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FINANCING COMMODITY-BASED TRADE AND DEVELOPMENT: INNOVATIVE AGRICULTURE FINANCING MECHANISMS

Report prepared by the UNCTAD secretariat

Executive summary

At its eighth session, in February 2004, the Commission on Trade in Goods and Services, and Commodities decided to convene an expert meeting on financing commodity-based trade and development (TD/B/COM.1/67, annex II). This paper is part of a series of papers, articles, presentations, and advisory and technical assistance materials developed by UNCTAD over the past 10 years on structured commodity finance and related issues.

Finance is crucial for the development of the commodity sector in developing countries. Agricultural credit schemes became prominent in government and donor development programmes in the 1950s, but they proved to be almost universal failures. In the early 1980s, the interest of governments and donors in agricultural finance started to wane. It has now become "the forgotten half of rural finance", but the financing problems of farmers, processors and traders in developing countries have not disappeared, nor has the importance of finance for their growth and development diminished. In effect, this importance may increase as globalization creates new opportunities while conditions in commodity markets become more stringent. To supply increasingly demanding international and local (urban) markets, farmers, processors and traders need access to funds to invest in new equipment and systems. Without funds, they can expect to be marginalized.

Recent years have seen a number of new experiments in agricultural finance. In one way or another, traditional approaches were all based on taking a credit risk with regard to the borrower. New approaches are based on taking not a credit risk but a performance risk. As long as borrowers continue performing as usual in the agricultural supply chain, banks are reimbursed. The risk that borrowers will cease to perform is mitigated by banks' use of a range of relatively new risk management tools. These experiments have, by and large, been rather successful. They have shown that, with proper organization, considerable funds can be attracted to and used productively in developing-country agriculture. Nevertheless, governments and donors have largely kept their old mindset and continue ignoring agricultural finance. This paper discusses the issues involved, the new financing approaches developed in recent years, and possible ways forward in bringing agricultural finance back to the centre of rural development and poverty alleviation strategies, with special attention to the potential role of local banks. It is hoped that this discussion will lead the international community to allocate more funds for equity capital and loans, and to build capacity and institutions.

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INTRODUCTION

1. At its eighth session, in February 2004, the Commission on Trade in Goods and Services, and Commodities decided to convene an expert meeting on financing commodity-based trade and development (TD/B/COM.1/67, annex II). This paper has been prepared by the UNCTAD secretariat for the expert meeting. It is part of an extensive series of papers, articles, presentations, advisory and technical assistance materials developed by UNCTAD over the past 10 years on structured commodity finance and related issues.[1]

2. Along with the introduction of new information technologies, widespread liberalization and consolidation of commodity markets have created new challenges and opportunities for commodity producers, processors and exporters in developing countries. However, opportunities also entail fierce competition. Furthermore, formal markets have become more important (an example is the growing role of supermarkets in commodity sales) and, to meet changing consumer demands, offtakers' requirements regarding timeliness and quality of supply are becoming more stringent. How farmers, processors and exporters respond to these emerging pressures and opportunities will have a direct impact on their livelihood, welfare and survival in the global marketplace.

3. Commodity producers and processors need access to credit in order to meet working capital needs and to invest in new farm assets, technology, and equipment for processing and post-harvest activities. Otherwise they will not be in a position to remain competitive, meet the formal sector's requirements, diversify, or increase their share in the final value of their products. Traders need access to credit to optimize their turnover and keep transaction costs down. In many developing countries and countries in transition, access to credit is severely constrained, as most banks are willing to lend only against certain fixed assets and at terms and conditions that are often unfavourable to operators in the commodity sector. This situation is a serious impediment to development, and, since most of the world's poor are commodity producers, it hampers worldwide efforts to reduce poverty. Recently there has been a quiet revolution in agricultural lending, similar to what happened with micro-finance in the 1990s.

4. While the record of traditional agricultural lending in developing countries is dismal, the success of new, innovative approaches should help overcome the scepticism of local banks, governments and the donor community. The expert meeting will provide UNCTAD member States with a better understanding of how new and innovative financing mechanisms are helping to bring finance to farmers, processors and traders. It will also permit an exchange of experiences between practitioners involved in innovative modes of agricultural credit around the world.

5. Most of the new methods are geared towards borrowers, farmers or farmers' associations, processors or traders as parts of the commodity supply chain. Credits are based on the performance of the borrower in the chain, rather than just on the borrower's credit risk. Consequently the risk for the financiers is much lower, so that agricultural lending can become a useful activity. This paper reviews innovative delivery models for agricultural finance, suggests ways forward to further develop such models, and discusses how to mainstream them, particularly by familiarizing more developing-country banks with these new techniques. There is a significant opportunity to unlock the agricultural sector's growth potential through improved agricultural finance. Therefore, the paper highlights the need for the international community to fund related projects.

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[1] See www.unctad.org/commodities.

I. THE ROLE OF FINANCE IN COMMODITY-BASED TRADE AND DEVELOPMENT

A. Lack of finance as a bottleneck for commodity-based trade and development

6. Many farmers in developing countries are locked in a vicious cycle of poverty. Their revenue remains low and is vulnerable to the vagaries of markets and weather. They are losing out on market opportunities and may no longer qualify as acceptable suppliers to the more high-value parts of the commodity sector. In certain cases, they are locked into the production of certain commodities, even if the prices of these commodities fall below production costs. Unfortunately, these farmers cannot afford to diversify.

7. Financing problems also affect the broad environment in which farmers operate. Processors do not have the funds to invest in proper equipment, which leads to unnecessarily high processing costs. (With developing countries having to reduce import barriers to meet WTO requirements, this may become a major cause of job losses in the years to come.) Small rural traders stop buying when they run out of cash, leaving farmers stranded with their products. Low investment in warehouse facilities results in high post-harvest losses. When farmers cannot get credit against the collateral of their crop, they are forced to sell their products even if they know that market conditions are temporarily unfavourable. This generates little surplus revenue and hinders overall economic development. Most developing countries that achieved high growth rates and fast poverty alleviation in recent times (e.g. Japan in the nineteenth century) had fast-developing agricultural sectors with a surplus that allowed farmers to become important consumers of industrial and services sectors, and governments that were able to ream off a part for investment in infrastructure, institution building, research and industrial development.

8. By itself, better access to finance is not enough for farmers to escape their cycle of poverty. They also need access to improved seed as well as better cultivation techniques, inputs, information and market access. Solving the problem of agricultural finance is crucial to unlocking farmers' potential for growth.

B. Traditional approaches to agricultural finance

9. From the 1950s onward, governments and donors tried to improve farmers' access to credit through administrative means by establishing special rural credit institutions, allocating credit that was often subsidized, or instructing banks to lend part of their credit portfolio to agriculture.

10. For much of the period from the 1950s to the early 1990s, government intervention in rural credit markets was extensive and was encouraged by major donor agencies. In many cases, subsidized agricultural credit programmes were established to provide farmers with low-cost loans and to promote development. The main characteristics of these credit programmes were subsidized or low-interest rates, imposed government lending targets and credit quotas, high operating costs, and difficult bureaucratic and administrative procedures. These programmes were a tremendous financial burden for governments and hampered the development of rural credit markets.[2]

11. Interest rate subsidies were not successful, as they led to poor allocation of credit and funds were not always used for agricultural investments. Attempts to link the formal and informal financial

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[2] See J. Yaron, M. P. Benjamin and G. L. Piprek, *Rural Finance: Issues, Design and Best Practice*, World Bank ESSD Studies & Monograph Series 14, Washington, D.C., 2001.

markets by promoting the development of semi-formal institutions bound together by mutual solidarity were also often unsuccessful. Farmers' cooperatives have been one way of delivering credit to farmers, with credits often tied to agricultural inputs and machinery. However, like other semi-formal institutions, these cooperatives have suffered from flawed administrative controls, lack of independent decision making, inflexibility and high administrative costs.

C. Experiences with traditional finance approaches

12. Agricultural financing models propagated by donor institutions and developing-country governments well into the 1980s have often failed. Few institutions, particularly in Indonesia and Thailand, emerged successfully. According to one observer, "Commercial thinking was lacking, both in commodity production and commodity finance. Credit was scarce and was grabbed by a small number of bigger farmers; outreach to the poor remained far behind expectations. Frequently, credit was provided to the wrong people (e.g., with political connections) at the wrong time (e.g., after the planting season) for the wrong purposes. Neither bank staff nor the farmers took agricultural credit seriously, which had evolved into a political affair. Repayment rates turned out to be abysmally low – except when tied directly to outgrower schemes and marketing boards – and became an eternal drain on government and donor resources. In the process, banks, farmers and agricultural credit were seriously and permanently discredited."[3]

13. In 1998, the Food and Agricultural Organization stated: "the number of donor-supported agricultural credit programmes is in decline and there is little evidence, in many countries, that governments or commercial financial intermediaries are compensating for the reduction in supply of loanable funds to agricultural production, processing and marketing."[4] Agricultural financing programmes that remained were often commercially unviable but survived through subsidies. This discouraged private-sector development of financing schemes, since the governments already funded the best clients and farmers had become accustomed to debt relief.

14. Analysis of these financing approaches identified problem areas and drew lessons on how best to structure agricultural banks.[5] In addition to trying to improve on the traditional approach, one could also "think outside the box" and develop a new paradigm.

D. Developing a new agricultural finance paradigm: the role of local banks

15. Disenchantment with old models discouraged aid donors, governments and banks from experimenting with new schemes. Liberalization and privatization made it impossible to maintain relatively successful financing models relying on monopoly marketing boards that could deduct credits from what farmers were paid. Aid donors and others shifted their attention to micro-finance. However, micro-finance was generally unsuited to agriculture. According to one source, "The vast majority of successful micro-finance institutions (MFIs) operate either in urban areas or in densely populated rural areas with a strong non-agricultural economy and/or agriculture which has already started to 'modernize'. It is striking that a number of the key elements of lending technologies offered by MFIs are not suitable for agriculture, for example, regular repayments and compulsory savings,

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[3] H. D. Seibel, Commodity finance: A commercial proposition? Micro- and meso-finance for agricultural commodity production, processing and trade, International Workshop on Finance for Small-Scale Commodity Processing: From Micro to Meso Finance, Common Fund for Commodities, Khartoum, 9–11 November 2003.
[4] FAO/GTZ, *Agricultural Finance Revisited: Why,* June 1998.
[5] See J. Yaron and M. Benjamin, Developing rural financial markets, *Finance and Development*, World Bank/IMF, 1997; and FAO/GTZ, *Agricultural Finance Revisited: Why,* June 1998.

and the alternative elements introduced to replace them, such as collateral and household budgets which are often not suitable for the poor."[6]

16. Therefore, agricultural finance was mostly left to the private sector and, in several cases, to informal channels. In many developing countries, few local banks are actively involved in the commodity sector,[7] partly because of previous negative experiences. They also often lack the infrastructure (rural branches), expertise and appropriate financing mechanisms and technologies.[8]

17. Commodity finance is often provided through international banks. They primarily target large producers and exporters of commodities such as oil, gold, coffee and cocoa. New developments in the banking sector, such as the introduction of Basel II regulations in 2007 and the trend towards the use of risk-adjusted return on capital (RAROC), will have an impact on the lending strategies of international banks.[9] The requirement for adequate capital to cover risks will be directly related to the amount of risk the bank runs on a specific transaction and will therefore depend on the creditworthiness of the client and the structure of the transaction. This will entail more stringent credit allocation for lower-rated companies and the use of more structured deals. Smaller clients may become less attractive for international banks. Local banks will need to fill the vacuum, but most lack the capacity.[10]

18. Local banks can increase lending to the full spectrum of local actors in the commodity sector, including service providers. The failed financing models described in section B above relied on the willingness of the borrower to repay, except for those based on outgrower schemes and marketing boards, which tended to be more successful. Banks can chose an alternative, and, in the case of agricultural finance for farmers, the most viable model is one based not on the borrower's credit risk but on the borrower's position in the supply chain. The bank ensures that the financing is part of a full package of goods and services, and it may even reorganize the supply chain.

19. Similar changes are occurring in the financing of agriculture in developed countries. Here, "companies … are experimenting with product service offerings to farmers that include an optimized set of fertilizer, seed and chemicals; the financing to acquire this optimized input bundle; a risk management programme including product warranties, options and forward contracting arrangements, and insurance products; and finally a contract or other arrangement to buy the finished product from the producer. Thus, financing is integrated as part of a total product/service bundle – a total systems solution. And in this arrangement the product flow relationship is dominant and is used as a carrier to provide the risk and financial services components of the package."[11]

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[6] A. Dorward, C. Poulton and J. Kydd, Rural and farmer finance: An international perspective, Workshop on Rural Finance, Agricultural Economics Association of South Africa Conference, 19 September 2001.

[7] Privately owned banks can be instructed to lend to agriculture, and in many countries they are obliged to use mandatory minimum lending rates. In practice, however, banks tend to either ignore these requirements or pay the costs of not meeting requirements (e.g. deposit unlent funds with the Central Bank at zero interest), or find ways around them by qualifying loans to traders as agricultural loans.

[8] Rural branches are often used to collect savings from farmers, which are then lent to urban clients. The result is a net flow of finance from the countryside to the city.

[9] L. Rutten, Trends in structured commodity finance, *Trade Finance*, Euromoney, November 2003.

[10] For an extensive overview see UNCTAD, *Potential Applications of Structured Commodity Financing Techniques for Banks in Developing Countries,* UNCTAD/DITC/COM/31, 2001.

[11] M. D. Boehlje, S. L. Hofing and R. C. Schroeder, *Financing and Supplying Inputs to the Twenty-First Century Producer*, Purdue University Department of Agricultural Economics, Staff Paper 99–11, 31 August 1999.

II. EXPERIENCES AND INNOVATIONS IN AGRICULTURAL SUPPLY CHAIN FINANCE

A. Agricultural supply chain finance: an overview

20. The use of structuring techniques to mitigate lenders' risks has become fairly common in international trade and project finance. By using these methods, lenders can change their risk from a credit risk to a performance risk and shift some of the remaining risk to third parties. These techniques can be adapted to agricultural finance.

21. In so doing, lenders use the strengths of the supply chain to reduce the riskiness of their loans. The risk of a farmer's or processor's being unwilling to pay off a loan is much higher than that of the farmer's being unable to produce the expected volume of commodities, or of the processor's stopping the processing activities. Borrowers benefit not only through higher lending at better terms but also by obtaining loans that reflect the cash flow pattern of their producing, processing or trading activities.

22. Lenders can chose between various techniques, and the resulting financings range from fairly simple ones to highly complex integrated agricultural financing schemes.

23. Perhaps the simplest is warehouse receipt finance, either in its traditional form (the bank takes control over agricultural goods in a warehouse, and if the borrower defaults, the bank can seize the goods and sell them) or through repurchase agreements (repos). Traditional warehouse receipt finance has been extensively discussed in earlier UNCTAD reports.[12] In a repo, the bank, rather than taking a pledge over the goods being stored or shipped, actually buys the goods and simultaneously signs a contract for resale in *x* weeks' time at a price that reflects the cost of funds from the original time of sale to the resale. Repos are used not just for goods in storage but also for goods in transport. They are recent and are used only by a handful of lenders such as Rabobank, ABN AMRO and the trading company Louis Dreyfus. This finance mode benefits the bank, which owns the goods and therefore can sell them without legal intervention. However, the legal and regulatory environment with respect to the rights of a financier to realize pledges in case of borrower default is still difficult in many developing countries. Repo finance for agricultural commodities has spread to over a dozen countries in recent years.

24. Banks may also wish to take collateral over goods as these move through the supply chain, rather than just at one point or as the goods move from one stage to the next. For example, the bank can start financing the goods once they enter an upcountry warehouse and continue financing as the goods are transported and processed and then enter an export warehouse, or are exported and transferred to a vessel, transported to the importing country and then again stored. In doing so, banks normally work through specialized collateral managers, agents who take responsibility for controlling the commodity stocks and flows. This form of finance is discussed in section B below.

25. Instead of obtaining better security by controlling goods, banks can structure their financing around payments from offtakers, such as processors, traders or end users, especially industrial users and supermarkets, and/or around the supply of agricultural inputs and equipments. This works when there are regular contacts between the beneficiary of the financing and the offtakers and/or the

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[12] UNCTAD, *Collateralized Commodity Financing with Special Reference to the Use of Warehouse Receipts,* UNCTAD/COM/84, 1996. For a good case study on a country (the Philippines) with a variety of warehouse receipt finance schemes, all with their own problems, see R. Montemayor, The role of financial instruments for commodity trade in poverty reduction: The Philippine experience, regional workshop on commodity export diversification and poverty reduction in South and South-East Asia, UNCTAD/ESCAP, Bangkok, April 2001.

farmers' suppliers. The stronger the contacts, the easier the finance. Financing models vary; the following are discussed further in section C:

- The onlending practices traditionally found in many countries (large traders or processors give advances to smaller traders; these give advances to farmers, who are supposed to sell to them)
- Leasing of agricultural equipment
- Credits reimbursed through regular sales through official channels (e.g. the Dutch flower auction, sales agents at the Rungis vegetable market in France, or supermarkets)[13]
- More complex integrated agricultural financing schemes

26. Banks may even take the initiative and set up entities that tie together farmers and offtakers. In this case, banks usually make an equity investment in the new entity and obtain a high level of control over management. This is often considered a form of "principal finance", but a variety of other terms are used in developing countries. The entity, such as a specialized agricultural credit and marketing firm, would then be the vehicle for providing loans. This approach is discussed in section D.

B. Controlling the supply chain: the role of warehouses and collateral managers

27. As collateral, banks desire real estate that is easy to sell. Often, the collateral that farmers, processors and traders can offer is of little use to banks, as they are unable to sell it. Should banks be willing to accept such collateral, borrowers may be reluctant to provide it because the banks impose a fixed repayment schedule that does not reflect cash flows and cash flow risks in agriculture.[14]

28. Some banks are willing to take collateral over goods in storage, but often only in urban or port warehouses.[15] As commodities generally move quite fast through this part of the supply chain, the scope for using this method to leverage the sector's access to finance is quite limited. It can be improved by taking commodities as collateral as they move down the supply chain from farmer to importer. Banks cannot expect a comparative advantage in this area. Therefore most of the banks that provide commodity finance on this basis use an independent third party, a collateral manager such as ACE Audit Control & Expertise, Cornelder, Cotecna or Société Générale de Surveillance.[16]

29. For banks that want to finance commodity trade, collateral managers are likely to become more important in the years to come. The Basel II capital adequacy requirements will reinforce this trend. In addition, the ways in which banks will use collateral managers will change. Currently one-point transactions, where the bank finances goods as they enter into a borrower's warehouse, still predominate. The future is likely to see more complex financings. These will be possible in part

[13] Detailed examples of this form of finance in horticulture (e.g. for exports from Zambia and Zimbabwe) can be found in UNCTAD, *Leveraging Offshore Financing to Expand African Non-Traditional Exports: The Case of the Horticultural Sector,* UNCTAD/DITC/COM/2003/4, 2003.
[14] A.W. Shepherd, *Financing Agricultural Marketing: The Asian Experience,* Agricultural Management, Marketing and Finance Service Occasional Paper 2, FAO, Rome 2004. Shepherd finds, however, that in Asia informal credit normally meets traders' needs.
[15] "Cereal banks", which exist in a number of Sahel countries and Bangladesh, are among the exceptions. Instead of selling grain directly after harvest at a low price, farmers deposit it in a community warehouse, and banks provide seasonal finance against the "cereal bank".
[16] In certain cases, banks may not require full control over the collateral as it moves down the supply chain, but instead just need up-to-date information. For example, Société Générale de Surveillance has introduced an Internet-based tool that allows banks financing grain trade to monitor on a real-time basis for critical phases and how grain moves into and out of silos, railway cars and ships, including quality aspects. While the bank does not have collateral control over the grain, it can quickly identify discrepancies and intervene to safeguard its interests as needed.

because some collateral managers have started to provide powerful Internet-based information and management tools to their clients. The following are relatively rare:

- Traditionally, finance is available for South-North and North-South trade, with financings starting or stopping at the developing-country port. South-South transactions and upcountry transactions will become more important in the future.
- Schemes structured around processors: the collateral manager controls stocks and supply of equipment and inputs to farmers, of the raw material delivered by the farmers, and of the processed commodities produced by the processor. A scheme along these lines, organized by ACE Audit Control and Expertise, has in recent years enabled the revival of the Ugandan cotton sector, and there is much scope in the cotton, sugar and vegetable oil sectors in many other countries, in addition to tomato processing, fruit canning and the like.[17]
- Collateral management for non-storable commodities, such as fresh fruits, fish or livestock – for example, to enable the financing of herders who sell their cattle or sheep to slaughterhouses in cities in their own or other countries. The collateral manager will then control the proper feeding of the cattle or sheep, their transport to the slaughterhouses, and payments by offtakers.
- Schemes that provide the basis for capital-market finance: a series of transactions covered by a collateral manager is financed through a special-purpose vehicle, which issues notes. This can help improve international transactions, but, interestingly, can also boost transactions that require local-currency financing.

C. Structuring finance around farmers' purchases and sales

30. As one source puts it, "Interlinking credit disbursement in cash or kind with output marketing is a powerful tool to reduce the need for conventional loan collateral and to reduce transaction costs related to loan collection, especially in scarcely populated areas."[18]

31. The few successful cases of agricultural finance in the 1970s and 1980s were based on either monopoly buyer or contract farming models. While monopoly buyers have become rare, contract farming has spread despite problems and defaults.[19] Some contract farming experiences may give reason for concern as a result of the unequal bargaining power that farmers may have in such relationships, or the "locking out" of certain farmers from the more profitable parts of the sector. But they can be used as a tool to improve the life of participating farmers.[20]

32. Contract farming and similar interlinked schemes provide farmers with an integrated package of advice, inputs, credit, marketing services, agricultural equipment, quality control and information. The credit may come from the input provider or the offtaker, or from a bank associated with the contract-farming scheme, with the bank assuming the risk of default. If the funds come from the input provider or the offtaker, they normally refinance through their bank credit lines or issue commercial paper. The conditions on which farmers borrow directly reflect the intermediary's access to credit. Globally, there are many examples of contract farming schemes that have successfully brought finance to farmers.

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[17] For a discussion of the potential roles of a collateral manager in bringing finance to the farm gate, see A. Soumah, Crop and trade financing to provide small farmers, processors and traders access to agricultural inputs and commodity financing, regional workshop on commodity export diversification and poverty reduction in South and South-East Asia, UNCTAD/ESCAP, Bangkok, 3–5 April 2001.
[18] F. Höllinger, Financing term investments in agriculture: A review of international experiences, Conference on Paving the Way Forward for Rural Finance, USAID, Washington, 2004.
[19] See A. Dorward, J. Kydd et al. (eds.), *Smallholder Cash Crop Production under Market Liberalisation: A New Institutional Economics Perspective,* CAB International, Wallingford, 1998.
[20] See C. E. Eaton and A.W. Shepherd, *Contract Farming – Partnerships for Growth*, FAO, Rome, 2001.

33. Interlinked schemes that incorporate input supply, output marketing and related credit arrangements are likely to become more important in the years to come, partly because consumers often demand more information on the commodities they consume. While care should be taken to ensure that farmers do not have a subservient position in these schemes, this development merits the support of the international community.

D. Proactive banks: the principal finance approach

34. In standard structured trade and project finance, banks rely on prospective borrowers to organize themselves properly. However, certain businesses are not sufficiently well organized, even though they have significant revenue-generating potential. Thus, according to the way most banks look at prospective clients, they are not bankable.

35. If there is enough lending business, banks can afford to drop this class of clientele. If margins are under pressure, they may seek new approaches that make such "disorganized" sectors bankable. This occurred in the latter part of the 1990s. Some banks adopted a proactive role in borrowing entities by filling gaps and remedying weaknesses in the supply chain. In the process, they took over some of the managerial functions of the client companies. In this way, they ensured that sufficient receivables were generated with low risk.

36. In OECD countries, this form of finance has been used mostly in very large transactions of hundreds of millions to a few billion US dollars, and mostly in real estate lending and the financing of sport stadiums. In the commodity sector, it was used to finance and restructure a large coal port in Australia. The bank set up a special-purpose vehicle (SPV) that took ownership and restructured the port.

37. In developing countries, transactions have been small scale. This is potentially one of the most promising approaches for developing-country banks, provided there is government support. The approach can be used in many cases involving under-performing or under-utilized assets, and, in many developing countries, such assets can be readily identified. However, it also requires a paradigm shift within banks' management and credit committees, as it constitutes a deviation from their traditional business practice. Following are a few examples.

India

38. In India, banks have been ready partners in contract farming schemes set up by agricultural equipment or input suppliers to enhance their sales, or by offtakers to ensure the quality of the commodities they buy. Some, rather than waiting for industrial firms to set up such schemes, are taking the initiative, establishing their own schemes and bringing suppliers and offtakers into them. For example, Rabo India Finance Pvt Ltd. is establishing agri-service centres in rural areas in cooperation with a number of agro-input and farm services companies. The services provided will be much like those in contract farming, but with additional flexibility and a wider range of products such as inventory finance. In addition to storing products, each centre will rent out farm machinery, provide retail agricultural inputs and information to farmers, arrange credit, sell other services and provide a forum for farmers to sell.

39. This type of scheme can be replicated in many countries. Fertilizer and other agricultural input companies claim that sales of their products are suboptimal in developing countries. Each additional dollar spent on their products would increase farmers' income by several dollars. Marketing of agricultural products is improving, as supermarkets now play an important role in supplying the urban population with agricultural commodities, especially in Latin America and parts of Asia. Today, processors and foreign buyers are imposing more stringent quality standards on products. Banks can

set up vehicles, such as agri-service companies, that tie these parts of the supply chain together to create a new market.

Philippines[21]

40. In 1986, the Rural Bank of Panabo (RBP) introduced the approach known as the "cooperative concept". RBP invested in a joint venture called Panabo Agro-Industrial Corporative (PAICOR). PAICOR is a rice mill and marketing business that provides farmers with all the services they need to produce paddy and process and market milled rice. RBP's key objective was to find a means by which small farmers could become owners of a mill while avoiding the capital and management shortcomings of cooperatives. Through PAICOR, farmers are able to obtain production and investment loans and repay them in kind by delivering paddy direct to the mill, which they co-own.

41. RBP drove the scheme by paying up its shares at PAICOR's establishment, which provided the initial investment capital. The farmers paid their 45 per cent share over a four-year period through paddy deliveries; over time, they increased their shareholding to 42 per cent by 1992. As shareholders, farmers are eligible for loans from RBP through PAICOR, primarily for crop inputs but also for medium-term investments. RBP's financial control and management expertise was a key to PAICOR's success.

42. RBP and the Land Bank of the Philippines set up a separate foundation to replicate this approach in other parts of the country. The potential scope of this approach, in the Philippines and elsewhere, goes beyond agriculture. There are similarities to a small-scale build-operate-transfer (BOT) approach. The bank "builds" the infrastructure and transfers control to local partners such as local governments, community funds or farmers. The approach pioneered by RBP may enable the financing of smaller-scale rural infrastructure such as water supply, processing plants, warehouses and market infrastructure, to name a few.

Zimbabwe

43. The economy has forced banks to be creative and find new models to continue financing enterprises that in principle are able to generate significant revenue in the commodities and manufacturing sectors.

44. A 1997 horticultural scheme is a good example.[22] A United Kingdom investment bank, Singer and Friedlander, established a specialized company, Hortifin, as the agent for eligible flower growers. It monitored growers and ensured that money was used for the production of high-quality flowers. Growers marketed their flowers through Hortifin, which used Winglora, an established flower-marketing agency and freight forwarding company.

45. Financing to upgrade equipment used in growing and shipping flowers was US$60 million. Funds were disbursed to the farmers and repayments deducted from the selling point through an offshore special-purpose account pledged to the lender, to which all sales were assigned.

[21] Based on *Term Financing in Agriculture: A Review of Relevant Experiences,* Vol. 2, *Case Studies,* FAO Investment Centre Occasional Paper 14, October 2003.
[22] See UNCTAD, *Leveraging Offshore Financing to Expand African Non-Traditional Exports: The Case of the Horticultural Sector,* UNCTAD/DITC/COM/2003/4, 2003.

III. TOOLS FOR MAKING AGRICULTURAL SUPPLY CHAIN FINANCE MORE EFFICIENT

46. The supporting environment for agricultural supply chain finance is steadily improving. New technologies with rapidly falling costs, in particular smart cards and the Internet, make it easier for banks to form an array of new financing relationships with farmers. Financial markets are offering a wide selection of risk management tools, which allow banks to improve their risk-adjusted returns. New mechanisms have emerged that enable banks and others to repackage agricultural loans and place them on the capital market.

A. Agricultural credit cards

47. Credit cards have become popular with the urban middle class in developing countries, but are less common in rural areas. In a few countries, credit cards have been introduced to finance farmers' seasonal cash flow needs. In some cases, input companies initiated them, whereas in others, they were a joint venture between banks and input companies.

48. The largest such credit card scheme is in India, where the government introduced its Kisan Credit Card (*kisan* is Hindi for *farmer*) in 1998 via the state-owned National Bank for Agricultural Development (NABARD). The government aims to provide adequate and timely support to enable farmers to meet their financial needs during the cultivation period, including with regard to purchasing inputs. Limits are fixed on the basis of operational land holding and cropping patterns and are to cover one full year of production credit needs. Withdrawals must be paid within 12 months and the 5 million cardholders are covered against accidental death and permanent disability. Several other banks have since used similar credit card schemes, generally in cooperation with specific input companies. Competition has led to innovation, such as the inclusion of diesel providers for tractors in seasonal credits and the use of Internet-connected information kiosks to give cardholders access to additional services.

49. A joint pilot project between a bank and farm input companies launched a similar credit card scheme in December 2003 in Pakistan. It also received support from the United Kingdom's Department for International Development. The card targets medium-sized farmers with 5 to 20 hectares who grow wheat and cotton. The project incorporates an arrangement whereby 15 per cent of the input companies' margin is passed on to the bank for crop insurance and loan loss provisioning.

50. An input supplier set up a specialized finance company, Financiera Trisan, in Costa Rica in the early 1990s to issue credit cards to its clients and its clients' customers. This provided a lower-cost alternative to its traditional supplier credit system. The scheme was profitable, since relatively high delinquency rates were compensated for by excessive interest rates on balances.[23]

51. Similar practices can be introduced elsewhere, and opportunities exist for innovation. Credit cards can be used as smart cards, for example, enabling a wider range of transactions such as guaranteeing forward sales, arranging price or weather risk management transactions, or obtaining inventory finance.[24] Other benefits can be foreseen, since financing enables banks to develop credit records for individual farmers. Banks can rate farmers and base future lending decisions on these ratings while permitting well-performing farmers enhanced access to medium-term credit.

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[23] See M. D. Wenner and R. Quiros, *Agricultural Credit Card Innovation: The Case of Financiera Trisan,* Best Practices Series, Inter-American Development Bank, 2000 (available at www.iadb.org/sds/publication/publication_2007_e.htm).

[24] See UNCTAD, *Farmers and Farmers' Associations in Developing Countries and Their Use of Modern Financial Instruments,* UNCTAD/DITC/COM/35, 2002.

B. Managing risk in agricultural finance

52. Banks can eliminate nearly all risks by using a lending mechanism that ensures automatic reimbursement as long as the client continues to perform as agreed upon. Some risk does remain, since it can happen that, through no fault of his or her own, a client does not produce expected returns: However, the financier can manage such external risk. Ensuring the timely supply of quality seeds and other inputs as well as equipment and extension services often mitigates volume risk when the farmer produces less than planned. For international transactions, banks can obtain insurance against political unrest.

53. Risk involving prices and weather is more difficult to manage, but access to new mechanisms is improving.[25] Weather risk management tools are being built into agricultural financing packages in India.[26] New markets for commodity price risk management have been created in recent years, particularly in Asia and Latin America. Despite several statements in the framework of the African Union that an African commodity exchange should be created, Africa remains significantly under-served. The international community is making some efforts to enable developing-country farmers to access long-established commodity exchanges for products such as cocoa and coffee.[27]

C. Mobilizing the capital market

54. International finance is most easily available for internationally traded commodities. Costs for local-currency financing are often high, since excessive margins are generally added to the high prevailing local prime rates. An alternative is to bypass the banking market and use the capital market, where investors tend to receive fairly low interest rates. This can also be done for relatively small loans and may not require intervention by banks.

55. For example, several Colombian agricultural financings are structured as securitizations, through notes traded on the country's National Agricultural and Livestock Exchange (BNA). In a typical structure, cattle growers obtain tens of millions of US dollars in seasonal financing for the feeding of their cattle, at rates determined through competition among institutional investors on the country's stock and commodity exchanges.[28] Tapping into local capital markets to finance local agriculture is a structural innovation and can invite considerable difficulties. These result from existing rules and regulations that do not permit innovation, as well as from lack of knowledge among, in particular, institutional investors. Policy makers have a clear role in revising the policies and laws pertaining to pension funds and other institutional investors and the secondary trade in "agricultural paper". They can also actively promote the emergence of this market through advocacy, education and sponsorship of pilot projects with support from the international community. Governments should also make greater efforts to convince donors and international financial institutions to support work in this area.

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[25] Farmers will also benefit by using such market-based risk management instruments, since they are under less pressure to use diversification as a risk management strategy. This traditional risk management strategy now results in significant income losses, particularly for the rural poor.

[26] See World Bank/IFC, Piloting weather risk insurance in India, DevNews Media Centre, 27 August 2003.

[27] Note, for example, the work of the International Task Force on Commodity Risk Management in Developing Countries, www.itf-commrisk.org.

[28] See UNCTAD, *Farmers and Farmers' Associations in Developing Countries and Their Use of Modern Financial Instruments,* UNCTAD/DITC/COM/35, 2002.

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IV. SOME POLICY IMPLICATIONS AND QUESTIONS

57. The Food and Agriculture Organization and GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit), which published a series of papers on "agricultural finance revisited" in 1998, asked the question:

> "Does the current paucity of agricultural credit programmes (and agricultural credit funds) in many developing countries represent a reduced effective demand for agricultural credit or are there additional identifiable policy, structural or operational conditions that limit the flow of credit to agricultural production and related food industries? And, if constraints exist and can be identified, what measures should be suggested to governments and donor agencies to rectify these constraints?"[29]

58. The private sector, sometimes with donor support, has tested successful innovative approaches and mechanisms. But its work falls short of what is needed to meet the large demand for agricultural credit.

59. Experiences outlined in this report demonstrate that donors and governments should now re-examine agricultural finance. A new, unbiased look at what was once an unsuccessful venture could prove worthwhile for all stakeholders.

60. Introducing more credit programmes by replicating successful practices or through innovative methods could have a substantial impact on development, since microfinance has not proven to be the solution. As some observers have noted, "Once it was savings, now it is agricultural credit that is the forgotten half of rural finance. There lies an enormous underutilized potential!"[30] "There is growing consensus amongst donors and practitioners that micro finance … is unable to respond to many of the financing requirements and opportunities related to agriculture, and particularly to those requiring larger amounts and longer maturities."[31]

61. Successful approaches could be improved by making specialized lending institutions or schemes more comprehensive and better performing, or by enhancing the use of group lending to reduce credit risks. Old institutions could be reformed to become viable, similar to the rural development banks Indonesian Bank Rakyat Indonesia (BRI) and Thai Bank for Agriculture and Agricultural Cooperatives (BAAC).[32] Unfortunately, there have been few successful reforms of agricultural development banks and similar institutions. Group lending techniques can be improved on, using a range of other "collateral substitutes".[33] The shift in focus from agricultural finance to rural finance, which takes into account not just farmers' borrowing needs but also their off-farm activities and savings, has helped to stem the losses of some banks. However, agricultural lending often disappeared in the process. Policy and regulatory frameworks could be improved to better manage agricultural lending.

62. This paper focuses on financing along the agricultural supply chain. Some innovative approaches have been presented that are not often considered in the international debate on agricultural finance.

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[29] FAO/GTZ, *Agricultural Finance Revisited: Why,* June 1998.
[30] H. D. Seibel, Commodity finance: a commercial proposition? Micro- and meso-finance for agricultural commodity production, processing and trade, International Workshop on Finance for Small-Scale Commodity Processing: From Micro to Meso Finance, Common Fund for Commodities, Khartoum, 9–11 November 2003.
[31] F. Höllinger, Financing term investments in agriculture: A review of international experiences, Conference on Paving the Way Forward for Rural Finance, USAID, Washington, 2004.
[32] See H. D. Seibel (IFAD), Agricultural development banks: Close them or reform them?, *Finance and Development*, World Bank/IMF, 37(2), June 2000.
[33] See B. Balkenhol and H. Schütte, *Collateral, Collateral Law and Collateral Substitutes,* Social Finance Programme Working Paper 26, ILO, Geneva, 1996.

These approaches are not a panacea for agricultural development or poverty alleviation, but they can benefit those with a base level of agricultural assets and an entrepreneurial spirit. They merit a place in agricultural policy and development frameworks. How can this be realized, keeping in mind the particular circumstances of each commodity and each country?

63. Governments, the international community, private enterprises and civil society should consider the policy, structural and operational conditions that may constrain or stimulate the replication of successful new approaches and the development of more innovative agricultural financing schemes.

64. At the **policy level**, the international community and national governments should pay more attention to the issue of agricultural finance. The majority of the world's poor depend on agriculture for their livelihood, and without better access to finance, the progress of the sector will remain slow. Aid donors cannot support the Millennium Development Goals and continue the benign neglect of agricultural finance even within their rural finance strategies. Equally, recipient countries should ensure that agricultural finance is given a prominent place in their poverty reduction plans and other agreements with donors.

65. Governments should create a policy, legal and regulatory framework that enables efficient commodity finance.[34] If governments want to improve finance along the supply chain, they should particularly consider the legal environment with respect to ownership rights, bankruptcy, and the transferability of warehouse receipts, contracts and export licenses.[35] Donor agencies should support governmental efforts.

66. At the **structural level**, the greatest weakness is probably local banks. Local banks could become a major driving force for expanding agricultural finance, as innovative financing mechanisms could improve their competitiveness and increase profitability by serving new segments and new markets or by generating additional income in their business with existing clients.[36] More could be done to strengthen their understanding of the commodity sector and structured finance tools.

67. There is also an opportunity to strengthen trade finance support entities. International organizations that finance commodity sector infrastructure in developing countries, such as the International Finance Corporation (IFC), the European Investment Bank and the Commonwealth Development Corporation, could expand their financing in "chain integrators" such as warehousing companies, collateral managers, marketing companies, SPVs that service specific sectors/companies, and commodity exchanges. For example, to make collateral management services more accessible to a larger group of players, international financing institutions and local banks could invest in such companies, teaming up with an experienced collateral manager for the necessary technical skills.[37] Innovative modes of agricultural finance could be replicated. Good practices include:

- IFC, supported by Swiss aid agency SECO, in Tajikistan's cotton sector, 2003[38]
- European Bank for Reconstruction and Development (EBRD) warehouse receipt finance and structured commodity finance in Eastern Europe and the former Soviet Union

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[34] See FAO/GTZ, *Agricultural Finance: Getting the Policies Right*, FAO, 1998.

[35] See a detailed checklist in N. Budd, Legal and regulatory aspects of financing commodity exporters and the provision of bank hedging line credit in developing countries, UNCTAD/COM/56, 1995.

[36] J. Bucheneau, *Innovation Products and Adaptations for Rural Finance*, Frontier Finance International, www.basis.wisc.edu/rfc/documents/theme_products.pdf.

[37] As a result of UNCTAD's work in India, such a company is now being set up in that country. It would be very beneficial if a similar company with a regional focus could be introduced in Africa.

[38] This financing resembled RBP's financing of PAICOR in the Philippines. Participating farmers set up a cotton farmers' association as a vehicle for cotton financing and marketing. The association, financed mostly through an IFC loan, ensured proper management by contracting with a SPV in the form of a "private enterprise partnership", which is to provide training to farmers and the management of the farmers' organization (IFC press release, "IFC Helps Struggling Tajik Cotton Farmers").

- Investment by Dutch development bank FMO in a financing vehicle for agricultural repos in the Russian Federation

68. In this respect, "donors need to be creative in finding ways to engage with private sector actors. Private companies have shown flexibility in including poorer farmers in credit-based transactions, yet donors may face restrictions on directly supporting companies, due in part to the issue of benefits from public money potentially being captured by individual companies through improved profits and market position."[39] They should look for vehicles through which they can provide support. This could include the direct financing of "chain integrators" (as in the IFC, EBRD and FMO examples above); the funding of non-governmental organizations or SPVs that would provide some of the essential support functions (e.g. extension services, training, management); or the coverage of certain risks (e.g. political risks).

69. At the **operational level**, the private sector has shown that agricultural finance can be sustainable, but it needs support if successful experiences are to be widely replicated. An FAO paper notes that "term finance [for agriculture] is not an attractive activity for rural finance institutions, especially if other less risky investment options like short-term loans or treasury bills are available. Since the demand for short-term loans in urban and peri-urban areas is far from being satisfied in most countries, a laissez-faire approach is unlikely to result in increased levels of rural term finance in the nearer future."[40]

70. Governments and the international community should support pilot projects on commodity finance. They should stimulate, through various means, research into these issues and the exchange of experience between practitioners and government policy makers. They should also help reduce transaction costs by funding the development of blueprints for financing certain commodities.

71. Improved financing could unlock the growth potential of agriculture in developing countries. The rural poor are most likely to benefit, as they are currently constrained in this regard. Institutional innovations discussed in this paper could help deliver this result. Improved finance methods have the potential to turn the vicious cycle of poverty into a virtuous cycle of growth. However, considerable donor support will be required to make this possible. Therefore, aid agencies should seriously reconsider the priority that they now give to agricultural credit programmes.

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[39] D. Pearce, Buyer and supplier credit to farmers: Do donors have a role to play? Paving the Way Forward for Rural Finance Conference, USAID, Washington, 2004.

[40] F. Höllinger, Financing term investments in agriculture: A review of international experiences, Conference on Paving the Way Forward for Rural Finance, USAID, Washington, 2004.