

**Report of the Working Group
on
Warehouse Receipts
&
Commodity Futures**



Department of Banking Operations and Development

**Reserve Bank of India
Mumbai**

April 2005

Preface

Agriculture is integral to economic development in India. For a long time, Indian agriculture has remained isolated from the mainstream development. Since independence, India has come a long way in removing technological isolation of agriculture. Efforts were made in introducing scientific methods in agriculture, including high yielding hybrid varieties. The resulting Green Revolution has solved the problem of food security for the country. There is a growing feeling that time has come to remove economic and financial isolation in which agricultural economy has been functioning so far. Of the efforts being made in several directions, managing of risks through commodity derivatives and facilitating financing of agriculture by using Warehouse Receipts has received particular attention in the recent years.

In the Mid-term Review of the Annual Policy Statement for the year 2004-05, Governor, Reserve Bank of India announced constitution of a **Working Group on Warehouse Receipts & Commodity Futures** with a view to examining the role of banks in providing loans against Warehouse Receipts and evolving a framework for participation of banks in the commodity futures market. The Group had members from the Reserve Bank of India, Indian Banks' Association (IBA), Forward Markets Commission (FMC), NABARD and select banks active in agricultural lending such as State Bank of India, Punjab National Bank, Bank of Baroda and ICICI Bank Ltd. The Working Group was entrusted with the task of evolving broad guidelines, criteria, limits, risk management system as also a legal framework for facilitating participation of banks in commodity (derivative) market and use of Warehouse Receipts in financing of agriculture.

The Terms of Reference of the Working Group were :

- a. To examine the role of banks in developing commodity markets - both cash and derivative - and lay down a road map for banks' participation in

commodity markets as well as to suggest the criteria, limits and risk management systems for banks in relation to their commodities business;

b. To examine whether banks may offer commodity derivative based products to farmers to enable them to hedge their risks as they do not have easy accessibility to the commodity exchanges and may lack necessary expertise;

c. To suggest enabling measures to encourage flow of institutional finance to farmers including lending against Warehouse Receipts;

d. To examine the statutory provisions and suggest necessary amendments including the provisions of the Banking Regulation Act, 1949 in regard to dealing in commodities by banks and the Negotiable Instruments Act, 1881 for imparting negotiable status to Warehouse Receipts so as to enable the banks to play a meaningful role in developing commodity markets and extend necessary credit facilities;

e. To recommend appropriate level of participation by banks in various capacities in the commodity exchanges and to suggest necessary regulatory arrangements;

f. To examine whether the banks may be permitted to take and give physical delivery of contracts in the commodity derivative markets; and

g. To consider any other matter relevant to the subject by the Working Group.

The Working Group held six meetings and its views were crystallised after several rounds of deliberations. The Group wishes [to](#) put on record its genuine appreciation of the suggestions and support received from various institutions and persons for the purpose of formalizing and compiling the Report. In particular, presentations given by Shri P.H. Ravikumar, CEO & MD, National Commodity and Derivatives Exchange Ltd. (NCDEX), Shri Joseph Massey, DMD, Multi-Commodity Exchange of India Ltd. (MCX) and Shri Kailash Gupta, MD, National Multi-Commodity Exchange of India Ltd., have been immensely useful. A presentation given by Shri Ajay Mahajan of Yes Bank has been equally useful for the Group. The Group acknowledges the contribution made by Smt. Suchismita Sathpathy, Assistant General Manager, ICICI Bank Ltd., in the

deliberations of the Group. The Group also wishes to place on record its appreciation of the contributions made by Shri Ashok Joshi, Deputy General Manager, Shri Sanjay Bhatia, Assistant General Manager and Smt. Amita Chaitanya, Assistant General Manager of the Department of Banking Operations & Development of the Reserve Bank of India both during the course of deliberations of the Group and drafting of the Report. The Group acknowledges the efforts made by Shri M.K. Samantaray, the Member Secretary in ensuring smooth functioning of the Working Group and finalisation of the Report.

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Executive Summary

1. India has a long tradition of organized trading in commodity derivatives. Trading in commodity futures is regulated under the Forward Contracts (Regulation) Act, 1952. However, by seventies, forward trading in most of the commodities was either suspended or prohibited. With the implementation of the recommendations of Khusro Committee (1980) and Kabra Committee (1994) futures trading was permitted in several commodities. In the wake of national Agricultural Policy announced in July 2000 and following the issue of Government notifications in April, 2003 futures trading can be conducted in any commodity subject to the approval / recognition of the Government of India / Forward Markets Commission. Presently, no commodity has been notified in which forward trading is prohibited under Section 17 of the Forward Contracts (Regulation) Act, 1952. However, trading in options is prohibited.
2. Price discovery and hedging are the major economic uses of futures contracts. Futures prices are a market consensus forecast about the price of the commodity in future. Though far from being accurate, futures are the best available forecast of future price of a commodity. Futures contracts can be used by producers and users of the commodity to reduce the risk they run due to volatility in the price of the commodity. Speculators have differing time horizons ranging from a few seconds to several months. Though they are popularly viewed with suspicion, they provide liquidity in the market and are a willing counter party to the hedgers. Options are more complex products with asymmetrical pay-offs. These can be used for creating tailor made products suitable to individual needs. In the hands of an amateur, options or option-based products can be quite risky.
3. Globalisation has brought a new perspective, fresh challenges and vast opportunities to our agri-preneurs. The first Green Revolution was

necessitated to ward off the threat of national food insecurity on account of deficit production. On this count, it has achieved its objective. The next step, popularly christened as the Second Green Revolution, is the need of the hour, so as to achieve the commercialization of agriculture and infuse global competitiveness into Indian agri-business. Rural Financial Access Survey (2003) has revealed that only 21% of the rural households had access to formal credit and majority of bank loans were collateralized. Directed and concessional credit to agriculture had its own usefulness; however, further expansion of credit to agriculture has to be on strictly commercially viable terms. Several committees and studies have noted that linkages between production and marketing need to be strengthened by increasing pledge finance, credit for marketing and introduction of advances against Warehouse Receipts. In future, the input based financing patterns of agricultural credit would give way to output based finance, which are more aligned to the market.

4. In terms of Section 8 of the Banking Regulation Act, 1949, no banking company can deal in goods. However a Proviso of the same section stipulates that restrictions imposed in Section 8 shall not apply to any such business as is specified by Central Government in terms of Section 6(1)(o). The Group recommends that the Central Government may consider issuing a notification under Section 6(1)(o) of the B. R. Act, 1949 permitting banks to deal in the business of agricultural commodities including derivatives.
5. The Group also noted the restrictions placed on free marketability of agricultural produce in terms of the State APMC Acts and the relief provided by the Model APMC Act which provides for private marketing facilities.
6. Warehouse Receipts, negotiable instruments backed by the underlying commodities, are an integral part of the marketing and financial systems of

most industrial countries as they can be traded, sold, swapped and used as collateral to support borrowing or accepted for delivery against a derivative instrument such as a futures contract. In developing countries, the high real interest rates for agricultural loans are often linked to perceived risks. Collateralizing agricultural inventories will lead to an increase in the availability of credit, reduce its cost, and mobilize external financial resources for the sector. Warehouse Receipts contribute to the creation of cash and forward markets and thus enhance competition and reduce transaction costs. Warehouse Receipts can be combined with price-hedging instruments such as a put option which could induce banks to reduce the margin on their lending. A functioning Warehouse Receipt system also obviates the need for Governments to take physical inventories to support prices as they could simply purchase Warehouse Receipts when the prices fall below a certain minimum. The Governments also need not hold physical stocks for ensuring food security; they could simply hold Warehouse Receipts.

7. There are certain preconditions for viability of the Warehouse Receipt system. There has to be in place an appropriate legal, regulatory, and institutional environment to support the Warehouse Receipt system. There should be reliable warehouse certification, guaranteeing basic physical and financial standards. A national grading system for independent determination and verification of the quantity and quality of stored commodities should be in place.
8. Paper Warehouse Receipts suffer from various shortcomings such as difficulty in splitting, risk of forgery, risk of theft / mutilation etc. The electronic Warehouse Receipts remove such shortcomings and provide for faster movement of information and automatic creation of audit trail.
9. In the United States of America the Warehouse Receipt System is organized under the US Warehousing Act of 1916 in terms of which

licensed warehouses have to meet and maintain certain key criteria and the grain handling staff must also be licensed. The integrity of the system is enhanced by the presence of performance guarantees, which are usually posted as insurance bonds.

10. The restructuring of Poland's agricultural sector during economic transition resulted in the breakup of cooperative marketing structures and of the country's marketing and processing monopoly for cereals. The legislative process that will lead to creation of legal underpinnings of pledge instruments, such as Warehouse Receipts, is currently under way. There is abundant underutilized storage capacity but there is lack of appropriate physical infrastructure and the financial wherewithal to guarantee the condition of the stored commodities.
11. In Zambia, a stakeholder-controlled agency, the Zambian Agricultural Commodity Agency Ltd. (ZACA), which is at arm's length from Government, has been established to certify and oversee warehouses. The certification system is designed to encourage investment in relatively small-scale rural warehousing services. Certified warehouse operators either own or lease sheds or silos on commercial terms and are free to charge economic storage charges.
12. The Dubai Commodity Receipt (DCR) system is a web based warehouse receipt system owned and managed by Dubai Metal and Commodity Centre. Membership is open to individuals and firms on the basis of financial status and business history. DCRs are negotiable instruments. Though terms can be inserted in a DCR yet no provision can be inserted in a DCR that it is non-negotiable. Such insertion will make it void.
13. Forward Markets Commission, Government of India and the World Bank instituted a consultancy assignment on Warehouse Receipts in the year 2000. The consultant concluded that there is scope for massive expansion

in the use of Warehouse Receipts due to several advantages. Institution of electronic Warehouse Receipt system with central registry was recommended.

14. The Group examined the prospects of Warehouse Receipt based lending in India. It was concluded that popularizing such lending would help farmers to realize better price for his produce, will lower access barriers, overcome the problem of lack of track record and enable banks to screen borrowers with minimum delay. Foreclosures can be made simple and low cost. It will reduce monitoring costs and encourage commercial lending to the rural sector. The corporates, too, can benefit as they can obtain working capital finance for their stocks. Pure investors in commodities, who have a useful role in smoothening the price volatility, may also play their part with the help of bank finance. Commodity Brokers can obtain bank guarantees, as also margin funding, against Warehouse Receipt. Warehouse Receipts may also find useful role in lending to farmers through Corporate Purchase Arrangements.
15. Data in respect of finance extended by a few large banks was examined. It reveals that financing against Warehouse Receipt is still not a popular method of financing though it is showing an upward trend. The concerned banks counted lack of negotiability, absence of electronic Warehouse Receipts, difficulty in disposal of security in case of default and lack of trust in the receipts issued by private warehouses as constraints in further expansion of such financing.
16. The Group appreciates that it will be desirable that a Warehouse Receipt Act be passed putting the negotiability of Warehouse Receipts on firm legal footing. The Group also noted that the proposed bill in this respect is in an advance stage of drafting by a Core Group constituted by the Ministry of Consumer Affairs, Food and Public Distribution. However, it was observed that efforts at passing such a legislation have been made

since 1978 and it may be possible that the proposed bill may also take some more time. Further, it was also observed that it was practice that makes an instrument negotiable The Group arrived at a consensus that there is a need to create an umbrella structure which could act as a Closed User Group (CUG) for everyone engaged in the commodities business. The membership of the CUG could extend to commodity exchanges, APMCs, commission agents registered with APMCs, warehouses, exporters, importers and domestic users of commodities, banks, insurance companies and producers. In short, everyone who may be connected with production, grading, trading or financing of commodities may become a member of the Group.

17. The umbrella structure or the CUG is envisaged as an electronic platform that would offer straight through processing for everyone connected with the commodities. Members would be accepted in the CUG after they have satisfied stringent quality standards and Know Your Customer (KYC) norms. A farmer who drives into a warehouse with agricultural produce would either already be an associate member of the Group through one of the member entities such as banks, warehouses or the APMCs or would be made an associate member after establishing his identity. The warehouse would get the farmer's produce graded through one of the member quality assurance and grading agencies, insure the produce with one of the insurance companies which are members of the CUG and would be given an electronic receipt using the Electronic Platform of the CUG. The farmer could approach a member bank, on-line, to process his application for a loan against the electronic warehouse receipt that has just been issued to him. As the farmer may already be an associate member and the history of his dealings are available to the bank, the loan could be sanctioned on-line and the farmer's account credited. He could also, if he so desires, sell the commodity either spot or forward by going through one of the intermediaries. Similar ease in dealing would be available to purchasers of the commodities as well as other players. The

CUGs themselves should be subjected to regulation and supervision by a regulatory authority such as FMC.

18. Farmers often incur large losses due to volatility in the prices of their produce. With consequent non performing loans, their access to bank finance is further reduced. Hedging with the use of commodity derivatives is not very easy. Availability of options would give a simpler alternative to the farmers.
19. In the USA, banks are permitted to deal in commodity derivatives but are not permitted to give or take physical delivery, which requires specific permission from the Federal Reserve Bank. Banks can deal in only those Commodity Derivatives which are authorized by CFTC. Banks are also required to have comprehensive risk management policies. Commodity trading activities should not exceed 5 percent of the bank's consolidated Tier 1 capital. Banks and their subsidiaries act as brokers and clearing members on commodity exchanges.
20. In UK, Financial Services Authority (FSA) permits commodities as part of trading book. FSA requires banks to have a trading book policy statement, which may be devised in conjunction with the bank's internal auditors. Detailed instructions are given to banks for calculating capital charge on commodity positions. Banks also act in various capacities as dealers, brokers and clearing members on commodity exchanges.
21. It is not feasible for banks to mitigate their risk in lending to the agricultural sector by resorting to corresponding positions in futures contracts. The model of banks acting as Commodity Pool Operators (CPOs) was also not found suitable. It was concluded by the Group that banks could be permitted to have independent proprietary position in commodity futures, linked only in a macro way to their credit portfolio after adopting suitable risk mitigation policies. The Group also felt that banks could act as

- facilitators for farmers who may want to hedge on their own on commodity exchanges. In such cases banks could finance the margin requirements through additional lending which may also improve the creditworthiness of the farmer. However, banks acting as facilitators should not make buying of a futures contract a pre-condition for their normal agricultural lending activities.
22. Considering the experience that banks already have in dealing with agricultural commodities, it would be prudent at the current stage to permit banks to deal with derivatives in agricultural commodities only.
 23. As purely cash settled contracts are not available in India, a bank trading or dealing commodity contracts could be permitted to make or accept physical delivery of goods.
 24. The Group decided that banks could offer commodity derivatives based products to farmers tailor made to meet their specific needs.
 25. In regard to OTC contracts the Group feels that it would be difficult to deal in contracts which require physical delivery of goods. OTC contracts should also preferably only be cash settled. The Group is of the view that to make OTC contracts a feasible proposition for banks, the Government should exempt transferable specific delivery (TSD) contracts, where one of the parties to the contract is a bank authorised by RBI, from the operation of all or any of the provisions of FCRA. This would enable banks to provide bilateral contracts, tailored to the requirements of their customers, without running the risk of taking or making delivery. Under Section 27 of FCRA, the Central Government has the power to exempt, under certain conditions, any contract or class of contracts from the operation of all or any of the provisions of FCRA. The banks, however, need to keep in mind that the positions taken by farmers are reasonable as compared to the risks they are exposed to.

26. At present banks are allowed, on application, to become Professional Clearing Members and provide clearing services to Trading Members. Reserve Bank may grant general permission to banks to act as Professional Clearing Members.
27. Though, internationally, banks or their subsidiaries are permitted to act as brokers in commodity exchanges, yet the Group felt that acting as a Trading Member (broker) may not be a desirable proposition, as the banks would be moving away from their core competencies. Moreover, as banks would be having proprietary positions in commodity futures and would also be acting in the position of a facilitator to customers, there can be situations of 'conflict of interest'. It was therefore decided that for the present, banks may not be permitted to act as Trading Members in the Commodity Exchanges.
28. The Group recognizes the role that the banks equity played in the initial phase of the Exchanges yet it is necessary that there should be well diversified ownership of commodity exchanges. While for the present, banks may continue to hold their equity stake in the commodity exchanges in order to maintain the financial strength and stability of the exchanges, the banks should reduce / divest their equity stake in commodity exchanges to a maximum permitted level of 5% over a period of time so as to avoid any conflict of interests and address the regulatory concern that owners of commodity exchanges do not also become traders in exchanges.
29. Banks may not offer advisory services to the farmers for use of futures. However, it would be sufficient if banks offer standard products based on futures and simply explain the working of the products, leaving the decision whether to purchase the product or not to the farmer himself. The Group decided that banks may not be permitted to offer discretionary /

non-discretionary advisory services to farmers in respect of commodity futures.

30. The Group studied the risk management practices followed by FSA and APRA and recommended a broadly similar approach. Additionally, the Group is of the view that initially a limitation should also be placed on a bank's total exposure or the gross positions, long plus short regardless of maturity in all the commodities in relation to net loans and advances and / or capital or net worth of a bank. Initially, the limit on gross positions could be put at 5% of the networth of the bank which could be increased later in the light of experience gained.

Chapter I

History of Futures Markets in India

1.1 The Pre-independence Era

1.1.1 The history of organized futures trading in India can be traced to the setting up of Bombay Cotton Trade Association in 1875. Futures trading in oilseeds was started with the setting up of Gujarati Vyapari Mandali in 1900 which carried out futures trading in groundnut, castor seed and cotton. Before World War II broke out in 1939, several futures markets in oilseed were functioning in Gujarat and Punjab.

1.1.2 Futures trading in Raw Jute and Jute began in Calcutta with the establishment of The Calcutta Hessian Exchange Ltd. in 1919. Later, East Indian Jute Association Ltd. was set up in 1927 for organizing futures trading in Raw Jute. These two associations amalgamated in 1945 to form the present East India Jute & Hessian Ltd. to conduct organized trading in both Raw Jute and Jute goods. In case of wheat, futures markets were in existence at several centers at Punjab and U.P., the most notable amongst them was the Chamber of Commerce at Hapur, which was established in 1913. Other markets were located at Amritsar, Moga, Ludhiana, Jalandhar, Fazilka, Dhuri, Barnala and Bhatinda in Punjab and Muzaffarnagar, Chandausi, Meerut, Saharanpur, Hathras, Ghaziabad and Bareilly in U. P.

1.1.3 Futures markets in Bullion began in Mumbai in 1920 and later similar markets came up at Rajkot, Jaipur, Jamnagar, Kanpur, Delhi and Calcutta. In due course, several other exchanges were also

established in the country to trade in such diverse commodities as pepper, turmeric, potato, sugar and gur (jaggery).

1.2 The Control Era

1.2.1 After independence, the Constitution of India brought the subject of “Stock Exchanges and Futures Markets” in the Union List. As a result, the responsibility for regulation of commodity futures markets devolved on the Govt. of India. A Bill on forward contracts was referred to an expert committee headed by Prof. A.D. Shroff and Select Committees of two successive Parliaments and finally in December 1952, Forward Contracts (Regulation) Act, 1952 was enacted. The Forward Contracts (Regulation) Rules were notified by the Central government in 1954.

1.2.2 The Forward Contracts (Regulation) Act, 1952 provided for a 3-tier regulatory system ;

- a. An association recognized by the Government of India on the recommendation of Forward Markets Commission;
- b. The Forward Markets Commission (set up in 1953); and
- c. The Central Government.

1.2.3 The commodities were divided in to three categories with reference to the extent of regulation, viz.;

- a. The commodities in which futures trading can be organized under the auspices of a recognized association.
- b. The commodities in which futures trading is prohibited.
- c. The commodities which have neither been regulated for being traded under a recognised association nor prohibited, are referred to as ‘Free Commodities’ and the associations

organized in such free commodities are required to obtain the certificate of registration from the Forward Markets Commission.

1.2.4 In the seventies, most of registered associations became inactive, as futures as well as forward trading in the commodities for which they were registered came to be either suspended or prohibited altogether.

1.3 Liberalisation

1.3.1 The Khusro Committee (June 1980) recommended re-introduction of futures trading in most of the major commodities including Cotton, Kapas, Raw Jute and Jute Goods and suggested that steps may be taken for introducing futures trading in commodities like Potatoes, Onions etc. at an appropriate time. The government, accordingly, initiated futures trading in Potato during the latter half of 1980 in quite a few markets in Punjab and Uttar Pradesh.

1.3.2 After the introduction of economic reforms, the Government of India appointed in June 1993 a committee on Forward Markets under the chairmanship of Prof. K.N.Kabra. The Committee submitted its report in September 1994. The Committee recommended that futures trading be introduced in several commodities such as Basmati Rice, Cotton and Kapas, Raw Jute and Jute Goods, several Oilseeds and Oils. The Committee also recommended that some of the existing commodity exchanges, particularly the ones in Pepper and Castor Seed, may be upgraded to the level of International Futures Exchanges.

1.3.3 In the wake of the National Agricultural Policy announced in July 2000 and the announcements of Hon'ble Finance Minister in the

Budget Speech for 2002-03, the Government issued notifications on April 1, 2003 permitting futures trading in commodities. With the issue of these notifications, futures trading is not prohibited in any commodity. Options trading in commodities is, however, presently prohibited.

Chapter II

Uses of Futures and Options Markets

In this chapter, the uses of futures and options markets, especially in connection with futures on agricultural commodities and their possible uses for the farmers, traders, banks and others have been reviewed.

2.1 Price Discovery

2.1.1 Futures markets serve society by providing means for market observers to form assessments about the future price of commodities. Futures prices are, in essence, a market consensus forecast about the future price of the underlying commodity. Compared to alternatives, the futures price provides a good, perhaps the best, forecast. However, futures price forecasts are subject to two important limitations. First, the errors in futures forecasts can be large, even though they may be smaller than the errors produced by alternative forecasts. Secondly, the quality of forecasts may differ across commodities.

2.2 Hedging

2.2.1 The hedger is a trader who enters the futures market in order to reduce a pre-existing risk position. Having a position does not mean that the trader must actually own a commodity. An individual or a firm who anticipates the need for a certain commodity in the future or a person who plans to acquire a certain commodity later also has a position in that commodity. In many cases, the hedger has a certain hedging horizon – the future date when the hedge will terminate. The hedge can be a long hedge or a short hedge. If the

hedger buys futures contract to hedge, it will be a **long hedge**. For example, a roller flourmill owner may like to lock-in the price of the wheat that he wants to purchase three months later by purchasing wheat futures. If three months later the wheat prices rise, carrying futures prices along with them, the flourmill owner will purchase wheat from the spot market at a higher price. The loss that he may suffer in the cash market will be compensated by sale of futures at a higher price. Similarly, a farmer can sell three-month futures at the prevailing price and lock-in his profits at that level. If the prices fall, the loss suffered by the farmer in the cash market will be compensated by the profit that the farmer will earn by squaring the transaction in the futures market.

2.2.2 In practice, hedging solutions are not as neat as the ones described above. In the above example, the goods in question were exactly the same both in the cash and the futures market, the amounts purchased / sold in the cash market matched the futures contract amounts, and the hedging horizons of the farmer and the mill owner matched the delivery dates of the futures contracts. It will be rare for all factors to match perfectly; they will differ in time span covered, the amount of commodity or the physical characteristics of the commodity that are traded in the cash and the futures markets. Such hedges are known as **cross-hedges**. In such cases, the hedger must trade the right number and kind of futures contract to control the risk in hedged positions as much as possible. There can be situations where the hedger does not have any definite hedging horizon and may enter into what is known as **risk-minimizing hedge**.

2.2.3 The hedger has many incentives. Tax is a major incentive. In an un-hedged situation, the profits fluctuate widely and the person / firm may have to pay taxes in the high profit years while he is not

able to utilize the tax credits when he runs into losses. Hedging also serves to minimize the cost of financial distress. Widely fluctuating profits may drive many persons / firms to bankruptcy. In an idealized world with no transaction costs, which is inhabited by 'homo-economicus' this may not be a factor. In the real world, bankruptcy involves avoidable human misery and prolonged winding up procedures.

2.3 Role of Speculators

2.3.1 Derivative markets have long been viewed with suspicion as speculators are the most visible players. We consider it appropriate to emphasize that functioning derivative markets will have speculators who need to be viewed from the point of view of their economic usefulness and who need to be regulated with a view to preventing systemic instability.

2.3.2 A speculator is a trader who enters the futures market in search of profit and, by so doing, willingly accepts increased risks. Different types of speculators may be categorized by the length of time they plan to hold a position. Traditionally, there are three kinds of speculators: scalpers, day traders and position traders.

2.3.3 Scalpers' time horizon is the shortest, ranging from the next few seconds to the next few minutes and they make profits that may be only one or two ticks, the minimum allowable price movement. If the prices do not move in the scalper's direction within a few minutes of assuming a position, the scalper will like to close the position and begin looking for a new opportunity. It is understood that scalpers do not go by the demand and supply positions of the underlying commodity but act on the 'sentiment'. They generate enormous amounts of transactions and are able to survive as they pay

minimum transaction cost. Besides earning profits for themselves, their main role is to provide liquidity in the market. They provide a party willing to take the opposite side of a trade for other traders; hedgers know that their orders can be executed. By actively trading, they generate price quotations thereby allowing markets to discover prices more effectively. By competing for trades, they help close the bid-ask spread.

2.3.4 Day Traders close their position before the end of trading each day. Their strategy is to guess the price movements on account of developments during the day, including announcement of government policies and release of data.

2.3.5 Position Traders maintain overnight positions, which may run into weeks or even months. They may hold outright positions in which they run huge risks and may also earn big profits. The more risk averse among them assume spread positions which may involve relative price movements in different contracts on the same underlying commodities or commodities which are closely related.

2.3.6 It is pertinent to examine whether hedgers need speculators. Theoretically, if there are sufficiently large numbers of short and long hedgers, they may fulfill each other's need and the speculators may have no role. However, in practice, there is always a mismatch between the time when the short and long hedgers would approach the market and the speculators fill in this gap.

2.4 Options

2.4.1 An Option is a contract in the which the purchaser of the contract gets for a price the right but not the obligation to purchase / sell a commodity at a pre-determined price (strike price) after a pre-

determined time. Conversely, the writer of the option has the liability to fulfill the contract if the purchaser chooses to exercise his right to purchase / sell the underlying commodities. The pay-offs in the case of options are asymmetrical in so far as the writer of the contract has a definite profit with unlimited downside if the prices move against him, and the purchaser of the contract has a definite cost with unlimited profits if the prices move in his favour. The price movements are more complex and dependent on several variables such as volatility of the underlying commodity, time to expiry of the contract, etc.

2.4.2 An option contract, in certain respects, can act as an 'insurance' for the purchaser with the added advantage of flexibility and liquidity.

2.4.3 Options can be used, along with futures, borrowing of cash and the physical commodity to create complex products to fulfill specific needs of individual customers. However, these complex products are safe in the hands of sophisticated users only as an amateur can unwittingly get into extremely risky positions.

Chapter III

Need for integrated development in Agriculture

3.1 Need to develop Agriculture on Commercially competitive terms

3.1.1 Agriculture is the main occupation in the country, engaging about 72% of the population. There is a strong correlation between the performance of this sector and that of the overall economy. In achieving 7 to 8% GDP growth, agriculture sector will be a decisive driver, despite its reduced share in GDP from 58.9% (1950-51) to about 22.2% (2003-04).

3.1.2 Our agriculture sector offers promising prospects on both the demand and supply sides. On the demand side, there is a big domestic market for food and other agricultural produces. Further, the country is strategically located, being close to the middle-East and South East Asian economies as important export destinations. Under the WTO regime, the external markets are expected to offer unprecedented opportunities. Globalisation has brought a new perspective, fresh challenges and vast opportunities to our agripreneurs. On the supply side, we have fertile soils, the largest irrigated area in the world and varied agro-climatic zones having potential to grow a wide variety of crops to trade in the domestic and global markets.

3.1.3 Among the critical issues faced by Indian agriculture, the Price distortions due to long supply chain in farm produce marketing and resultant low share of farmers in the final price is an important matter. Integrated systems for value addition, processing, cold

chain, storage and product handling are yet to materialise. Enabling environment for agricultural marketing and contract farming, in spite of the initiatives by the Government of India, is yet to be in position in many states.

3.1.4 Notwithstanding the problems, our agriculture sector can benefit greatly from integration with the commercial and industrial sector on sound business principles including sound risk management practices and availability of credit on commercially competitive terms.. The first Green Revolution was necessitated to ward off the threat of national food insecurity on account of deficit production. On this count, it has achieved its objectives. The next step, popularly christened as the Second Green Revolution is the need of the hour, so as to achieve the commercialisation of our agriculture and infuse global competitiveness into Indian agri-business.

3.2 Credit for agriculture and rural development

3.2.1 Institutional credit has enabled Indian farming community to access capital and technology and thereby increase agricultural production. Short-term credit for purchase of inputs and other services and the long-term credit for investment purposes are the major facets of agri-finance initiatives. The success of Green Revolution and the recent shift from the subsistence level of production to market oriented approach can be broadly attributed to institutional credit support.

3.2.2 The Rural Financial Access Survey (2003) conducted by World Bank and NCAER in Andhra Pradesh and Uttar Pradesh revealed that 44% rural households had informal borrowings in the preceding 12 months on interest rates of up to 48% per annum. Only 21%

rural households had access to formal credit and majority of bank loans were collateralized.

3.2.3 The credit strategy for agricultural development in the country has been founded on the philosophy of “growth with equity” and includes measures like directed targets of lending to the agriculture sector, coupled with availability of refinance to the banks at softer terms e.g., lower down-payment, longer maturity period and lower rates of interest have helped in facilitating easier access and affordable credit to marginal and small farmers. Further expansion of credit to agriculture has to be on strictly commercially viable terms, which in turn would enable the farmers to adopt new technologies of production and supply chain management. In this context, credit support to marketing and post harvest storage are to be strengthened further. Futures market and warehouse receipt financing could play a key role in this respect.

3.3 Agricultural marketing scenario

3.3.1 Global trends show that agriculture is becoming increasingly commercialised and is gearing to produce for specific markets. Agricultural marketing is witnessing major changes world over, owing to liberalization of trade in agricultural commodities. To benefit farming community for the new global market access opportunities, the internal agricultural marketing system in the country needs to be integrated and strengthened. It requires a healthy environment, smooth channels for the transfer of produce, physical infrastructure to support marketing activities, easy cash support to the widely scattered community of producers a sense of market orientation among the farmers. However, currently, there is a multiplicity of market functionaries/ intermediaries with conflicting

interests. At present, most of the agricultural produce in the country is marketed through private trade operating in organized markets/mandies. However, restriction on movement of agriculture goods and marketing of produce outside the regulated markets hinders free movement of agro-goods under normal forces of demand and supply.

- 3.3.2 The Indian farming community consists mostly of small and marginal farmers. Micro level studies indicate that small farm holdings contribute about 54% of marketable surplus and distress sale by these small farmers account for about 50% of the marketable surplus. The farmers often sell their produce to square off their debts soon after harvesting. Large price spreads and low price realisation due to imperfections and weak linkages in commodity markets have dominantly characterised Indian agriculture.
- 3.3.3 Expert Committee on Strengthening and Developing Agricultural Marketing and Marketing Reforms (Shankar Lal Guru Committee: 2001) and the Inter-ministerial Task Force on Agricultural Marketing Reforms (2002) have identified areas such as contract farming, private market yards, public-private partnership etc, for integration of farmers' production with domestic and global markets.
- 3.3.4 ECRC (2001) has pointed out the imbalance between financing production and post-harvest operations, as also poor linkages between credit and marketing. A more balanced approach to crop production and post-harvest operations will open up new opportunities for commercialisation of Indian agriculture and institutional finance has a prominent role to play in this respect.
- 3.3.5 The advisory committee on provision of credit to agriculture and

allied activities (2004) also noted that linkages between production and marketing need to be strengthened by increasing pledge finance, credit for marketing and introduction of advances against Warehouse Receipts.

- 3.3.6 Poor credit support from formal banking sector had an adverse effect on the development of agricultural marketing systems in the country. The informal sector which includes the commission agents (adatiyas) provides significant credit to agriculture and wholesale trade but the cost of credit is high compared to the rate at which banks may provide it. Bank credit to farmers against agriculture produce is not substantial. These lacunae need to be corrected. The lending policies and programmes for financing the agriculture should focus on the increased capital needs of agricultural marketing. The nature of demand for agricultural credit in future would be different from the past. The input based financing patterns of agricultural credit would give way to output based finance, which are more aligned to the market, where production, processing and marketing become an integrated activity and financed as a package.
- 3.3.7 One of the strategies currently in vogue , in this respect is to promote pledge financing which facilitates the usage of inventories of graded produce as collateral for accessing credit from the organized credit market. It enables farmers to hold inventory of graded produce under favourable storage conditions and standardized preservation under supervised conditions in rural godowns and warehouses. It also advances grading of farm produce to the farm gate, thus enabling farmers to improve price realization considerably.
- 3.3.8 Based on the foregoing discussion it is evident that agricultural marketing credit support needs to be strengthened and reoriented.

Developing marketing support systems through forward and futures trade and warehouse receipt system are the major building blocks of the road map for sustainable agricultural marketing set up.

Chapter IV

Statutory Requirements

4.1 Dealing in Commodity Derivatives by banks

4.1.1 Financing of agriculture poses certain special risks for banks and so, banks need to mitigate these risks in order to ensure effective credit delivery to the agricultural sector. One of the key risks for banks is the commodity price risk. The volatility in the prices of agricultural commodities may cause severe loss to the farmer who may be unable to repay his dues to the bank. If the prices collapse, the distress in the farming community can be widespread and security obtained by the bank may have very limited usefulness. Commodity derivatives can mitigate these risks to a certain extent. The issue has been examined in greater detail later in the report.

4.1.2 A well established system of issuance of Warehouse Receipts is a pre-requisite of an efficient market in commodity derivatives. Warehouse Receipts are also useful to the farmer in securing timely finance from banks at economical rates. This issue, too, has been discussed in greater detail later in the report.

4.1.3 In terms of Section 8 of the Banking Regulation Act, 1949, no banking company shall directly or indirectly deal in buying or selling or bartering of goods except in connection with realisation of securities given to or held by it, or engage in any trade or buy, sell or barter goods of others. For this purpose, “**goods**” means every kind of movable property, other than actionable claims, stocks, shares, money, bullion and specie and all instruments referred to in clause (a) of sub-section (1) of Section 6 of the B.R. Act, 1949. Thus, while bullion and specie are specifically permitted for trading

under the Act, banks are prohibited from entering into commodity business and therefore, they are not permitted to participate in the commodity derivatives market.

4.1.4 The Group deliberated whether banks may deal in commodity derivatives in terms of the existing statutory provisions. In this connection an argument that restrictions placed in Section 8 of B.R. Act, 1949 are not applicable to banks' buying and selling of commodity derivatives was examined. It has been argued that Section 8 *ibid* prohibits selling and buying of goods. In buying/ selling commodity derivatives, what the bank is buying/ selling is paper/ electronic contracts that are generally cash settled. It is argued, therefore, while dealing in commodity futures, banks are in effect, dealing in financial instruments and hence, trading in commodity derivatives may be treated as permissible. To remove any lingering doubt, banks could be prohibited from giving or taking physical delivery.

4.1.5 On the other hand, two arguments were put forward against taking a view such as above. Firstly, while it is desirable that banks should not deal in physical commodities, yet a statutory prohibition on banks in taking or giving physical delivery may act to their disadvantage as in no circumstance would they be able to force physical delivery. Secondly, a commodity future is nothing but a exchange traded and standardised forward contract for purchase / sale of the commodity. Thus, in buying/ selling futures, there is no doubt that banks in effect will be buying/ selling goods. Section 8 of the Banking Regulation Act, 1949 clearly prohibits banks from directly or indirectly buying and selling of goods except in connection with realisation of security. The legislative intent is clear, that banks may finance commodity business but should not trade in commodities themselves.

4.1.6 In terms of clause (o) of sub-section (1) of Section 6 of the Banking Regulation Act, 1949, a banking company may engage in any other form of business which the Central Government may, by notification in the Official Gazette specify as a form of business in which it is lawful for a banking company to engage. The proviso to section 8 of the Banking Regulation Act, 1949 states that the section shall not apply to any such business as is specified in pursuance of clause (o) of sub-section (1) of Section 6. The Group decided to recommend that the Central Government may issue necessary notification under clause (o) of sub-section (1) of Section 6 of the Banking Regulation Act, 1949 to enable banks to deal in the business of agricultural commodities including commodity derivatives.

4.2 Negotiability of Warehouse Receipt

4.2.1 Central Warehousing Corporation (CWC) and State Warehousing Corporations (SWCs) receive deposits from farmers, companies and Government, issuing Warehouse Receipts denominated as *negotiable* or *non-negotiable*. Negotiability should mean that Warehouse Receipts could be transferred between members of the trade by endorsement, or by attaching a delivery note, without fear that ownership by holders in due course can be successfully challenged, or subjected to unforeseen liens. There is considerable uncertainty in practice as to whether Warehouse Receipts are documents of title. So, with minor exceptions, they are not used to transfer title. There has been a persistent demand that Warehouse Receipts may be made negotiable instruments, by law.

4.2.2 A Warehouse Receipts Bill was drafted in 1978 with the principal, if not sole, objective of endowing upon Warehouse Receipts the

status of negotiability under the Negotiable Instruments Act, 1881. However, the Act could not be passed.

4.2.3 Ministry of Consumer Affairs, Food and Public Distribution have constituted a Core Group for drafting the Negotiable Warehouse Receipts Act. We understand that the proposed bill is in an advanced stage of drafting. The draft bill provides for setting up of 'The Warehousing Regulatory and Development Authority' to promote orderly growth of the warehousing business. The said authority will register warehousemen, accreditation agencies and certifying agencies for grading. The draft bill provides for issuance of negotiable Warehouse Receipts. The validity of the negotiation of the receipt is not impaired by the fact that (a) the negotiation was a breach of duty on the part of person making the negotiation or (b) the owner of the receipt was induced by fraud, mistake, or duress to entrust the possession or custody of the receipt to that person, if the person to whom the receipt was negotiated paid value for it without knowing of the breach of duty, or fraud mistake or duress. The Group appreciated the desirability of passing such legislation expeditiously.

4.2.4 The Consultancy assignment by Forward Markets Commission for Development of Warehousing Receipt System in India has dwelt at length on the concept of negotiability and the need for the same. In some legal systems, a negotiable warehouse receipt is one, which confers on a transferee "a direct interest in the underlying property, free of any outstanding claims". On the other hand the term "negotiable" is often understood as meaning that the warehouse receipt is freely transferable between successive holders by endorsement.

4.2.5 Law can provide for the rights of the holder of the negotiable Warehouse Receipt but it should not necessarily be expected to become the norm. It would therefore be naïve to expect a mere

enabling provision in the law, say, through a warehouse receipt statute, to solve all the above-mentioned problems. As indicated by Justice S.M. Jhunjhunwala when referring to the Negotiable Instruments Act of 1881, holding an instrument to be negotiable is not the same as the practice that makes such instrument negotiable, this quality being "the creature of custom of merchants". Hence a stronger legal definition of warehouse receipt may be of little avail where there is a lack of volition to accept the document as such.

4.2.6 The Group deliberated on the issue and reached a conclusion that if India can create a system by which Warehouse Receipts are freely transferred between holders, it will reduce transactions costs and increase usage. For achieving this, beside the enabling legislation, which can take considerable time, it will be necessary to create an environment in which the Warehouse Receipts can be traded securely with minimum transaction cost. One such proposed system is discussed in detail later in the report.

4.3 Agricultural Produce Marketing Committees Acts

4.3.1 Agricultural produce marketing is subject to State level APMC Acts. The existing Act originates from pre independence but marginal adjustments have occasionally been made by individual States. This Act regulates marketing of "Notified Agricultural Produce", including the operation of wholesale markets, and compulsory sale of produce through these markets. Notified Agricultural produce may be as many as over hundred products. Thus, the wholesaling of agricultural produce is governed by the Agricultural Produce Marketing Acts of various State governments. The specific objective of market regulation is to ensure that farmers are offered prices that are fair and transparent. The market committees have the authority to levy and collect market fees on all transactions

within regulated markets of which there are more than 7,000 in the country.

4.3.2 The Expert Committee constituted by the Ministry of Agriculture (2001) noted the problems that have flowed from this monopoly. Licensed traders have functioned to prevent new entrants. Such entry barriers have led market participants to fix their charges without being checked by competition. Furthermore, the monopoly has fostered a lack of accountability and as a result, important supporting services such as grading, standardization and market facilities have been neglected. The Expert Committee goes on to recommend that registration (rather than licensing) with the APMC. The Inter Ministerial Task Force set up by Gol has recommended that the APMC Acts be amended to allow direct marketing and the establishment of agricultural markets in the private cooperative sector. The Task Force viewed the government's role as a facilitator rather than that of having control over the management of markets.

4.3.3 In 2003, the Ministry of Agriculture, Government of India prepared a Model Act for agricultural produce marketing which the state governments could use as a model for their individual Acts. Under the Model Act, private agents can be licensed to set up a market or buy produce directly from farmers. The license will be given by an authority of the State Government such as the State Agricultural Marketing Board. The present Model Act for APMCs circulated by the Central Government is an initial exercise to enable State Governments to involve professionals in market management. Initially Public Private Partnerships (PPP) could be mobilized to accommodate issues relating to infrastructure. Government of Karnataka has taken initiatives and facilitated the setting up of a market by NDDB. Maharashtra also has amended the APMC Act in

April 2003, enabling farmers to sell their produce without involving intermediaries. Madhya Pradesh and Punjab have taken the lead in allowing private participation in agricultural marketing.

- 4.3.4 While considering various suggestions to facilitate the ease with which banks as lenders could dispose of the security in the form of agricultural produce, the necessity of setting up of a nation wide spot trading facility in commodities was brought to the fore. It was pointed out that the state level APMC Acts may act as hindrance to setting up of a spot trading facility. The committee is of the opinion that the process of adopting of model act by more states would be hastened by setting up of a spot trading facility under a Closed User Group which has been discussed later in the report.

Chapter V

Warehouse Receipt as an Instrument for Financing Agriculture

5.1 Warehouse Receipts

5.1.1 Warehouse Receipts are documents issued by warehouses to depositors against the commodities deposited in the warehouses, for which the warehouse is the bailee. Warehouse Receipts may be either non-negotiable or negotiable. These documents are transferred by endorsement and delivery. Either the original depositor or the holder in due course (transferee) can claim the commodities from the warehouse. Warehouse Receipts in physical form suffer all the disadvantages of the paper form of title documents.

5.1.2 Warehouse Receipts, negotiable instruments backed by the underlying commodities, are an integral part of the marketing and financial systems of most industrial countries. The overall efficiency of these markets, particularly in the agribusiness sector, is greatly enhanced when producers and commercial entities can convert inventories of agricultural raw materials or intermediary or finished products into a readily tradable device. Since Warehouse Receipts are negotiable instruments, they can be traded, sold, swapped, used as collateral to support borrowing, or accepted for delivery against a derivative instrument such as a futures contract.

5.2 Benefits of Warehouse Receipts

5.2.1 Warehouse Receipts provide farmers with an instrument that allows them to extend the sales period of modestly perishable products well beyond the harvesting season. When delivering the product to

an accredited warehouse, the farmer obtains a Warehouse Receipt that can be used as collateral for short-term borrowing to obtain working capital. That way, the farmer does not need to sell the product immediately to ease cash constraints. Of course, this option will be attractive only if the farmer expects that seasonal price increases will make it worthwhile to store the product and sell it later.

5.2.2 The availability of secure Warehouse Receipts may also allow owners of inventories to borrow abroad in currencies for which real interest rates are lower, particularly if loans are made against inventories of an export commodity, thereby hedging against the foreign exchange risk of foreign borrowing. This practice is followed in Kenya and Uganda, where coffee stocks are often financed in pounds sterling. Also, since high real interest rates are often linked to perceived risks, particularly when it concerns agriculture, secure Warehouse Receipts may reduce risk and lead to lower lending rates.

5.2.3 Correctly structured Warehouse Receipts provide secure collateral for banks by assuring holders of the existence and condition of agricultural inventories "sight unseen." Warehouse Receipts can be used by farmers to finance their production, and by processors to finance their inventories. If there is a default on any obligation guaranteed with the Warehouse Receipt - for instance, a bank loan - the holder has first call on the underlying goods or their monetary equivalent. Collateralizing agricultural inventories will lead to an increase in the availability of credit, reduce its cost, and mobilize external financial resources for the sector.

5.2.4 Warehouse Receipts contribute to the creation of cash and forward markets and thus enhance competition. They can form the basis for trading commodities, since they provide all the essential information needed to complete a transaction between a seller and a buyer.

Their availability will thus both increase the volume of trade and reduce transaction costs. Since buyers need not see the goods, transactions need not take place at either the storage or the inspection location. With a functioning Warehouse Receipt system, commodities are rarely, if ever, sold at the warehouse proper. A transaction can take place informally or on an organized market or exchange. In either case, the Warehouse Receipt forms the basis for the creation of a spot, or cash market. If transactions involve the delivery of goods on a future date, Warehouse Receipts can form the basis for the creation of a forward market and for the delivery system in a commodity futures exchange. A broader benefit of Warehouse Receipts is that they increase the confidence of participants, particularly those in the private sector, in market transactions.

5.2.5 A Warehouse Receipt system provides a way to reduce the need of government agencies in procurement of agricultural commodities. Government intervention in agricultural markets usually has two main objectives: to support prices, by buying directly from producers, and to guarantee a measure of food security. In order to support prices, governments can accept Warehouse Receipts when prices drop below a support floor, rather than taking delivery of physical inventories. Since Warehouse Receipts guarantee the existence of stocks, governments can achieve their food - security objectives by merely holding these receipts.

5.2.6 Warehouse Receipts can be combined with price-hedging instruments. This combination provides lenders with secure collateral, in the form of Warehouse Receipts, and puts a minimum value on it, through the hedging operation. For example, the PTA Bank in Kenya finances coffee exporters by taking their Warehouse Receipts as collateral and also offers them a put option, purchased at the London Commodity Exchange, that

guarantees sellers a minimum price for the coffee they have in storage. By assuring a floor price for the stored coffee, the PTA Bank can provide finance for a higher percentage of the value of coffee than it could justify in the absence of the floor price. Banks will often advance 80-90 percent of the value of the transaction if it is hedged, but only 50-60 percent if it is not.

5.3 Limitations on the Use of Warehouse Receipts

5.3.1 The use of Warehouse Receipts is limited in many developing countries because of institutional and structural shortcomings, among which the most prevalent are the following:

- lack of incentives for the development of a private storage industry owing to government intervention in agricultural markets - usually by setting support prices that take insufficient account of price variations over time or in different regions to allow for profitable storage;
- lack of an appropriate legal, regulatory, and institutional environment to support a system of Warehouse Receipts; and
- limited, if any, familiarity of the country's commercial, including its banking, community with Warehouse Receipts.

5.4 Preconditions for Viability of Warehouse Receipt System

5.4.1 In order for a Warehouse Receipt system to be viable, the economy within which it operates must meet certain conditions. The legal system must support pledge instruments, such as Warehouse Receipts, as secure collateral. The pertinent legislation must meet several conditions:

- Warehouse Receipts must be functionally equivalent to stored commodities;

- The rights, liabilities, and duties of each party to a Warehouse Receipt (for example a farmer, a bank, or a warehouseman) must be clearly defined;
- Warehouse Receipts must be freely transferable by delivery and endorsement;
- The holder of a Warehouse Receipt must be first in line to receive the stored goods or their fungible equivalent on liquidation or default of the warehouse; and
- The prospective recipient of a Warehouse Receipt should be able to determine, before acceptance, if there is a competing claim on the collateral underlying the receipt. The lack of an appropriate legal environment is probably the single most important constraint on the creation and acceptance of Warehouse Receipts in many developing countries.

5.4.2 Operational conditions must be conducive to the creation of a warehouse-receipt system and include the following:

- reliable warehouse certification, guaranteeing basic physical and financial standards;
- the existence of independent determination and verification of the quantity and the quality of stored commodities, based on a national grading system (with inspection of warehouses and stored commodities performed, in most cases, by the private sector under license from a government body - for agricultural goods, usually the ministry of agriculture); and
- the availability of property and casualty insurance.

5.4.3 The integrity of the system must be assured through performance guarantees. A key prerequisite for the acceptability of Warehouse Receipts by the trade and by banks is the existence of a

performance guarantee for warehouses, assuring that the quantities of goods stored match those specified by the Warehouse Receipt and that their quality is the same as, or better than, that stated on the receipt. Without this guarantee, farmers and traders will be reluctant to store their crops, and banks will be hesitant to accept Warehouse Receipts as secure collateral for financing agricultural inventories. The unavailability of performance guarantees - for instance, because of the absence of reliable inspection and certification - may occasionally lead to second-best solutions. For example, in Brazil, a system of Warehouse Receipts operates that is limited to products stored in bank-owned warehouses.

5.5 Limitations of Warehouse Receipts

5.5.1 Some of the limitations of Warehouse Receipts are as under:

- Need for splitting the Warehouse Receipt in case the depositor has an obligation to transfer only a part of the commodities;
- Need to move the Warehouse Receipt from one place to another with risk of theft/mutilation, etc. if the transferor and transferee are at two different locations;
- Risk of forgery.

5.6 Electronic Warehouse Receipts

5.6.1 The advantages of electronic receipts over their paper counterparts include:

- reduction in manual-paper handling;
- transporting paper documents is eliminated along with the attendant risks;
- information is moved faster;
- multiple keypunching of data is reduced;

- an audit trail of receipt activity is kept, and the electronic receipt system serves to back-up receipt data for the warehouse;
- chances of forgery are reduced.

5.6.2 The Electronic Warehouse Receipt should be legally equivalent in every respect to a paper Warehouse Receipt. Electronic Warehouse Receipts are different from paper Warehouse Receipts in that any part can be fractionalized to thousandths of the whole. And because of the digital nature of a Electronic Warehouse Receipt, this fractionalization can be executed by the bearer on demand, so long as the whole never exceeds the quantity of the underlying goods in the warehouse.

5.7 International Experience

5.7.1 United States of America

5.7.1.1 In the United States, the system, which is widely credited with streamlining the US agricultural marketing system and, up to the 1950s, playing a critical role in financing and development of the family farm, is organised under the US Warehousing Act of 1916, with subsequent amendments. Licensed warehouses have to meet and maintain key criteria in terms of physical facilities, capital adequacy, liquidity, managerial qualities, insurance and bonding cover (the latter protects depositors against fraud and mismanagement). Grain handling staff at the warehouses (weighers, samplers and graders) must also be licensed to carry on their activities, and commodities are graded to US standards. Warehouses are subject to unannounced visits by “examiners” who are responsible for enforcing the law and who can literally suspend or revoke a warehouse license overnight. The oversight system is funded mainly by user fees.

5.7.1.2 In the United States, Warehouse Receipts are used for four primary purposes:

- as collateral for standard nine-month loan programs, backed by government guarantees, provided through the US Department of Agriculture (farmers use this post-harvest inventory financing to ease their cash-flow constraints and to facilitate the marketing of their crops);
- as inventory documentation for government-owned grain - for, instance, in the US government's strategic reserves - that is stored in privately owned warehouse space;
- as a means of making collateral out of crops held in commercial storage (by, for instance, grain milling companies); and
- as delivery documents that are acceptable for trading on futures exchanges, against letters of credit in payment for exports, etc.

5.7.1.3 The relative importance of each of these uses depends upon market conditions - principally prices and the sizes of inventories and carryover stocks. The usefulness of Warehouse Receipts in the economy has been well established - for example, it is widely recognized that the United States would have found it difficult to manage and liquidate the huge grain inventories its farmers accumulated during the mid-1980s in the absence of a system of Warehouse Receipts as negotiable instruments. United States Warehouse Code require that every agricultural commodity receipt contain the location of the warehouse; date of issuance; consecutive number of the receipt; statement guaranteeing delivery of the product to the bearer, to a specified person or to the order; storage rate; and the quantity, weight, grade, or class of the product. In addition to the statement that the receipt is the subject to the warehouse law and the signature of the licensed warehouse operator, the receipt also must identify the ownership of the

warehouse and specify the amount of the advance and the liabilities incurred.

5.7.1.4 The integrity of the system is enhanced by the presence of Performance Guarantees which are usually posted as insurance bonds, sometimes supplemented with an indemnity fund. These funds are created through contributions of participating warehousemen, collected as part of the fees they charge for their services. The funds are used either alone or as a secondary guarantee alongside insurance bonds. In the latter case, they reduce the cost of the main guarantee instrument, the insurance bond, making the provision of guarantees accessible to smaller warehouses. This broadens the market for warehouse services and increases competition in the storage industry.

5.7.2 Poland

5.7.2.1 Some of the principal issues involved in developing and transition countries' efforts to introduce systems of Warehouse Receipts may be most easily explained by looking at Poland's system. The restructuring of Poland's agricultural sector during economic transition resulted in, among other things, the breakup of cooperative marketing structures and of the country's marketing and processing monopoly for cereals, as well as the creation of a government-owned marketing agency for agricultural products, the Agencja Rynku Rolnego (ARR), that is modeled on the US Commodity Credit Corporation. The ARR is to assist the emerging private sector with agricultural marketing while attempting to minimize expected disruptions during the transition period. As yet, there are few alternative marketing channels in the agriculture sector, particularly for grains; and, hence, for the moment there is no orderly way to withdraw the ARR from the market without disrupting trade. The rural finance sector is dominated by a state-owned agricultural bank, the Bank for Food Economy, which

pursues traditional policies of support for production and investments. High risks, limited familiarity with agriculture, and the absence of appropriate lending vehicles keep the emerging banking sector, by and large, from venturing into agriculture and the rural economy in general. The legislative process that will lead to creation of the legal underpinnings of pledge instruments, such as Warehouse Receipts, is currently under way. There is abundant underutilized storage capacity in Poland - much of it still in public hands - but the relevant facilities mostly lack the appropriate physical infrastructure and the financial wherewithal to guarantee the condition of the stored commodities.

5.7.3 Canada

5.7.3.1 Canada has an exclusive Warehouse Receipt Act. It defines a negotiable receipt as a receipt in which it is stated that the goods therein specified will be delivered to bearer or to the order of a named person. A non-negotiable receipt means a receipt in which it is stated that the goods therein specified will be delivered to the holder thereof and must specifically be marked as non-negotiable. The Act also gives the essential features of a Warehouse Receipt. It provides that words in a negotiable receipt limiting its negotiability are void. It can be negotiated by delivery where, by the terms of the receipt, the storer undertakes to deliver the goods to the bearer or where, by the terms of the receipt, the storer undertakes to deliver the goods to the order of a named person and that person or a subsequent endorsee has endorsed it in blank or to bearer. A storer is required to deliver the goods referred to in a negotiable receipt to the bearer upon surrendering the receipt with such endorsements as are necessary for negotiation of the receipt. If such delivery is made in good faith and without notice of any defect in the title of

that person, the storer is justified in delivering the goods to that person.

5.7.3.2 A person to whom a negotiable receipt is duly negotiated acquires such a title to the goods as the person negotiating the receipt to the person had or had ability to transfer to a purchaser in good faith for valuable consideration and also such title to the goods as the depositor or person to whose order the goods were to be delivered by the terms of the receipt had or had ability to transfer to a purchaser in good faith for valuable consideration; and the benefit of the obligation of the storer to hold possession of the goods for the person according to the terms of the receipt as fully as if the storer had contracted directly with the person.

5.7.3.3 The validity of the negotiation of a receipt is not impaired by the fact that the negotiation was a breach of duty on the part of the person making the negotiation, or by the fact that the owner of the receipt was induced by fraud, mistake or duress to entrust the possession or custody of the receipt to such person, if the person to whom the receipt was negotiated, or a person to whom the receipt was subsequently negotiated, paid value therefor without notice of the breach of duty, or fraud, mistake or duress.

5.7.4. The Zambian Regulated Warehouse Receipt Model

5.7.4.1 Warehousing services are to be accessible to various depositors of different sizes - producers, processors and traders, with the minimum size of grain deposit of between 10 and 30 tonnes. The network will start in urban areas and along main transport arteries, but expand later to more remote areas capable of producing a marketable surplus. Commodities to be receipted initially are maize,

wheat and soybeans but will later expand to include other storable staple and export crops.

- 5.7.4.2 A stakeholder-controlled agency, the Zambian Agricultural Commodity Agency Ltd. (ZACA), which is at arms' length from Government, has been established to certify and oversee warehouses, primarily to ensure that its integrity is not compromised by ad hoc political intervention in staffing, and in the issuing and revocation of warehousing licenses. The certification system is designed to encourage investment in relatively small-scale rural warehousing services, while not compromising the quality of service and trust in the system.
- 5.7.4.3 Only commodities that meet prescribed weight and grading standards are to be receipted. Warehouse operators and their front-line staff (samplers, graders and weighers) are trained and certified in commodity quality and quantity assurance to facilitate enforcement of commodity standards.
- 5.7.4.4 Certified warehouse operators either own or lease sheds or silos on commercial terms and are free to charge economic storage rates. Warehouse Receipt financing is also on commercial terms and does not include 'soft' credit lines from Government or donors.
- 5.7.5 Dubai
 - 5.7.5.1 Dubai Commodity Receipts (DCRs) are issued by Dubai Metal and Commodity Centre (DMCC). The DCR system is a web based warehouse receipt system owned and managed by DMCC. Membership is open to individuals and firms on the basis of financial status and business history.

5.7.5.2 Those DCR members who own, manage, or arrange for the storage of commodities within the Emirate of Dubai may become a DCR issuing Member. CMIs are another class of members who are engaged in the business of providing collateral management or inspection service in respect of commodities and who certify the accuracy of description of goods on the DCRs. “Security Beneficiary” is a DCR Member on whose behalf DMCC holds a DCR in its possession by way of possessory pledge and/or in whose favour a DCR is endorsed by way of security.

5.7.5.3 The goods that are deposited in the warehouse may be of the allocated type or non-allocated type. Allocated goods mean goods identified in the DCR relating thereto as being allocated to their Legal Owner and to be stored separately from the goods of other Legal Owners. DCRs are negotiable instruments. Though terms can be inserted in a DCR yet no provision can be inserted in a DCR that it is non-negotiable. If such a provision is inserted, then it shall be deemed void. Each Originator, Transferee and “Security Beneficiary” irrevocably and unconditionally appoints DMCC as its agent to hold all DCRs issued by the issuing Members in respect of goods stored on behalf of the Originator. DMCC records all future transfers and pledges.

5.7.5.4 A DCR Issuing Member may only deliver goods to the Legal Owner or to the “Security Beneficiary” who has the right to delivery of the goods to which the DCR relates if the Originator defaults. The rules also specify that the Issuing Member or the CMI will be liable for damages caused by any material discrepancy between the quantity or description of goods as indicated in the DCR as against the actual quantity of goods. Part delivery is possible in which case, the DCR is cancelled and a replacement DCR is issued.

5.7.5.5 A DCR may be endorsed by way of transfer to another DCR member. A transfer Endorsement shall be effected in manuscript by DMCC on the instruction of the Legal Owner of the goods. The wordings of the endorsement have been prescribed. Subsequent Transfer Endorsement may be made by DMCC on behalf of each successive Legal Owner. A transferee acquires, by virtue of a Transfer Endorsement in his favour, such title to the goods as the Transferor had ability to convey to a purchase in good faith for value subject to right of lien of the DCR Issuing Member and the rights of the “ Security Beneficiary”. The transfer shall take effect from the time the endorsement is made. **A Transferee shall not be liable for any failure on the part of the DCR Issuing Member or the previous Legal Owner to fulfill their respective obligations (Other than the DCR Issuing Member’s lien on account of non-payment).**

5.8 Improving access to finance through Warehouse Receipts

FMC-World Bank Consultancy Assignment Report:

5.8.1 Forward Markets Commission and the World Bank instituted a consultancy assignment on Warehouse Receipts in the year 2000. The consultants’ main conclusions are as under:

1. Warehouse Receipts exist and are feasible.
2. There is scope for massive expansion in their use, with correspondingly large benefits, deriving from:
 - Increased liquidity in rural areas;
 - Lower costs of financing;
 - Shorter and more efficient supply chains;
 - Enhanced rewards for grading and quality;
 - Development of other productivity-enhancing agricultural services;
 - Better price-risk management.
3. All this will result in higher returns to farmers, better service to consumers (involving lower prices, better quality and greater variety) and macro-economic benefits through a more healthy trade balance in agricultural commodities.
4. There are major obstacles to capturing benefits, including
 - Aspects of policy and legal frameworks;
 - Lack of warehouse operators enjoying the fiduciary trust of depositors and banks. If banks wish to finance against Warehouse Receipts, they are either limited to sites operated by the small number of existing operators whom they trust, or they must incur high costs in screening out suitable operators.
5. Overcoming these constraints requires simultaneous action in the following areas:
 - Policy and legal reform, with particular focus on sales taxation;
 - Creation of a rigorous regulatory framework;
 - Institution of electronic warehouse receipt system with central registry.

5.8.2 The consultancy report laid down a detailed road map including developing a national warehousing and Warehouse Receipts

system for agricultural commodities where the warehouse operators are accredited. The report also emphasized the removal of various constraints including that of sales tax as it leads the transactions to informal channels. A comprehensive warehousing law was also recommended. The report also stated that the existing use of Warehouse Receipts by commodity exchanges was extremely limited. The institutionalisation of Warehouse Receipt system through the commodity exchanges is most likely to yield the best results in the context of promoting and propagating Warehouse Receipts, in particular electronic Warehouse Receipts, and a national system of Warehouse Receipts.

- 5.8.3 The use of Warehouse Receipts is often associated with structured financing transactions, which ensure that if a transaction proceeds normally then the lender is automatically reimbursed (i.e. the loan is self-liquidating), and if it goes wrong the lender has recourse to collateral that can be liquidated with minimum difficulty.

5.9 Prospects of Warehouse Receipt based lending in India

5.9.1 Farmers:

- 5.9.1.1 At the time of harvesting, farmers usually sell a substantial quantity of produce at lower prices. However, price tends to rise as *the* season progresses. If farmers keep their goods in warehouses and use them as collateral to avail credit facility, they would be better placed to take advantage of the benefits of higher price and meet their immediate credit requirements (banks generally have such a scheme).

- 5.9.1.2 Warehouse Receipts can be used to lower access barriers. By attracting deposits from small farmers and traders, the system will help formalize their trade transactions, enabling a database on their

activities to be generated. This will help overcome the problem of lack of track record, and enable banks to screen borrowers more effectively and with minimum delay.

5.9.1.3 Lenders can mitigate credit risk by using the stored commodity as collateral. This form of collateral is more readily available to rural producers and may be less difficult to liquidate than most assets traditionally accepted as collateral. For instance, availability risk associated with movable collateral can be reduced by the warehouse operator's guarantee of delivery from a stated location.

5.9.1.4 Foreclosure can be made simple and low cost, without any resort to the courts, depending on how the financing is structured.

5.9.1.5 The Warehouse Receipts systems will also make it less necessary for lenders to monitor a large number of small borrowers as a few warehouse operators assure loan performance. This will reduce monitoring costs and encourage commercial lending to the rural sector, helping to capitalise the rural trade.

5.9.1.6 A lender holding a Warehouse Receipt has a claim against the issuer (the warehouse company) as well as the borrower in the event of the non-existence or unauthorised release of the collateral.

5.9.1.7 The risk of loss of value of the collateral can be reduced by monitoring movements in its market value as well as by margining and the use of price risk management instruments.

5.9.2 Corporates:

There are many corporates who are in the business of procurement of agri-commodity on large scale. These corporates are blocking

their capital at the time of procurement. Commodities kept by them in warehouse could be taken as collateral and loan given to them.

5.9.3 Bank guarantee against Warehouse Receipts:

Brokers in commodities are required to deploy funds with the exchange to obtain trading limit and the composition of funds is in the form of bank guarantee and fixed deposit. In order to obtain bank guarantee most of the brokers are required to deploy liquid funds which reduced their leveraging capacity as a significant component of their assets are in the form of commodities. This is particularly true for traders in commodities which have long shelf life like castor, pulses, cereals, cotton, rubber etc. Banks may provide guarantee to members of commodity exchanges against commodities owned by members through the mechanism of Warehouse Receipt.

5.9.4 Margin funding against Warehouse Receipts

Like securities market brokers, the commodity brokers are required to fund margin to the extent defined by the Exchange for obtaining trading limits. In case of long term requirement, the brokers would normally take a bank guarantee and deploy cash or fixed deposit to maintain the margins in the desired ratio of cash and bank guarantee or fixed deposit. However, there may be times when due to short term requirement, the broker may need some short term fund for which he does not want to sell his commodity assets at the current prices to generate the resources but may instead like to take a short term loan against these commodities pledged with the bank. In such situations, the banks can grant short term loans against the commodities more or less on the lines of issuance of

bank guarantees against Warehouse Receipts so that the trader or his client is not required to make distress sale of commodity to make good the short term requirement of funds. The banks would be protected through the use of warehouse based storage system.

5.9.5 Lending to farmers through Corporate Purchase arrangement

Companies for own consumption or meeting export commitments, purchase raw materials from a large number of farmers and pay them upfront. Purchase is mainly made at the time of harvesting and the raw material is stored in the warehouse. A tripartite agreement between bank, farmer and company could be worked out whereby based on commodity market prices company agrees to buy certain produce at a future price. If necessary, the company covers its risk by using commodity futures. These goods are kept in warehouses by farmers. As per the understanding with the company, the bank extends higher finance (lower margin on future prices) to the farmer against the warehouse receipt endorsed by the farmer in favour of the company and pledged to the bank. On an agreed date, the company pays to the bank and applies for vacation of the bank's lien / charge on warehoused goods. The payment made by the company is adjusted by the bank against the farmer's loan and surplus credited to his savings account.

5.10 **Financing against Warehouse Receipts in India**

5.10.1 Data in respect of a large Private Sector Bank , and three large public sector banks in respect of finance extended against Warehouse Receipts is given below. It may be seen from the data that financing against Warehouse Receipt is still not a very popular method of financing though it is showing an upward trend.

(Rs. in crores)

Year	Private Sector Bank	Public Sector Bank A	Public Sector Bank B	Public Sector Bank C
2001-02	NIL	207.05	3.85	NA
2002-03	37.26	496.93	3.77	NA
2003-04	57.92	587.95	2.88	NA
2004-05	462.0(E)	645.56	4.11	1.43

(E) Estimated

5.10.2 Some of the difficulties faced by banks in popularising financing against Warehouse Receipts and their solutions, as envisaged by them, are given below -

- Warehouse Receipts (WR) to be made transferable through endorsement under Sale of Goods Act. This will enable the WR holders to take delivery of the underlying goods on the same terms and conditions, as would have been to the person, who had originally deposited the goods.
- Making WRs fully negotiable instrument, under Negotiable Instruments Act 1881, will enhance liquidity of the product and help in mitigating counter-party default risk.
- Electronic maintenance of records of such Warehouse Receipts in a dematerialized form would solve many problems concerning speed of transaction, splitting of Warehouse Receipts, forgery and loss of receipts etc.
- For all types of lending to agriculture sector in general and financing against Warehouse Receipts in particular, the risk weight for the purpose of capital adequacy may initially be reduced to the level of 75% from the current level of 100%.
- Market Lot requirement on Futures exchange - difficult for small farmers.

- Quality and specification requirement present a formidable challenge. Creation of suitable accreditation agencies for the warehouses would facilitate lending
- Difficulty in disposing of the security in case of default would be removed by creating a screen based spot market along with attendant clearing and settlement facilities.
- Stranglehold of local level non-institutional middlemen (e.g. Adatiyas).
- Receipts issued by Central / State Warehouses are financed by banks, but those of Private Warehouses are not freely financed by banks. Since farmers / traders will not deposit their goods with a warehouse whose receipts are not financed by banks, viability of the private warehouse is at stake.
- High margins, up to 40% stipulated by banks create liquidity problem for the farmers who are, therefore, not very keen on obtaining finance by means of Warehouse Receipts. The margins could be reduced to 10-20% if the issues regarding quality and grade and ease of disposing the stocks in case of default as mentioned above are solved.
- Some state governments have introduced stamp duty on pledge / hypothecation. Since pledging or Warehouse Receipts will attract stamp duty this will have an adverse bearing on the farmers / traders.

5.11 Way Forward

5.11.1 From the above discussion, it is clear that

- a. Warehouse Receipts can greatly facilitate financing of agriculture.
- b. Imparting negotiability to Warehouse Receipts will lend confidence to lenders as well as traders.

- c. Electronic Receipts are superior to paper receipt from the point of view of easy tradability, security and divisibility.
- d. The widespread use of Warehouse Receipts will be facilitated by changes in many laws such as those for Foreclosure and Sale of Goods.
- e. Widespread acceptability and faith in the integrity of Warehouse Receipt based system is essential for modernization of agricultural financing.

5.11.2 The proposed Warehouse Receipt Act seeks to provide negotiable character to Warehouse Receipts and to establish a system where a Central Authority registers warehouses, accreditation agencies, grading agencies etc. It can be hoped that in due course such a system will be well established. While this is a desirable objective, there are some problems associated with it –

- It may take considerable time before the Act is passed.
- The Act would only serve to create a legal and regulatory framework, but it does not help create the physical infrastructure required.
- In a dynamic world, many situations will develop which may require change of one law or the other.

5.11.3 In India, three new electronic commodity exchanges, viz., National Commodities and Derivatives Exchange Ltd. (NCDEX), Mumbai, Multi-Commodity Exchange Ltd. (MCX), Mumbai and National Multi-Commodity Exchange Ltd. (NMCE), Ahmedabad have been set up. These exchanges deal in commodity futures. Limited opportunity for disposing of physical commodities exist by using futures contracts in the near month and choosing to make physical delivery. However, there is no specific platform for spot-trading in commodities.

- 5.11.4 Commendable efforts have been made in developing a physical infrastructure by NCDEX and other exchanges in collaboration with the Central Warehousing Corporation and quality assurance and grading agencies. NCDEX has set up a National Collateral Management Services Company which would extend help in setting up warehouses, their accreditation and management of collaterals for the banks. The other exchanges too, are identifying warehouses and encouraging creation of infrastructure which would be accredited to them. For healthy development of commodities market, such facilities should not only be exchange specific but be usable across exchanges. These efforts need to be augmented as -
- the infrastructure is too spread out;
 - the Warehouse Receipts are still in the physical form.
- 5.11.5 In effect, the national level commodity exchanges are trying to create a Closed User Group where some warehouses and quality assurance and grading companies are members and provide a degree of comfort to the persons dealing with the exchanges.
- 5.11.6 After deliberating on the above issues the Group reached a conclusion that there is a need to create an umbrella structure which could act as a Closed User Group (CUG) for **everyone** engaged in the commodities business. The membership of the CUG could extend to commodity exchanges; APMCs; commission agents registered with APMCs; warehouses; exporters, importers and domestic users of commodities; banks; insurance companies; and producers. In short, everyone who may be connected with production, grading, trading or financing of commodities may become a member of the Group.
- 5.11.7 The umbrella structure or the CUG is envisaged as an electronic platform that would offer straight through processing for everyone

connected with the commodities. Members would be accepted in the CUG after they have satisfied stringent quality standards and Know Your Customer (KYC) norms. A farmer who drives into a warehouse with agricultural produce would either already be an associate member of the Group through one of the member entities such as banks, warehouses or the APMCs or would be made an associate member after establishing his identity. The warehouse would get the farmer's produce graded through one of the member quality assurance and grading agencies, insure the produce with one of the insurance companies who are members of the CUG and would be given an electronic receipt using the Electronic Platform of the CUG. The farmer could approach a member bank, on-line, to process his application for a loan against the electronic warehouse receipt that has just been issued to him. As the farmer may already be an associate member and history of his dealings are available to the bank, the loan could be sanctioned on-line and farmer's account credited. He could also, if he would like, sell the commodity either spot or forward by going through one of the intermediaries. Similar ease in dealing would be available to purchasers of the commodities as well as other players.

5.11.8 Every entity which is a member of CUG will maintain its complete commercial independence. Every customer would be at a complete liberty to engage the bank, the insurance company, the warehouse, the grading and quality assurance company or the commodity exchange he chooses to work with provided they are members of the CUG.

5.11.9 The proposed CUG would offer a near perfect market place where every player concentrates on conducting his own business in the best possible way without worrying for the quality and availability of ancillary services. To draw a rough analogy, it would be almost

impossible for an airline company to operate if it had to worry about maintenance of air-strips, air traffic controls, cleaning services, security services and catering. The umbrella platform of the airport provides all these services.

5.11.10 The members of the CUG would be bound by the rules framed by the CUG which have been accepted voluntarily by them while becoming members. The need for making frequent statutory changes would be obviated as the Group could change its own rules. The CUG would have its own grievance redressal, arbitration and adjudicating procedures. There could be various graded penalties for various offences. The worst punishment that the CUG could offer would be expulsion from the Group. Expulsion from a large and effective CUG could have serious economic consequence for the member. The CUGs themselves should be subjected to regulation and supervision by a regulatory authority such as FMC.

5.11.11 It is not necessary that there should be only one CUG. Government and institutions could take initiative in establishing the first CUG. More such CUGs with electronic platforms which may be web-based or run with proprietary leased lines could be established. The CUG could either be a society registered under Societies Act or a company registered under Companies Act. It may be a for profit company or not for profit organization. To sum up the advantage of establishing a CUG which as an umbrella super-structure will be

- Obviate the immediate need for legislative changes; most of the situation which require intervention of law could be handled by the bye-laws of the Group. Having agreed to the discipline of the Group, a member dissatisfied with the action taken by the CUG in any of the disputes will have common law recourse against

the CUG only. The counter-party member of the CUG need not be concerned with the common law enforceability of the contracts entered into within the CUG.

- Create a place for dematerialization of Warehouse Receipts;
- Provide a platform for Spot Trading.
- Make bank finance readily available as the farmer/trader would be able to offer liquid and tangible security and the credit history of the borrower would be available with the CUG.
- Reduced transaction time and transaction cost.
- Provide speedy and effective dispute resolution.

Over a period of time, the system should so evolve as to make the farmers' taking loans against Warehouse Receipts the norm rather than an exception. It may be kept in mind that ultimately, the CUG / Group of CUGs will become so large that the entire agricultural sector operates through it. The design of the system has to provide for large scale scalability – even to 3 orders of magnitude.

- 5.11.12 The Group also examined whether the state laws would permit such trading in agricultural commodities outside the provision of the Agricultural Produce Acts of the various states. It is felt that establishing and operating such a CUG would not be a problem at least in those states that have adopted the Model APMC Act. Being excluded from a the nation-wide market place provided by the CUG would act as an added incentive for those states which have yet not adopted the Model Act.

Chapter VI

Helping Farmers through use of Commodity Derivatives

6.1 Use of Commodity Derivates by farmers as a Risk Mitigation Tool

6.1.1 Farmers are exposed to the risk of price fluctuation in commodity prices. At the time of sowing of the crop, the farmer expects a certain price at the harvest time. He obtains inputs on credit and hopes to repay the loans by selling the crop at harvest time . If the prices register a significant fall, the farmer is unable to repay the loans. Volatility in the prices of an agricultural commodity aggravates the problem. Even when a farmer has suffered due to low prices at the harvest time, he is tempted to sow the same crop again led by the prevailing high prices at the time of sowing the crop for the second time. If for the second time, prices move against him, he is destituted. At systemic level, entire sectors are affected and the banks accumulate large non- performing loans. It makes banks wary of further lending and the farmer is often forced to resort to costlier finance.

6.1.2 Ideally, the farmer can take decision to sow a particular crop depending upon the futures prices prevailing for maturity coinciding with the time of the harvest. He could hedge himself by selling appropriate number of future contracts at the prevailing price. If the prices fall, the farmer's loss in selling the crop in the cash market would be compensated by the profit made by him on his futures position.

6.1.3 However, such use of futures contracts could be limited as the farmer lacks necessary expertise to enter the futures market, does

not have easy access to the members of the futures exchange, often finds contract size too large and does not have ready cash to meet the variation margin requirements. The farmer is also not able to gain from favourable movement in prices if he is fully hedged.

6.1.4 Farmers could find use of options perhaps easier and more acceptable. For a price that is known upfront, the farmer can be assured that he would be able to get a certain minimum price and if the prices move upwards, he may let the contract lapse and gain from the higher prevailing prices.

6.2 Role of Banks in Commodity Derivatives – International Experience

6.2.1 USA

6.2.1.1 In terms of Federal Reserve Boards Regulation Y (12 C.F.R. part 225), Bank Holding Companies (BHCs) are authorized to engage as principals in derivative contracts based on financial and non-financial assets (Commodity Derivatives). Under regulation Y, a BHC may conduct Commodity Derivatives activities subject to certain restrictions that are designed to limit the BHC's activity to trading and investing in financial instruments rather than dealing directly in physical non-financial commodities. Under these restrictions, a BHC generally is not allowed to take or make delivery of non-financial commodities underlying Commodity Derivatives. In addition, BHCs generally are not permitted to purchase or sell non-financial commodities in the spot market.

6.2.1.2 The BHC Act, as amended by the Gramm-Leach-Bliley Act (GLB Act), permits a BHC to engage in activities that are financial in nature or which the Federal Reserve Board determines are closely

related to banking. In addition, the BHC Act permits banks to engage in any activity that the Board, in its sole discretion, determines is complementary to a financial activity and does not pose a substantial risk to the safety or soundness of depository institutions or the financial system, generally. This authority is intended to allow the Board to permit banks to engage on a limited basis in an activity that appears to be commercial rather than financial in nature, but that is meaningfully connected to a financial activity.

6.2.1.3 Banks which intend to engage in commodity trading activity, including giving and taking of physical delivery apply to the Federal Reserve Board who determine that the activities do not pose a substantial threat to the safety or soundness of depository institutions or the U.S. financial system generally. In addition, the board also determines that the performance of Commodity trading Activity by the bank can reasonably be expected to produce benefits to the public, such as greater convenience, increased competition, or gains in efficiency, that outweigh possible adverse effects, such as undue concentration of resources, decreased or unfair competition, conflicts of interests, or unsound banking practices

6.2.1.4 The Board also considers whether the applicant bank has established and maintains policies for monitoring measuring, and controlling the credit, market, settlement, reputational, legal, and operational risks involved in the Commodity Trading Activities. These policies should address key areas such as counter-party credit risk, value-at-risk methodology and internal limits with respect to commodity trading, new business and new product approvals, and identification of transactions that require higher levels of internal approval. In order to limit the potential safety and

soundness risks of Commodity Trading Activities, as a condition of approval, the Board also puts a condition that the market value of the commodities held by the bank as a result of commodity trading activities must not exceed 5 percent of the banks consolidated tier 1 capital. A trigger point reporting at 4 percent is also provided for.

- 6.2.1.5 In addition, the banks may take and make delivery only of physical commodities for which derivative contracts have been authorized for trading on a US futures exchange by CFTC. This requirement is designed to prevent the bank from becoming involved in dealing in finished goods and other items, such as real estate, that lack fungibility and liquidity of exchange traded commodities.
- 6.2.1.6 To minimize the exposure of the bank to additional risks, including storage risk, transportation risk, and legal and environmental risks, the Board also puts a condition that the bank may not (i) own, operate, or invest in facilities for the extraction, transportation, storage, or distribution of commodities; or (ii) process, refine, or otherwise alter commodities. In conducting their commodity trading activities, banks are expected to use appropriate storage and transportation facilities owned and operated by third parties.
- 6.2.1.7 Banks and subsidiaries act as brokers on commodity exchanges. As Commercial and Institutional Brokers they act on behalf of financial commercial institutions, as Floor Traders they execute orders on behalf of any person, as Introducing Brokers, they solicit or accept orders to buy or sell but do not accept money from customers to support such orders.
- 6.2.1.8 Apart from above activities, banks also play an active role in clearing activities. Clearing firm is a member of an exchange clearinghouse. Memberships in clearing organizations are usually

held by companies. Clearing members are responsible for the financial commitments of customers that clear through their firm.

6.2.2 UK

6.2.2.1 Financial Services Authority (FSA) defines commodities as any physical product which is or can be traded on a secondary market and positions in respect of contracts, whether in tangibles or intangibles. Commodities, therefore, include agricultural products, base metals, other minerals and various precious metals other than gold (positions in gold are treated on the lines of foreign exchange). FSA permits commodities as a part of trading book. FSA requires banks to have a trading book policy statement, which may be devised in conjunction with the bank's internal auditors or qualified independent persons and experts. The policy statement must be approved by the bank's board or treasury committee of the board and updated annually. The policy should be discussed with FSA and any significant changes must also be discussed with FSA. Detailed instructions are given to banks for calculating the capital requirement for the commodity position risk.

6.2.2.2 Banks act in various capacities as ring dealers, associate brokers, clearing members on London Metal Exchange. On LIFFE they act as broker dealers who deal on their behalf and also on the behalf of their clients or as brokers who can deal only on behalf of others or as dealers they act only on their on behalf. Banks also act as clearing members. Apart from these activities, banks also act as liquidity providers.

6.3 Existing Situation in India

6.3.1 After recent liberalization, trading in commodity futures has picked up volumes in several commodities. However, the major users of the commodity futures continue to be traders in commodities, exporters and food processing units. Banks are not permitted to deal in commodities or commodity derivatives. By anecdotal evidence, use of commodity futures by individual farmers is almost non-existent.

6.3.2 In agricultural lending, banks are exposed to several risks. In case the commodity prices fall drastically, the farmers are unable to repay their loans. Lending against the stock in agricultural commodity is risky as the collateral of stock of commodity is illiquid and difficult to ascertain as to quality and quantity.

6.3.3 The Group examined whether proprietary positions in commodity futures could be used by the banks to mitigate their risk in lending to farmers. It was concluded that by taking proprietary positions in futures, banks will not be able to mitigate their credit risk. To achieve this, they will have to buy options on futures. The Group reached a conclusion that the restrictions imposed on option trading in the Forward Contracts Regulation Act, 1952 could have been relevant at the time the Act was passed. Since then, there have been several developments in technology, risk-mitigation and the overall regulatory effectiveness. Further, option trading in equities has been permitted for several years and no destabilizing effect has been noticed. In view of the above, the Group reached a conclusion that the Forward Contracts (Regulation) Act, 1952 may be suitably amended and Forward Markets Commission may frame suitable framework for option trading in India.

6.3.4 The Group further examined whether banks could link their agricultural loans to the farmer taking a corresponding short position in the futures market, thereby making sure that the farmer is hedged against possible price fluctuations. Banks could act as facilitator to the farmer in taking position in the futures market. In following such an approach, the following difficulties were envisaged.

- The farmer would find it difficult to pay the variation margin to the bank as he is usually short of cash before harvesting;
- Even if banks extend the variation margin as additional loan, in case of violent movement of prices, the credit exposure of the banks could increase substantially;
- It will be difficult to convince the farmer that he is losing money on his short positions as the price of the commodity is increasing;

In view of above, it was decided that it would be difficult for banks to link their agricultural advances to the futures position taken by the farmer. If the farmer takes the position voluntarily, banks can act as facilitators.

6.3.5 The Group then examined whether banks could act as Commodity Pool Operators (CPOs) on the line of CPOs functioning in USA under the CFTC Regulation and help farmers in taking position in the futures market. A presentation by YES Bank was made in this regard. It was concluded that CPOs are vehicles of financial investors who either want to leverage or diversify their exposures. The model was unsuitable to help farmers.

6.3.6 The Group also examined whether Banks could be permitted to have independent proprietary position in the commodity futures linked only generally in a macro way to their credit portfolio. The

Group reached a conclusion that banks' exposure to a particular commodity is a general exposure and cannot be linked to a particular loan. Permitting banks to have independent proprietary positions is the best way in which banks can cover their risks. It is to be however understood that assuming such proprietary positions has its own risks and suitable risk control measures must be adopted by the banks.

6.3.7 As the farmers are likely to find it difficult to assume positions in future market of their own, it was deliberated whether banks can offer non standard contracts to the farmers and cover themselves in the exchange traded futures. The position was examined from the angle of Forward Contracts (Regulation) Act, 1952 and it was concluded that it should be possible for banks to offer a non-standard contract to the farmers to suit their needs. The issue has been examined in Annex I. A survey of the international scene was made to find out what kind of products based on agricultural commodity derivatives are being offered by international banks. Summary of the findings are placed in Annex II. The banks may, however, need to keep in mind that positions taken by farmers are reasonable as compared to the risks that they are exposed to.

6.3.8 The Group further deliberated on what kind of commodity derivative based products the banks in India could offer. The Group feels that simply on the back of exchange traded futures and bilateral contracts of the kind allowed under the existing laws (ready forward, NTSD and TSD contracts) banks could offer a very limited menu of customised products to farmers. To effectively manage their commodity trading books or commodity portfolios while offering tailor made products, the banks will require a combination of exchange traded futures, options, options on futures, less restrictive bilateral contracts and actively traded OTC markets. A

possible proto type product was worked out, the details of which appear in Annex III.

6.3.9 The Group deliberated whether banks could be permitted to deal in other commodities. Two approaches were considered possible. Banks could be permitted either to trade in agriculture commodity futures only or they could be permitted to deal in all futures markets, such as those for oil and natural gas, as and when these markets develop. It could be argued that banks have been financing commodity traders by way of cash-credit and bill discounting limits and have fairly good understanding of the market for agricultural commodities and the risks involved therein. Therefore, to begin with, the banks may be permitted to operate in agricultural commodity futures only. On the other hand, the decision to enter a particular futures market may be left to the Boards of the banks as these markets evolve, risk management practices develop and the economic need is felt. Given the state of development of spot as well as futures markets, it was considered prudent to permit banks to deal in agricultural commodities only.

6.3.10 Cash Settlement vs. Physical Settlement

6.3.10.1 Cash vs. physical settled contracts

6.3.10.2 The Group is of the view that banks should ideally deal only in those commodity futures or forward contracts which are cash settled as it would not be prudent for them to make or take physical delivery of goods. This has also been a practice in advanced countries such as US where banks have to take special permission if they intend to make or take delivery of physical goods. The Group, therefore, examined the forward and futures contracts

available in India and also existing practices in commodity exchanges.

6.3.10.3 The Forward Contracts (Regulation) Act, 1952 (FCRA) governs commodity derivatives trading in India, and it defines the following forms of contracts:

- Forward Contracts: Forward Contract has been defined as a contract for the delivery of goods and which is not a ready delivery contract. FCRA does not specifically define futures contract.
- Ready delivery contract: It is a contract for supply of goods and payment thereof where both the delivery and payment is completed within 11 days from the date of the contract. Such contracts are outside the purview of the Act.
- Specific delivery contracts: These contracts are of two types, namely, the transferable specific delivery (TSD) contracts where the rights and obligations under the contract are capable of being transferred and non-transferable specific delivery (NTSD) contracts where rights and obligations are not transferable. NTSD contracts are outside the purview of FCRA. A specific delivery (SD) contract whether NTSD or TSD provides for the actual delivery of specific qualities or types of goods during a specified future period at a price fixed or to be fixed in which the names of both the seller and buyer are mentioned.

6.3.10.4 Further under Section 11 (b) of FCRA, a recognized association (exchange) has to make bye-laws which, *inter alia*, provide for a clearing-house for the periodical settlement of contracts and differences there under, the delivery of, and payment for, goods, the passing on of delivery orders and for the regulation and maintenance of such clearing house.

6.3.10.5 The Group observed that the provision for delivery is made in the bye laws of the associations so as to ensure that the futures prices in commodities are in conformity with the underlying. These provisions are also made with a view to preventing the business from developing into wagering contracts which could render the contracts illegal. It was also seen from the bye-laws of different exchanges that delivery is generally at the option of the sellers. If any seller with open position desires to give delivery, the corresponding buyer with open position as matched by the process put in place by an exchange/ association will be bound to settle by taking physical delivery. However, provisions vary from exchange to exchange. Bye laws of some associations give both the buyer and seller the right to demand/give delivery. Insofar as OTC contracts (NTSD and TSD contracts) are concerned they also require actual delivery of goods. It was, therefore, observed by the Group that purely cash settled contracts are not available in India and a bank trading or dealing with commodity contracts should therefore be prepared to make or accept delivery of physical goods. While no restrictions may be put in this regard, banks may be suaded to preferably close their positions and cash settle the contracts.

6.3.10.6 In regard to trading on futures exchanges, banks will have to abide by the bye-laws of the exchanges or the features of the contracts they trade in, which could require them to make or take delivery if they held the contract till the delivery period for that contract started. The Group is of the view that under the existing environment banks may have to devise a trading strategy to close the contracts before the delivery period started to escape making or taking delivery of goods. However, keeping in view that Warehouse Receipts in demat form are available in all national exchanges, even if the bank had to take possession of the goods, it would be

only through credit to a demat account. This, the Group feels, should mitigate risks emanating from having to actually hold and manage physical commodities. The bank will of course have to incur carrying cost till it is able to sell the commodity through some other contract on the exchange. In regard to OTC contracts the Group feels that it would be difficult to deal in contracts which require physical delivery of goods. OTC contracts should also preferably only be cash settled. Under Section 27 of FCRA, the Central Government has the power to exempt under certain conditions any contract or class of contracts from the operation of all or any of the provisions of FCRA. The Group is of the view that to make OTC contracts a feasible proposition for banks, the Government should exempt transferable specific delivery (TSD) contracts, where one of the parties to the contract is a bank authorised by RBI, from the operation of all or any of the provisions of FCRA. This would enable banks to provide bilateral contracts tailored to the requirements of their customers without running the risk of taking or making delivery.

6.4 Relationship between Banks and Futures Exchanges in India

6.4.1 Structure of Commodity Exchanges in India- Development of Multi Commodity Exchanges

6.4.1.1 Until 2002, there were about 19 recognised regional, single commodity exchanges/ registered associations in India, which were authorized to carry out operations in future trading in commodities. Most of these regional, single commodity exchanges were facing problems of poor liquidity and thin volumes. The poor performance of these exchanges could be attributed to their non de-mutualised structure lacking transparency, locational disadvantage and fragmentation of markets, lack of adequate infrastructure, under-

developed supporting systems such as Warehouse Receipts and quality certification systems, obsolete trading system, existence of parallel grey/ black market and, finally, inconsistent policies which failed to set the tone for a vibrant commodity futures trading. Having regard to the limitation of single commodity regional markets which failed to deliver the needs of a growing economy, the Government set up three national level multi-commodity exchanges having de-mutualised and transparent operations. These exchanges are :

- Multi-Commodity Exchange of India (MCX), Mumbai promoted by Financial Technologies (India) Ltd;
- National Commodity and Derivatives Exchange (NCDEX), Mumbai promoted by NSE, LIC, ICICI Bank and NABARD;
- National Multi-Commodity Exchange of India Ltd. (NMCEIL), Ahmedabad promoted by CWC, NAFED, GAICL, etc.

6.4.1.2 These multi-commodity exchanges have the following essential features.

- De-mutualised form of organization
- On-line trading and clearing system with national reach
- Delivery of underlying commodity backed by a warehouse
- Real time price and trade information dissemination
- Transparency in operations
- Professional management
- Participation of reliable intermediaries such as Banks/ Institutions/ Warehouses

6.4.1.3 Commodity Exchanges have three kinds of membership, *viz*, Trading-cum-Clearing Member (TCM), Institutional Clearing Member (ICM) and Professional Clearing Member (PCM).

Institutional-cum-Clearing Members are permitted to trade and settle the trades executed by the member of the exchange whether for proprietary or clients' trades. ICM is an institution/ large corporate admitted as a member of the exchange, which confers upon the member the right to trade and clear through the Clearing House of the exchange. PCM is an institution, which does not have trading access, but it is permitted to clear and settle transactions done by trading members registered with the exchange. FMC had suggested that the banks could play one or all of the roles in the commodity derivative markets as broker-members, adviser to the trading clients on risk management strategies and provider of clearing services to trading members of the exchanges. At present, banks are allowed on application to become Professional Clearing Members and provide clearing services to trading members. Reserve Bank may grant general permission to banks to act as Professional Clearing Members.

6.4.2 The Group deliberated whether banks could be permitted to act as Trading Members of the Commodity Exchanges. Though, internationally, banks or their subsidiaries are permitted to act as broker in commodity exchanges yet the Group felt that acting as a trading member (broker) may not be a desirable proposition as the banks would be moving away from their core competencies. Moreover, as banks would be having proprietary positions in commodity futures and would also be acting in the position of a facilitator to customers, there can be situations of 'conflict of interest'. It was therefore decided that at least for the present, banks may not be permitted to act as Trading Members in the Commodity Exchanges.

6.4.3 At present, the banks are permitted to invest in the equities of commodity exchanges. The investment is limited to the ceiling

prescribed under Section 19(2) of the Banking Regulation Act, 1949. The bank's exposure arising from the investment is also limited to the ceiling applicable to the single/ group borrower as defined under capital adequacy standards. The investment should not exceed 10 per cent of the bank's paid-up capital and reserves and the bank's investments in all financial services companies, financial institutions, stock and other exchanges put together should not exceed 20 per cent of its paid-up capital and reserves. The Group recognizes the role that the banks equity played in the initial phase of the exchange yet it is necessary that there should be well diversified ownership of commodity exchanges. While for the present, banks may continue to hold their equity stake in the commodity exchanges in order to maintain the financial strength and stability to the exchanges, the banks should reduce / divest their equity holding to a maximum permitted 5% over a period of time so as to avoid any conflict of interests and address the regulatory concern that owners of commodity exchanges do not also become traders in exchanges.

- 6.4.4 The Group deliberated whether banks may offer advisory services to the farmers for using futures. One opinion was that as the bank branch acts not only as a provider of credit but also a friend, philosopher and guide to the farmer and also that the futures being an unfamiliar product, banks may offer advice to the farmers in the use of futures contract. As a contrary opinion, it was felt that offering advice in the use of futures contracts basically involves taking a view on the movement of the commodity price. At the rural branch level, not sufficient expertise is likely to be available and banks may get into embarrassing position when the customers start blaming the bank for their losses. It would be sufficient if the banks offer standard products based on futures and simply explained the working of the products and leave the decision whether to purchase

the product or not to the farmer himself. The Group decided that banks may not be permitted to offer discretionary / non-discretionary advisory services to farmers in respect of commodity futures.

Chapter VII

Risk Management

7.1 Need for Risk Management

7.1.1 The price risk attached to commodity positions are often more complex and volatile than those associated with currencies and interest rates. It is often the case that commodity markets are less liquid than those for interest rates and currencies; consequently shifts in supply and demand may have a more significant effect on price and volatility than for other types of product. Such characteristics make the hedging of commodities risk more difficult. To get a global perspective of how banks manage risks associated with trading in commodities, the Group examined guidelines issued by Financial Services Authority (FSA), UK and Australian Prudential Regulation Authority (APRA). The Group feels the guidelines issued by FSA and APRA could be applied in India also. They would be consistent with the instructions issued by Reserve Bank on capital adequacy and market risk so far. The guidelines issued by FSA and APRA on commodities risk modified to suit the requirements of Indian banks is given below.

7.2 Types of Risks

7.2.1 For a bank engaged in spot or physical trading, the risk arising from a change in the spot price on open positions is of particular importance. A bank using derivative contracts as part of its portfolio strategy is exposed to additional risks, which may be larger than the change in spot prices. Other forms of risks include:

- **Basis Risk** : It is the risk that the relationship between prices in similar commodities changes through time;
- **Interest Rate Risk**: It is the risk of a change in the cost of financing for forward positions and options and
- **Forward Gap Risk**: It is the risk that the forward price may change for reasons other than a change in interest rate.

7.3 **Measuring Commodity Position Risk**

Three arrangement for measuring and calculating the capital charges for commodity position risk can be adopted.

- The Internal Models Approach
- The Maturity Ladder Approach
- The Simplified Approach

7.4 **The Internal Models Approach**

A bank which is significant commodities trader is expected over time to utilize the internal models approach. However, till such models are developed, the bank should use the maturity ladder approach.

7.5 **The Maturity Ladder Approach**

7.5.1 Capital charges for each commodity should be calculated separately, except under either of the following provisions, where positions may be treated as if they are in the same commodity:

- positions in different sub-categories of the commodities in cases where the sub-categories are deliverable against each other ; or

- positions in commodities which are close substitutes for each other and whose price movements over a minimum period of one year can be shown to exhibit a stable and reliable correlation of price movement of at least 0.9.

7.5.2

All commodity derivatives and off balance sheet positions which are affected by changes in commodity price should be included in the measurement framework. When applying the maturity ladder and simplified approaches, commodity derivative positions such as futures, swaps etc. should be converted into notional commodity position and assigned maturity as follows:

- (i) Futures and forward positions relating to individual commodity should be included as notional amounts of barrels, kilos, bales etc. multiplied by the spot price of the commodity, and should be assigned a maturity based on their expiry date as under:
 - 0-1 month
 - 1-3 months
 - 3-6 months
 - 6-12 months
 - 1-2 years
 - 2-3 years
 - over 3 years.
- (ii) Commodity swaps where one leg is a fixed price and the other leg is the current market price should be incorporated as a series of positions equal to the notional amount of the contract, with one position corresponding with each payment on the swap and slotted into the maturity ladder accordingly. The positions are long positions if the bank is paying fixed and receiving floating, and short positions if the bank is receiving fixed and

paying floating. Where the legs are in different commodities, they should be slotted into relevant maturity ladder but no offsetting is allowed except where the commodities belong to the same sub-group.

7.5.3 When using the maturity ladder approach, a bank should first express each commodity position (spot plus forward) in terms of a standard unit of measurement (barrels, tones, kilos). For each commodity, contracts or holding expressed in a standard unit of measurement should be assigned to one of seven maturity or time bands. Before matching positions within the time bands of the maturity ladder, a bank may offset long and short positions in the given commodity which mature on the same day or which mature within ten days of each other, and is not required to include these off-set positions in the maturity ladder calculations. This procedure will be applicable only in respect of those commodities that are traded in markets and have daily delivery dates. These ten-day periods refer to business days and need not be fixed and sequential and may overlap. A bank may, therefore, offset a long position on day 45 with a short position on day 54 and another long position on day 48 with a short position on day 57. As a part of maturity ladder approach, these ten-day offset periods may cross maturity time bands.

7.5.4 Matched long and short positions in each band must incur a capital charge. This charge must be calculated as sum of matched positions (i.e. both long and short positions), multiplied first by the spot price for that commodity and second by the spread rate for that band (1.5 %). As an alternate method, a capital charge of 3% on the smaller of the absolute value of the short and long positions matched within a time band could be applied. Any remaining unmatched position in a time band should be carried forward to the

next time band. This amount may then be used to match positions in time bands that are further out. As the matching of positions maturing in different time bands provides an imperfect hedge, a capital surcharge should be incurred, equal to the remaining unmatched position multiplied first by 0.6% and second by the number of time bands this position is carried forward. The capital charge for each matched amount created by carrying unmatched position forward should then be calculated in the same manner outlined in the paragraph above. Apart from the above there will be either a net long or short position in that commodity. A capital charge of 15% should be applied to this net open position. An example is given in Annex IV.

7.6 The Simplified Approach

In calculating the capital requirement under the simplified approach, a charge equal to 15% of the overall net open position, long or short, should be incurred in respect of each commodity. To further guard against basis risk, interest rate risk and forward gap risk, the total capital charge for each commodity should be subject to an additional capital charge equal to 3% of a bank's gross positions, long plus short regardless of maturity, in the relevant commodity. In valuing the gross positions in commodity derivatives for this purpose, banks should use the current price.

7.7 Limits on Gross Positions

Although the capital charges as mentioned above will mitigate risks associated with trading in commodities, the Group is of the view that initially a limitation should also be placed on a bank's total exposure or gross positions, long plus short regardless of maturity, in all the commodities in relation to net loans and advances and/or capital or net worth of a bank. Initially, the limit could be put at 5%

of the networth of the bank which can be increased later in the light of experience gained.

Chapter VIII

Recommendations of the Group

- 8.1. The Group recommends that Central Government may issue a notification under clause (o) of sub-section (1) of Section 6 of the Banking Regulation Act, 1949 permitting banks to deal in the business of agricultural commodities including derivatives.

(para 4.1.6)

- 8.2 The Group recommends that a system needs to be evolved by which Warehouse Receipts become freely transferable between holders as it would reduce transaction costs and increase usage.

(para 4.2.6)

- 8.3 The Group recommends creating an umbrella structure which may act as a Closed User Group (CUG) for **everyone** engaged in the agricultural commodities business. The membership of the CUG may extend to commodity exchanges, APMCs, commission agents registered with APMCs, warehouses, exporters, importers and domestic users of commodities, banks, insurance companies and producers. The umbrella structure or the CUG is envisaged as an electronic platform that would offer straight through processing for everyone connected with the commodities. There can be more than one CUG and that they will be subject to regulation and supervision by a regulatory authority such as FMC.

(5.11.6 and 5.11.7)

- 8.4 The Group recommends that proprietary positions in agricultural commodity derivatives could be used by banks to mitigate their risk in lending to farmers. To achieve this, they will have to buy options

and options on futures. Therefore, the Group recommends that the Forward Contracts (Regulation) Act, 1952 may be suitably amended and Forward Markets Commission may evolve a suitable framework for option trading in agricultural commodities in India.

(para 6.3.3)

8.5 The Group recommends that banks may be permitted to have independent proprietary position in commodity futures linked in a macro way to their credit portfolio. Banks' exposure to a particular commodity is a general exposure and cannot be linked to a particular loan. Permitting banks to have independent proprietary positions is the best way in which banks can cover their risks. However, suitable risk control measures may have to be adopted by the banks.

(para 6.3.6)

8.6 The Group considered whether banks may be permitted to deal in commodities other than agricultural commodities such as oil and gas. However, keeping in view the current state of development of spot as well as futures markets, the Group recommends that for the present, it will be prudent to permit banks to deal in agricultural commodities only.

(para 6.3.9)

8.7 At present, purely cash settled contracts are not available in India. The banks trading or dealing in commodity contracts should therefore be prepared to make or accept delivery of physical goods. The Group recommends that while no restriction may be placed in this regard, banks may be suaded to preferably close their positions and cash settle the contracts.

(para 6.3.10.5)

8.8 As the farmers are likely to find it difficult to assume positions in future market of their own, the Group deliberated whether banks can offer non-standard contracts to the farmers and cover themselves in the exchange traded futures. The position was examined from the angle of Forward Contracts (Regulation) Act, 1952. Accordingly, the Group recommends that banks may offer non-standard contracts to farmers to suit their needs. The Group also recommends that banks may be permitted to offer commodity derivative based products to farmers to enable them to hedge their commodity price risk.

(para 6.3.7 and 6.3.8)

8.9 In regard to OTC contracts, the Group recommends that in order to make OTC contracts a feasible proposition for banks, the Government may exempt transferable specific delivery (TSD) contracts, where one of the parties to the contract is a bank authorised by RBI, from the operation of all or any of the provisions of FCRA, 1952. This would enable banks to provide bilateral contracts tailored to suit the needs of their customers without running the risk of taking or making delivery.

(para 6.3.10.6)

8.10 The Group recommends that banks may be granted general permission to become professional clearing members of commodity exchanges subject to the condition that they should not assume any exposure risk on account of offering clearing services to their trading clients.

(para 6.4.1.3)

8.11 The Group recommends that at least for the present, banks may not be permitted to act as Trading Members in the Commodity Exchanges.

(para 6.4.2)

8.12 The Group recommends that while banks may continue to hold their equity stake in the commodity exchanges in order to provide them financial strength and stability, the banks may reduce / divest their equity holding to a maximum permitted level of 5% over a period of time so as to avoid any conflict of interests and address the regulatory concern that owners of commodity exchanges do not also become traders in these exchanges.

(para 6.4.3)

8.13 In order to get a global perspective of how banks manage risks associated with trading in commodities, the Group examined the guidelines issued by Financial Services Authority (FSA), UK and Australian Prudential Regulation Authority (APRA). Accordingly, the Group recommends that the guidelines issued by FSA and APRA may be suitably modified as would be consistent with the instructions issued by Reserve Bank on capital adequacy and market risk so far.

(para 7.1.1)

8.14 The Group recommends that initially a limit may be placed on a bank's total exposure or gross positions, long plus short regardless of maturity, in all the commodities in relation to net loans and advances and/or capital or net worth of the bank. Initially, the limit could be put at 5% of the networth of the bank, which could be increased later in the light of experience gained.

(para 7.7)

(Prashant Saran)
Chairman

(Smt Shilpa Kumar)
Member

(S.M. Mehta)
Member

(K. Unnikrishnan)
Member

(P.S. Bindra)
Member

(Arun Kaul)
Member

(Anupam Mishra)
Member

(Dr. T. Vilasachandran)
Member

(K.J. Taori)
Member

(R.K. Bansal)
Member

(M.K. Samantaray)
Member Secretary

Dubai Commodity Receipts

Dubai Commodity Receipts (DCRs) are issued by Dubai Metal and Commodity Centre (DMCC). The DCR system is a web-based warehouse receipt system owned and managed by DMCC. Membership is open to individuals and firms on the basis of financial status and business history.

The Players

Those DCR members who own, manage, or arrange for the storage of commodities within the Emirate of Dubai may become a DCR issuing Member. CMIs are another class of members who are engaged in the business of providing collateral management or inspection service in respect of commodities and who certify the accuracy of description of goods on the DCRs. "Security Beneficiary" is a DCR Member on whose behalf DMCC holds a DCR in its possession by way of possessory pledge and/or in whose favour a DCR is endorsed by way of security.

Issue of DCRs

The goods that are deposited in the warehouse may be of the allocated type or non-allocated type. Allocated goods mean goods identified in the DCR relating thereto as being allocated to their Legal Owner and to be stored separately from the goods of other Legal Owners. DCRs are negotiable instruments. Though terms can be inserted in a DCR yet no provision can be inserted in a DCR that it is non-negotiable. If such a provision is inserted, then it shall be deemed void. Each Originator, Transferee and "Security Beneficiary" irrevocably and unconditionally appoints DMCC as its agent to hold all DCRs issued by the

issuing Members in respect of goods stored on behalf of the Originator. DMCC records all future transfers and pledges.

Delivery of Goods

A DCR Issuing Member may only deliver goods to the Legal Owner or to the "Security Beneficiary" who has the right to delivery of the goods to which the DCR relates if the Originator defaults. The rules also specify that the Issuing Member of the CMI will be liable for damages caused by any material discrepancy between the quantity or description of goods as indicated in the DCR as against the actual quantity of goods. Part delivery is possible in which case, the DCR is cancelled and a replacement DCR is issued.

Transfer Endorsement

A DCR may be endorsed by way of transfer to another DCR member. A transfer Endorsement shall be effected in manuscript by DMCC on the instruction of the Legal Owner of the goods. The wordings of the endorsement have been prescribed. Subsequent Transfer Endorsement may be made by DMCC on behalf of each successive Legal Owner. A transferee acquires by virtue of a Transfer Endorsement in his favour such title to the goods as the Transferor had ability to convey to a purchase in good faith for value subject to right of lien of the DCR Issuing Member and the rights of the " Security Beneficiary". The transfer shall take effect from the time the endorsement is made. **A Transferee shall not be liable for any failure on the part of the DCR Issuing Member or the previous Legal Owner to fulfill their respective obligations (Other than the DCR Issuing Member's lien on account of non-payment).**

Survey of Commodity based products offered internationally

The Group examined various risk mitigating instruments available in the market and analysed whether, on the back of these instruments, banks could provide customised products to farmers. The Group also examined how credit delivery could be improved to farmers and other stake holders.

The Group observed that after banning and/ or controlling commodity futures for a long time the Government was willing to allow more market forces into the farm sector. Futures trading have been allowed and the same has grown at a fast pace in the last one year. It was also noted by the Group that the Government is bringing in a legislation to give sound legal backing to Warehouse Receipts which would be helpful in making physical settlements.

The Group considered the commodity-derivative linked products offered by banks in other countries. Examples of commodity linked products are given below.

Commodity-linked deposits

Deposit placed with banks under these schemes have a return linked to the price of a commodity. The deposit pays at maturity either (1) a guaranteed minimum return of say 3 percent or (2) 90 percent of any gain in the market index (relative to an index set at the outset of the transaction) of the commodity say wheat over the life of the deposit, which ever is greater. The depositor is able to benefit from a rise in the price of wheat (although by only 90 percent of the rise that would have been received if he had purchased the physical wheat). The asset is less risky compared to the purchase of physical wheat because the principal is protected against a fall in the price of wheat.

Commodity-linked loans

The commodity-linked loans have interest payments inked to a price of a commodity or a commodity-index. A bank may extend loan to a steel company with interest payments linked to the price of steel as opposed to a conventional loan at 10 percent. The initial steel index is set at a certain price per tonne. Interest payments may be fixed at a greater of, say, 4 percent or the excess of any gain in the market price of steel relative to the price fixed in the beginning with a maximum of, say, 25 percent. The borrower pays a lower interest rate compared to a non-commodity linked loan when the steel prices fall, but shares the upside potential of its steel revenues with the lender when the price of steel rises.

Commodity-linked swaps

Under commodity-linked swaps, a bank swaps a floating price for a fixed price for the underlying commodity with its customer. Under this a farmer can protect itself against decline in price of its farm production. The farmer is assured of a fixed price but it does not allow him to benefit from future favourable price movements in the commodity.

Commodity-linked options

Commodity-linked options convey the right to buy (call) or sell (put) the cash-equivalent amount of an underlying commodity at a fixed exercise price. Options provide farmers price protection via a strike price. They also provide the potential to farmers to benefit from favourable commodity movements, unlike swaps. However, a farmer has to pay a premium to the bank. If the option is not exercised the premium will be an additional cost to the farmer.

It was observed from the product literature issued by banks in other countries that they specifically insisted that there will be only cash settlement based on

futures price or index derived from an agreed exchange. The banks rarely entered into contracts which could force them to make physical settlements.

Commodity price risk management solutions for farmers

Forward Contract with in-built variation margin

Farmers can use various hedging instruments to mitigate commodity price risk. However use of hedging instruments generally entails payment of margin amounts on a regular basis, which, the farmers would find very difficult to post. In addition the requirement of farmers would generally be for smaller lots than the standard lots sizes traded on the exchange. We therefore propose a model wherein banks could offer forward contracts with inbuilt variation margin.

In such cases, the amount of funds sanctioned for a given quantity of farm produce will be higher than the normal case. The additional amount will be used to fund the margin requirements for hedging. The interest will be charged on the loan amount given to farmer plus the margin to the extent utilized. This arrangement is illustrated below:

Description	Amount Disbursed (%)
The loan sanctioned by the bank with hedging of commodity through a forward or futures contract [§]	100
<ul style="list-style-type: none"> <i>The loan disbursed to farmer out of sanctioned amount</i> 	70
<ul style="list-style-type: none"> <i>The amount kept with bank and used as margin for hedging purpose*</i> 	30

[§] *The interest will be charged on loan amount given to farmers plus margin amount*

** The bank could use historical data to calculate variation margin amounts. The variation margin will depend on price volatility and value at risk over the life of a contract.*

Typically the hedging requirement of farmers would be for non-standard lots. The bank would aggregate several contracts and hedge its position using futures contracts on the exchange. The amount kept with the bank for use as margin would cover the variation margin requirements and the daily MTM that may have to be posted with the exchange. This amount would also be used to cover the

value at risk for any of the bank's unhedged positions (to the extent of residual position, which cannot be hedged using a standard lot size).

Example of a transaction:

- a) Farmer expects to harvest 4 MT of Soybean Crop
- b) The expected cost of production plus normal profit is Rs. 12,000/MT

Say, the futures exchange charges a initial margin of 2.5% and a variation margin of 4.5% for a standard contract on the exchange which is 10 MT. In addition, daily MTM may have to be posted.

- c) Farmer confirms forward contract for sale of 4 MT - Rs. 12,000/MT
- d) Bank sanctions 100% as loan against the farm produce - Rs. 12,000/MT
(Rs. 48,000/-)
- e) The total loan disbursed will be 70% - Rs. 8,400/MT
(Rs. 33,600/-)
- f) Loan amount available for payment of margin amount - Rs. 3,600/MT
(Rs. 14,400/-)

The interest would be on loan amount disbursed and amount drawn down against credit line for margin payment.

For the purpose of this example, the following assumptions have been made:

- 1) Quantity sold in forward contract is 4 MT.
- 2) All calculations are basis end-of-day.
- 3) Client squares off the position on day 5.
- 4) The initial and variation margin is as applicable on the exchange.

Day	Open Rate Rs/MT	Buy Rate Rs/MT	Sell Rate Rs/MT	Close Rate Rs/MT	BOD* position Value (Rs)	Margin (%)*	Margin amount (Rs)	Debit/Credit to Margin Account (Rs)
Day 0	-	-	-	12000	-	7	-	-
Day 1	-	-	12000	11500	48000	6.9	3360	-3360
Day 2	11500	-	-	11300	46000	7.3	3174	+186
Day 3	11300	-	-	12200	45200	7.4	3300	-126
Day 4	12200	-	-	12600	48800	7.5	3611	-311
Day 5	12600	12400	-	-	50400	-	-	+3611

@ BOD – Beginning of Day

* Margin % includes initial plus exposure / variation margin.

Note:

- Negative variation will be drawn from the amount funded by bank.
- Margin amount is calculated at the beginning of each day as position value multiplied by margin percentage based on previous day volatility.
- Bank shall incorporate factors such as volatility and value at risk, in its model for funding margin payments.
- On Day 5, the margin money shall be released immediately after the position is wound up.

Example - Maturity ladder approach

Assume that a bank has four forward purchases and sales of wheat with the following maturities and Rupee values.

Purchase or sale	Maturity	Value (Rupees)
Purchase	4 months	8000
Sale	5 months	10000
Purchase	2.5 months	6000
Sale	3.5 years	6000

All positions are taken to be in the same commodity and converted at current spot rates into Rupees.

Time band	Position (Rupees)	Capital calculation	Capital charge (Rupees)
0-1 month			
1-3 months			
3-6 months	Long 8000 Short 10000	8000 matched position * 3 %	240
6-12 months			
1-2 years			
2-3 years	Long 6000	2000 short carried forward 3 time bands from 3-6 months: $2000 * 3 * 0.6 \% =$	36
		2000 matched position * 3 % =	60
over 3 years	Short 6000	4000 long carried forward one time band from 2-3 years: $4000 * 1 * 0.6 \% =$	24
		4000 matched position * 3 % =	120
		Net position of 2000: $2000 * 15 \% =$	300

The total capital charge will be $240 + 36 + 60 + 24 + 120 + 300 = \text{Rs. } 780$

List of Members of the Working Group

1. Shri Prashant Saran
Chief General Manager
Department of Banking Operations
and Development
Reserve Bank of India
Mumbai Chairman
2. Shri P.S. Bindra
Joint Legal Adviser
Reserve Bank of India
Mumbai Member
3. Shri S.M. Mehta
Chief General Manager
NABARD
Mumbai Member
4. Shri Anupam Mishra
Deputy Director
Forward Markets Commission
Mumbai Member
5. Shri K. Unnikrishnan
Senior Vice President
Indian Banks Association
Mumbai Member

6. Shri Arun Kaul
General Manager (Treasury)
Punjab National Bank
New Delhi
Member
7. Shri K.J. Taori
Dy. General Manager
Corporate and Institutional Relationship
State Bank of India
Mumbai
Member
8. Ms Shilpa Kumar
Joint General Manager
ICICI Bank
Mumbai
Member
9. Shri R.K. Bansal
Dy. General Manager
Bank of Baroda
Mumbai
Member
10. Dr. T. Vilasachandran
Dy. General Manager
NABARD
Mumbai
Member
11. Shri M.K. Samantaray
General Manager
Department of Banking Operations
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Reserve Bank of India
Mumbai
Member Secretary

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