)	3	3	6	6	3	3	3	3	3	4	3
2	Training provided Sixth: Governance (15) to some potential borrowers (2)	-	-	2	-	-	2	-	-	2	-	-
3	Provides agricultural extension (3)	3	3	-	-	2	2	2	2	3	3	-
4	Has a Risk Management Department (4)	-	4	4	-	4	1	4	4	4	4	-
Seventh: Banking business (15)												
1	Undertakes full banking services (9)	-	9	9	9	8	-	-	-	9	9	-
2	Mobilizes savings (6)	6	6	6	6	6	-	-	-	6	6	-
Total score = 100		59	80	83	79	75	55	54	67	83	84	45

These weights are as follows: collateral management, 15 points or percent; loan management, 18; loan recovery management, 12; insurance, 15; information technology, 10; governance, 15; and banking business, 15.

Table 3. Summary of evaluation scores: policies and practices

No.	Category	Total scores assigned to each category	ACB-S Syria	BNA Tunisia	ICDB Sudan	FCB Sudan	AB Sudan	DEF Jordan	ACC Jordan	CACB Yemen	PBDAC Egypt	CAM Morocco	ACB-I Iraq	Average
1	Collateral management	15	14	13	13	14	13	14	14	12	13	12	12	13.1
2	Loah management	18	12	15	18	18	14	15	12	15	15	15	11	14.5
3	Loan recovery management	12	9	9	4	5	4	4	6	7	7	10	6	6.5
4	Insurance	15	2	8	11	11	11	4	1	1	11	11	3	6.7
5	Information technology	10	10	10	10	10	10	10	10	10	10	10	10	10.0
6	Governance	15	6	10	12	6	9	8	11	7	12	11	3	8.6
7	Banking services	15	6	15	15	15	14	-	-	15	15	15	-	10.0
Total score		100	59	80	83	79	75	55	54	67	83	84	45	69.4

Figure 1. Banks' evaluation scores on risk management as shown on Table 3

5. Recommendations

Based on the previous review of the policies, practices and measures in effect at the agricultural banks in the Region, the following recommendations may be made for reinforcing risk management in rural finance in the Region:

5.1 COLLATERAL MANAGEMENT

Collateral

Collateral requirements continue to be adjusted and made more flexible in all agricultural banks in the Region to the extent that all institutions are now giving small and micro loans under personal guarantees, which give small farmers and the poor better access to loans. Yet, some agricultural banks have not come up with proper procedures and solutions to cope with risks stemming from such procedures. Therefore, any loan collateral policy must take the following into consideration:

- Dependable collateral must be provided for large loans, even the short-term ones. Each country must specify this collateral requirement in light of its own circumstances. The negative repercussions of the international real estate collateral crisis that hit the world are a reminder of the need for a solid collateral backing;
- In order for the small farmers and the poor to have access to agricultural credit services, the credit institutions must agree to bear the costs and risks involved in dealing with this group of borrowers, especially when tangible collateral is not available. These risks may be reduced by working with local partner organizations for local support and capacity development, but may require appropriations to compensate for the costs and risks stemming from this kind of microcredit. These additional factors resulting from microcredits must be taken into consideration when the interest on loans is being determined at the credit institutions, provided, however, that this interest is kept within acceptable banking limits and within the limits required for the encouragement of agricultural investment.

5.2 LOAN MANAGEMENT

Credit-worthiness, repayment capacity and financial feasibility

The loan institution must conduct loan assessments on the borrower and/or his project's capability of taking and repaying a loan so that the income derived from the project investment may constitute the first line of defence for loan repayment. Collateral should only constitute a second line of defence. Also, the technical staff must be highly professional and efficient in order to conduct accurate and credible studies. Further, bank managements must take these studies into consideration, as well as other factors, when making decisions on loans. Such decisions must be made at several management tiers, rather than one single tier, after precise study and close examination have been conducted.

Islamic principles in finance

Agricultural credit institutions and banks operating within and outside the Region are called on to study and evaluate the current practice of institutions that apply the Islamic finance principles to agricultural

finance, and to benefit from the positive aspects of these principles, which may help broaden the base of the beneficiaries and reduce the volume of risks. Any institution persuaded to apply these practices would have to give special attention to the following aspects:

- The Islamic methods adopted should be those that are the most acceptable to the farmers and involve the least risks to the credit institution;
- Credit institutions must refrain from overestimating the cost of the risk factor as a precaution against losses, because overestimation would burden the borrowers with expenses that increase their indebtedness;
- These institutions must extend the exchanges of experience and visits to institutions that apply this Islamic method similarly in order to benefit from any innovations or updating in this field. Experience should be exchanged with any other institution that may wish to do so;
- The attention of such institutions should be focused on training their employees in order to enable them to acquire the efficiencies needed for implementing this kind of credit;
- The credit institutions using this method must not isolate themselves from the international money markets, so that they may benefit from any innovations or advantages available at these markets, stay competitive, and achieve the growth required for their sustainability.

Diversification of the financial portfolio

Restricting the agricultural credit institutions' portfolio to agriculture increases the volume of risks due to the lack of diversity of investment trends. The realms of agricultural investment are limited, and investment is exposed to fluctuations beyond the control of the natural elements. Therefore, agricultural banks have to look for other investment areas including small, medium, and large-scale agricultural, commercial, industrial lending and other financial services for the rural areas. Narrow specialization is one of the main reasons of the failure of many agricultural finance institutions and of the decrease in the collection rate, which means transformation of these banks from agricultural credit banks to comprehensive rural development banks.

Linkages

Agricultural and development banks, microfinance institutions, and NGOs that provide various services such as training, organization and marketing to the poor in rural areas are called on to cooperate and collaborate in order to complement one another. This would reduce risks, increase outreach and, importantly, benefit from the experience, successes and capabilities of each another.

5.3 BANKING

Restructuring

Agricultural and development banks and their home governments are called on to reconsider their policies and their administrative and financial situations with a view to restructuring. This would allow them to become rural banks that would use prudential financial practices and market mechanisms in order to make enough profits to reinforce their sustainability, improve their performance, and strengthen their competitiveness.

Introduction of banking activities

Agricultural credit banks should diversify their income sources. In addition to the income derived from a financial intermediary, they can obtain additional income from banking activities that they should

perform, such as issuing and cashing checks, providing money transfers and currency exchange, issuing letters of guarantee, offering investments in money markets and issuing bonds. They should also consider savings services.

Sustainability

To ensure sustainability of the rural finance programmes, there must be a permanent, sure source of funds, i.e. rural savings collection. Results indicate that rural finance success in developing countries is all attributable to lending combined that is always with savings collection. Indications are that rural residents need savings products more than they need loans. Accordingly, legislations and regulations must be formulated that allow rural credit banks to accept and employ deposits.

Building of institutional viability

In order for the agricultural credit banks to have financial viability, they must price their loans based on the actual cost of the lending process, including operating expenses, cost of funds, inflation, appropriations for bad loans. They must achieve an acceptable profit margin that would allow them to develop and grow. To make this politically and socially acceptable, restructuring of finance cost may be done gradually, according to the economic and political circumstances of each country, and according to the agricultural situation in particular and the economic situation in general.

Innovations

Rural finance institutions must adopt innovations and practices that allow reducing the risks and improving credit-worthiness, such as encouragement of value chain credit, contractual agriculture, Islamic finance practices, and other risk-mitigation measures.

5.4 GOVERNANCE

Rationalization of the government's role

Since many agricultural lending institutions are owned by the governments, in view of the government's support of these institutions, and in order to sustain this relationship while minimizing its interference in the institutions' operations, the Region's governments must seek to restructure these institutions so as to have other parties share in their ownership. Such parties must include rural citizens, who make up the broad base of service beneficiaries, and the commercial banks sector, which constitutes the main depository of funds available for local investment. This mixture of public-private sector ownership would enable the institutions to benefit from the positive aspects of the free economy, which allow independent decision-making while benefiting from the government's indirect support to these institutions. Each government may choose the optimal method for introducing the required changes in its formal financial institutions in light of its economic, political and social circumstances.

Creation of a department specialized in risk management

A department specialized in risk management is considered essential for commercial banks in general and for agricultural banks in particular in view of its role in research, planning, risk prediction, and in arriving at timely and suitable solutions. There are still some institutions, companies, commercial banks and agricultural banks that do not have such a department, or if they do, it glaringly lacks the proficiency required for this kind of work. In order to acquire a full understanding of risk management, this would

require conducting research and investigation using Basel I and Basel II rules and within the basic axes of risk management.

To be successful, this department must attract competent and experienced personnel, benefit from the experiences of the more advanced banks and countries, and provide continuous training for such personnel to enable them to perform their work effectively. Also, it must be directly attached to the highest management echelon in the bank so that it may keep abreast of the institution's situation on a daily basis in light of possible risks in order to seek quick, appropriate solutions to mitigate them.

A favourable policy environment

Avoiding the above-mentioned risks facing the agricultural banks is not all that must be done: a favourable policy environment must be provided to these banks to work in so that agricultural and rural work may be turned into a profitable project. This must include, *inter alia*, financial and monetary policies, export and import policies, money exchange, marketing and services support policies.

Marketing, extension, and research

Highly efficient agricultural support services must be made available to help the farmers improve and increase their production and agribusinesses to be competitive. There must be interrelations between these services, especially between research, extension and marketing. Also, assistance must be sought from specialized agricultural research centres and the agricultural extension to help reduce production costs, and increase and improve production. Furthermore, agricultural banks must finance agricultural marketing activities of the private sector, which is very important to the producers, especially in packing, grading, processing, refrigeration, and transportation. In addition, they must encourage farmers' unions and societies to undertake large projects.

Training

Due attention should be given to training at the local, regional and international scenes. Personnel with promising potential should be sent to attend training programmes. There should be a shift in the concept of training from that of a luxurious commodity or service to that of an added value for the organization that should be exploited and planned for in order to benefit employees with promising potential in their organizations.

Storage

It is important to make available sufficient storage capacity to hold the entire product during excess production periods, entrusting its management to commodity management companies and/or any other competitive party based on revenues and economical efficiency. The governments must seek to sell or lease storage capacities to those who wish to buy or lease, and credit institutions must provide the finance needed for building stores if enough storage capacities are not available. The governments' role must be centered on: improving and encouraging storage credit by appropriate legislation to protect rights and to deal with legal risks; establishing and controlling quality standards; providing information systems to improve the forecasting of future prices; laying down warehouse specifications compatible with use; and providing marketing infrastructure services.

Non-financial activities

Whenever possible, agricultural banks must be gradually divested of direct receipt of crops, the distribution of production input, the distribution of government subsidies, and management of agricultural insurance so that they may apply themselves exclusively to banking work, except in extreme necessity when no appropriate alternate is available. It is preferable that this work be entrusted to other organizations or private companies. When appropriate, banks may hold shares in such entities.

Attraction of qualified personnel

It is necessary to reconsider the quality and size of the current workforce at the bank concerned, so that highly qualified personnel are kept and excess manpower are terminated in accordance with acceptable social and financial principles. Also, highly qualified staff in the banking fields must be attracted to work at the bank by competitive financial incentives.

5.5 LOAN RECOVERY MANAGEMENT

Loan recovery

It is necessary to focus on the collection of agricultural banks' debts, starting with the lending process and information gathering and assessment, and then motivating employees in the field to ensure adequate monitoring and loan recovery at maturity. The credit institution must pursue a policy of encouraging borrowers to make repayments by refunding part of the collected interest and/or giving privileges to borrowers who make regular repayments. Conversely, an effective fines system must be applied against defaulters and procrastinators. Also, collection performance of individual employees and units must figure heavily among other financial and management indices in determining the yearly incentives.

Doubtful and bad debts

Rural banks must classify their debts into performing and non-performing debt based on the instructions of the central banks in their countries. In light of this classification, yearly appropriations must be made for bad debts that are proportionate to their amounts. Such appropriations must be treated as part of the operating expenses and should be taken into consideration when the loan cost is being determined. This does not mean debt cancellation, but rather referring such debts to the legal department for monitoring of collection. Conversely, any future collections of these bad debts will be considered revenues of the credit institution.

5.6 INFORMATION TECHNOLOGY

Management Information Systems (MIS)

Rural banks must have efficient MIS that would enable the banks to take timely, sound decisions, especially concerning debt collection, the determination of bad debts, operational expenses and profitability, etc. in order to momentarily see changes taking place in the branches' operations and in the customers' accounts.

5.7 INSURANCE

Forms of insurance

There are methods used to cope with agricultural risks, such as diversification by the farmer of his crops and products, and diversification by the bank of its loan portfolio. There are also methods of direct compensation, such as insurance funds, calamity funds, unregulated government subsidies provided for coping with disasters as they occur, and various kinds of agricultural insurance.

Experience indicates that agricultural insurance is an effective tool in terms of fairness and in organizing the government's role of giving subsidies to this sector. The traditional damage-based insurance appears to be the most suitable kind for farmers in the NENA Region; it is implemented in Sudan, Cyprus, Iran, Morocco, Tunisia and other countries. The more recent insurance method of "weather-based insurance", which has recently been introduced in many developed countries, may be suitable for countries that extensively plant grains, such as Syria, Morocco, Tunisia and Egypt, provided that they have efficient meteorological stations covering all insured areas.

When implementing any damage-based agricultural insurance programme, the following must be taken into consideration:

- It is preferable that private insurance companies make this kind of insurance available in coordination with the competent government organizations, as in Sudan, Tunisia, Morocco and Egypt. However, if this is unobtainable, a financially and administratively independent government organization may be established, replicating the damage-based insurance mode used in Cyprus, provided that it would be later developed into weather-based insurance when efficient meteorological stations are made available in all insured areas. This would make it possible to overcome the negative aspects of the former damage-based insurance, the most important of which are adverse selection, moral hazards and the problem of premium collection;
- The government must provide the necessary financial and institutional support to the agricultural insurance programme in its early stages, and prepare and approve a legal insurance institutional charter that ensures administrative and financial independence, reduces the government's interference, and provides room for participation by the private sector, including insurance and reinsurance company composites. However, insurance must operate independently and according to commercial principles;
- The government must consider subsidizing farmers' insurance premiums as high as 50 percent of the costs in order to ensure sustainability of the insurance institution and increase the trend toward the use of insurance;
- It is preferable that, in the beginning, insurance be mandatory to crop farmers and selected livestock raisers in areas where the insurance programme is launched. This would prevent the problem of adverse or wrong selection of programme participants;
- The design of the insurance programme must allow for gradual expansion of coverage of insured activities and kinds of risks based on available information and insurance principles in-effect, thus starting with limited purposes and little risks insurance, and then expanding to include multi-purpose risks insurance, depending on acquired experience and responding to demands for new risk coverage;
- Since drought is the most frequently occurring agricultural risk in the Region, the most costly, long-range planning must be conducted in order to cover it in the advanced stages of the programme;
- It is preferable that the agricultural insurance programmes include a wide variety of insurance products, such as crop insurance and farmers' life insurance, property and livestock insurance. This

would protect the sustainability of the production process, achieve economies of scale, and improve the financial viability of the entire insurance operation;

- In order to effect optimum collection of insurance premiums, there must be close coordination between the insurance institution and all concerned departments. It is also necessary to take appropriate legal measures to collect the premiums, treating them as public funds that have collection priority;
- Appropriate measures and procedures must be designed for loss estimation, approval of compensations, adequate staffing and training of field staff;
- Local or international insurance companies must be sought for reinsurance. If this is unattainable, the government must assume this role, provided, however, that reinsurance premiums are adequate so that reinsurance does not become mere assistance to defray losses resulting from financial mismanagement of the insurance programme;
- Agricultural insurance and agricultural credit must be fully separated. However, coordination between them must continue at high levels. Also, loan repayment and payment of compensations must not be tied to each other so that the insurance institution does not get converted into an institution for the repayment of bad loans;
- The government must discontinue providing financial assistance to the agricultural sector in case common calamities occur, except through the insurance programme, in order to avoid a double coverage of risks;
- If it becomes evident that traditional agricultural insurance conflicts to some extent with the Islamic banking system, other acceptable means will have to be developed. In this setting, benefit may be derived from the experience of certain Islamic banks in the field of agricultural risk management;
- An effective public relations programme and proper information systems must be created to provide information on targeted groups and risks, giving special attention to spread insurance awareness among farmers through available media tools;
- It is necessary to intensify and organize exchanges of information and experience among the Region's governments and other countries that have the same experience in this field.

Annex 1. Basel II and the banking system

1.1 THE THREE AXES OF BASEL II

Basel II resolutions focus on three major axes, as follows:

Axis I: Minimum capital requirements:

This minimum is the amount of capital facing the risks (credit risk, market risk and operational risk) to which the banks are exposed. The average capital adequacy is calculated in accordance with Basil II agreement using the following equation:

$$\text{Average capital adequacy} = \text{capital (three types)/credit risks} \\ + \text{market risks} + \text{operational risks} = 8 \text{ percent.}$$

In this equation, capital means the core capital, the supplementary capital (reserves), and loans with terms of no less than two years that are supplementary to the capital provided that they do not exceed 250 percent of the core capital. (The last provision was added in 1996.)

To arrive at the average capital adequacy, it is necessary to measure each of the following:

- Credit risks, i.e. the risk of the customer's inability or unwillingness to make good on his commitments on due dates;
- Market risks, i.e. risks of losses in items within or outside the budget, resulting from instability of the market and price fluctuations (exchange rates, interest, commodity, and stock prices);
- Operational risks, i.e. risks caused by failure or inadequacy of internal processes – regulations, staff compliance effectiveness, etc. or as a result of external events.

Basel II resolutions defined methods for measuring each one of these risks, which range from simple to complicated. The staff of the risk management office concerned with these risks is responsible for calculating them.

Axis II: The supervisory review

Axis II focuses on the Central Banks' role in ensuring that the banks properly estimate the requirements of the capital that are commensurate with the size of the risks facing them. The supervisory review is based on the following four basic principles:

- The bank has good by-laws for measuring the risks;
- The supervisory authorities continually review the bank's capital adequacy and take the necessary, proper measures to ensure the safety of the banking system;
- The supervisory authorities encourage the banks to maintain capitals that exceed the minimum stipulated in the agreement, and have the right to oblige certain banks to do so if exposure of their assets to risks is increased;
- Early intervention is conducted by the supervisory authorities to prevent capital drop under the minimum and to take corrective measures before crises occur.

Axis III: Market discipline

Market discipline means the reinforcement of proper disclosure by the banks concerning the size of the risks they face and the extent of capital adequacy. Disclosure and transparency lead to periodical publication of accurate data and information, enabling the banks' customers to determine its ability to sustain its activities. This results in market discipline.

1.2 WHY BASEL II?⁶

The Basel II agreement can be discussed in more than one mode and from several angles, each throwing light on one or more aspects of this important subject. It may be more appropriate to refrain from touching on the technical details of the methods used in evaluating the risks or calculating the required capital ratio, since these practical aspects lie more in the competence of those who work in the technical area of than of those who formulate the policies. Also, observing the evolvement of these suggestions since the Basel Committee started its work throws important light on a number of primary concepts in the banks management in general. Hence, this subject was addressed from the angle of the relationship of Basel II agreement with the developing countries.

Evolvement of the criteria of banks' capital adequacy is a reflection of the mounting feeling that the basic case in bank management is one of risk management. The risk has become one of the fundamental landmarks of the contemporary economy, which is, of course, more manifested in the financial sector.

On the other hand, Basel suggestions reflect another development in the international economic and financial life, which is that economical and financial activity is increasingly submitting to the international rules and standards. The rules and standards established by the Basel Committee have not become legally compulsory, yet they effectively influence the local systems of control and supervision of the banking sector in general. This is but a new aspect of the globalization of banks management.

The new Basel suggestions gave due consideration to the banks' work situations, which vary from one country to another according to the extent of their development and the size and ramifications of their operation. Therefore, the Basel I and II suggestions did not come in the form of unified rules that apply to all, but rather contained a list of different choices to suit various circumstances. These kinds of solutions for different situations serve also as possible guidelines for countries to move from a stage of less development to using advanced methods for measuring and dealing with risks.

Here emerges the importance of a gradual formulation of policies consistent with the dictates of Basel II agreement, endeavouring, in the meantime, to set the stage for adopting more advanced methods when the circumstances are suitable. This undoubtedly makes the Central Banks responsible for designing strategies consistent with the dictates of the new agreement and thus suitable for institutional development so as to allow adherence to the more advanced ways and methods at the suitable time.

The Basel Committee for Banks Control played a leading role in codifying a number of these developments. The most important new features of Basel II suggestions are summarized as follows (The Arab Monetary Fund, 2004):

⁶ The Arab Monetary Fund (2004).

(A) A full view of the risks:

The issue is not merely that of ensuring a minimum of the capital requirements; rather, it is necessary to have a wider spectrum of risks to include in addition to the credit risks, operational risks. Moreover, dealing with risks is not limited to providing a minimum capital; it is also necessary to consider a full array of sound management principles and ensure their adherence.

(B) Higher market sensitivity to risk assessment:

The main idea of risks as conveyed by Basel II is that they can now be better assessed by the market. Through their continuous dealing with the market, banks have become better equipped to define these risks. Accordingly, the general trend of Basel II is to motivate the banks to formulate by-laws for the assessment of risks in accordance with the market's view. Basel II also guides small and medium banks, which are currently unable to devise internal risk assessment programmes and rely on risk assessment made by organizations who evaluate credit-worthiness, i.e. to rely – albeit through other organizations – on the market's assessment of risks.

Basel II emphasizes that the risk concept is comprehensive. Adherence to the basic principles of effective surveillance over the banks created the idea of “economic capital”, which enables the banks to determine the extent of capital adequacy based on the level of risk expected in each transaction. The economic capital of every bank is the assets that the bank sets aside for coping with risks stemming from each of the bank's transactions. This does not refer to a fixed, invariable quantity, but rather a percentage commensurate with the size of the risk expected in each transaction and that increases with the increase in the risk.

This approach not only insures that risk assessment would be responsive to the market's assessment, it also helps determine the bank's policy for pricing its transactions so as to tie the return from each transaction to the size of risk entailed by such a transaction. This is in line with the competency of the bank's management of its funds and, at the same time, insures apt distribution of resources according to the extent of risk that they involve. It is evident that Basel II here equates good and sound management with capital adequacy standards to emphasize that risk management and banks' management competency complement each other.

(C) Abolition of distinction, and increasing flexibility:

Basel I adopted haphazard risk assessment, distinguishing between two groups of countries. The first group includes the countries and banks of the Economic Cooperation Organization, who are quasi-members of the distinguished countries club. The second group includes the other countries that remained non-members of this club. Members of this club enjoyed a distinctive treatment as far as capital requirements are concerned. Basel II tended to rely more on the market's assessment of risks, ceasing to make this distinction between countries and following the premise that risks are risks and that the market alone is most capable of assessing them.

Basel I established a fixed quantitative standard that was applied to all transactions. This simplicity prevented giving consideration to the disparity in the size and nature of these risks. Basel II conferred more flexibility on the banks in applying the new capital adequacy standards.

Basel II did not establish a single method for defining capital requirements; rather, it provided a list of choices whose applicability to each bank is decided by the bank's circumstances. In the case of credit risk, there is the possibility of choosing between the standard approach and the internal rating-based approach,

the latter consisting of the basic internal rating approach and the advanced internal rating approach. Similarly, there are the standard method and the internal rating models to choose from for application to the market risk.

Also, there is the standard indicator approach, the normative approach and the advanced measurement approach, which are separately applicable to the operational risk. This list of different methods applicable to different aspects of risk assessment not only gives the banks the flexibility of choosing from the most suitable methods available, but also represents a way of changing from a more simple but wiser method, to a more complicated method that is more compatible with the market's assessment. These multiple methods not only give the banks more choices and greater flexibility, but also direct the banks to a possible path for development and advancement from the more simple methods to the more accurate ones.

1.3 BASIL II AGREEMENT AND THE DEVELOPING COUNTRIES

The principles of the Basel I agreement were laid down by the ten industrial countries. Therefore, its terms and conditions not always gave due regard to the needs of the developing countries. The Basel II agreement gave greater attention to the needs of the developing countries; however, most of the terms of the new agreement were designed to well serve the interests of the banks in the developed countries, especially the multi-activity international banks.

At the time of the issuance of the Basel II agreement, several questions arose as to whether its terms and provisions may bring harm to the interests of the developing countries, in particular, causing interruption of the flow of funds from the banks of the developed countries to the developing countries. Also, a question arose as to the manner in which the developed countries' banks would deal with the terms of this agreement, and to what extent the three axes of the Basel II agreement would affect their financial environment.

(A) Will the Basel II agreement hurt the developing countries?

Adherence to the provisions of Basel II will undoubtedly enhance efficiency in risk management and help bring about more financial stability. But the question is whether this adherence will cause banks in the industrial countries to balk at investing in the developing countries because credit risks in the developing countries are greater than those in the industrial countries' markets. This would mean an increase in credit costs (as a result of increase in the risks and, consequently, an increase in the capital adequacy requirements) in the developing countries. Thus, the developing countries would lose part of the funds they used to borrow from the banks of developed countries, or may be compelled to pay additional interest to compensate the lending banks for the increase in the cost of lending to the developing countries.

At first impression, this conclusion may seem correct, because credit risks in the developing countries are generally higher than those in the industrial countries. Therefore, substituting the Basel I system — which makes no distinction, in respect to capital requirements, between risks associated with individual borrowers and those associated with enterprises — with the Basel II system — which relies to a greater extent on the market's risk assessment — may be unfair to the developing countries. Nonetheless, this conclusion may not be always right, because it presumes that, when demanding collateral, international banks merely adhered to Basel I provisions. The truth is, perhaps, that most of these banks, when giving loans to developing countries, used internal rules and models to assess the true risks in the borrowing countries and completed all their transactions accordingly.

Basel II is not a new system created from scratch, but rather, a reaction to and development of the current practice and pursuance of what most international banks are doing. Therefore, practically, implementation of Basel II may not result in a departure from the steadfast manner in which many of the international banks deal with the developing countries. The Basel II provisions are, in many cases, a codification of the standing banks' practices rather than an innovation of new rules for the industrial banks.

(B) The Basel II agreement and the principles of effective control over banks

As explained above, the change from Basel I to Basel II is not merely more rules and precision of measurement of capital adequacy. Basel II contains a complete system for risk management and financial sector stabilization. Therefore, proper implementation of Basel II provisions in fact complements the adherence to what was issued by Basel Committee regarding the basic control over the banks. Accordingly, adherence to Basel II is contingent on the extent of the government's agreement to these principles.

The International Monetary Fund and the World Bank review the governments' compliance with the Financial Sector's international standards under the Financial Sector Assessment Programs (FSAPs). Experience shows that only about 50 percent of the countries reviewed agree with ten (out of 25) of the basic principles issued by Basel Committee, and that no more than 30 countries agreed with five of them. There are large disparities among the developing countries' agreement with these principles, with an average agreement with only seven (out of 25) principles compared to an average of 19 for the developed countries. There is clearly a long way to go for most countries to completely implement the provisions of Basel II and the risk management principles. It remains more difficult for the developing countries to accept agreement with the basic principles of effective control over the banks.

Some of the Central Banks comply with the banks' classification system, known as the CAMEL Rating System, which comprises the assessment of five elements: capital adequacy, assets quality, management quality, earnings and liquidity. This is an advanced method of rating with which many of our banks are not acquainted.

Annex 2. Measures of risk mitigation in selected/major banks in the Region

This annex presents the measures of risk mitigation in six major agricultural banks in the Region, in terms of policies and practices.

2.1 THE PRINCIPAL BANK FOR DEVELOPMENT AND AGRICULTURAL CREDIT (PBDAC) – EGYPT

The bank applies a set of measures to mitigate banking or nature risks. They are presented here based on the field information collected through the study or through literature review.

Summary of actions taken by the bank to reduce the risks

The bank's position on various practices to reduce risks is provided below.

Acceptance of immovable collateral:

- The instructions covering granting loans to the customers require providing immovable mortgages (land and real estate) as security for agricultural loans that exceed EGP500 and investment loans that exceed EGP250 000.
- It is stipulated that, to be acceptable as collateral, immovable mortgages (land and real estate) must be legally owned by the borrower and thus registered at the Real Estate Registration Office.
- The mortgage procedures must be completed by the legal section at the bank.
- The amounts of the cost of mortgage vary according to the kind and value of the real estate mortgage provided, and the borrower bears the expenses of the mortgage formalities.
- Before they are mortgaged, collateral are evaluated in accordance with the bank's rules and by-laws by an experienced, licensed house registered at the Egyptian Central Bank.
- This experience licensed house evaluates the collateral fairly at the commercial market prices taking into consideration the demand for and marketability of this kind of real estate and the current purchasing power.
- The amount of loan being given is calculated as a percentage of the value of the immovable mortgage depending on the kind, present condition and market value of the mortgage, and the credit-worthiness of the borrower. The percentage ranges between 40 and 70 percent.
- The validity of the mortgage contract must be verified continuously during the term of the loan.
- Re-evaluation of the collateral is periodically effected according to market prices at the times of renewing the mortgage.

Acceptance of movable collateral:

- Short- and medium-term loans are given under storable movable (crops and agricultural products) collateral, or collateral consisting of agricultural production input, equipment, machines or livestock. Such collateral must be deposited at the bank's facilities or refrigerators, or at the private sector's warehouses provided, however, that they can be readily circulated in the market (marketable),

and that they keep well in storage for the entire term of the loan with the exception of machines, equipment and livestock, which are kept in trust with the borrower;

- This kind of loan-giving is consummated after ascertaining the feasibility of the activity to be financed and confirming the easy salability of these goods, giving due consideration to the borrower's credit-worthiness;
- This kind of finance is limited to a maximum amount of 50 percent of the market value of stored goods and agricultural production input, a maximum of 60 percent of the value of the machines and equipment, and a maximum of 60 percent of the purchase price of livestock;
- These loans make a very small proportion of the investment loans issued, particularly short-term loans with crop and agricultural product collateral or medium-term loans given against machine and equipment collateral;
- With the exception of finance for the purchase of livestock, a precautionary mortgage of the movable property is administered by the law department at the borrower's cost. The mortgaged property is placed in trust with the borrower and stored in the borrower's warehouses;
- This property is evaluated by certified committees composed of representatives of the bank and Government agricultural directorates, or by an experienced house recognized by the Central Bank, particularly in case of large loans with machines and equipment collateral;
- Evaluation is made on the basis of the kind and strategic importance of the goods and in line with the prevailing market prices;
- Mortgaged goods must be insured at the borrower's cost in favour of the bank against fire, robbery, theft, breach of trust, and slaughtering and perishing of livestock. Insurance must cover the entire amount of finance and accessories for the duration of the term of the loan.

Study of credit-worthiness and repayment capacity:

- The majority of the bank's loans are issued to individuals; 90 percent of the loans given to individuals are agricultural loans; 50 percent of which do not exceed EGP25 000 per loan. The total amount of loans exceeding EGP1 000 pounds each makes about 16 percent of the overall credit portfolio. The total amount of the agricultural loans constitutes about 32 percent, and the investment loans about 68 percent of the loans portfolio;
- Small agricultural and investment loans to individuals are subject to definite controls and conditions with respect to documents and collateral, and do not require a detailed study of credit-worthiness and repayment capability of the borrower and his project. They require only a simple study of the borrower's credit-worthiness, the history of his dealings with the bank, and his reputation, as well as the controls and conditions necessary for the issuing of the loans, especially the small ones;
- A detailed study must be conducted of the credit-worthiness and repayment capability of the borrowing agricultural companies and cooperative societies. This must include a study of the financial lists of the project and a financial analysis of three consecutive yearly budgets along with an analysis of cash flow and market information. The study must be conducted by a specialized work team of the Central Bank after the financial lists of the companies have been approved by legal accounting offices recognized by the Central Bank. The results of the study should be treated as fundamental grounds for taking credit decisions, determining the size of the loan and the repayment schedule, after review by the specialized credit committees. These loans make no more than 10 percent of the loan portfolio, since the majority of the portfolio loans are small loans.

Number of position tiers at which credit decisions are made:

When a customer submits a credit request to the bank branch or to the village bank, it is studied by the credit-giving specialist who ensures fulfillment of all conditions, documentation, and inspections required

for giving a loan. The specialist then prepares a credit memorandum for review by the credit committee of the creditor; and the committee's decision is approved in accordance with credit authorization set forth in the bank's credit policy (village bank, branch, sector, board of directors).

Credit approval authorities are joint authorities vested in committees composed of representatives of the various units of the bank (village banks, branches, sectors, al-Wajeh al-Bahri Bank, al-Qibli, the Credit Committee at PBDAC, and the Board of Directors of PBDAC).

No position level at the bank has exclusive credit approval authority. Credit decisions are unanimous and are approved by the bank's management or the top authority pursuant to the approval authority established by the bank.

The various approval authority tiers at the bank are:

- Credit Committee at the village bank;
- Credit Committee at the branch;
- Credit Committee at the sector;
- Credit Committee at Bahri/Qibli Bank;
- Board of Directors of Bahri/Qibli Bank;
- Credit Committee at the Principal Bank;
- Board of Directors of the Principal Bank.

The importance of other sources of income of the borrower:

- The bank does not stipulate diversity of borrower's income for receiving a loan, because it is a specialized bank whose customers are often farmers whose credit activities are associated with agriculture products (agricultural loans) or with work related to agricultural products (investment loans), and because each kind of these loans is subject to specific conditions and controls, has specific collateral and controls, and involves codified collateral for every activity.
- There is no stipulation for full or partial transfer of (deduction from) the salary that the borrower receives from the Government or the private sector, except in case of consumption loans or if the loan is given under a guarantee by the borrower's employer, in which case the stipulation remains valid until the loan has been repaid. This is a basic condition for personal loans to employees of the public sector and the Government.
- Small artisan vocational and environmental loans may be given under a guarantee providing for the transfer of the guarantor's salary. This is not a general condition for giving these loans, but applies to customers who so wish.
- Loans which require transfer of the borrower's or guarantor's salary make up a small percentage compared with the number of investment loans.

Kinds and geographical distribution of loans:

Kinds of loans given by the bank – Agricultural loans:

- Short-term loans: These include financing the cost of farming all crops, orchards, vegetables, aromatic plants, house plants and medical plants whose production cycle does not exceed one year;
- Medium-term loans: These include sugar cane, broad bean fodder, some kinds of *berseem* (alfafa), establishment and cultivation of orchards, and agricultural crops whose production cycle exceeds one year.

Investment loans:

- Short-term loans: These include loans for operating expenses of projects of fish resources, livestock, poultry, apiaries (beehives), agricultural processing; rural, environmental, and vocational development; agricultural marketing, etc;
- Medium- and long-term loans: These include projects on greenhouse farming, reclamation and cultivation of land, fish resources, poultry, and livestock projects, development of agricultural irrigation systems, establishment of apiaries, fodder plants, dairies, food processing, repair of agricultural equipment, and rural and environmental development projects, etc.

Retail loans:

- Consumption loans: These include medical treatment and education, travel and tourism, major pilgrimage and minor pilgrimage (*Alomra*), house renovation and extension of utilities, purchase of long-lived commodities, and computers;
- Vehicle loans: These include the purchase of private cars, lease cars, transport vehicles, pickups, and mini-buses.

Small loans and microcredit: These include employment of crafts persons as well as women-headed families and young graduates (social fund loans).

- Percentages of the foregoing kinds of loans are distributed according to their geography and environment, demography, seasonal variation, population density, and the quality of credit in rural and urban areas;
- Agricultural loans make 32 percent of the loans portfolio;
- Investment loans total 68 percent of the loans portfolio;
- Retail loans, consumption loans, small loans and microcredit all fall under investment loans.

Issuance of loans secured by forward contracts:

This kind of loans in the above-mentioned sense does not exist except in a form similar to that of loans to farmers and to agricultural societies (sugarcane crop). Under these loans, the customer forfeits dues that the Sugar and Supplementary Industries Company (crop buyer) owes him for quantities of sugarcane he delivers to the Company. The Company repays the bank, on behalf of the customer, credit given to him on mortgage of this crop, i.e. deduction from dues that the Company owes the customer.

Loans to individuals and societies:

The bank gives loans to individuals or cooperative societies in accordance with specific conditions and controls applicable to each kind of agricultural and investment loan, consistent with the legal form of the society. The size of this kind of loan is currently small compared with loans to individuals.

Projects financed by loans:

The bank finances ongoing projects for the operation, development, annexes, or expansion of an activity. Also, the bank finances the establishment of new projects (excluding the purchase of land for the project), provided that the borrower first constructs the infrastructure of the project.

This kind of finance includes agricultural investment projects, establishment of orchards, fish farms, poultry farming, sheltered plastic cover farming, agricultural industry projects, dairies, livestock resources, etc.

Generally, these projects are treated on a case-by-case basis consistent with the pertinent credit study.

Partial financing of a project:

The bank gives agricultural loans to finance 100 percent of expenses of crop cultivation in old land (Nile valley), 70 percent for crops cultivated in newly reclaimed land that has not reached production sufficiency, and 25 percent for crops charged to other crops (planted together with other major crops).

For investment loans, the bank does not finance the full amount of expenses of an activity for which a loan is being taken. The loan applicant must personally contribute with a certain percentage. The percentages of finance provided by the bank vary according to the activity for which a loan is requested. The bank finances 60 percent of the cost of establishing orchards, 60 percent of the agricultural processing, 60 percent of the machines and equipment, 50 percent of land reclamation and cultivation, 50–60 percent of marketing of agricultural products, and 50 percent of livestock resources projects.

Warehouse receipts guarantees:

The bank does not have such an activity.

Monopolistic marketing organizations and coordination with them:

There is no monopolistic marketing organization that takes delivery of crops.

Training of potential borrowers and the percentage of their loans:

The bank does not provide training to its potential borrowers. However, the Ministry of Agriculture provides training to young graduates and potential borrowers who will be receiving microcredit from the Bank through the money given to the Bank by the Ministry of Finance for this purpose exclusively. The Ministry of Agriculture trains young graduates in a certain activity to qualify them for these loans, giving them technical advice at no cost. These loans do not exceed EGP3 000–5 000 and are given for small crafts or environmental projects or for food industries. This kind of loan makes a very small percentage of the bank's loans portfolio.

Agricultural extension and research services:

The agricultural guidance and research in Egypt have capabilities and potential that enable them to effectively fulfill their role. As a result, during 1980–2007, there was a 94.4 percent increase in wheat and corn productivity; a 98 percent increase in sugarcane, a 64 percent increase in potatoes and a 47 percent increase in rice. Additionally, early-ripening kinds were developed that stay in the soil for no more than 120 days, which led to a 25 percent saving in water usage for rice, for example. Moreover, there was a large increase in the production of oil-yielding seeds, vegetables, fruits, cut flowers, as well as development of methods of keeping and storing dairy products, and a focus on developing integrated agricultural management methods (agricultural research, agricultural guidance, and agricultural and rural credit).

Close cooperation between agricultural research, agricultural extension, and credit contributed to the increase in the return of the unit of land and water, reinforcement of the competitiveness of the Egyptian products in the local and international markets and, consequently, increasing the farmers' incomes and reinforcing their ability to repay loans they previously obtained.

Size of loans given for projects with permanent or semi-permanent sources of irrigation: All agricultural loans given by the bank to individuals or organizations were designated for projects with permanent or semi-permanent sources of irrigation. These loans constitute about 32 percent of the bank's credit portfolio.

Size of workload assigned to credit and collection officers:

- The bank has two affiliate banks, the Development and Agricultural Credit Bank (BDAC) at al-Wajh al-Bahri and the BDAC at al-Wajh al-Qibli, which have 18 sectors in the various Governorates, with a total of 1 224 branches and village banks ,and more than 2 500 representational offices (agencies) covering most villages in Egypt. There are approximately four million customers;
- Each banking unit has at least one credit-issuing specialist, one non-performing loan specialist, and an employee for credit monitoring;
- The number of customers of units varies according to the location and population demography. The number of customers of each unit is unrestricted;
- Motivational incentive bonuses are given to hard-working employees, in addition to annual incentives given to all employees based on performance.

Availability of database (computer program):

Every sector, branch and village bank has a database (computer program) showing, all year round, the credit position of every customer, amount of dues, maturity dates, repayments made, and customers classification.

The computer program database is being modernized to show all customer data, including financial and credit transactions. The database will be connected to all of the bank's units and to the Principal Bank across the country.

Availability of borrowers' database at the Central Bank:

The Egyptian Central Bank has a borrowers' database, which enables any bank to enquire about any customer through the competent office of the Central Bank. All banks submit monthly reports to that office on the positions and credits of their customers.

Programmes for attracting borrowers' savings:

There is no programme for amassing borrowers' savings as a pre-condition for obtaining loans. The following is a table of the savings compared to loans (in EGP millions) issued during 2007, 2008 and 2009.

Table 4. PBDAC Egypt: savings compared to loans, 2007-2009

Year	Size of net regular loan portfolio (EGP million)	Size of savings portfolio (EGP million)
2007	18.3	15.8
2008	17.6	23.5
2009	15.6	22.0

Extent of bank's independency:

The bank's credit conditions allow the competent offices to take the necessary loaning decisions in accordance with controls and conditions governing each kind of loans, loan collection, and taking the required measures, such as rescheduling or settlement, consistent with the banking rules and principles established by the Egyptian Central Bank.

The Government, in coordination with the bank, makes decisions concerning giving facilities to the bank's customers who are defaulting on repayment by exempting them from some faltering debts. The Government and the Public Treasury defray such exemptions consistent with specific controls in order to lighten the customers' debt burden, clear the loans portfolio, and reinforce the agricultural development process.

Practising various banking and commercial activities:

The bank undertakes all these activities with the exception of stock market dealings.

Evaluation of the financial portfolio and conditions for considering a loan as bad:

A comprehensive evaluation of the active loans portfolio is conducted every three months. The portfolio is analysed to determine the sizes of the regular and irregular loans, and the latter are classified (substandard, doubtful, and bad) in accordance with the Egyptian Central Bank's instructions. Appropriations are made for the irregular loans consistent with the Central Bank's regulatory instructions.

- The appropriations are made from the bank's annual revenues;
- 3 percent of these appropriations are earmarked for regular loans in general. Appropriations for irregular loans are divided as follows:
 - appropriations for substandard loans, 20 percent (90 days);
 - appropriations for doubtful loans, 50 percent (180 days);
 - appropriations for bad loans, 100 percent (360 days).

Applying the award and punishment principle to the customers:

The bank always seeks to lighten the burden of its dutiful customers by making efforts to bring in low-cost finance to make it possible to give loans at reduced rates of interest in addition to giving agricultural loans at interest rates subsidized by the Government. Moreover, investment loans are from foreign finance (easy-term loans from international sources), which grants the customers repayment grace periods. The bank charges simple interest on all loans it issues, giving consideration to what it does to alleviate dutiful customer's burden caused by measures, documentation and collateral requirements.

The bank alleviates the burden of the defaulting customers by postponing installations payment, rescheduling, providing loan or partial loan payment exemption, and taking amicable actions for collection before taking judicial measures against customers who procrastinate in repayment of the bank's dues.

2.2 THE SUDANESE AGRICULTURAL BANK

The bank applies set of measures to mitigate risks in terms of banking or nature risks. These are presented hereunder based on the field information collected through the study or through literature review.

Summary of actions taken by the bank to reduce the risks:

The following review shows the banks' position on many practices to reduce risks:

Acceptance of immovable collateral:

- The organization stipulates the provision of immovable mortgage, or chattel mortgage in case of loans exceeding SDD10 000 (about US\$4 150);⁷
- Real estate and land must be mortgaged at the Land Department;
- The cost of mortgage is 2.5 percent of the value of the mortgaged property;
- The borrower bears this cost;
- The Real Estate Bank, some of the companies owned by the bank, the private companies recognized by the bank, and the local or regional engineers evaluate the mortgage. Then a committee from the bank inspects the real estate in situ to approve, reduce or increase the evaluation;
- When evaluation is being performed, the prevailing market prices are considered one of the indices;
- The loan amount must not exceed 70 percent of the mortgage value.

Acceptance of movable collateral:

Movable property (crops, agricultural machines, investment deposits, etc.) are acceptable collateral.

If the loan is in excess of SP10,000, movable property is required as collateral, just as in the case of immovable property.

Registration of movable property:

- Agricultural machines (tractors, harvesting combines) must be registered with the Traffic Police and evaluated by the bank's Engineering Department in collaboration with the insurance company, the local engineers in the province, and the concerned branch committee (a small cost to be borne by the customer);
- Agricultural machines other than tractors and harvesting combines are accepted as chattel mortgage that can be repossessed;
- Crops: These are stored directly and are evaluated by the committee at the branch concerned with financing and the borrower after reviewing the prevailing market prices and the previous seasonal prices (at no cost);
- Companies' movable property must be registered with the companies' Registrar General, after having been registered with the competent authorities (Traffic Authorities, etc.);
- Bank deposits for investment must be linked with loan applications.

The loan amount must not exceed 75 percent of the mortgage value, except for investment deposits where the loan shall be equal to 100 percent of the mortgage.

Case study results on the credit-worthiness and repayment capacity:

- Annual seasonal (summer and winter seasons) loans: The bank, in cooperation with the farmers

⁷ US\$1 = SDD2.3 as at January 2010.

unions, conducts a joint study to determine a *faddan*'s requirements of each crop, the expected production, and the expected prices. Then, the cost of each crop per one *faddan* and the expected return is determined, and the result of the study becomes a policy and is communicated to the branches for implementation;

- The borrower submits a complete feasibility study on other projects, which is then reviewed and appraised by the bank;
- The study covers the borrower's consumption expenses;
- The parties that conduct the study are: (i) expert advisory licensed houses; (ii) experts in this field of interest; (iii) organizations associated with this activity that are attached to the Ministries of Agriculture or of Animal Resources;
- The feasibility study results must be taken into consideration by the Loan Committee after having been appraised by the bank.

Number of position tiers at which credit decisions are taken:

There are nine tiers:

- | | |
|--|-------------------|
| • Board of Directors | Over SDD1 million |
| • General Manager | SDD1 million |
| • Deputy General Manager | SDD500 000 |
| • Assistant General Manager for Finance & Commerce | SDD300 000 |
| • Manager of the Regional Sector | SDD150 000 |
| • Manager of the Model Branch | SDD100 000 |
| • Manager of Branch A | SDD70 000 |
| • Manager of Branch B | SDD50 000 |
| • Manager of Branch C | SDD30 000 |

The importance of the availability of the borrower's other income sources:

The bank does not stipulate diversity of income sources. The borrower may be a labourer in agriculture or livestock production. The bank does not require transfer of salaries, but may accept this as a payment or mortgage tool.

Kinds and geographical distribution of loans provided by the bank:

Short-term seasonal loans: Their term ranges between 3 and 18 months, and make up 75 percent of the portfolio. This includes:

- Crop (summer – winter) finance, including agricultural activities starting with land preparation and extending to harvesting. Also, it includes inputs, such as fertilizer;
- Operational finance of livestock production: this includes poultry feed, cattle and fish farms;
- Rural family finance.

Medium-term finance: This is 25 percent and includes:

- Finance of agricultural machines (tractors, combines, plows, etc.);
- Finance of livestock production (purchase of farm livestock and poultry, construction of pens, and other structures).

The bank finances all geographical areas in the country, with due consideration to the comparative advantage of activities in each area.

Issuance of loans secured by advance contracts:

There are no such loans. A *Bai-As-Salem* contract is made with the farmers. The bank receives the crops from the farmers at a pre-set price, and the bank itself markets them.

Loans to individuals and societies:

The organization gives loans to individuals and societies.

Conditions of loaning to a society:

1. The society must be registered in accordance with the cooperation law and recognized by the bank;
2. All legal aspects must be fulfilled;
3. Finance must be distributed in installments according to plan;
4. Finance must in line in with the bank's credit by-law;
5. A list of the names of the members must be provided to the bank before finance is started;
6. Members of the Board of Directors must specify the land size.

Loans to the societies represent 16 percent.

Loans to the individuals represent 84 percent.

Project financed by a loan:

It is stipulated that the borrower must demonstrate seriousness in establishing the project; i.e. he must at least start constructing the infrastructure.

Partial financing of projects:

It is stipulated that the borrower contribute 15–30 percent.

Warehouse receipts security:

This is limited to potatoes crop. Refrigerated warehouses are owned by the public and private sectors and are generally scarce.

Monopolistic marketing organizations and coordination with them:

There are none.

Training of potential borrowers and the percentage of loans given to them:

There is no specific training.

Agricultural extension and research services:

Agricultural extension and research have extensive scientific and practical abilities and experiences. Lack of financial capabilities, specifically, is the direct reason for failing to play that role efficiently. Extension and

research improve the farmers' performance and, consequently, their repayment capability, yet, there are weaknesses attributable to a deficiency in the financial capability of extension and research departments.

Size of loans given to projects with permanent or semi-permanent irrigation sources:

Eighty-five percent of the total loans go to projects that have a permanent irrigation source.

Size of workload assigned to credit and collection officers:

There is no ceiling for the volume of work assigned to each officer.

Availability of a database (computer program):

The bank has an efficient database, showing a complete picture of borrowers' financial positions with the bank, dues, repayments, performing or non-performing loans and maturity dates. Also, it shows daily transactions and the financial position of the bank to date.

Availability of borrowers' database at the Central Bank:

There is a database that provides information electronically. The Central Bank started modernizing it to cover the customer's historical record for the past five years.

A programme for attracting borrowers' savings:

The bank educates the customers and urges them to gather and deposit their savings with the bank, but no specific-limits savings are required as a precondition for financing small and microcredit borrowers. Moving current account is a must for big finance.

Extent of bank's independency:

The bank is not sufficiently independent.

The Government occasionally interferes to some extent, but usually, there is coordination with the bank concerning debt rescheduling. There are no exemptions of loans.

Practising the various banking and commercial activities:

The bank carries out the following:

- Attracting the public's savings;
- Providing some commercial loans;
- Offering loans, bank accounts, transfers and exchange of money.

Evaluation of the financial portfolio and the conditions for considering the debt as an uncollectable one:

A comprehensive evaluation of the portfolio must be done, and annual plans must be drawn up for uncollectable debts or debts whose collection is doubtful. Finance is classified into five levels:

- Ordinary finance (unclassified): This is one that has not matured. Appropriation percentage is 1 percent;

- Weak finance: Loan has matured, but has not been three months overdue. Appropriation percentage is 2 percent;
- Sub-ordinary level finance: The customer is in default for 3 to 6 months. Appropriation percentage is 20 percent;
- Finance that is doubtful to be collected: The customer is in default for 6 to 12 months. Appropriation percentage 50 percent;
- Bad finance: If the customer is in default for one year or more. Appropriation percentage is 100 percent.

Application of the principle of award and punishment against default customers:

This principle is not applicable.

Availability of a specialized risks department:

The bank does have such a department.

2.3 CREDIT AGRICOLE MOROCCO (CA) – MOROCCO

The bank applies set of measures to mitigate banking or nature risks. These are presented below based on the field information collected through the study or literature review:

Summary of actions taken by the bank to reduce the risks

The following review shows the banks' position on risk reduction practices:

Acceptance of immovable collateral:

- The bank stipulates that immovable mortgage be provided to secure its loans;
- All kinds of loans require an immovable mortgage, except loans for equipment and machinery or microcredit for which a chattel mortgage is sufficient;
- Mortgage must be registered at the real estate registration department by the customer;
- Mortgage cost is limited to MAD150⁸ to be paid by the customer;
- The bank itself evaluates the mortgaged property on the basis of the market prices. In most cases, the value of the mortgaged property equals 100 percent or more of the loan amount.

Table 5. Sudanese Agricultural Bank loan collection for 2005–2009

Year	Amount due (MAD)	Amount collected (MAD)	Percentage
2005	215 685 919	150 904 954	70
2006	289 611 529	202 960 653	70
2007	530 848 686	311 225 189	59
2008	955 463 517	673 694 692	71
2009	991 851 104	773 643 860	78

8 US\$1 = MAD8.0 as at January 2010.

Acceptance of movable collateral:

- Movable collateral is acceptable as complementary to the immovable one if the latter's value is insufficient;
- This collateral must be registered at the courts; registration cost is MAD150 plus 0.5 percent of the value of the loan to be all borne by the borrower. The credit officer evaluates this collateral consistent with market prices.

Case study results on credit-worthiness and repayment capacity:

- The bank conducts a study on the credit-worthiness and repayment capability of the borrower and his project. This study includes examination of the profit and loss accounts, the project's self-finance portion, and the cash flow of the agricultural operation;
- These studies must be conducted by experts in the agencies, in the area directorates, in the network directorates and in the headquarters. The study must be in line with the allowed loan ceilings specified according to the bank hierarchy;
- All requests must be studied in the same manner regardless of the size of the loan except, however, those of the customers of the local funds where there is a unified information system.

Number of position tiers at which credit decisions are taken:

- Bank agencies: No more than MAD750 000;
- Provincial directorates: MAD750 000 to 2 million;
- Network directorate: MAD2 million to 10 million;
- The Central Directorate for Loans: More than MAD10 million.

The importance of the availability of the borrower's other income sources:

The bank does not require this as a prerequisite, because the types of agricultural villages, farming methods and/or livestock vary according to the area or province. Some of the farmers are specialized in grain with others in vegetables, fruits, etc.

There is no condition calling for transfer of salaries, except in the case of loans for housing or for personal use.

Kinds and geographical distribution of loans provided by the bank:

The bank gives all kinds of agricultural loans, including:

- Financing agricultural seasonal costs and raising of livestock;
- Financing storage;
- Financing investments.

Finance percentage reaches 80 percent of the needs.

These loans are spread over all geographical areas, as follows:

Network directorate	Agricultural seasons finance	Investment finance
Centralarea	20 percent	31 percent
Northernarea	15 percent	21 percent
Southernarea	15 percent	32 percent
Contractualnetwork	50 percent	16 percent

Issuance of loans guaranteed by way of advance contracts:

There are no such loans.

Loans to individuals and societies:

Generally, the bank gives loans to individuals as well as to licensed agricultural societies. Each application is studied individually. Loan applications from societies are considered at the headquarters office.

Project financed by a loan:

The bank gives loans in all cases, whether to start a project, to complete it, or to develop it.

Partial financing of projects:

Borrowers requesting loans for investment must contribute about 30 percent.

Warehouse receipts security:

The bank has warehouse receipt security when financing national societies specialized in grain marketing,

Monopolistic marketing organizations and coordination with them:

There are monopolistic marketing organizations:

- Sugar manufactures that monopolize the marketing of sugar plants crops;
- The National Company for Seeds, which deals with seeds of grain and potatoes.

Training of potential borrowers and the percentage of loans given to them:

No such training is carried out.

Agricultural extension and research services:

Agricultural extension and research play important roles in the development of agriculture and livestock breeding, because there are many actors in the field:

- Agricultural education:
 - 3 agricultural institutes for high education;
 - 19 institutes for technical education;
 - 25 centres for agricultural training;
 - 9 agricultural secondary schools;

- The National Institute for Agricultural Research, with eight area centres;
- Agricultural guidance:
 - 40 agricultural area directorates;
 - 9 area offices for agricultural investment;
 - 37 agricultural chambers;
 - 417 vocational societies.

Size of loans given to projects with permanent or semi-permanent irrigation sources:

MAD300 million provided to irrigated projects compared to a total loans of MAD5 601.4 million in 2009, which is 5.3 percent.

Size of workload assigned to credit and collection officers:

- A specific portfolio is assigned to each credit officer or collection officer;
- The number varies according to the size of the banking agency;
- There are no special awards. There are inclusive awards based on the results of the agency's collection.

Availability of a database (computer program):

The bank has such a database.

Availability of borrowers' database at the Central Bank:

The Central Bank has such a database.

A programme for attracting borrowers' savings:

There is a stipulation that agricultural income remain in the country, without setting an initial ceiling.

The following are the sizes of the various kinds of savings compared to the sizes of loans during the past three years:

Year	Deposits	Loans
2009	MAD47.00 billion	MAD47.28 billion
2008	MAD43.80 billion	MAD42.80 billion
2007	MAD40.80 billion	MAD35.20 billion

Extent of bank's independence:

The bank has been independent since 2004, when it was converted from a public entity "the National Fund for Agricultural Credit", to a stock company, The Agricultural Credit of Morocco. There is advance coordination between the Government and the bank whenever the Government intervenes for group exemption or postponement. This occurs when borrowers face unfavourable weather conditions like drought or other disasters, especially when large agricultural areas or the country is affected.

Practising the various banking and commercial activities:

The organization performs all of the various banking work. This work is less than 50 percent of the overall size of the bank's portfolio.

Evaluation of the financial portfolio and the conditions for considering a debt as a uncollectable one:

The organization conducts an inclusive evaluation of the financial loans portfolio.

The appropriations for uncollectible loans 2009 constituted 7.6 percent of the overall loans portfolio.

A debt is considered uncollectable and requires the allocation of an appropriation for:

- Loans issued in the form of a credit line when the current account is inoperative for a period of more than six months;
- All other loans when they pass the maturity date by three months.

Application of the principle of award and punishment against default customers:

When new loans are being considered, due consideration is given to persons who make repayments on time.

There are penalties against procrastinators calculated at 2 percent as moratory interest.

Risk Management Department:

There is a Risk Management Department headed by Regag Abdul-Ali (Regag@creditagricole.ma)

2.4 THE NATIONAL AGRICULTURAL BANK (BNA) – TUNISIA

The bank applies set of measures to mitigate risks in terms of banking or nature risks. These are presented below based on the field information collected through the study or literature review.

Summary of actions taken by the bank to reduce the risks

The following review shows the banks' position on many practices to reduce risks:

Acceptance of immovable collateral:

Real estate mortgage is a precondition for obtaining any long-term loans, regardless of amount, given for planting trees, constructing buildings, drilling wells, etc. Mortgage is registered at the Real Estate Registration office for a fee of 2 percent of the loan amount born by the borrower. An additional amount of TND8.00⁹ is paid for every real estate fee. Every loan must be documented by a sale contract to be registered at the Ministry of Finance's cash office for a fee of one dinar per page for seasonal loans and 15 dinars per page for medium- and long-term investment loans.

⁹ US\$1 = TND1.3 as at January 2010.

Collateral is evaluated by branch managers, technicians, project evaluation engineers, and an architect from the bank. Evaluation is done on basis of prevailing prices of similar property. If the amount of his liability exceeds TND500 000, an independent expert is used to conduct a customer's first-time evaluation. The bank often endeavours to make the loan 70 percent of the collateral value, and demands that the investor provide a self-credit of 30 percent of the project value.

Acceptance of movable collateral:

Chattel mortgages are acceptable collateral for seasonal and medium-term loans:

Seasonal loan mortgage: These loans are originally documented by mortgaging the crops, agricultural equipment and livestock. The bank may, depending on the loan size and borrower's capabilities, demand supplementary collaterals, such as real estate mortgage, wages and salaries transfer, and mortgage of a tractor or a harvesting machine.

Medium-term loans: For this kind of loan, equipment selected under the loan constitutes the mortgage, especially when it has gray cards endorsement (banning the owner from disposing of it during the term of the loan). This, however, does not deny the bank the right to demand other supplementary mortgages.

Bank customers may obtain seasonal investment loans against deposits, shares or bonds mortgages. In this case, the amount of loan shall not exceed 80 percent of the value of the collateral. These mortgages are registered according to their kind: crops and livestock are registered at the Departments of Finance; vehicles and fishing vessels franchises are registered at the Ministry of Transport; and a mortgage of shares is registered at the concerned companies. The borrower pays all expenses incurred by this registration.

Study of the credit-worthiness and repayment capacity:

All agricultural loan transactions are subject to detailed study of the credit-worthiness and repayment capability of the borrower and his project. This study is conducted by technicians and agricultural engineers available at the branches, provincial departments, and the bank headquarters. Examination of the seasonal loans files rests primarily on the repayment capability. The feasibility study includes the following:

- Profit and loss account for the yearly agricultural activities;
- Cash flow budget of the agricultural operation.

Number of position tiers at which credit decisions are taken:

Loans decisions are taken by the competent authorities according to the authority vested in each of them:

- The head of the branch, along with the approval of the provincial manager.
- The department head at the central administration, along with the approval of designated department manager;
- The designated manager in the department, along with the approval of the designated manager at the central administration;
- The bank's loan committee;
- The executive loan committee, for loans exceeding three million dinars.

The importance of the availability of other borrower's income sources:

The bank does not pre-stipulate diversification of the borrower's income (agriculture, trade, job, industry, etc.) for obtaining a loan. The transfer of part of the salaries of the borrowers who are permanently employed by the Government or private sector does not constitute a precondition for obtaining the loan except in the case of consumption loans, or when the agricultural loan borrower is leasing agricultural land and is unable to provide in-kind collateral.

Kinds and geographical distribution of loans offered by the bank:

Being a comprehensive bank, the bank finances all economic activities without exception. As far as agricultural loans designated for production are concerned, the bank gives its customers seasonal and investment loans. The total amount of loans issued in 2008 was TND101 million,¹⁰ 55 million of which were seasonal loans and TND46 million were investment loans.

Issuance of loans secured by way of advance contracts:

The bank does not currently issue such loans.

Loans to individuals and societies:

The bank gives loans to both individuals and societies. The only conditions set for giving loans to societies are the necessary return and profit, and adequate collateral.

Projects financed by loans:

The bank does not stipulate the existence of an ongoing project in order to finance the uncompleted part of it. The borrower may obtain a loan to begin construction of a new project.

Partial financing of projects:

The set of rules and regulations for the encouragement of investment divided the agricultural field into three types:

- Class "A" investment transactions for small farmers, which requires 10 percent of the project value as self-finance;
- Class "B" investment transactions for medium farmers, which requires 10 percent of the project value as self-finance;
- Class "C" investment transactions for large farmers, which requires 30 percent of the project value as self-finance;
- Government grants, which amount to 25 percent, 20 percent, and 7 percent of the project's cost are added to these percentages.

Guarantee of warehouse receipts:

The bank no longer uses this instrument.

¹⁰ US\$1 = approx. TND1.249, yearly average currency exchange rate for 2008.

Monopolistic marketing organizations and coordination with them:

Monopolistic marketing in the Tunisia is limited to grain and tobacco. On the strength of special agreements and arrangements, the bank is able to redeem its debts through grain crops marketed by companies licensed by the Government and having bank loans to gather the crops from the farmers. These companies give the farmers payment orders that are cashable only at the bank, whereupon the bank makes all necessary deductions that can enable it to redeem its debts.

Training of potential borrowers and the percentage of loans given to them:

The bank does not require this.

Agricultural extension and research services:

Agricultural research and guidance are prominent in the Government's plans for the development of the agricultural sector. There are deep-rooted research and extension organizations in the country playing major roles in the growth of agriculture, keeping in step with technical advancements, and improvements of production and productivity.

Size of loans given to projects with permanent or semi-permanent irrigation sources:

Because of the high risks that characterize rain-watered farming, the bank focuses its finance on irrigated farming activities, except for seasonal loans given for grain and for olive and grape orchards.

Size of workload assigned to credit and collection officers:

This does not apply. There are no special awards for credit and collection officers. Incentives are given to all employees without discrimination.

Availability of a database (computer program):

The bank has a computer program database that was installed in the late 1960s and is undergoing constant improvement in order to fill the needs of the bank and customers.

Availability of borrowers' database at the Central Bank:

The Central Bank has this information which the bank can access and use.

A programme for attracting borrowers' savings:

The bank has a programme for amassing borrowers' savings, which is a precondition for obtaining loans associated with savings for housing, savings for schooling, and savings for the family. The bank does not require savings deposits or opening of an account as a condition for giving agricultural loans.

Extent of bank's independence:

As a national bank, this bank works continuously in coordination with the Government authorities to achieve the goals set forth in the country's economical development plans, consistent with the goals of the five-year plan controlled jointly with the concerned Government departments. The bank takes fully

independent decisions concerning loaning, collection, mortgage, postponement, and rescheduling as permitted by the law. In view of the climatic risks facing the agricultural sector, the Government interferes when drought hits the country, in the scheduling of loans taken by farmers for cultivation of rain-irrigated grain over a maximum period of five years. The National Insurance Fund pays the interest resulting from this scheduling. Also, the government may take postponement and group exemption decisions as a measure for tackling the agricultural sector's indebtedness. All these measures are taken with prior coordination with the bank.

Practising the various banking and commercial activities:

The National Agricultural Bank is a comprehensive bank that performs all banking work permitted by the law. The bank's liabilities portfolio amounted to TND6 billion as at 30 November 2009 distributed as follows:

- Agriculture: 13 percent
- Industry: 31 percent
- Tourism: 4 percent
- Services: 33 percent
- Real estate: 5 percent
- Specials: 14 percent

Evaluation of the financial portfolio and the conditions for considering the debt an uncollectable one:

The loans financial portfolio is evaluated periodically in accordance with rules issued by the Central Bank of Tunisia. Doubtful or uncollectable loans make 11.88 percent of the total of the loans portfolio, and 65.2 of it is covered by appropriations. A debt is considered uncollectable if its first installment is not fully repaid within 360 days even if it is fully covered by collateral.

Application of the principle of "reward and punishment" against customers:

There are no incentives for dutiful borrowers. If the debt is not repaid upon maturity, the borrower is penalized by an increase of 1.5 percent in the contracted interest rate starting on the day following the maturity date. If the file is referred to the disputes committee, the fine is increased to 2 percent.

Table 6. National Agricultural Bank of Tunisia loan collection, 2005–2009

Year	Due amounts (matured during the year) (TND '000)	Collected amounts (TND '000)	Percentage
2005	106 978	62 934	59
2006	112 323	62 196	55
2007	110 264	59 943	54
2008	113 615	67 161	59
2009 up to 30 November	130 236	84 230	65

Risk Management Department:

This Department shall be created during the first quarter of 2010. There is now a unit for monitoring of risks.

2.5 THE AGRICULTURAL COOPERATIVE BANK (ACB-S) – SYRIA

The bank applies set of measures to mitigate risks in terms of banking or nature risks. These are presented below based on the field information collected through the study or literature review:

Summary of actions taken by the bank to reduce the risks

The following review shows the banks' stance on many practices to reduce risks:

Acceptance of immovable collateral:

- The bank stipulates that in order for it to complete the transactions mentioned in the regulations, they must be secured by one of the following collateral:
 - Tangible collateral (real estate, or non-real estate such as agricultural machines and equipment, etc;
 - Personal guarantee: Consists of at least two guarantors who are farmers, merchants, industrialists, Government employees, craftsmen, or economic activists, jointly or severally, the financial capability of each is sufficient for fulfilling the loan being given. The guarantee is consummated by affixing the guarantors' signatures onto the credit contract and the annexes;
 - Government guarantee: The Government is represented by the ministries, the departments and the public organizations. The guarantee consists of an independent deed or the signing of the contract and the credit agreement;
 - Bank guarantee: A guarantee by any bank operating in Syria, which is considered a substitute for the personal guarantee;
- The bank requires in-kind collateral (real estate or non-real estate) to secure short-term loans that do not exceed SYP2 000 000;¹¹
- This amount comprises the new loan in addition to unpaid balances of previously given loans. The amount of a medium- and a long-term loan is SYP300 000, which includes any unpaid balances of loans previously given to the same borrower;
- The mortgage transaction is completed at the Directorate General of Real Estate;
- All credit instruments and associate papers issued by the bank are exempt from fees;
- Estimation of the value of agricultural land provided as in-kind collateral is made according to the general estimation schedule, which contains the name of each village in the area where the branch is operating, the value of a donum¹² of the land of each village according to its actual specifications (such as irrigated, non-irrigated, tree-covered). This schedule is prepared by a committee comprising:

– Branch Manager	Chair
– Manager of Finance	Member
– Manager of Agriculture and Agricultural Reform, or the Head of the Agriculture Department	Member
– A representative of the Farmers' Association	Member

¹¹ US\$1 = SYP45.95 as at January 2010.

¹² A metric donam = 0.1 hectares.

- This schedule is approved by the Governor if used by the Governorate branch, and by the manager of the administrative area if used by the rest of the branches. This schedule is reconsidered whenever necessary. At the request of the borrower, the committee may inspect the lands of the concerned person to ascertain the implementation of new projects on his land, and the land may be re-evaluated based on its new actual specifications;
- Actual prevailing market prices must be taken into consideration, but, as a precaution against future price reduction, up to 80 percent of its estimated value will be honoured when offered as collateral. In addition to agricultural land used as collateral, buildings, projects will be considered up to 60 percent of their estimated value when used as collateral;
- The value of loan or loans given to the borrower under the same collateral must not exceed the aforesaid percentages;
- The values of buildings, machines, equipment and projects must be estimated through inspection conducted by a committee comprised of:
 - The branch manager, his assistant, or his representative, chairperson;
 - A technical expert.

When necessary, the committee seeks appropriate help.

Acceptance of movable collateral:

- Machines and equipment are acceptable as collateral for all kinds of loans up to 60 percent of their purchase value as on the original purchase date, less yearly depreciation at the rate of 10 percent of the purchase value for each year of use starting on the date of manufacture. To be acceptable, they must have comprehensive insurance with a recognized insurance company against all risks for the entire term of the loan, and their insurance policy must be endorsed to the bank and presented periodically for keeping in the loan file;
- Machines and equipment must be registered at the Directorate of Industry and mortgaged in favour of the bank. Other equipment that has a cadastre must be registered at the Transport Directorate in their administrative area. Crops, livestock and bonds are not acceptable as movable collateral; they are considered part of the borrower's solvency which is the basis for the estimation of the size of loans that may be given to him. The value of such property is estimated by the head of the information and monitoring department at each branch; and the prices prevailing at the time of value estimation must be taken into consideration.

Case study results on credit-worthiness and repayment capacity:

There are two kinds of studies conducted on loans to be given by the bank:

- The simplified financial feasibility study on purely agricultural projects concerned with agricultural production, both plant and livestock, as well as on loans for the purchase of agricultural machines and equipment through the information and monitoring department in the branch. Estimation is made of the productivity and cash flow, and calculation of profit of each production unit (donums – production unit of livestock resources, etc.). Also, estimation is made of the total production of all agricultural and non-agricultural projects of the borrower, because these loans are given according to plans and documentations prepared by authorities concerned with the agricultural affairs;
- The financial feasibility study documented and approved by the competent departments and Ministries. Such a study may be conducted by the borrower and checked by the information and monitoring department and the loans department at the branch. Alternatively, they may be conducted by a specialized (private) office and checked by the aforesaid departments. These studies are used for small- and medium-sized construction, industrial, and agricultural projects.

These studies must be taken into consideration when loaning decisions are made and when the size of the loan and repayment schedule are determined. This type of study is conducted for about 20 percent of the loans.

Number of position tiers at which credit decisions are taken:

Loans that exceed the authority of the loans committee at the branch are reviewed and recommended by two position tiers, and then the loan is approved. The size of the loans within the authority of the loans committee at the branch is determined by one position tier. The authorities of the branch loan committee are specified as follows:

- Loans given to the public sector or to the cooperative sector in a nominal capacity: a maximum of SYP10 million for short term loans; and no more than SL 5 million for each medium- and long-term loan;
- Loans given to the private sector and to the joint sector: a maximum of SL 4 million for short-term loans and a maximum of SL2 million for each medium- and long-term loan. A cooperative member is accorded the same treatment as that of a member of the private sector. The Branch Loans Committee consists of: the Branch Manager, the Head of the Loans Division, the Head of the Loans Department, the Head of the Information and Monitoring Department, and the Head of the Collections Department.

The decision is taken by unanimous or majority vote. General Administration is advised of the reasons for certain members' reservation on issuing the loan, so that reservation may be studied and the branch advised of the necessary action to be taken.

Amounts that exceed the authority of the branches loan committees, up to the loan ceilings set forth in the application instructions of the bank's operation regulation, must be studied by the credit division, information and monitoring department, and loans manager, and then submitted to the Board of Directors to take the decision it sees fit.

The importance of the availability of the borrower's other income sources:

Diversity of income sources is not a condition for obtaining a loan, but it is preferable. The salary is not used to settle the loan if the borrower, or guarantor, is an employee of the Government or the private sector. There is no stipulation for the transfer of part of the salary to settle the loan. No part of anyone's salary is transferred except after default on repayment and after the necessary measures have been taken in accordance with the collection regulation in effect at the bank. This applies to the borrower and the guarantor if he is an employee of the Government or the private sector, even if the salary had not been collateralized, keeping in mind that all medium- and long-term loans are not repaid by monthly installments, but rather by annual or semi-annual installments. Short-term loans are repaid in lump sum and mature within one year from the date the loan is issued; however, this is not a pre-condition for obtaining this kind of loan.

Kinds and geographical distribution of loans offered by the bank:

- The bank offers agricultural and agro-industrial loans and loans for services and industries associated with rural development to all sectors (public, joint, cooperative, and private). Such loans can be short-, medium-, or long-term ones;
- There are no consumption loans;
- Agro-industrial loans and loans for other purposes constitute about 20 percent of the bank's loans,

and they are issued for all geographical areas. Approximately 50 percent of the short-term loans (production input) are centered in the eastern province.

Issuance of loans guaranteed through advance contracts:

There are none.

Loans to individuals and societies:

Loans are given to individuals and to all kinds of cooperative farmers' societies. Farmers societies receive loans in accordance with the rule for short-term joint and supplementary loans. All members of the society are jointly and severally responsible for the repayment of the loans. Loans to these societies make up about 45 percent of the bank's loans.

Projects financed by loans:

The existence of a project is not a condition for granting a loan. The majority of the bank's medium- and long-term loans are given for establishing new projects. Short-term loans are given for the purchase of input material for existing projects, at the request of the borrower, on a yearly basis after the previous loan has been repaid in accordance with finance conditions set forth in the requirements schedule and the application instructions of the disbursement transactions regulations.

Partial finance of projects:

The bank contributes part of the cost of the project; the remaining part is paid by the borrower. The bank's contribution is 50–70 percent of the value of the project, depending on its nature, and may reach 90 percent of the production cost in case the loan is for the purchase of agricultural production input, such as fertilizer, seeds, and wages for agricultural work done during the period from the time of planting to the time of harvesting.

Guarantees of warehouse receipts:

There are none.

Monopolistic marketing organizations and coordination with them:

These include: the General Organization for Trading and Processing Grain; the General Organization for Cotton; the General Organization for Seed Propagation; the General Organization for Tobacco; and the General Organization for Sugar. Coordination is carried out between these organizations for the collection of the bank's debts. The value of crops delivered to these organizations is disbursed by the bank, and the bank deducts the amounts of debts and pays the remainder to the borrower.

Problems occur when the farmers smuggle their crops by having their production delivered under the names of other persons. Here, facts are ascertained for prosecution and sequestrators are assigned to the farmers who are suspected of having smuggled their production. Most of the bank's collections, about 80 percent during bountiful seasons, are made through this method (disbursement of the value of the agricultural production through the bank).

Table 7. ACB Bank, Syria loan amounts for irrigation vs. all loans

Year	Size of loans (SYP '000)	Size of modern irrigation loans (SYP '000)*
2007	17 956 291	17 081
2008	31 827 007	333 193
Up to August 2009	38 242 350	682 054

* loans given to projects with permanent or semi-permanent irrigation sources

Training of potential borrowers and the percentage of loans given to them:

This applies only to projects financed in accordance with special regulations where other parties perform this task.

Agricultural extension and research services:

They play a role in improving the farmers' performance.

Size of workload assigned to credit and collection officers:

This does not apply. Incentives apply to all employees without discrimination. However, the percentage of collection is one of the indicators used as a basis for calculating the end-of-year award at all branches. Top performer employees of any division of the branch may be granted special awards at the recommendation of the head of the branch who must justify his recommendation.

Availability of a database (computer program):

The bank has a program showing the outstanding debts of all borrowers with their dates, maturity and the amounts repaid all year round. A programme is being prepared for ageing of dues, classification of debts, and sorting according to levels.

Availability of a database at the Central Bank on the borrowers:

There is a computer program that contains all data about the borrower, including personal information, loan, guarantors, amount of loans and dues. The bank can initiate an enquiry about any borrower at any time.

A programme for attracting borrowers' savings:

There is no specific savings programme for borrowers. The following table shows the sizes of the various kinds of savings from the public compared with the sizes of loans for the previous three years:

Table 8. ACB loan to deposit comparison, 2006-2008

Year	Deposits (SYP '000)	Size of loans (SYP '000)	Loan deposit ratio (%)
2006	23 606 213	4 928 204	82
2007	24 410 403	27 956 291	85
2008	24 587 507	31 827 007	75

Extent of the bank's independency:

The bank takes independent decisions on loans, collection, mortgage, and sale of movables and immovable property of delinquent borrowers according to its law.

The Government interferes in taking group postponement decisions, decisions concerning exemption from moratory interest, and delay fines. In most cases, this is coordinated with the bank.

Practising the various banking and commercial activities:

Commercial loans are given only to the public sector organizations, such as: the General Organization for propagation of seeds, The General Organization for Trading and Seed Processing Grain, and the General Organization for Cotton.

Evaluation of the financial portfolio and the conditions for considering the debt as a uncollectable one:

A comprehensive evaluation is made of the financial loans portfolio, and the status of appropriations for doubtful or uncollectable debts, which, in 2008, amounted to 5 percent of matured and unsettled debts.

Application of the principle of "reward and punishment" against customers:

The principle of penalty is applied against defaulters, imposing delay fines, and moratory interest in addition to contractual interest. No incentives are given for dutiful borrowers.

2.6 THE COOPERATIVE AND AGRICULTURAL CREDIT BANK (CAC BANK) – YEMEN

The bank applies a set of measures to mitigate risks in terms of banking or nature risks. These are presented below based on the field information collected through the study or through literature review.

Table 9. ACB loan collection for 2005–2009

Year	Due amounts (SYP '000)	Collected amounts (SYP '000)	Percentage
2005	11 080 709 910	8 786 500 841	79.30
2006	11 709 971 219	7 666 577 753	65.47
2007	15 399 050 754	8 339 418 844	54.16
2008	18 006 514 183	7 147 231 173	39.69

Note: Low rates are the result of drought years. More discussion on recovery of loans in general is given in Chapter 3.

Summary of actions taken by the bank to reduce the risks

The following review shows the banks' stance of many practices to reduce risks:

Acceptance of immovable collateral:

- The bank requires immovable (land, real estate, etc.) collateral for loans exceeding YER200 000.¹³ Such collateral must be registered at the Real Estate Registration Office and the court of first instance. Collateral for commercial loans and facilities must be registered at the commercial court. The borrower pays the mortgage expenses;
- Before it is mortgaged, immovable collateral for agricultural and fish loans are evaluated by a judicial official and the credit officer at the branch issuing the loan. Collateral for large loans are evaluated by the specialized committee at the General Administration;
- Property provided as collateral for a commercial loan must be evaluated by a specialized civil engineer employed by the bank;
- The current value of the real estate collateral is determined, then the collateral is mortgaged to the bank at 60 percent of its current value as a precaution against future price fall and to reduce the risk rate. The amount of the loan is equal to 60 percent or less of the value of the collateral.

Note:

- In the past, the bank had a problem of being unable to dispose of the mortgaged property (land and real estate), especially land belonging to influential persons in tribal areas;
- When any borrower is sued for failure to repay a loan, the courts issue decisions calling for repayment of only the capital, leaving out the interest which the court considers as usury and against Islam *Shari'a*, notwithstanding the contract made with the borrower. This is an exclusive Yemeni rule, not applied elsewhere in the Region.

Acceptance of movable collateral:

- In the past, the bank accepted movable (crop mortgage) collateral at a limited number of branches. When the bank realized that this was useless, it was cancelled;
- Movable property (agricultural machines, fishing boats, and fishing tackles) is acceptable as commercial mortgage in favour of the bank to back the collateral (real estate and land) for agricultural and fishing loans as well as a commercial guarantor, i.e. a guarantor who is a merchant acceptable by the bank;
- As an exceptional case, irrigation units (engines and pumps) are accepted as collateral for agricultural loans not exceeding YER3.6 million.

Study of credit-worthiness and repayment capacity:

The bank must conduct a feasibility study on the credit-worthiness of the customers, as follows:

- For short-term loans (operating expense, fertilizer, seeds, etc.) with a maximum value of YER300 000: The credit officer at the branch conducts a simple feasibility study on the project site, such as evaluating the borrower's yearly income and financial position, and submits his report to the loan committee at the branch;
- For medium- and long-term loans: The credit officer conducts a financial and technical feasibility study for the project to include the yearly income, the financial position, and the financial analysis,

¹³ US\$1 = YER207 as at January 2010.

and extracts the project indices, i.e. the proportion of benefits to expenses or the internal rate of returns;

- Here, the sizes of loans vary according to the purpose of the loan. For loans with a value exceeding YER5 million, the beneficiary submits a financial and technical feasibility study on the targeted project. The bank reevaluates this study and, based on the findings, the right credit decision is taken;
- For commercial loans, the credit officer makes a comprehensive inquiry for banking purposes about the customer, his activities, reputation in the market, and dealings with other banks. Also, a study is conducted of the customer's financial position on the strength of a financial analysis of his financial statements and cash flow. The credit committee takes the appropriate decision on the basis of this information. The sizes of commercial loans vary according to the nature of the activity.

Number of position tiers at which credit decisions are taken:

Position tiers at which credit decisions are taken:

Agricultural and fisheries:

- Authority of the branch manager: does not exceed YER100 000 per loan;
- Authority of the subcommittee (at the branch): Varies according to the purpose. The following applies in case of short-term and medium-term loans:
 - Irrigation projects and subsidiaries with a maximum value of YER1 million;
 - Calf and sheep fattening projects with a maximum value of YR500 000;
- Authority of the main committee (at the general administration): Approves loans which exceed the authority of the subcommittee, within a maximum of YER3 million;
- Authority of the Board of Directors: loans exceeding YER3 million;
- The bank is currently studying the possibility of expanding the authority of all the aforementioned tiers.

The importance of the availability of the borrower's other income sources:

The organization does not stipulate diversification of the borrower's income sources, but such diversification is preferable.

In the case of personal loans, the bank makes it a pre-condition that part of the employee's salary be automatically transferred to the bank to repay his debt, provided, however, that the employee himself and his employer approve this.

These loans are spread throughout the geographical areas of the country. The bank has 67 branches and 18 offices and has the largest geographical extension.

Table 10. Kinds and geographical distribution of loans provided by the bank. Loans, shown by investment area, issued during 2009

	Kind of loan	Amount (YER)	Percentage
1	Commercial loans	19 billion	46.60
2	Individual (personal) loans	11 billion	26.96
3	Government loans	5 billion	12.13
4	Loans to finance completed work	6 billion	13.52
5	Real estate and housing loans	5 million	0.01
6	Short-term agricultural loans	24 million	0.06
7	Medium-term agricultural loans	292 million	0.71
8	Long-term agricultural loans	5 million	0.01
	Total	41.3 billion	

Note: The bank shifted its mandate and operations as of 2004 to commercial banking business, with the appointment of a new Director General. This aims to make up the great losses occurred as a result of the very low loan recovery (less than 25 percent).

Issuance of loans guaranteed through advance contracts:

This was scheduled to be carried out within the executive mechanism of the national programme for grain cultivation. However, it was not executed because the Yemeni economic organization failed to buy the crop from farmers who had borrowed from the bank. The size of loans associated with grain crops is estimated at YER250 million, representing 0.61 percent of the overall amount of the loan portfolio granted by the bank during 2008 and 2009.

Loans to individuals and societies:

In the past, loans were issued to individuals and societies alike. Presently, however, loans to societies come from the fund for the encouragement of agricultural and fish production, and are processed and supervised by the bank.

Conditions for giving loans to societies were as follows:

- Submission of a copy of the society's closing account and financial position for two previous years;
- Work permit;
- Submission of the society's basic regulation, showing names of the society members and the percentage of their contribution to the society's capital;
- Submission of a letter of authorization from the society empowering whoever to apply for the loan and complete the formalities, etc.

The total amount of loans given to societies is estimated at YER2 billion and makes up 18.37 percent of the total of individuals' loan portfolio.

Projects financed by loans:

The bank does not stipulate the kinds of projects to be completed. Already-existing projects may be financed or new projects may be begun. The bank is currently studying the financing of new projects (small, medium and microfinance).

Partial financing of projects:

The bank does not finance the full cost of the project. It finances 25–50 percent of the cost, and stipulates participation of the borrower.

Guarantee of warehouse receipts:

The bank does not have warehouse receipt guarantees for agricultural and fishing loans. Other measures are applied to commercial-type loans.

Monopolistic marketing organizations and coordination with them:

There are no monopolistic (exclusive) marketing organizations in Yemen. Marketing is free (full competitiveness). There is no coordination between the bank and other marketing organizations.

Training of potential borrowers and the percentage of loans given to them:

There is no training programme for potential borrowers to obtain loans. However, this remains a future goal of the bank and is included in the modernization and development project (restructuring) now underway.

Agricultural extension and research services:

Research and guidance capabilities are limited and weak, and do not reach most of the farmers.

Size of loans given to projects with permanent or semi-permanent irrigation sources:

Shown below is the size of projects (horticulture, cotton, coffee beans, and vegetables) that have permanent or semi-permanent irrigation sources, in 1976-2009:

- Number of loans: 151 198;
- Total value of loans: YER11 921 053 000.

Size of workload assigned to credit and collection officers:

A credit officer or a collection officer is not assigned a limited number of customers. Branch operation areas are divided among the credit and collection officers if there is more than one officer.

Either officer may do the job of a credit officer in an area other than his own. The incentives they receive are very minor.

Availability of a database (computer program):

The bank has a database (computer program) that can display dues, collections, maturity dates, collection rates, etc., especially for the period from 2005 to date.

Availability of borrowers' database at the Central Bank:

The Yemeni Central Bank has a database on borrowers in commercial activity and facilities, and on borrowers in the agricultural and fish area who receive loans exceeding YER500 000.

A programme for attracting borrowers' savings:

Amassing borrowers' savings in the rural areas and the main cities is one of the major goals which the bank strives to achieve, but it is not a condition.

Loans up to the end of 2009 totaled YER206 billion, compared to a total of YER160 billion of savings.

Extent of the bank's independence:

- The bank is financially and administratively independent, and takes free loan and collection decisions, in accordance with its founding law;
- As regards decisions concerning mortgage or sale of the property of defaulting borrowers, the bank takes legal measures in accordance with the credit rules. However, it faces difficulties in implementing the concerned courts' ruling, especially those issued against prominent and influential persons or against projects located in tribal areas;
- The bank takes independent decisions concerning postponement or rescheduling based on technical reports by experts explaining the reasons for non-repayment, postponement request, or rescheduling of loans.

Practising the various banking and commercial activities:

- The bank currently practises all operations and activities relating to attracting the public's savings, opening of bank accounts, opening of documentary credits, internal and external bank transfers, and giving all kinds of loans (agricultural loans, fishing loans, commercial loans, personal loans, charitable loans, etc.);
- There is no local bourse (stock market). Establishment of a stock exchange in Yemen is still under study;
- The size of net commercial activities during 2009 is estimated at YER26 billion after deductions of appropriations and earned profits. The overall size of the bank's outstanding loans portfolio for 2009 amounts to YER63 billion.

Evaluation of the financial portfolio and the conditions for considering a debt uncollectible:

The bank periodically makes a comprehensive evaluation of the loans financial portfolio to identify the successful and unsuccessful loans, and also to determine the size of doubtful or bad loans. Then, annual appropriations are made in light of this evaluation, which are subtracted from the bank's annual general profit.

In 2009, uncollectable debts constituted 8 percent of the net credit portfolio.

Consideration of a debt as an uncollectable one are subject to the Yemeni Central Bank's rules of classification, which stipulate that a debt becomes uncollectable after one year from the date of maturity.

Application of the principle of "reward and punishment" against customers:

- There are incentives for early repayment consisting of reducing the interest on loans. The penalty imposed against customers for delinquency is a 4 percent fine and refusal of new loan requests;
- A customer is assigned a credit-worthiness grade based on a credit-worthiness study, which gives him moral advantage when requesting facility increase or additional finance.

Table 11. CAC bank loan collection, 2005–2009

Year	Amounts due (YER)	Amounts collected (YER)	Percentage
2005	2 788 973	691 229	25
2006	2 449 908	2 449 489	100
2007	123 048	110 515	90
2008	140 480	131 987	94
2009	122 379	91 723	75

Note: The Ministry of Finance bought the bad debt balances of the agricultural and fishing loans portfolio for past years, estimated at YER5 billion as at 31 December 2005, as a way to improve the bank's credit portfolio and to reschedule it for the farmers and fishers, provided, however, that the bank collect these amounts within ten years and transfer them to the Ministry of Finance. Therefore, these amounts are not included in the dues and collections shown in the table above.

Risk Management Department:

- The Head of the bank's Risks Department is Amer Al-Agbri (amer.alagbri@cacbank.com.ye, Tel.: (00967) 733 790511).

Annex 3. Discussion on and analysis of insurance experiences of non-Arab countries in the Region

A feasible, suitable and viable agricultural insurance programme acceptable to the farmers may produce many positive results, the most important of which are as follows:

- Alleviation of the effects of the losses incurred by farmers during bad seasons. This would help stabilize the farmers' income, which would reflect positively on the agricultural sector and the national economy, and would also help the farmers settle down in their villages and farms;
- Provision of easy access to credit institutions to the farmers, because it would be a good substitute for conventional collateral, which they may not possess and which are required for loans;
- Encouragement of investment in agriculture, capital formation, and the entry of a large number of farmers and investors into this sector;
- Reinforcement of the sustainability of agricultural credit institutions through the strengthening of the repayment capacity of borrowers whose farms and properties are insured;
- Enhancement of farmers' confidence, as they would use new technological methods that help increase and improve production;
- Helping in replacing haphazard, piecemeal aids, which the governments are called on to provide in emergency cases, with an orderly and streamlined system that ensures fairness in bearing the burdens and in receiving the compensations;
- Government subsidies to the insurance sector, which is an acceptable practice worldwide, because it is approved by the World Trade Organization. This enhances the competitiveness of the local agricultural production vis-à-vis imports from developed countries which provide their farmers with subsidies in the form of insurance;
- Helping in arranging the practice of maintaining farm records by the farmers and agricultural records by the government and the insurance companies, thereby providing an accurate and useful database, which widens the base of policy holders and insured crops and improves, or implement advanced insurance methods.

The following are some of the problems facing the sound and beneficial implementation of the agricultural insurance programme:

- Moral hazards: These are the most important risks that lead to the failure of all forms of insurance because, tempted by the compensations, a policy holder may intentionally neglect taking precautions against risks or fail to take proper measures to protect his crops from flood and winds or his livestock from perishing and diseases. Also, he may sometimes demand undeserved compensations, give fraudulent information about the location of his land or about his crops, or delay reporting in order to deceive the compensation committee, etc;
- Adverse selection: This means that only people with high risks take out insurance, and that people with low risks refrain from insuring. Therefore, the insurance company would get small premiums and pay large compensations, which would surely result in the insurance company's insolvency;
- Use of insurance compensations to repay bad and un-repaid loans: This usually occurs in developing countries when insurance is attached to the credit institution. Influential persons, politicians and borrowers may be able to get – due to their influence at the insurance company – undeserved compensations and use such compensations to repay loans that they had failed to repay from their other income for many years. Such a situation is tempting to these people and to the credit institution itself. A striking example of that is the collapse of the agricultural insurance organization

- in Mexico in the 1990s as a result of this behavior;
- The low level of cultural, social and political maturity, and the lack of a judicial environment conducive to the implementation of the insurance programme. The success of any insurance programme requires an adequate extent of political, cultural and legal maturity that allows for understanding the principles and requirements of the success and importance of insurance. The most important of these concerns is fulfilling liabilities without waiting for compensation to be paid, the sense of responsibility by those concerned, and the feeling that the success of the insurance organization is contingent on the extent of their cooperation and support, and not on the amount of compensation they receive;
 - Inadequate statistical information on productivity and climate. The success of any insurance programme requires a chronological series of statistics on climate and productivity, and a comprehensive database on all aspects of agricultural processes. This is often unavailable in many of the countries in this area, and whatever may be available is doubtful as to credibility and accuracy;
 - Weakness of management and technical capabilities, and lack of insurance experience: The success of insurance hinges on the authorities' ability to perform in accordance with the principles of sound management, credibility, and fairness in application and implementation. More time is needed for these principles to set in place in the Region;
 - Drought: This is most frequently occurring risk in the Arab countries, for which insurance is in the highest demand, but it is also the most costly type of insurance. No insurance programme can begin its operation with insurance against drought. Use of insurance against this risk requires time to allow the insurance company to have sufficient buildups of funds and experience to deal with this risk. This delay in getting to that level may generate resentment by the farmers sector;
 - Lack of coverage by agricultural insurance compensations of the entire expected production: Usually, insurance companies are unable to pay full compensation for the value of the insured crop that has been stricken by a calamity, because such compensations are too high for the insurance company to afford. Insurance compensations are usually limited to 50–70 percent of the value. Additionally, no compensations are paid if the losses are less than 15–20 percent of the value of the damaged crop;
 - Collection of insurance premiums: This is the most difficult and hazardous problem facing the agricultural insurance companies, especially when insurance is mandatory for all farmers. Premium collection requires steady monitoring, which entails high administrative expenses. At times, some people procrastinate, and at other times, repayment is simply evaded, which can endanger the insurance company's existence. There may be certain methods for collection of premiums, if the farmer (policy holder) is a borrower from the agricultural bank: the amounts of the premiums may be added to the farmer's loan, or specific arrangements may be made whereby the crop may be delivered to an official organization through which premiums can be collected. In the absence of such a collection means, premium collection becomes the most difficult aspect of any insurance transaction, especially if the insurance organization is governmental. As with agricultural loans from public loans, there can be abuse, which must be taken into consideration.

Accordingly, agricultural insurance must not be perceived as a panacea for solving all problems of farmers in the Region when they, or their crops, are exposed to certain risks. To start with, insurance does not provide full compensation for all of the farmer's losses, and it involves administrative and technical difficulties as well as moral hazards. And, more importantly, it entails financial burdens, in the form of premiums, which the farmer would be unable to incur by himself. In this case, a government's financial support must be forthcoming to subsidize these premiums to save the insurance company from bankruptcy. This also depends on the government's financial ability to provide such subsidies on an annual basis. The financial budgets of most of the non-oil-producing countries in the Region have chronic deficits and, therefore, it is difficult for them to take on more financial burdens.

There is a large variety of agricultural insurance experiences in the world. Some countries, such as Mexico, have had problems that culminated in bankruptcy of the insurance company. Other countries, such as the United States and Costa Rica, have faced financial problems whereas some, such as Cyprus and Spain, have achieved humble success.

3.1 KINDS OF AGRICULTURAL INSURANCE

There are two kinds of agricultural production insurance in the world: damage- and weather-based. *Damage-based insurance* is the conventional agricultural insurance. Here, an assessment is carried out to estimate crop losses resulting from a certain calamity, in accordance with pre-set rules, standards, and criteria so that premiums and compensations may be estimated. Under this setup, no compensation is paid if damage is less than 15–20 percent of the crop value, and usually, compensation does not exceed 60–70 percent of the crop value regardless of the expenses incurred by the farmer from the time of planting to the time the calamity occurred.

This system is used in some of the countries of the Region that have specialized insurance organizations, such as Cyprus, Iran, and Sudan, or that have special insurance arrangements, such as Tunisia, Morocco, Egypt, Algeria and Syria or in which private insurance companies operate, such as Egypt, Tunisia, Morocco and Algeria.

The compensation method under this kind of insurance replaced one that was based on calculating the actual expenses the farmer incurred in raising the crop.

The difficulty in using these criteria stems from the fact that it requires a subjective measure, since every insured farm, regardless of size and location, must be physically inspected in order to estimate the damage. This inspection must be preceded by field visits at fixed periods to verify the kind and area of the insured plantation. There are specific mathematical equations used by the insurance companies for determining the premiums and the compensations.

These criteria involve many complications and high administrative expenses, and require wide experience and accurately calculated progression in expanding its use. In order for this kind of insurance to be financially viable, consideration must be given to the economies of scale so that a large number of participants may use it, which requires it to be mandatory, at least for specific crops; otherwise, this kind of insurance will face the problem of adverse selection, i.e. participants would be only those whose farming and locations involve big risks, while those who involve no risks and whose areas are environmentally stabilized do not participate.

This kind of insurance was the most accepted and most widespread in the world during the second half of last century. It remains in use in many countries, while some other countries tend to use index-based insurance or weather-based insurance.

Weather-based insurance is based on estimation of destruction to a crop, giving due regard to the severity of the weather element, provided that such element is measurable in terms of rainfall, humidity, low or high temperatures. Insurance experts consider this kind of insurance to be the best kind, especially in case of drought and its effect on the grain (wheat, barley, corn, etc.). This kind does not require field visits to estimate losses, which are determined on the basis of the severity of the stated weather element (rainfall as an example) in the insured area taken from the records of meteorological stations. Also, this kind of insurance averts moral hazards, because the farmer would spare no efforts to get the best crop possible. Moreover, adverse selection would be at a minimum here because the premiums are fixed with no regard

to the accumulation of risks of farmers as a whole. Since climate parameters clearly correlate sufficiently with the size of the crop, estimation of the losses is very accurate. Additionally, the cost of this programme is not high, as it does not require monitoring of the individual insurance policies. It can be provided by the private sector without or with very little subsidization. It suits poor as well as rich farmers and is suitable for agricultural and other activities.

In Nicaragua, for instance, a farmer who uses this kind of insurance buys coupons commensurate with the area he desires to insure against drought. Compensation is paid when rain in a certain area is less than a specified level. This can also be applicable to damages caused by excessive humidity or low or high temperatures. Accurate information about the weather parameters and about production averages under all weather circumstances must be available in the country concerned.

The difficulty in implementing this kind of insurance in the Region is the inadequacy of statistical information on the amount of rain, humidity or temperature over a long period of time in the past and on the productivity under each of these weather elements, as it is difficult to conceive a correlation between weather element and the size of a crop without these statistics. This correlation is necessary to be used as a basis for estimation of the loss when that weather element occurs. Additionally, meteorological stations must be widely available in all areas covered by the insurance.

There are pilot projects in this kind of insurance sponsored by the World Bank in some developing countries on an experimental basis. This kind of insurance may be the most suitable one for developing countries that have accurate information on the weather elements that have been insured, especially for large areas of crops that depend on rainfall, such as grain.

There is a third kind of insurance, *price risk management*, for guaranteeing a minimum level of price for the farmer. It is largely used in developed countries, and applies to crops traded at a specific bourse in the concerned country, such as for coffee and cotton where prices are accurately known on a daily basis. This kind of insurance does not exist in any of the Region's countries, due to the lack of a database. However, at times, some governments guarantee a minimum level of prices and buy the production from the farmers at a pre-set price even if prices fall below it. This is applied to grain crops in countries that have a major shortage in grain, such as Jordan.

Another method of price risk management is applied in the region on a small scale, which is contract farming. Prices are agreed on in advance between the farmer and marketing agencies or the exporters for specific products, such as potato, cucumber and pepper, as in the Jordan. Also, there is another method, *Bai-As-Salem*, as in Sudan, where a specific price is agreed on in advance.

The following sections contain a summary of agricultural insurance experiences in two non-Arab countries of the Region, Cyprus and Iran. Agricultural insurance in Cyprus is a damage-based insurance administered by a government organization fully independent of the State organizations. Iran has the same type of insurance, but it is administratively attached to the Iranian Agricultural Bank (Keshavarzi Bank).

3.2 SUMMARY OF THE EXPERIENCES OF AGRICULTURAL INSURANCE IN THE REGION OF NON-ARAB COUNTRIES

The insurance experience in Cyprus

Cyprus began implementing an agricultural insurance system in 1978 through a government organization

established for this purpose, a non-profit organization, with social orientation, which operates under the auspices of the Minister of Agriculture, Natural Resources and Environment. It started covering crops losses gradually, as follows:

- Deciduous trees, such as apple, pears, apricot, plum, cherry, almond, grapes, as well as wheat and barley, were covered in 1978. Citrus losses were covered in 1985, potatoes in 1989, dry beans in 1997, and artichokes and loquats in 1998;
- Insurance against hail was first introduced in 1978. It was then extended to cover frost in 1981, then storms and rain in 1991, strong winds in 1991 and dry winds in 2002;
- Insurance does not cover vegetables, olives and some tropical fruits such as banana and avocado;
- Insurance covers about three-fourths of the total value of produced crops;
- The policy holder pays the insurance company a premium equivalent to a certain percentage of the income expected from every insured crop. At present, this is 8 percent for potatoes, grain, and winter fodder, and 6 percent for the other crops;
- The Government subsidizes 50 percent of the premiums due from the farmers. This subsidy is in line with the rules of the European Union and the World Trade Organization (WTO);
- The first 15–20 percent of the losses (of the expected value of the crop) is deductible and must be borne by the farmer himself. The remainder is then multiplied by the compensation percentage (70–88 percent). Compensation, however, must not exceed 60–74 percent of the loss value depending on the kind of the insured-against risk;
- In order to compute the premiums and compensations, the prices of the insured crops are determined on the basis of wholesale prices at the time of harvesting;
- At the end of 2006, premiums paid by the producers totaled CYP44.8 million.¹⁴ Government subsidies in support of their insurance organization totaled CYP35.2 million, and compensations paid to the producers totaled CYP75 million;
- The most significant and most serious risks were drought, hail and frost, claiming 35.9 percent, 29.4 percent, and 29.46 percent, respectively, of the paid compensation;
- Generally, the ratio between the paid compensations and the due premiums must be less than one unit. Studies conducted by the insurance organization show that this ratio was above the even point during the 1978–2002 period, and under the even point during the 1978–2006 period;
- The programme is compulsory to all producers of insured crops, in order to avoid adverse/wrong selection of programme participants (i.e. only producers of high risk crops would join the programme);
- The programme is dynamic, since it conducts actuarial studies for each crop and every kind of risk, and adjusts premiums and compensations according to the study results so that the Agricultural Insurance Organization (OGA) may not be exposed to bankruptcy. Additional risk coverage for other crops are not compulsory but may be added with their respective premiums for those who wish to include them;
- In addition to the assessment of damages and the payment of the subsequent compensations, OGA is working on improvement and development of insurance schedules on the basis of the actuarial studies carried out periodically and updated regularly. Within the framework of the expansion and improvement of OGA, a pioneer for Cyprus, the mixed insurance scheme has been prepared and will soon be introduced. This scheme provides for the combination of a basic compulsory insurance, with low premium rate and subsequently limited coverage in terms of liability and perils, and a voluntary one, which gives farmers the opportunity to buy higher coverage, by paying additional premium. This scheme will be implemented for a few crops and should be considered a pilot for other crops, both insured and not insured;

¹⁴ US\$= approx. CYP1.47, yearly average currency exchange rate for 2006.

- Such improvement and adjustment has been done in order to keep the scheme of each particular crop and the Agricultural Insurance Scheme as a whole in balance, thus securing its viability;
- OGA is not considering, at least for the time being, completely abandoning the compulsory insurance, because, as it is known, it keeps the premium rate low, affordable by farmers, by spreading the risk among a wider number of farmers and areas, and by avoiding adverse selection. Compulsory agricultural insurance must also be considered a social measure and a useful and effective instrument to counteract the economic consequences of the various meteorological phenomena. These phenomena have recently occurred more frequently and have been much more extreme than usual, due to global warming and climate change.

Problems that impede implementation of the programme are:

- Non-acceptance of the programme by some of the farmers;
- Payment, during election years, of subsidies to the farmers for losses that are not covered by insurance, which gave the farmers the impression that even if they did not have the necessary insurance coverage they would still receive compensation in the form of government assistance;
- Premiums collected through the marketing boards, such as Cyprus Grain Society, Potato Marketing Boards, etc, before they were abolished. When those Boards were abolished after Cyprus joined the European Union, premium collection posed a problem, because the Cyprus Agricultural Payments Institute started collecting the premiums from the subsidy received by the farmers, which came from the Government's assistance, or by way of the production statement, which had to be submitted at the beginning or after crop season showing the expected quantity of production of each kind of crop from each piece of cultivated land. OGA used these "production statements" to compute the due premiums and to send individual invoices for the due amounts. The main problem with this method is the delay or the farmers' refusal to settle their invoices, which compels OGA to take judicial actions against them;
- After losses occur and producers submit their claims, individual agricultural experts make on-site estimations of the quantity or quality of losses on the basis of separate individual pieces of land. This process takes a long time and generates complaints by the farmers who refuse the possibility that their neighbors' losses may be larger than theirs. To obviate these disputes with the farmers, OGA started to compute compensations on basis of area. The insurance company keeps a database, which is updated regularly based on the information contained in the farmers' production statements and revised by OGA's employees according to the results of surprise inspections they conduct;
- the refusal of most reinsurance companies to provide compulsory insurance coverage for drought risk and other very severe risks that occur frequently. If such coverage is provided, the premiums demanded would be so high that the organization would not be able to afford the cost of reinsurance.

The experience of insurance in Iran

In Iran, the advent of such an activity dates back to the foundation of the Agricultural Products Insurance Fund of Bank Keshavarzi in 1983. Other specialized and commercial banks in Iran offer no insurance. These insurance activities for each product started at a restricted area as a pilot stage at first, and were finally extended to the whole country.

Bank Keshavarzi has 1 815 branches throughout the country, distributing loan and offering banking facilities, insuring the farmers' crops and livestock. This is significant in terms of identifying the case to be insured and acting economically on the current insurance expenses. In addition, repayment of loans by farmers, that might be influenced by their vulnerability to the unprecedented incidents and the spread of diseases, has largely been guaranteed by the crop insurance that, per se, can be deemed the loan

insurance; in case there are some damages, farmers can repay their loans by obtaining the indemnity from the Insurance Fund. This is considered a bilateral tie between the banking and insurance operation of the Bank on the one hand, and that of farmers, on the other, allowing both mutual gain.

The operations of the Insurance Fund began in 1984 by insuring sugar beet and cotton as a pilot plan in two provinces and gradually other products. In 1993, livestock insurance was initiated by experimentally insuring sheep and goat in Farse Province, and to date, the Fund has pursued its ever-increasing process of activities in various kinds of insurance as well as livestock insurance. Meanwhile, the Insurance Fund covers over 50 kinds of products on farming, horticultural, livestock, poultry, aquaculture and natural resources in a form of different alternatives and selected tariffs (multi-risks and all risks).

In the agricultural year 2000–2001, the following farming products were under the insurance coverage: sugar beet, beetroot, irrigated and rainfed wheat, irrigated barley, cotton, rice, potato, sunflower, soybean, corn (seed and grain), onion and colza. Also, the irrigated and rainfed wheat, irrigated barley, and rice were covered by the drought insurance. Among the horticultural products, in 2000–2001, apple, grape, citrus fruits, pistachio, almond, pomegranate and tea were covered by the insurance.

In addition, during this farming year, the following ones were covered: goat and sheep, industrial livestock, horse, native and hybrid cows, fattening, poultry (parent, layer, broiler), cold water and warm water aquaculture, shrimp, honey bee, and camel. With respect to natural resources insurance, pasture, forestry, and watershed projects were also insured.

Due to the received information and statistics, the increasing process of insurance in the farming year of 2001–2002 continued so that the number of the insured increased from 422 084 to 611 387, a 44.8 percent growth, and the level of the products under the coverage of insurance had a 49.1 percent growth, from 2 705 608 to 4 033 825 ha.

At present, despite great efforts and the ever-increasing practices of crop insurance in Iran, mostly due to the dominant traditional way of farming in Iran, the expansion of agricultural insurance is committed to a minimal extent; according to the studies conducted in 2000, the use of agricultural insurance across the country amounts to only 11.7 percent.

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