

**REPORT  
OF  
THE  
EXPERT GROUP  
ON  
INVESTMENT CREDIT**

**MUMBAI JUNE 2005**

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## CHAPTER I

### INTRODUCTION

1.1 Declining investment credit in agriculture in recent years has been a major cause of concern for the banking institutions, particularly in the light of the Government of India's programme of doubling of credit flow to agriculture during the period 2004-05 to 2006-07. This calls for devising a conscious, implementable strategy for increasing investment in the agriculture sector. With a view to address these issues and to suggest a road map for banks to increase investment credit in agriculture, the Reserve Bank of India (RBI) constituted an Expert Group under the Chairmanship of Shri Y S P Thorat, Managing Director, NABARD.

The other members were:

- ✓ Prof. M S Sriram, IIM, Ahmedabad
- ✓ Shri O P Bhatt, Managing Director, State Bank of Travancore
- ✓ Dr. Nachiket Mor, ED, ICICI, Mumbai
- ✓ Shri P H Ravikumar, CEO, NCDEX
- ✓ Prof. R Radhakrishna, Director, IGIDR
- ✓ Shri U S Awasthi, IFFCO and
- ✓ Shri C S Murthy, CGM-in-charge, RPCD, RBI (Member Secretary)

#### **Special Invitees**

- ✓ Prof. A Vaidyanathan, Chennai
- ✓ Dr. S L Shetty, Director, EPW Research Foundation and
- ✓ Shri Kairas Vakharia, CEO, Mahindra Shubhlabh

## Terms of Reference

1.2 The terms of reference of the expert group were as follows :

- ⇒ To analyse the trends in investment credit in the agriculture sector over the last decade in terms of flow of credit for different purposes, land holding groups and also study state-wise trends in this regard.
- ⇒ To scan recent innovations in investment credit involving new technologies in natural resources management including soil, water, energy, etc. with a view to replicating such examples.
- ⇒ To examine the changing nature of Indian agriculture and suggest a road map for increasing the investment credit in a time bound manner.
- ⇒ To review the reports of earlier Committees and incorporate the action points that are still relevant into the road map proposed by the Expert Group.

1.3 The Expert Group was required to submit its Report by 31 March 2005. However, due to the enlarged scope of the issues involved and the coverage thereof, the Expert Group availed of some extra time to submit the report. At its first meeting, the Expert Group deliberated on the issues involved and the empirical work to be attempted.

## Methodology

1.4 The Expert Group held three meetings in Mumbai, Pune and Mumbai between January and March 2005. It collected and analyzed substantial data information on various aspects of disbursement of investment credit, their purposes, their sources and the investment in agriculture by different institutions, both in the public sector and the private sector. These data were collected/compiled from already published and readily available statistical sources, particularly from National Accounts Statistics (NAS) published by the Central Statistical Organization (CSO), NAS statistics compiled by the Economic and

Political Weekly Research foundation and Handbook of Statistics, RBI, Annual Report of NABARD, records of State-level Bankers' Committee and existing literature on the subject. It also collected information regarding the status of implementation of the recommendations of earlier Task Forces and Committees appointed from time to time. During the three meetings held in different places, the Expert Group exchanged views with a large number of informed professionals.

## **Data Analysis**

1.5 The trends, structure and decomposition of the capital formation by institutions i.e. Public and private sector, was carried out from the year 1980-81 onwards. The data used in this analysis were obtained from the National Accounts Statistics published by CSO, as given in the series at constant prices of the year 1993-94. The concepts and composition used in the analysis in the report are the ones adopted by CSO. There is a considerable debate on the comprehensiveness of the coverage of capital formation in agriculture as adopted by the CSO, as it takes into account only the investments 'in agriculture' and not 'investment for agriculture' such as rural roads, rural electrification etc. The Expert group has not gone into the nitty-gritty of the coverage and adopted the standard concepts as adopted by the CSO. The analysis is based on the data pertaining to Gross Capital Formation (GCF) in agriculture as the GCF confines itself only to physical capital formation. Further, for analysis of investment in agriculture, the GCF is considered for the reason that stocks include livestock, which is one of the important components of investment in agriculture which farmers undertake.

## **Scope and Organization of the Report**

1.6 This Chapter contains the genesis of this Expert Group, terms of reference, approach and methodology adopted by it. Chapter II presents a brief overview of the recommendations made by earlier Committees and their implementation relevant to investment in agriculture and investment credit for agriculture. Chapter III presents an analysis of status, trends and composition of investment in

agriculture. It also analyses source-wise/purpose-wise investment in agriculture, changing composition of private sector investment in agriculture, investment credit made available by rural financial institutions for different purposes across the states and the size of holding of the farmers. It also makes an attempt to estimate sub sector wise gap in projected supply of credit and the actual flow of credit. Chapter IV presents in detail the changing rural and agricultural landscape in the country, the need for investments in various sub sectors and innovations in investments, which are taking place across the country. Chapter V deals with the road map for the banking institutions to augment the flow of investment credit in the next three years to facilitate the doubling of credit.

### **Acknowledgements**

1.7 The Expert Group has a special word of commendation for the Secretariat set up for it jointly by the RBI and NABARD. While each member of the Secretariat has contributed to shaping the conclusions and recommendations of the Report, we would especially like to mention inputs received from Dr. B N Kulkarni and Dr. R N Kulkarni of NABARD and Shri R N Dash of RBI who not only coordinated the operations of the Expert Group, but also provided support to the thinking process. The Expert Group acknowledges the contributions of Shri D Chattanathan and Shri Rajiv Panthary from Agri Business Group, ICICI and Shri J D Bhattacharjee of NABARD, which greatly facilitated the work of the Group. The Expert Group also acknowledges assistance received from Ms. Mina Anthony and Shri Joshi J Puthoore.

## Chapter II

### RECOMMENDATIONS OF EARLIER COMMITTEES

2.1 The Expert Group reviewed the recommendations relating to investment credit and related issues made by the following Committees and the status of their implementation.

- Agricultural Credit Review Committee (Prof. A.M.Khusro, 1989),
- High Level Committee on Agricultural Credit through Commercial Banks (R.V. Gupta, 1997),
- Expert Committee on Rural Credit (Prof. V.S.Vyas, 2001),
- Advisory Committee on Flow of Credit to Agriculture and Related Activities from the Banking System (Prof. V.S. Vyas, 2004) and
- Expert Group on Credit Deposit Ratio (Shri Y.S.P.Thorat, 2005).

2.2 Major recommendations of these Committees relating to investment in agriculture are summarized below. Those recommendations, which in the opinion of the Group need to be implemented, have been included in the 'road map' for increasing investment credit suggested in Chapter V of this report.

#### ***Land consolidation, updating land records etc.***

2.3 Recognising that factors like absentee ownership, insecure tenancy, slow pace of land reforms etc., were the major causes inter-alia, for low investments and low agricultural productivity, the ACRC stressed the need for identifying true tenants through village committees and other methods. The Committee recommended prioritisation for consolidating land holdings, effective implementation of existing land reforms legislation, incentives to tenants for application of technology etc.

2.4 The ECRC recommended legislation for fixed tenure lease of land and enabling mortgage of lease rights, which it felt would reduce oral leases considerably, if not eliminate it altogether.

2.5 It had also recommended having in place a system of continuous updating of land records that would enable ready availability of details of the land held and the title of the property to be offered as security, with a prompt availability of copies on demand.

2.6 In the North-Eastern states, where land is owned by the government or the community and ownership rights were not conferred on the cultivators, the ECRC recommended codification of the customary practices of these states into laws and also that the concerned governments should conduct cadastral surveys, build up land records and pass laws entitling creation of charge or mortgage in favour of the banks and also permit banks to sell the land in auction to other members of the community in the event of default. Until then, the community chiefs' certificates, recognising the title of the person cultivating the land, may be treated as property documents.

### ***Irrigation***

2.7 The ACRC expressed the view that the role of irrigation in releasing land constraint, through an increase in irrigation and cropping intensity, should become a critical part of development strategy and therefore, suggested drawing a time bound programme for exploitation of ground water for the small farmers particularly in the Eastern Gangetic belt. It also felt the need for long term leasing of brackish water areas owned by governments, to enable conversion of brackish water fallows into prawn farming areas.

2.8 The ECRC also suggested fresh examination of the policy in certain states, of leasing out small water bodies only to fishermen's co-operative societies that. Stress should be laid on the management capabilities of such societies and, if not found satisfactory, the policy should allow leasing to entrepreneurs even outside

the co-operative fold. To facilitate smooth flow of credit, the ECRC desired that legal provisions be put in place for mortgage of such leases in favour of banks and the right to transfer it to others in case of credit default.

2.9 The Committee expressed the view that RFIs should lay greater emphasis on financing drip and sprinkler irrigation, which help in maximising water-use efficiency, particularly in areas where groundwater exploitation has already reached an optimum level. It recommended implementation of micro irrigation, sprinkler irrigation, watershed management, village ponds development, farm ponds promotion, dry land farming schemes etc, jointly by the states and the banking sector.

#### ***Waiver of stamp duty***

2.10 The ECRC was of the view that the requirement of rural borrowers, from commercial banks and RRBs, to pay stamp duty and registration charges on loan documents and the mortgage of their land as security, deterred banks from extending loans to some of the most-needy and deserving borrowers. Since State Governments earn negligible revenues from such duties and fees, the Committee strongly recommended waiver of stamp duties and registration fees on all loan documents and mortgages for loans up to Rs.5 lakh.

2.11 The Advisory Committee observed that in some states heavy stamp duty is levied for executing documents that are required for availing credit from non-cooperative channels. The Advisory Committee suggested bringing down of the stamp duty on such documents on par with that charged on borrowings from cooperative banks.

#### ***Notification of places for creation of equitable mortgages***

2.12 The ECRC felt that borrowers incur unnecessary expenditure of time and money in depositing title deeds at distant notified places. The concerned branch managers also do not feel comfortable about depositing of title deeds in other branches or banks. The Committee, therefore, recommended that State

Governments should immediately notify all block headquarters and all places, where banks are located, as eligible for this type of mortgage

2.13 The Advisory Committee noted that the facility for notification of mortgage being available only at a few specified centres, the farmer has to necessarily visit one of those centres on a given date, thereby incurring additional cost. Considering these issues, the Committee recommended provision of similar facilities to commercial banks, as applicable to Cooperative banks, for mortgaging.

2.14 In the context of reducing transaction costs of the banks, the Expert group on CD Ratio also reiterated the need for reduction of stamp duty and registration charges, introduction of simple procedures for creation of charges, issuance of notification naming the Panchayat Headquarters for creation of equitable charges etc.

#### ***Strengthening linkages between productions, marketing and post-harvest activities***

2.15 The Advisory Committee was of the view that imbalance between financing production and post-harvest operations, as also poor linkages between credit and marketing, led to insufficient business development for rural financial institutions. It recommended stepping up pledge financing, credit for marketing and introduction of negotiable warehousing receipt system.

#### ***Integrating investment and production credits***

2.16 The ACRC highlighted the need to have a composite credit system and a change in banking culture. The one window concept would provide the farmer with both production and investment credit to facilitate organizational and operational changes, which would raise farm production and income high enough to enable the farmers to pay back their institutional dues.

2.17 The Advisory Committee was of the view that since the farmers use credit for wide ranging activities, from crop cultivation to purchase or replacement of tractors

and farm equipment, digging / deepening wells, installing diesel pump sets or electric motors etc., banks need to consider the total credit needs of cultivators, for which integration of investment and production credit would be necessary.

### ***Farm mechanization***

2.18 The ECRC was of the view that RFIs should focus on a combination of measures which may include group loans, providing tractors to PACS for custom hiring, encouraging state agro-industries corporations to acquire tractors and combine harvesters for custom hiring, and providing loans for tractors / power tillers to rural youth under self-employment schemes etc.

2.19 Considering farm mechanisation imperative for diversification of agriculture and transforming it into a commercial enterprise, the Advisory Committee felt that banks could finance farm machinery in a cost-effective manner by entering into tie-ups with major tractor and farm machinery manufacturers.

### ***Farm Forestry***

2.20 The ECRC recommended initiation of dialogue by NABARD with the State Governments and user industries for adoption of farm forestry activities in large areas and in more states. The Committee further desired the need to sensitise Joint Forest management groups, NGOs and SHGs with regard to availing bank credit for forestry programmes

2.21 According to the ECRC, only a few of the State Forest Development Corporations (SFDCs) have tapped institutional credit for forestation, nursery development, logging, marketing etc. The Committee was of the view that there was apparently no national level effort for resolving various issues confronted by the SFDCs and their expected growth. The Committee therefore, recommended convening a high-level consultation meet on the subject, with participation of state

governments, NABARD, Ministry of Environment and Forests and Ministry of Rural Areas and Employment, Government of India.

### ***Reclamation of waste / fallow lands***

2.22 The Advisory committee was of the view that sizeable parts of wastelands/fallow lands could be converted into cultivable land through appropriate crop selection, improved water-use efficiency, adoption of watershed approach and development of irrigation potential. The Committee, therefore, recommended preparation of long-term plans by the State governments and the banks to develop these resources and make them more productive for strengthening the rural economy. Investments in such resource development by banks are to be treated as agriculture lending.

### ***Hi-value Hi-tech Agriculture***

2.23 The Advisory Committee noted that Commercial banks had opened specialised hi-tech branches for financing high technology and export-oriented agricultural projects. However, their experience in this respect is not particularly encouraging ostensibly on account of the failure of larger advances made to projects such as aquaculture and floriculture. The ECRC was of the view that lending to such projects was not riskier than others, provided the staff is imparted the requisite specialised skills. The Committee, therefore, suggested strengthening rather than closing hi-tech branches, so that such branches possess the requisite skills to take up the added business in future.

### ***Activities allied to agriculture***

#### ***(i) Dairy***

2.24 The ECRC observed that availability of fodder was a major constraint, which could be overcome if the banks provide credit support for feed production as well as for establishing cattle feed plants, urea molasses, brick plants etc. It recommended RFIs to take steps to provide liberal and integrated financial support to such units.

***(ii) Poultry***

2.25 The ECRC identified credit support to qualified technocrats, NGOs providing services to poultry units, feed processing units, activities related to creation of infrastructure for processing, packaging and preservation and marketing of poultry products, as areas for financing by RFIs.

***Fisheries***

2.26 Noting the substantial investment credit flow for fisheries, despite the existence of high, unexploited potential of inland fisheries and the need for high fixed and working capital, the ECRC recommended that RFIs should re-examine the existing norms on financing of fisheries and conform these to the established requirement. RFIs should also finance lease holders of water bodies leased by the state governments. The Committee felt the need for RFIs providing prompt credit on reasonable terms for ancillary activities such as mini fish seed hatcheries and installation of fish feed plants.

***Infrastructure and Linkages***

2.27 The ACRC stressed the need for strengthening infrastructural facilities such as adequate and timely supply of inputs, support services, effective marketing structures and an assured national market through public price support policies. This would stimulate the growth of agricultural allied sectors, where technological developments were coming up through intensification of farming systems. The Committee recommended promotion and expansion of agricultural produce marketing and processing portfolios by RFIs.

2.28 The ECRC noted that, despite several initiatives, credit flow to certain disadvantageous regions and sections did not improve and attributed this to non-credit factors like non-availability of linkages or infrastructure in these areas. The Committee was of the view that forums like the SLBC, DLCC and BLBC should play a more active role in identifying gaps in linkages and infrastructure and seek the state government's commitment to meet them.

2.29 Considering the impact of infrastructural gaps in the flow of institutional credit, the Expert Group on C-D Ratio recommended Special Sub-committees of the District Consultative Committee (DCC) for executing a time bound, specific action plan for financing such gaps through RIDF. Further, in 'primary product driven' districts, the Group required such sub-committees to identify potential for the agricultural products and suggest measures for their preservation, refrigeration and transport.

### ***Financing small and marginal farmers and oral lessees***

2.30 The ECRC felt that small and marginal farmers being disadvantageously placed in accessing technology, capital and support from credit and extension facilities, a more integrated view for assessing their credit needs, with focus on enhancing overall capabilities, was necessary. Credit agencies should take a holistic view of the credit needs of such households rather than financing a single activity. Credit products would have to be tailored to just the skill and opportunities available to the cultivator family.

2.31 The Committee recommended that meeting the credit needs of oral lessees should be treated as normal banking business. Inability of small and marginal farmers to provide collateral worked as a major hurdle for securing loans and the Committee recommended mechanisms like the joint liability groups which would enable them to access credit. The Advisory Committee and the Expert Group on Credit Deposit Ratio also suggested a similar course of action.

2.32 The Advisory Committee further felt that the Contract Farming approach has the potential to expand credit outreach, especially to the small/marginal farmers and oral lessees. Banks have, therefore, been advised to increasingly consider associating with contract farming, subject to the availability of proper legal and regulatory framework in different states.

### ***Lending by short term (ST) cooperative credit structure***

2.33 The ACRC observed that though term lending, by the short-term co-operative credit system has been steadily increasing, yet the term lending traditionally being done was more in the nature of unsystematic scattered loans for animals, both milch and draught, minor irrigation, land development etc. The quality of lending and appraisal was poor, and that perhaps was one of the reasons for their overdues for term loans being even higher than those for short-term loans. Keeping in view the vast scope available even for medium-term loans and the amendment of laws in some of the states permitting longer term lending, the ACRC exhorted SCBs and DCCBs to take greater initiative in identifying various types of schemes of investment credit for the development of agriculture and appropriate non-agricultural activities, in the light of the local potential. SCBs should create appropriately staffed technical cells, which would also assist the DCCBs in formulating suitable projects for financing.

2.34 The ECRC saw no reason whatsoever for the short-term cooperative credit structure to keep its operations confined to short-term loans, and was of the view that these institutions must be permitted also to disburse long-term loans, even in those states where they presently issue only short-term or medium term loans. The Committee suggested that while PACS having deposit and other resources to issue and manage long-term loans on their own may be encouraged to do so, those constrained by resource or managerial capability could work out consortium arrangements with DCCBs. SCBs and DCCBs should develop manuals for PACS to help them run this business efficiently and also provide necessary training to the PACS staff.

2.35 The ECRC recommended that the practice of fixing maximum borrowing powers be discontinued, at least in states or districts where co-operative banks have surplus resources and face problems of deploying them.

### ***Other issues***

***(i) Scale of finance/ Unit cost***

2.36 The R.V. Gupta Committee noted that the system was introduced at a time when there was a need to provide benchmarks, for use by commercial banks in financing agricultural operations. Over time, commercial banks have developed adequate skill and expertise in financing production and investment credit and there does not seem to be any reason now to bind them – even indicatively – to such norms. Appraisal of the borrower and his requirements is an essential element of the banker's tool kit and the Committee recommended that the matter may be left to the judgement of commercial banks.

***(ii) Hedging mechanism***

2.37 Considering the fact that almost all banks have withdrawn from DICGC's small loans cover, thereby enhancing the risk element for the banks, the ECRC recommended banks to consider evolving their own risk mechanisms with reasonable premia, particularly for covering risks which attract high premia from insurance companies, as well as those for which borrowers cannot get adequate compensation in case of loss for whatever reasons. Further, banks should start their own risk-funds to take care of the insurance needs of the clients by recovering small contributions to the fund from the borrowers and introducing low-cost in personal life insurance schemes for borrowers to ease the borrower families' burden, as also reduce the possibility of default for banks in case of loss of life.

2.38 Noting that the derivative contracts could be cost effective in managing price and weather risks and that commodity exchanges could enable better price discovery and access to a better price risk management mechanism, the Advisory Committee recommended farmers' participation in commodity exchanges through education, dissemination of index price information, investing in rural connectivity and building warehousing capacity.

***Setting up of Agri-Risk Fund***

2.39 In order to evolve long term remedies to deal with impairment of farmers' repaying capacity, caused by recurrent external adversities, the Advisory

Committee recommended setting up of an 'Agri-Risk Fund' with equal contribution from the Central and state Governments and participating banks. It was of the view that such a fund would moderate the risk of lender banks, as they could take recourse to the fund in the event of a genuine default and it would also assuage some of the hardships faced by the farmer.

### Chapter III

#### **STATUS, TRENDS AND COMPOSITION OF INVESTMENT IN AGRICULTURE**

3.1 The growth in agricultural production depends upon a number of factors, of which improvement in crop production technology is one. The Green revolution, known for the use of high yielding varieties of seed and fertilizers, led to a shift in the production technology, which was largely facilitated by investment in irrigation and land development. The technology and investment have together given the much needed food security and improved the resilience of the agricultural economy to a considerable extent.

3.2 The orientation of agriculture is changing from subsistence to market and from 'agriculture' to 'agribusiness'. With the gradual opening up of the economy under the WTO regime, Indian agriculture is exposed to global markets and this will further strengthen the process of commercialization and diversification of agriculture. Besides the traditional crop production, horticulture, vegetable cultivation, mushroom cultivation, floriculture and cultivation of medicinal and aromatic plants are gaining ground and agro processing is emerging as a major sub system. This calls for a considerable investment of capital in storage, godowns and processing. Thus, scope for investment in agriculture is getting enlarged with shift in focus from production to marketing.

3.3 Against this background, the Expert Group examined the status, trends and composition of investment in agriculture. The analysis is presented broadly in three sections. Section I deals with the definition of investment in agriculture and the nature, scope and sources of investment in agriculture. Section II presents the trends in investment in agriculture during 1980-81 to 2002-03 by covering broad sector wise, purpose wise and region wise investments, and discusses important issues on the subject of investment in agriculture. Section III makes an attempt to estimate gap in flow of investment credit with reference to the 10<sup>th</sup> Five Year Plan

projection, as also the targets of investment credit under the GOI policy of doubling of agricultural credit during the years 2004-05 to 2006-07.

## Section I

3.4 Investment in agriculture is generally undertaken for realizing long term potential by (i) augmenting natural resources, (ii) enhancing efficiency of use of existing resources and (iii) generating value addition. Thus, in simple terms, investment means acquiring physical assets that result in the creation of a stream of incremental income over a period of time.

3.5 Investment in agriculture has two components viz., the Gross Fixed Capital Formation (GFCF), which includes primarily the investment in physical assets in agriculture, and the stocks which are presently in the form of inventories but which are not actually used for further production, although they could be used. The two components taken together constitute the Gross Capital Formation (GCF). GFCF takes the following forms.

- a) Reproducible tangible fixed assets like residential buildings, construction and alteration to residential buildings/non-residential buildings, construction of irrigation dams, plantation and orchard development, machinery, equipment and transport equipments.
- b) Non-reproducible assets include capital expenditure on farms as well as subsidiary activities, which are land intensive in nature. These are in the form of irrigation, land development, horticulture & plantation crops, land reclamation, animal husbandry, fisheries and forestry etc.

3.6 Capital formation in agriculture helps in improving the stock of equipment, tools and productivity of natural resources, which in turn enables farmers to use their resources, particularly land and labour, more productively. Creation of capital goods, thus, is necessary for raising productivity of existing resources and realising long term growth potential.

3.7 In the era of globalization, when agriculture is expected to satisfy not only the domestic demand but also to encash on its comparative advantages and contribute substantially to foreign exchange earnings by way of exports, modernization of technology and management practices are crucial. Hence, the need for increasing investment in agriculture is being felt as never before.

3.8 Broad sector wise investment presented in table 3.1 shows that over the years investment in agriculture has been losing its share in total investment, more rapidly in the 90s with a marginal improvement in the years 2000-01 and 2001-02.

**Table 3.1 GCF By Industry of Origin** (at constant 1993-94 prices)

(Rs. Crore)

Decade/Year	Agriculture	Manufacturing	Tertiary	Total
1980-81 to 1989-90	14283 (11.0)	43026 (33.3)	72145 (55.7)	129454 (100)
1990-91 to 1999-00	17136 (7.7)	89124 (40.0)	116632 (52.3)	222892 (100)
2000-01	19809 (7.5)	92734 (35.4)	149603 (57.1)	262146 (100)
2001-02	20458 (8.1)	78540 (31.0)	154232 (60.9)	253230 (100)
2002-03	21867 (8.1)	97483 (36.0)	151475 (55.9)	270825 (100)

Figures in brackets represent percentages to total

Source : Central Statistical Organization

While the share of investment in the manufacturing sector ranged between 33 to 40 per cent, the tertiary sector continued to dominate by accounting for 55-60 per cent share.

3.9 The relative shares of the two components viz, GFCF and GCF presented in Table 3.2 show that investment in agriculture is predominantly in the form of

physical assets and that stocks (which include livestock) are relatively less important. Hence, analysis focuses on the gross capital formation in agriculture, inclusive of stocks.

**Table 3.2 Classification of GCF by assets in agriculture** (at constant 1993-94 prices)(Rs. Crore)

Year	GFCF	Stocks	GCF
1980-81	<b>13495</b>	<b>788</b>	<b>14283</b>
1989-90	(94.5)	(5.5)	(100)
1990-91	<b>16215</b>	<b>921</b>	<b>17136</b>
1999-00	(94.6)	(5.4)	(100)
2000-01	<b>18602</b>	<b>1207</b>	<b>19809</b>
	(93.9)	(6.1)	(100)
2001-02	<b>19479</b>	<b>979</b>	<b>20458</b>
	(95.2)	(4.8)	(100)
2002-03	<b>20066</b>	<b>1801</b>	<b>21867</b>
	(91.8)	(8.2)	(100)

GCF : Gross Capital Formation GFCF : Gross Fixed capital formation  
GCF = GFCF + Stocks

Figures in brackets represent percentages to total

**Source : Central Statistical Organization**

3.10 Investment in agriculture is made by public as well as by private sectors. While public sector investment in agriculture is made for building necessary infrastructure, private investment in agriculture is either for augmenting productivity of natural resources or for undertaking such activities which supplement income sources of farmers. Private sector investment comprise investments made by private corporates and households. Public sector investment includes investment made by Central and State Governments and investments through their Departmental Commercial undertakings (DCUs) and Non Departmental Commercial Undertakings (NDCUs). DCUs primarily invest in activities like crop

husbandry, soil and water conservation and animal husbandry. NDCUs like Irrigation & Water Resource Development Corporation, Tube well corporations, Poultry Boards, Forestry Boards, Tea corporations and Fisheries Corporations owned by Central and State Governments also invest in animal husbandry, minor irrigation etc..

3.11 The corporate sector investment within the private sector, includes investment by organized corporate bodies like big private companies and unorganized entities like sugar cooperatives and milk cooperatives etc. The household sector within the private sector invests in various land based and non-land based activities like irrigation, land development, land reclamation etc. on their individual farms. For the sake of simplicity, as investment by household sector is predominant (accounting for more than 90 %), analysis of trends in investment in private sector has been done without bifurcating it into that made by the Households and that by the Corporates. Distribution of investments by sources is given in the Table 3.3.

**Table 3.3 Trends in GCF in agriculture (at constant prices of 1993-94)**

( Rs. crore)

Decade/ Year	GCF in Agriculture			GCF in Economy		
	Public	Private	Total	Public	Private	Total
1980-81 to 1989-90	6443 (45.1)	7840 (54.9)	14283 (100)	57706 (45.0)	70441 (55.0)	128147 (100)
1990-91 to 1999-00	4837 (28.2)	12299 (71.8)	17136 (100)	74293 (32.1)	156905 (67.9)	231198 (100)
2000-01	4435 (22.4)	15374 (77.6)	19809 (100)	81718 (24.8)	247480 (75.2)	329198 (100)
2001-02	4635 (22.7)	15823 (77.3)	20458 (100)	78878 (23.6)	255644 (76.4)	334522 (100)

2002-03	5029 (23.0)	16838 (77.0)	21867 (100)	80823 (22.1)	285314 (77.9)	366147 (100)
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Figures in brackets represent percentages to total

**Source : National Accounts Statistics (NAS), Central Statistical Organization**

3.12 The Table (3.3) shows that:

- i. The share of investment in agriculture made by the public sector in the total investment has declined, more pronouncedly in 1990s, as compared to the 80s. After further declining in the year 2000-01, the share showed signs of gradual revival in investment. This indicates that the pre eminence of the public sector in investment in agriculture has declined, highlighting increasing importance of the private sector in agriculture.
- ii. The share of public investment has witnessed a decline not only in agriculture, but also in the entire economy, the decline being roughly of the same order.
- iii. Not only has the share of public sector investment in agriculture declined, but it has declined in absolute terms as well, despite an increase in the GCF in the economy. This is a real cause for concern.

**Table 3.4 Sector wise shares of GCF in agriculture with reference to their respective sectoral shares in the total GCF in the economy**

Decade/ Year	GCF in Agriculture		
	Public	Private	Total
1980-81 to 1989-90	6443 (11.2)	7840 (11.1)	14283 (11.1)
1990-91 to 1999-00	4837 (6.5)	12299 (7.8)	17136 (7.4)
2000-01	4435 (5.4)	15374 (6.2)	19809 (6.0)
2001-02	4635 (5.9)	15823 (6.2)	20458 (6.1)
2002-03	5029 (6.9)	16838 (5.9)	21867 (6.0)

Figures in brackets represent percentages to respective public and private GCF in the economy as whole.

**Source : National Accounts Statistics (NAS), Central Statistical Organization**

3.13 The loss in momentum in public sector investment in agriculture is more clearly noticed when it is related to public sector investment in the economy. The relevant data are given in table 3.4. It may be observed therein that during the 80s, the ratio of public investment in agriculture to total public investment in the economy in real terms was about 11 per cent. In the 90s, it got reduced substantially to 6.5 per cent and thereafter, it stagnated at around 6 per cent. Private sector investment in agriculture also showed a similar trend over the years. It could therefore be inferred that the decline in investment in agriculture is due to sliding shares of both public and private sector investment in the total investment in the economy. Annual growth rates of GCF (Table 3.5) also reinforce the above observation.

**Table 3.5 Growth Rates in GCF (at constant prices of 1993-94)**

(Per Cent)

Decade	GCF in Agriculture			GCF in Economy		
	Public	Private	Total	Public	Private	Total
1980-81 1989-90	-3.9	2.6	-.03	4.5	7.4	6.1
1990-91 1999-00	-0.1	2.6	2.5	2.2	6.1	7.3
2000-01	-6.7	0.7	-1.1	-7.2	3.0	0.3
2001-02	4.5	2.9	3.3	-3.4	3.3	1.6
2002-03	8.5	6.4	6.9	2.5	11.6	9.5

**Source : National Accounts Statistics (NAS), Central Statistical Organization**

3.14 Decadal growth in GCF during 1980s, for the economy as a whole, was 6.1 per cent which increased to 7.3 per cent in 1990s. As against this, the annual compound growth rate of GCF in agriculture had declined by -0.3 per cent during 1980s and had registered a marginal growth of 2.5 per cent in 1990s. The decline in GCF in agriculture could therefore be attributed to decline in the shares of public and private sector investments in agriculture and a more pronounced decline in the public sector investment in agriculture in absolute terms.

3.15 The relationship between public and private sector capital formation is being extensively debated in the academic circles. One school of thought holds the view that the public and private investments are complementary in that public investment induces private investment. The other school believes that private investment, after a certain stage, is autonomous in nature. A number of Economists<sup>1</sup> in recent years have expressed grave concern over the decline in public sector capital formation in agriculture. They have suggested that decline in public sector capital formation in Indian agriculture is not only bad in itself but it also leads to a decline in private sector capital formation because of a high complementarity between public and private capital. The Planning Commission has also stated that declining public investment has also induced decline in private investment.<sup>2</sup>

3.16 The Expert Group feels that public sector investment is required for creation of the necessary infrastructure, which enables private investment to acquire new assets or to use existing assets more efficiently. For instance, public investments in major and medium irrigation projects facilitate transformation of rainfed farming into irrigated farming, resulting in adoption of better technology which is more input intensive, thereby enhancing income. This boosts the farmers' pent up demand for agriculture implements, farm machinery, milch and draft animals substantially. This happens not in one shot, but it is a continuous process which extends over the life of the asset. Therefore, public investment is equally important and hence, reasons for decline in public investment also need to be kept in view.

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<sup>1</sup> Rath Neelkanth (1989a) Agriculture Growth and Investment in India, Journal of Indian School of Political Economy Jan- June.

Rath Neelkanth (1989 b) Institutional Credit for Agriculture in India Journal of Indian School Political Economy July – Dec.

Rao C H Hanumantha (1994) Agricultural growth, Rural Poverty & Environmental Degradation in India; Delhi Oxford University Press.

<sup>2</sup> Government of India Planning commission (1995) Annual Plan 1995 reproduced in Mainstream February 11<sup>th</sup>, 1996.

3.17 After examining the trends in investment, it may be necessary to look into the trends in GDP originating from agriculture and its contribution to the total GDP. The relative data are presented in table 3.6.

**Table 3.6 Institution wise shares of GDP originating in agriculture in total GDP (at constant prices 1993-94)**

( Rs. Crore)

Decade	GDP in agriculture		
	Public	Private	Total
1980-81 to 1989-90	6204 (4.9)	177957 (46.2)	184161 (36.1)
1990-91 to 1999-00	6968 (3.0)	247198 (37.7)	254166 (28.7)
2000-01	7139 (2.3)	279527 (31.4)	286666 (23.9)
2001-02	7095 (2.1)	298168 (31.8)	305263 (24.1)
2002-03	6656 (1.9)	282730 (29.5)	289386 (22.0)

Figures in brackets represent percentages to the respective sectoral totals.

**Source : National Accounts Statistics (NAS), Central Statistical Organization**

3.18 It is evident that

- i. The share of GDP in agriculture in the total GDP has been declining over the years, the decline being sharper after 2001-02 and implying relatively faster growth in sectors other than agriculture.
- ii. The decline in the share of agriculture in the total GDP could be attributed to decline in both public and private sector GDP.
- iii. GDP originating from the private sector in agriculture is predominant, at a little over 90 %.
- iv. The decline in the public sector GDP is much sharper than in the private sector.

3.19 Ratio of GCF to GDP is an important measure for assessment of investment efficiency in a given sector.

**Table 3.7 Ratio of GCF in Agriculture to GDP originating from agriculture (at constant prices of 1993-94 Prices)**

Decade	GCF in agriculture to GDP in agriculture			Share of GDP (agri.) in total GDP
	Public	Private	Total	
1980-81 1989-90	103.9	4.4	7.8	184161 (36.1)
1990-91 1999-00	69.4	5.0	6.7	254166 (28.7)
2000-01	62.1	5.5	6.9	286666 (23.9)
2001-02	65.3	5.3	6.7	305263 (24.1)
2002-03	75.6	6.0	7.6	289386 (22.0)

Figures represent percentages to respective public and private GCF in the economy as whole.

**Source : National Accounts Statistics (NAS), Central Statistical Organization**

The relevant (Table 3.7) data shows that the ratio of GCF to GDP originating in agriculture is moving in the range of 6.7 to 7.8. Viewed separately, for public and private sector contributions to GDP, however, it gives a different picture. While in the public sector, ratio of GCF to respective GDP (originating from agriculture) is in the range of 103 to 75, the same for private sector is in the range of 4 to 6. This implies a better efficiency in capital use in the private sector.

3.20 Agriculture proper (including Animal Husbandry), Forestry and Fisheries are the three broad purposes for which the investment is made by public and private institutions (Table 3.8). Among the three, agriculture proper is the single most important investment portfolio, both under public and private sectors, accounting for about 80 per cent of the total investment in agriculture. Investment in forestry is predominantly by public sources (about 95 %). This could be due to ownership pattern of forest land and other constraints such as longer gestation period, which inhibit private investors. In contrast, investment in fisheries is almost entirely by the private sector and is increasing, indicating diversification in the investment pattern.

This change is in tune with the relative changes taking place in the consumption basket.

**Table 3.8 Sub sector wise capital formation in Agriculture** (at constant 1993-94 prices)

(Rs. Crore)

Decade/Year	Agriculture Proper		Forestry		Fisheries		Total	
	Public	Private	Public	Private	Public	Private	Public	Private
80-81 to 89-90	5984 (45.3)	7218 (54.7)	454 (94.8)	25 (5.2)	5 (0.8)	597 (99.2)	6443 (45.1)	7840 (54.9)
90-91 to 99-00	4334 (28.7)	10789 (71.3)	501 (94.7)	28 (5.3)	2 (0.1)	1483 (99.9)	4837 (28.2)	12299 (71.8)
2000-01	3926 (23.2)	12980 (76.8)	511 (94.5)	30 (4.5)	0 (-)	2364 (100)	4435 (22.2)	15374 (77.6)
2001-02	4127 (23.8)	13201 (76.2)	509 (93.9)	33 (6.1)	0 (-)	2589 (100)	4635 (22.7)	15823 (77.3)
2002-03	4478 (20.7)	14179 (79.3)	353 (94.1)	22 (5.9)	0 (-)	2636 (100)	5029 (23.0)	16838 (77.0)

Figures in brackets represent percentages to total.

**Source: National Accounts Statistics (NAS), Central Statistical Organization**

3.21 As discussed earlier (para 3.15 & 3.16), public investment has an enabling effect on private investment. Therefore, the reasons for decline in public investment need to be looked into. The plan outlay and direct investment of the Central and State Governments are the major sources of investment in the public sector. Data on plan outlays and their percentage distribution over various heads of expenditure development are presented in Table 3.9

**Table 3.9 Plan Outlays by Heads of development ( Per cent)**

Heads of Development	VI plan 1980-85	VII plan 1985-90	Annual plan 1990-91	Annual plan 1991-92	VIII plan 1992-97	IX Plan 1997-02
Agriculture & Allied activities	6.1	5.8	5.8	5.9	5.2	4.5
Rural development	6.4	7.0	7.1	6.4	8.2	6.7
Special Area programme	1.4	1.6	1.7	1.6	1.1	0.7
Irrigation & Flood control	10.0	7.6	6.8	6.5	6.4	7.5
Energy	28.1	28.2	29.3	30.5	26.9	22.5
Power	16.7	17.3	19.5	22.4	16.0	13.9
Industry	15.5	13.4	10.9	10.1	9.9	5.2
Village & SSI	1.8	1.5	1.5	1.5	1.5	1.0
Social service	14.5	16.0	16.5	15.9	17.9	23.5
Education	2.7	3.5	4.0	4.0	4.3	6.2
Health	-	1.7	1.8	1.4	1.7	2.5
Total	100	100	100	100	100	100

Source: Investment in agriculture trends & issues : Thulasamma (**Unpublished**)

3.22 The table shows that :

- i. Proportion of expenditure allocated to agriculture and allied activities has declined across all the five year plans, except the annual plans.
- ii. Expenditure on irrigation and flood control has also declined from 10 per cent in VI plan to 6.4 per cent in the VIII plan.

3.23. Further, not only the quantum but also the quality of public expenditure influences the level of investment in agriculture. An increasingly larger proportion of the public expenditure is on revenue account, as is observed from the available literature on the subject. This has a crowding out effect on the capital investment.

3.24 Private sector investment is by corporate bodies and households. With about 90 per cent share, households dominate the private investment scene. Private investment in agriculture comprises farm equipments, farm machinery, irrigation, land improvement and land reclamation. These investments enable farmers to grow existing crops more productively & intensively and take up non-conventional/high value crops.

3.25 All India Debt and Investment Survey (AIDIS) data of RBI is the most important information source for capturing household level investments. However, the latest data available from this source is for the year 1992. Changes in the composition of household investment in agriculture after 1992, therefore, do not reflect in the present analysis. The relevant data for the year 1972, 1982 and 1992, presented in table 3.10, show that there has been a change in the composition of investment undertaken by farmers over time. Investment in farm machinery and irrigation have emerged as important investments in 1992 and investment in land reclamation and land development have declined in their importance. These changing priorities of investment seem to be compatible with the need for intensive use of limited land resource to meet the growing demand for agriculture products.

**Table 3.10 Composition of Farm expenditure by rural households**

(Per cent)

Decade	Machinery Equipment & Transport	Wells & other irrigation	Land Improvement	Farm & animal Sheds	Orchards and Plantations	Other capital expenditure	Total
1971-72	43.3	26.8	16.5	10.5	1.8	1.2	100
1981-82	52.0	20.5	15.3	4.6	2.8	5.0	100
1991-92	47.8	24.7	12.9	3.7	5.1	6.3	100

**Source : Various reports of All India Debt and Investment Survey, RBI.**

3.26 The data on state wise investment in agriculture in the private sector, as published by AIDIS, has been analyzed to get an idea of the pattern of investments at disaggregated level. Land improvement, irrigation, farm machinery, equipment & transport are the major purposes for which household level investment has taken

place at the all India level. However, the relative importance of these investments varies across the States, depending upon the topography and resource endowments. (Annexure Table 3.1) For instance, though investment in land improvement is spread fairly well across the States, relative importance (in terms of percentage share in the total investment) appears to be more in states like Assam, Arunachal Pradesh, Bihar, Orissa, West Bengal, Andhra Pradesh and Kerala.

3.27 In States like Punjab, where canal irrigation was developed largely in the public domain, the farmers seemed to have preferred to invest more in machinery, equipment and transport. Households in water scarce States like Tamil Nadu, Karnataka, Maharashtra, Andhra Pradesh, Gujarat, Madhya Pradesh and Rajasthan have invested in developing minor irrigation sources like wells and tube wells. Farm machinery equipment and transport together had a share of about 46 % in the total investment at the aggregate level. Among the States, Punjab, Haryana, Himachal Pradesh, Rajasthan, Madhya Pradesh had a sizeable investment for this purpose. Farm mechanization and irrigation taken together accounted for as high as 72 % of the capital expenditure of the households. The former investment is labour saving, while the latter is land saving.

3.28 Private investment in agriculture depends, among other things, on availability of enabling infrastructure, investable resources and expected rate of return on investment. While infrastructure development falls under the purview of public investment, the expected rate of return to an investor is largely determined by the prices of agricultural inputs and outputs. It is in the context of availability of investable resources that credit from credit institutions becomes critically important.

3.29 Total institutional credit to agriculture, during the period 1995-96 to 2002-03 for which the latest data are available, has grown at an annual compound rate of 18.2 % (Table 3.11). During the period 1995-96 to 2002-03, short term credit increased at a compound growth rate of 18.1 %. Term credit and short term credit both increased at more or less the same pace of 18 %. The share of short term

credit in total credit has been hovering around 65 %, the balance being accounted for by term credit. The term credit which facilitates investment in agriculture, seems to have been declining in its importance particularly after 2000-01, as indicated by the year to year growth rates.

**Table 3.11 Flow of Institutional credit**

(Rs. crore)

Year	Short Term	Growth rate(%)	Term credit	Growth rate(%)	Total	Growth rate(%)	Term credit as a % of pvt.sect or GCF
1995-96	14525 (65.9)	-	7507 (34.1)	-	22032 (100)	-	35.1
1996-97	16998 (64.4)	17.0	9413 (35.6)	25.4	26411 (100)	19.9	38.6
1997-98	20640 (64.6)	21.4	11316 (35.4)	20.4	31956 (100)	21.0	43.5
1998-99	23903 (63.9)	15.8	12957 (36.1)	14.5	35860 (100)	12.2	48.5
1999-00	28965 (65.3)	21.1	17303 (37.4)	33.5	46238 (100)	28.9	53.6
2000-01	33314 (63.9)	15.0	19513 (36.1)	12.8	52827 (100)	14.3	59.5
2001-02	40509 (65.3)	21.6	21536 (34.7)	10.4	62045 (100)	17.4	60.5
2002-03	45586 (65.5)	19.1	23974 (34.5)	11.3	69560 (100)	12.1	61.7
<b>CAGR 1995-96 to 2002- 03</b>		18.1		18.4		18.2	8.6

Source: Rural Credit NABARD 2003 Page 33 & Annual Report NABARD 2002-03.

These data do not tally with the agency wise break up of flow of credit given in Handbook of Statistics, RBI (Annexure II.)

NABARD data have been used mainly for understanding purpose wise break up of term credit as given in NABARD Annual Report 2002-03.

3.30. Continued higher proportion of short term credit could probably be due to the relatively higher comfort level of those who demand and those who supply

credit. Since expenditure on inputs is inevitable to sustain their agricultural operations, irrespective of the weather conditions obtaining in the field, farmers prefer to borrow short term credit as it provides them necessary control over resources through continued liquidity. The suppliers on the other hand favour short term credit due to relatively lower lending and risk costs, supervision & monitoring costs and a better asset liability management.

### Credit Deposit Ratio

#### 3.12 Credit Deposit Ratio in Major States

Description	Number of states	Number of District	< 40	40-50	> 50
States with per capita SDP less than national average	9	196 (100)	129 (66)	26 (13)	41 (21)
States with per capita SDP more than national average	11	187 (100)	60 (32)	33 (18)	94 (50)
Total	20	383 (100)	189 (50)	59 (15)	134 (35)

Figures in the brackets represent percentages. Credit is taken on utilization basis. National average per capita GDP is taken at Rs. 20427 in nominal terms (2001-02) Also see appendix Table 3.1

The extent of deployment of credit in a given state could be measured by Credit deposit Ratio. Data on distribution of districts in different ranges of CDR (as per utilisation) for states having per capita SDP above national average i.e. developed states and states having per capita SDP less than national average i.e. less developed states are given in table 3.12. The table clearly shows that the proportion of districts having CDR less than 40 is higher (66 per cent) in less developed states as compared to the developed states (32 per cent) indicating a wide disparity in deployment of credit in major states.

**Table 3.13 Agency wise break up of term credit**

(Rs. Crore)

Year	Coops	Growth rate (%)	Comm. Banks	Growth rate(%)	RRBs	Growth rate(%)
1995-96	2148 (29)		4827 (64)		532 (7)	
1996-97	2616 (28)	21	6234 (66)	29	563 (6)	6
1997-98	3190 (28)	22	7482 (66)	20	644 (6)	14
1998-99	3386 (26)	6	8821 (68)	18	750 (6)	16
1999-00	3518 (20)	4	13036 (75)	48	749 (4)	-
2000-01	4218 (22)	20	14321 (73)	9	974 (5)	30
2001-02	4776 (22)	13	15683 (73)	9	1077 (5)	11
2002-03	3956 (17)	-17	18724 (78)	19	1294 (5)	20
CAGR		10.2		21.6		13.6

Source: Rural Credit NABARD 2003 Page 33 & Annual Report NABARD 2002-03.

3.31. Among the three agencies, commercial banks (with 78% share) over time, have consolidated their position in terms of their share in total term credit disbursement (Table 3.12). In contrast, the share of RRBs in the total term credit has remained stationery at about 5-6 %, while the Cooperative banks have lost their ground considerably particularly after 2000-01. Term credit, purveyed by the Commercial banks, increased at a compound growth of 21.6 per cent while that of the cooperative banks and RRBs was at 10.2 per cent and 13.6 per cent respectively. Increase in the relative share of Commercial banks could be partly attributed to the introduction of Special Agricultural Credit Plans (SACP). Due to the structural and financial weaknesses, Land Development Banks have lost their prime position in term credit disbursement. RRBs could not consolidate their position in deployment of term credit and the loss in the share of LDBS was captured by the Commercial Banks.

3.32 In most of the States (except Maharashtra) falling in the category of less developed, average per hectare credit disbursement was observed to be less than

the national average. This indicates that status of development (measured in terms of per capita GDP) and per hectare term credit seem to move in tandem. (Table 3.14)

Table 3.14 State wise per hectare term credit

State / Agency	Total Term Credit (Rs.000)	Net Area Sown (000)Ha	Credit per hectare
Haryana	7253952	3526	2057
Himachal Pradesh	529082	555	953
Jammu & Kashmir	240882	748	322
Punjab	9627143	4264	2258
Rajasthan	5140217	15865	324
Assam	158746	2734	58
Manipur	3889	140	28
Nagaland	3538	300	12
Tripura	72217	280	258
Arunachal Pradesh	37179	164	227
Mizoram	63	94	1
Bihar & Jharkhand	2425387	7437	326
Orissa	1197255	5829	205
Sikkim	13582	95	143
West Bengal	2698825	5472	493
Madhya Pradesh	6334897	14664	432
Chhattisgarh	908623	4763	191
Uttar Pradesh	15382186	16801	916
Uttaranchal	398782	793	503
Gujarat	6941524	9443	735
Maharashtra	2892948	17636	164
Goa	30241	141	214
Andhra Pradesh	7928833	11115	713
Karnataka	8484704	10410	815
Kerala	3757726	2206	1703
Tamil Nadu	11673316	5303	2201
All India	64322480	141101	456
Data on CBs as on 30.06.2002 as furnished by RPCD,RBI, CO			
Data on SCARDBs and RRBs as on 31.03.2002 as furnished by NABARD			

3.33 Sub sector wise deployment of term credit, shown in Table 3.15, indicates that minor irrigation and farm mechanization which together accounted for a sizeable share of around 44 % in 1998-99, have grown at a much lesser rate of about 1% each and have lost their relative shares in the later years. In contrast, the category of 'others' comprising of storage, marketing, godowns, farm animals, Biogas etc., have gained substantially.

**Table 3.15 Subsector wise disbursement of credit (Rs. Crore)**

Sector	1998-99	99-00	00-01	2001-02	2002-03	Total	CAGR %
Minor irrigation	1790	2346	1821	1845	1976	9778	1.0
Land development	217	319	290	307	393	1526	12.2
Farm Mechanization	3936	3889	4125	3847	3600	19397	1.0
Plant. & Horti.	767	777	754	765	1195	4258	9.1
Animal Husbandry	1996	2119	2190	2221	2637	11163	6.2
Fisheries	448	405	319	508	539	2219	6.1
Hi tech	1339	1360	2088	2257	2268	9312	16.9
Others	2464	6088	7926	9786	11366	37630	42.4
Total	12957	17303	19513	21536	23974	95283	16.9

Source : Annual Report 2002-03 NABARD

Biogas etc., have gained substantially.

*Note : Others includes indirect credit.*

### Section III

3.34 The trends in the sub sector wise term credit deployment have been used for estimating the expected growth in term credit (extrapolated on the basis of trend growth rates) for the years 2004-05 and 2006-07, in order to arrive at the likely shortfall in investment credit by the end of the 10<sup>th</sup> Five Year Plan. The short fall is estimated at two levels viz.,

- i. The shortfall in the projected flow of term credit on the basis of the past trends and the year wise projection given by the Task Force on Agricultural Credit for the 10<sup>th</sup> Five Year Plan. The purpose wise term credit estimates worked out are on the basis of trend growth rates during the period 1998- 99 & 2002-03.
- ii. On the second level, the shortfall is arrived at by deducting the projected trend based term credit from the estimated term credit component, assuming credit dispensation is being doubled in three years viz. 2004-05 to

2006-07 which incidentally is the terminal year of the 10<sup>th</sup> Five Year Plan. (The term credit component in the total credit has been worked out by assuming the historical ratio between short term credit and term credit).

3.35 The relative data on the projected credit, the 10<sup>th</sup> Five Year Plan estimates and the term credit component of doubling of credit dispensation and the emerging gaps therein are presented in Table 3.16.

**Table 3.16**

Gap between subsector wise trend growth rates, 10<sup>th</sup> FYP estimates and doubling of credit

Sector	Projecte d credit based on trend 2005-06	Gap Xth Plan for the year 05-06	Gap Doublin g	Gap Gap	Projecte d Credit based on the trend 2006-07	Gap Xth Plan for the year 2006- 07	Gap Doublin g	Gap Gap
Minor Irrigation	2036	6162	2967	3195	2056	8030	3787	4243
Land Development	555	1020	226	794	623	1204	289	915
Farm Mechanisation	3709	13423	6216	7207	3746	15142	7845	7297
Plant. & Horti.	1434	191	745	-554	1448	392	1096	-705
Animal Husbandry	3159	4413	2553	1860	3354	5782	3316	2465
Fisheries	644	752	491	261	684	991	642	349
Hi-tech	3623	-1203	1142	-2345	4235	-1005	1329	-2335
Others	32728	-7507	-13473	5967	46539	-20057	-24052	3995
<b>Total</b>	<b>47888</b>	<b>17251</b>	<b>866</b>	<b>16385</b>	<b>62687</b>	<b>10477</b>	<b>-5747</b>	<b>16224</b>

The gap between the credit flow on the basis of current trends and the 10<sup>th</sup> Five year plan estimates is wider than the estimated gap of doubling of credit dispensation. In fact, if the sub sector wise credit flow grows at the current level, reaching the expected level of credit by the end of 2006-07, appears possible.

Name of States	Per Capita SDP (Rs)	No. of districts	CDR < 40	CDR 40-50	CDR > 50
Chattisgarh	2583	5	5		
Bihar	6840	27	23	4	
Orissa	12173	12	1	2	9
Uttar Pradesh	12219	54	38	9	7
Jharkhand	12273	12	12		
Madhya Pradesh	13747	38	17	4	17
Rajasthan	15114	26	13	5	8
Uttaranchal	16513	8	7	1	
Jammu & Kashmir	16980	14	13	1	
<b>Sub Total</b>		<b>196</b>	<b>129</b>	<b>26</b>	<b>41</b>
West Bengal	20835	19	15	3	1
Andhra Pradesh	21230	23		6	17
Karnataka	21604	20	2	1	17
Tamil Nadu	24886	21		4	17
Kerala	25392	14	4	2	8
Himachal Pradesh	26239	12	8	2	2
Gujarat	27331	19	13	4	2
Punjab	30100	12	6	2	4
Maharashtra	30510	29	5	6	18
Haryana	31228	16	6	2	8
Goa	59740	2	1	1	
<b>Sub Total</b>		<b>187</b>	<b>60</b>	<b>33</b>	<b>94</b>

## Chapter IV

### RECENT INNOVATIONS IN RURAL AREAS

4.1 In the past few years, rural sector witnessed quite a few innovations instrumental in bringing about rural transformation though in a localized manner. However, a number of such efforts hold potential to be replicated on a larger scale. Some of these innovations which may not be directly related to investment credit, have been discussed, in view of their potential to induce investment in agriculture.

#### **Collective Action in Management of Irrigation Systems. eg. Andhra Pradesh and Maharashtra**

4.2 In Andhra Pradesh, participatory irrigation management effected through a legal enactment has brought a change in irrigation management by transferring responsibility for the operation and maintenance (O&M) of irrigation schemes to the Water Users Associations (WUAs). This reform has changed the role of irrigation department from a service provider to a facilitator. This has led to increased revenue, irrigated area, and involvement of farmers in operation & maintenance of irrigation projects, making not only irrigation department accountable to farmers' organizations but also farmers themselves to use of resource. Maharashtra State also has formulated a well-defined policy dealing with participatory irrigation management, for transferring irrigation management to farmers. State offers incentives to farmers in the form of rebates for prompt payment of irrigation charges, volumetric rates and maintenance grants to promote participative irrigation management. Transfer of right and control over water is expected to instill in them a sense of responsibility and ownership which in turn makes it easier to levy charges and collect levy.

#### **Critical Factors required for Success**

- Legislation backed reform.
- Switch over in the role of State from service provider to facilitator.
- Democratic management of natural resource.
- Inculcating habit of paying for user charges.

This Chapter incorporates inputs received from ICICI, which are acknowledged with thanks.

4.3 State Government of Andhra Pradesh has plans to undertake irrigation projects involving investment of Rs.22000 crore over a period of next 5 years. BOT contracts with government guarantee for debt servicing and annuities are some of the models proposed to be adopted. Projects are expected to be handled by experienced individuals. Maharashtra has also come up with the policy of offering incomplete capital-intensive projects on a long term BOT basis to the private sector offering land and project assets to the interested private parties. Above illustration point that private participation can be elicited in the bigger projects as well. This would require either budgetary provisions or innovative funding mechanisms such as annuity, unlocking value in the under performing public assets etc.

#### **Franchisees for Rural Power Collections- e.g. GVPs in Karnataka**

4.4 For power distribution companies, servicing rural consumers has always been a difficult task in terms of costs involved, leading to their apathy to rural consumers. Number of instances of power breakdowns, low voltage and endemic transformer breakdowns in rural areas are reported. In the above scenario, a pioneer concept for rural power distribution was initiated under the aegis of Xavier Institute of Management, Bhubhneswar (XIMB) viz., Franchisee Model for Rural Power Distribution. In Karnataka, XIMB is actively working with the Gulburga Electricity Supply Company (GESCOM) and the Hubli Electricity Supply Company (HESCOM), and is involved in implementation of this model locally known as Gram Vidyut Pratinidhis (GVP). Under this model, GVPs are involved in meter reading, bill distribution, bill collection and customer complaint redressal process. The GVPs are usually persons in the age group of 18-35 years, who are comparatively well educated. The success of this model has led to higher metering in rural areas, increased efficiency in collections, lesser instances of theft and higher customer satisfaction.

#### ***Critical Success Factors***

- Presence of a professional agency in form of XIMB for hand holding the franchisees
- Willingness to outsource collection activity despite initial reservations by its internal staff of the Distribution Companies
- Careful selection and monitoring of franchisees through gram panachayats, consultant and Distribution Companies
- Improved customer service coupled with right metering

Employment of local person as GVP enabled better communication with customers and resulted into higher collections

### **Localized/ Distributed generation of power- e.g. Desi power**

4.5 Decentralized Energy Systems India (DESI) Power, has launched an innovative program called EmPower Partnership Programme (EmPP). DESI Power's business model which involves building a small scale (50 KW to 500 KW) biomass gasification based power plants in remote villages with direct association with local partners (NGO/ Panchayat /co-operative) who own and operate the plant while technical help is provided by DESI Power which also takes up small equity in the project.

4.6 The village level biomass projects by Desi Power are of small scale and are typical examples of generation, transmission and distribution, which is being done for last mile village power connectivity. The projects set up by DESI power are need based, where demand for power emanates from the rural areas in view of either lack of grid connectivity or reliable/negligible grid supply. The electricity supplied from DESI units is cheaper than the electricity generated on diesel based gensets. The replacement of fossil fuels power generation by small scale biomass gasification systems also results in savings in CO2 emissions leading to ecological gains, besides creation of additional village level employment opportunities. The farmers are likely to benefit on account of assured buy back for the biomass produced by them, as also assured lower cost of irrigation through pump sets powered by the biomass plant.

### ***Critical Success Factors***

- Abundant availability of biomass
- Involvement of professionals in form of Desipower
- Collaboration from locals in form of cooperative
- Promotion of micro enterprises which ensures captive utilisation of power as also lead to local employment generation through promotion to allied activities such as briquetting, *chura* making, rice mill etc
- Incentive to shift to alternative power due to absence/ non reliability of grid power on one hand and high cost of diesel based options on other

### **IT and Supply Chain Management in Agriculture**

4.7 An infrastructure of village-level kiosks is being promoted across the country by Internet service providers, public-private partnerships and agribusiness corporates. ITC's e-choupal is by far the most successful model that has unlocked value for all the stakeholders involved.

4.8 Another application of IT is in terms of providing timely information to farmers. A case in point is the Information Village Research Project implemented by the M.S. Swaminathan Research Foundation, for Pondicherry fishermen. As a part of the project, computers were placed in the village centre and connected to the Internet, through which regular weather reports of Indian Meteorology office can be accessed. The weather report is broadcast by loudspeakers and through radios to enable fishermen to know low and high tide timings, before sailing off for fishing. The recent budget has announced an allocation of Rs.100 crore from RIDF for setting up of Rural Knowledge Centres. This is expected to usher in a major transformation in extension services for farmers.

4.9 A village level Internet kiosk can be an effective channel to deliver financial services to the unorganised sector, right at their doorstep. A diverse range of products such as life and general insurance (weather, health, livestock, personal accident etc), investment services (Stocks, Bonds, Mutual Funds), gold purchase, credit products including micro-loans, agricultural loans and consumption loans, bill payment services and derivatives for small farmers could be offered to the rural population through these kiosks at a lower cost.

*Critical Success Factors*

- Value to customer by provision of market information, extension services and monetary benefit out of supply chain integration;
- Involvement of locals in the operations leading to cost savings on the one hand and employment generation on the other;
- Benefit to company in form of procurement at lower cost (by cutting away the middlemen channel) and control on quality through continuous monitoring and extension services;
- Hand holding of village sanchalak, samyojak by ITC.

**Leveraging Mandi Cess for funding of roads in Madhya Pradesh**

4.10 Madhya Pradesh (MP) has made significant strides in road development under the Pradhan Mantri Gram Sadak Yojana (PMGSY). To augment financial resources for this purpose, the State government is leveraging its mandi cess for borrowing from the banks for accelerated rural roads development. The State Government has started levying a one per cent extra cess on foodgrains and other agricultural products traded in mandis, of which 0.85 per cent is being spent on roads. In this manner, the MP Government has been able to generate additional funds to the tune of Rs.100 crore every year. This additional source of revenue is being leveraged to borrow funds from banks for undertaking high cost projects and also road development in a systematic and planned fashion, rather than in an ad hoc manner. An effort in this direction has also been made by Punjab Rural Development Board.

*Critical Success Factors*

- Efficient trapping of cash flows through the escrow mechanism
- Creation of a dedicated income stream for dedicated purpose
- The state government guarantee to the funding bank that it in the event of any changes in the nature and amount of cess it would make good the loss

**Unlocking values through integration: e.g. Poultry**

4.11 Structure of Indian poultry industry differs from region to region. In the total value of poultry production, large-scale integrated poultry producers account for a sizable share. The activities involved in Integrated poultry project include raising grandparent and parent flocks, rearing day-old-chicks (DOC), contracting production, compounding feed, providing veterinary services, and sale of output. Since all the interconnected activities are undertaken under one umbrella it safeguards the producers from price fluctuations in the inputs and output. A large number of integrated poultry firms have come up in southern India, particularly in Coimbatore, Tamil Nadu, which accounts for about 75 per cent of production and consumption.

4.12 Another successful example of vertical integration in the poultry sector is that of Arambagh Hatcheries Limited (AHL). There are strong and regular business cycles in operation in the poultry industry. Typically, middlemen take advantage of these business cycles by offering non-remunerative prices to the farmers during the slack season and extract a long period of credit from the producers of day old broiler chicks and feed. Realising this, AHL has vertically integrated its operations to ward off from the seasonal price fluctuations in inputs and output.

### ***Critical Success Factors***

- Sharing of benefits among the stakeholders through use of technology and supply chain management;
- Risk is borne by the private party in terms of raw material prices, supply of other inputs;
- Fixed charges are given to contract farmers along with variable performance linked incentives.

### **Uttaranchal - Participatory Horticulture Development**

4.13 Integrated Development of Horticulture Project (IDHP) initiated in 2001 in Almora/Bageshwar districts of Uttaranchal is a Government of India sponsored participatory horticulture development project. Under the project, 133 Farmer's Interest Groups (FIGs) in 61 villages were formed which participated in planning and implementation of the project. This is a unique example of a symbiotic

relationship between NGOs and Government department as project planning and implementation is vested with NGOs and technical inputs are provided by horticulture department. Representatives of FIGs and their federation are involved directly in purchase of inputs, as also various other components of the project. Selection of beneficiaries under the project is done at village / hamlet level by FIGs and then approved by the Federation in their monthly meeting. Federation allocates the project inputs to different FIGs. The Federation and FIGs assist in distribution of inputs and cash subsidy to farmers, as also its monitoring.

### ***Critical Success Factors***

- Participation of stakeholders right from the planning stage to implementation is the critical success factor;
- The willingness of the state horticulture department to involve NGO/ Farmer Federation in the implementation of the program with free hand;
- Allocation of project benefits strictly by farmer federation in a democratic manner has ruled out interference by vested interests.

### **Supply Chain solution for apples and bananas**

4.14 India annually produces about 15 lakh metric tonnes of apples of which 40 per cent is concentrated in Himachal Pradesh. These apples are qualitatively superior in taste, flavour and also have uniformity in size and a longer shelf life. Lack of chain integration and absence of proper cold chain infrastructure leads to excessive wastage and destruction of value, a major part of which could accrue to the grower. A private sector Bank not only provided finance to these investors in value chain, but also provided guidance for establishment of the value chain including developing linkages with growers and markets.

### ***Critical Success Factors***

- Presence of bank which did more than lending in terms of identification of private; party and continuous guidance in the project implementation;
- Thrust on quality resulted into higher market penetration;
- Sharing of benefit with farmers in terms of higher prices created a strong supply base creating critical mass.

**NDDB's Terminal Market**

4.15 In the series of first of its kind, Mother Dairy Foods Processing, a wholly owned subsidiary of National Dairy Development Board (NDDB) has established auction markets for horticulture produce in Bangalore. The running as well as operations and maintenance of the market is done by NDDB. The project, with an outlay of Rs.15 lakh, covers 200 horticultural farmers associations with 50,000 grower members for wholesale marketing. Their produce is planned with production and supply assurance, providing both growers and buyers a common platform to negotiate better rates. Before setting up of auction market by NDDB all agricultural commodity operations, were under the purview of State government and the market was ridden with corrupt practices and lack of transparency. There were also no facilities for the pre and post harvest technologies.

4.16 Terminal market like the ones created by NDDB could result into increase in productivity, rise in quality standards, reduction in losses and ensuring access to an increasing supply of fresh produce at reasonable prices to the consumers. These terminal markets could operate as a parallel market to the existing system of mandis and offer a fair alternative to traditional mandis characterized by middlemen. Opening up of agriculture market by private players would result into offering value added services like storage besides providing incentives to farmers for quality control, reduction in losses through handling and transportation by setting up collection centers at the farm level, apart from offering higher prices for the produce.

*Critical Success Factors*

- Strong government commitment in opening up parallel market despite protests from vested interests;

- Provision of value added services in terms of extension support and guidance on quality by NDDDB to the farmers.

### **Apni Mandis in Punjab**

4.17 The Punjab Mandi Board undertook experiment of 'farmers' market' with a view to giving small farmers around cities direct access to consumers by eliminating middlemen. It is now known as "Apni Mandi" as it belongs to both farmers and consumers, who can mutually help each other. A sum of Rs. 5.2 lakh is being spent for providing plastic crates to 1000 farmers. Each farmer gets 5 crates on subsidized rate. At the venue of the mandi, the Board is providing basic infrastructure facilities. At the farm level, extension services of the different departments are pooled in. These benefits include inputs subsidies, better quality seeds and loans at reasonable rates of interest from Banks etc.. Apni Mandi scheme provides self-employment to producers and also eliminates social inhibitions among them about retail sale of their produce.

### ***Critical Success Factors***

- Proactive approach of the government;
- Pooling of several benefits under one umbrella by the state government

### **Sewa and Kudumbashree - Community Benefit**

4.18 Self Employed Women Association (SEWA) an NGO in Gujarat has shown how benefits accrue to the small and marginal farmers when they come together. Sewa has created a network of 5,30,000 women entrepreneur members spread across 14 districts of Gujarat. Small and marginal farmers account for 54 percent of SEWA's membership. Sewa utilizes this network to procure (for self and others) and market products (of own and others). For procurement it has tied up with several companies who utilize the network to purchase agricultural produce like sesame seeds, cumin, soya, wheat, and certain fruits. The private companies get access to the network while farmers get direct access to the market bypassing the middlemen route fetching higher prices. In order to address the issue of quality of products supplied in the rural areas, Sewa is also engaged in the activity of value

addition of commodities procured through the network and outside, which is sold to the network under its brand name RUDI, assuring right quality at reasonable price to its network members.

4.19 Another example of benefit of aggregation is Kumbashree in Kerala which has facilitated access to credit to small and marginal farmers through promotion of Community Based Organisations (CBOs) at the grass root level .The CBOs have evolved in a systematic fashion through intense training and guidance. The CBOs have a three-tier structure. At the lowest level is the Neighbourhood Group (NHGs), which is constituted of 20-40 poor women. About 8-15 NHGs are federated at ward level into Area Development Society (ADS). The ADS are further federated into Community Development Society (CDS), which is a registered Society under the Charitable Societies Act. At all the three tiers, there are elected representatives. The demand for credit emanates from the NHGs, which is consolidated at the ADS level.

4.20 Kudumbashree is working as a facilitator by encouraging Banks to lend to the members of the NHGs through its three tier CBO structure. Kudumbashree is also working on special programmes like development of micro-enterprise groups and housing programme for poor. The housing programme launched this year has received favourable response from the beneficiaries as well as the lending institutions. A private sector Bank has lent to the NHGs for rural housing through the CDS. Operationally, CDS acts as Management & Collection (M & C) agent and is responsible for identification of NHGs / borrowers, undertaking loan documentation, facilitating disbursement, monitoring and repayment of loan. CDS also guarantee repayment of loans taken by the NHGs / borrowers. The exposure to NHGs is unsecured while the exposure on individual borrowers for housing is secured by mortgage of house.

***Critical Success Factors***

- Presence of a professional agency which organizes and ties up the network;
- The presence of a structure that provides comfort to the partner/lender;
- Sharing of benefit with the locals along with vesting them with major responsibility.

**Hindustan Lever's Shakti project**

4.21 Hindustan Lever's Project Shakti connects self-help groups with business opportunities. It offers the groups the chance to become local small-scale sellers of the company's products. The groups, typically of 15 to 20 people, buy a small stock of items such as soap, detergent or shampoo, which are then sold directly to consumers in their homes.

4.22 Working in conjunction with local district authorities, Project Shakti was piloted in 2002 in 50 villages in the state of Andhra Pradesh, and has since been extended to other states, creating more than 9,000 entrepreneurs over 22,000 villages. Hindustan Lever provides free training on the basics of business management to the groups, for becoming their distributors as also, to set up other types of small enterprises. The company also offers "on the job" training once the business is operational.

**Specialized institutions – e.g. PAIC**

4.23 Punjab Agro-Industries Corporation (PAIC) has a strong extension service network and excellent rapport with the farmers. PAIC is the nodal agency of the state government for promotion of agro-based industries in Punjab. PAIC provides inputs, new technology for horticulture crops as also acts as an institutional promoter for select horticulture projects. As a major initiative in marketing of fruit and vegetables grown in Punjab, a separate Corporation named Punjab Agri Export Corporation has been formed with the Punjab Mandi Board and the Punjab Agro Industries Corporation.

***Critical Success Factors***

- Dedicated organized with a dedicated cause;
- Professional project specific approach despite being a government organization.

**Contract farming and Credit Bundling**

4.24 In India, a few banks and financial institutions have been partners in contract farming schemes, set up by dealers in agricultural equipment or input suppliers, to enhance credit. For example, Rabo India Finance Pvt Ltd. is

establishing agri-service centres in rural areas in cooperation with a number of agro-input and farm services companies. The services provided are much like those in contract farming, but with additional flexibility and a wider range of products such as inventory finance. Besides providing storage facilities, each centre rents out farm machinery, provides agricultural inputs and information to farmers, arranges credit, sells other services and provides a forum for farmers to market their products.

### ***Critical Success Factors***

- Provision of value added services- providing one stop solution to farmers requirements;

Another critical factor lies in terms of evolving specific structure and cash trapping mechanism.

### **Weather Insurance – e.g. ICICI Lombard**

4.25 ICICI Lombard General Insurance Company Limited has launched an index based rainfall insurance with the clients of Krishna Bhima Samruddhi Local Area Bank in Andhra Pradesh. An index is created based on an analysis of historical correlation between rainfall and crop (groundnut) yield. Assigning weightages to critical time periods creates the index. The past weather data is then mapped on to this index to arrive at a normal threshold index. The actual weather data is then mapped to the index to arrive at the actual index level. In case there is a deviation in either direction (excess or deficient), between the normal index and the actual index, compensation is paid out to the insured on the basis of a pre-agreed formula. For the purposes of the contract, the measurements are tracked at a reference weather station. The farmers purchase the insurance contract directly and in the event of the payout, the bank receives the payout as an agent of its clients. The bank, to settle interest or principal payments payable to it in the event of rainfall shortage, may use this amount. Similar products have been launched in states like UP, Rajasthan, MP, etc for various crops like oranges, coriander, soyabean and groundnut.

**Critical Success Factors**

- Fast processing of claims enabling farmers to recover/ mitigate his risk immediately;
- Presence of weather stations in the near vicinity

**Watershed Project by NABARD**

4.26 NABARD has established Watershed Development Fund, during 1999-2000, with a contribution of Rs.100 crores from NABARD and a matching contribution of Rs.100 crores from the Central Government. An amount of Rs.133 crore would be used for providing loans to the identified State Governments for Watershed Development and the balance of Rs.67 crore would be used for grant-based activities covering promotional efforts, capacity building, Self-Help Group-related activities etc. The scheme is being implemented in eight districts (i.e., Srikakulam, Vizianagaram, Chittoor, Cuddapah, Rangareddy, Medak, Karimnagar, Warangal) of Andhra Pradesh.

**Scope of Scaling up and Barriers to Scale**

3.27 Most of the innovations cited above have been created because of market forces and need to effectively utilize and harness available resources. Institutional innovations discussed above could help deliver quality services in rural areas.

4.28 Some of the examples cited above are commercially viable based on the model where the users of the utilities are charged. This allows replication on a large scale in Indian context, particularly in areas of management of water through Water Users Associations, etc. Some of the innovations cited have been tried in areas with practically no scope for realizing user charges. In those instances support to utility provider has been given by government on a rational basis and again fixed deliverables. There is lot of scope for replicating a few of above experiences here in India. However, there are a few constraints that impair scaling up:

- Lack of a concept of user charges for farmers/people residing in rural areas. Free provision of power, irrigation etc in the past makes it considerably difficult for the beneficiary in the rural areas to accept user charges unless demand from services emanates from the locals themselves.
- Lack of awareness among the rural populace is another stumbling block. Awareness would need to be created in farming/rural community regarding timely payment of utility charges for uninterrupted quality of service and resultant benefits by way of increased efficiencies.
- Inequity in income and wealth in the country makes certain section of Indian rural population more vulnerable due to such utility payments. In such case, government could resort to reimbursement of utility charges on a timely basis to the extent of dues payable by such person to private utilities. Alternatively a minimum quantity of water can be provided to all users free of charge.
- Frequent policy changes by government (especially on the charges front), local lobbying with reference to waiver of charges etc. are other impediments for scaling up.

## Chapter V

### ROAD MAP FOR INCREASING INVESTMENT CREDIT

#### Background

5.1 Given the importance of agriculture in India, in terms of its contribution to GDP, employment and income, a low growth rate in agriculture will have an adverse impact on the growth of the economy. Investment, the prime mover, therefore needs to be accelerated to achieve the desired level of growth. However, this investment needs to be appropriately structured, timed and well implemented to have the maximum effectiveness.

5.2 The National Agriculture Policy adopted in July 2000 and various committees appointed earlier had envisaged an annual growth in agriculture of over 4 per cent per annum and highlighted adequate and timely supply of

institutional credit to farmers. Total credit flow to agriculture and allied sectors during the Tenth Five Year Plan period was projected at Rs.7,36,570 crore, viz. Rs.3,59,701 crore short-term credit and Rs.3,76,869 crore term credit<sup>3</sup>. The ground level credit flow to agriculture has been growing over the years and has reached a level of over Rs.2, 60,540 crore during the first three year period (2002-03 to 2004-05) of 10<sup>th</sup> FYP (i.e.36%). It is clear there from that there is a wide gap in supply of credit, requiring a large increase in credit, particularly investment credit, to facilitate capital formation in agriculture and to achieve the stipulated growth rate. More recently, the Government of India has emphasized the need for doubling of credit flow to agriculture during the three-year period viz., 2004-05 to 2006-07. Target set for the year 2004-05 in this respect was achieved. Realization of this goal in remaining two years, however, calls for evolving a strategy to increase investment in agriculture. The Group, therefore, feels that banks should draw implementable action plan for doubling of agriculture credit during 2005-06 and 2006-07.

### **Changing Face of Agriculture**

5.3 Over the past few years, there are several discernible changes in the Indian rural canvas. These changes will go a long way in redefining agriculture and would also have a significant impact on the investment credit requirements for primary production, areas of diversified activities, trends in value addition and supply chains. Some of the changes could be broadly grouped as under:

- Traditional on-farm activities
  - Increasing number of small and marginal farmers with progressive decline in average size of holding;
  - Increased usage of high yielding varieties, quality inputs and modern equipment necessitating higher investment credit;

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<sup>3</sup> While the projections were based at the time of Xth plan, these numbers need a fresh look in the present context. However, estimation of projections afresh is outside the purview of TOR of the Expert Group.

- Deceleration in rate of growth in production of food crops particularly in agriculturally advanced states like Punjab; and
- Limited progress on technology adoption especially in rainfed areas.
- Diversified and new on-farm activities
  - Increased trend towards commercial and horticulture crops but with almost imperfect markets for these crops; the share of non-food crops has increased in terms of area, from 25.7 per cent of the cultivated area in 1971-72 to 35.1 per cent by the year 1999-2000.
  - Food cash crops i.e., sugarcane, oil seeds, spices and condiments, fruits and vegetables, etc., are acquiring greater importance. In 1990-91 the value of these crops was 39.5 per cent of the value of agriculture output (at 1993-94 constant prices) which increased to 46.2 per cent in 2000-01.
  - Emergence of high-tech agriculture and organic farming.  
Thus, the agriculture is slowly moving to market led-demand led production; and
  - Significant increase in the share of output of allied sectors viz. dairy, poultry and fisheries and horticulture crops in the agricultural GDP. Among the horticulture crops, fruits & vegetables and the like which are emerging as an important component of agriculture growth have increased their share from 17 per cent in 1980-81 to 18 per cent in 1990-91 and further to about 32 per cent in 2002 - 03.
- New off farm-activity
  - Emergence of food processing as a major sector;
  - Emerging large number of storages, godowns, market yards and activities related to grading and certification which are supporting agriculture;
  - Increasing importance of services sector in rural areas; there is a clear surge of income in the rural India as is evidenced by increase in per capita rural income from Rs. 5876/- in 1993-94 to Rs. 7501/- in 2000-01;

- Share of non-agricultural households in rural India has also increased from over 29 per cent in 1983 to over 35 per cent in 2001-02;
  - Entry of private sector in establishing 'one stop shops' in rural areas for sale of inputs and output;
  - Increasing export potential for horticulture crops;
  - Increasing scope for application of information and communication technology such as low cost ATMs in rural areas and use of smart cards in the banking segment; kiosks for dissemination of market information and supply chain management;
  - Enlarging connectivity in rural areas'
  - Emergence of self-help groups (SHGs) as a supplementary channel for credit;
  - Emergence of commodity markets like NCDEX and establishment of proper price discovery mechanism; and
  - Establishment of National Collateral Management Services Ltd. (NCMSL) to provide collateral management services to banks and financial institutions, so that they can increase their pledge/godown/key loans as also advances against warehouse receipts.
- General trends impacting rural space
    - Growing integration between rural and urban areas, resulting in mobility of labour, capital and products;
    - Changing composition of consumption basket; and
    - Growing demand for organic food in the elite domestic markets and foreign markets.

5.4 In view of the above changes, the broad thrust areas for increasing investment and investment credit in agriculture are as under:

- Emphasis needs to be laid on traditional investments such as land development, irrigation and farm mechanization and integration of small and marginal farmers in the mainstream in the case of marketing and exports;
- Focus of investment must be on the entire value chain of agricultural products;

- In particular, reform of agricultural markets and investments in enabling competitive markets deserves priority;
- Public investment in agricultural infrastructure should get a greater priority especially in poorer states viz., Eastern and North Eastern regions for facilitating greater private investment.

### **Trends in flow of investment credit**

5.5 Total institutional credit to agriculture (direct and indirect) during the period 1995-96 to 2002-03, for which the latest data are available, has grown at an annual compound rate of 18.2 %. The share of term credit in total credit is constant at around 35 %

5.6 The continued higher proportion of short-term credit could probably be due to the relatively higher comfort level of those who demand and those who supply credit. Since expenditure on inputs is inevitable to sustain their agricultural operations, irrespective of weather conditions obtaining in the field, farmers prefer to borrow short-term credit as it provides them necessary control over resources through continued liquidity. The suppliers, on the other hand, favour providing short-term credit due to relatively lower lending and risk costs, lower supervision & monitoring costs and a better asset liability management.

5.7 Regional disparities have also been observed in disbursement of investment credit to small and marginal farmers, and others. Further, sub-sector wise deployment of investment credit indicates that the share of minor irrigation and farm mechanization, which together accounted for a sizeable share of around 44 per cent in total investment credit in 1998-99, had declined to 26 per cent in the year 2003-04. In contrast, the category of 'others' comprising storage, marketing, godowns, farm animals, biogas and also indirect investments such as financial assistance for rural electrification, fertilizer production etc., have gained substantially.

5.8 Changes over time, in the inter agency shares in investment credit disbursement is yet another noteworthy feature. The present trend indicates that in view of the structural weaknesses of cooperative banks and the limited presence of RRBs, commercial Banks will have to increasingly shoulder the responsibility of supporting private investment in agriculture. At the same time cooperative banks would need to be appropriately strengthened.

### **Constraints on Investment**

5.9 Major factors constraining growth in investment include:

- i. Meager growth in minor irrigation and farm mechanization, which are the major sub-sectors in primary agriculture;
- ii. Declining public sector investment;
- iii. Limited credit absorptive capacity;
- iv. Lack of effective mechanism for technology transfer and poor extension services;
- v. Inadequate extension services;
- vi. Limited infrastructure for agro processing, storage, warehousing, value addition and marketing;
- vii. Restrictions on purchases outside the mandis;
- viii. Weather aberrations and output price fluctuations;
- ix. Inadequate risk mitigation mechanism; and
- x. Non availability of land records.

5.10 Besides, the flow of investment credit to agriculture is constrained by a large number of factors such as institutional, natural resource constraint, inadequate infrastructure and market restrictions. The following factors in particular affect the banking institutions in deployment of investment credit.

- i. High transaction costs;
- ii. Structural deficiencies in rural credit delivery system resulting in limited outreach;
- iii. Issues related to credit worthiness: Collateral – for low asset base farmers;

- iv. Low volume of loans associated with high risk;
- v. High manpower requirement/branch centric.

In any scheme of things for enhancing investment in agriculture, these constraints will have to be addressed first.

### **Action Plan**

**5.11 Legal Provisions computerisation of land records:** Absence of proper land records in several states is one of the impediments in improving flow of agricultural credit. Particularly in the North-Eastern states, where land is owned by the government or the community and ownership rights are not conferred on the cultivators, the cultivators cannot offer the land as security to banks. This calls for updating land records regularly and making appropriate amendment in the laws pertaining to ownership rights and land alienation, to enable farmers to offer land as a security for obtaining loans above Rs.50,000. There is also a need to explore the possibility of a simple charge on the land/crops in place of mortgage, which involves elaborate procedure and payment of a heavy stamp duty. Other committees had also brought out this issue earlier. The Group exhorts the State Governments to address it at the earliest, as it would remove a major irritant from the path to improving agricultural finance. It is learnt that a computerized land record system in Karnataka, called 'Bhoomi', has successfully reduced the hassles of the farmers. This could be replicated in other States as well.

**5.12 Legal support for recovery :** Poor recovery of loans and increasing NPAs not only affect financial health of the credit institutions, but also arrest the flow of funds to various sectors. While farmer-borrowers need to be educated about the real benefits arising out of loan facilities provided by banks, the banks should, on their part, take steps to provide adequate and timely credit in order to ensure proper end use of funds. The role of State Governments has been repeatedly emphasized by various committees, which examined issues relating to agricultural credit in the past. The Group concurs with them and would like to suggest that State Governments should make suitable amendments in the Public Demand/Revenue Recovery Act and extend all possible help to banks in their

recovery efforts. Banks may also take recourse to the services of the Lok Adalats, for speedy recovery of their dues and even consider outsourcing recovery to government departments like Revenue Department on commission basis.

**5.13 Reforms in agricultural marketing:** The Group is of the opinion that the need for appropriate investments in market cannot and should not be underestimated as they will continue to be the biggest stumbling block for productive and sustainable investments in agriculture. Weak marketing links often deny farmers their due share in price, thereby adversely affecting their cash flows. In some States Agriculture Produce Marketing Committees (APMC) Act restricts the sale of produce outside market yards. Such prohibitive provisions dissuade farmers from undertaking investments. The group, therefore, recommends that such restrictive provisions may be removed.

### **Rural Infrastructure**

**5.14 Improving credit absorption capacity:** Increase in credit flow in a given area depends on credit absorption capacity, which in turn depends on supporting infrastructure in the form of connectivity, power and other linkages including market related linkages like grading and standardizing. Such infrastructure gaps need to be identified and projects prepared by district level functionaries. These projects could be considered for financing under different financing arrangements including RIDF. For prioritizing projects, 'the last mile' approach could be adopted.

**5.15 Designing appropriate products for financing rural infrastructure:** One of the lessons of implementation of infrastructure projects under RIDF has been that proper appraisal and close monitoring result in efficient project management, cost saving and better impact. NABARD should take special steps to facilitate capacity building of credit institutions in appraisal skill particularly in North Eastern States. Further, given the importance of rural infrastructure and limited quantum of funds under the RIDF, there is a case for NABARD to design appropriate products for financing rural infrastructure projects outside the RIDF by mobilizing resources from the market or banks at competitive rates of interest, especially for such projects that are to be implemented through community participation and close involvement of civil society organizations.

**5.16 Water management for improving productivity:** Water is becoming increasingly scarce and a limiting factor in agricultural growth. Improved water use efficiency through better management is therefore critical, particularly when the cost of creating fresh irrigation potential is increasing. The group therefore recommends that the following resource augmenting projects could be integral parts of the credit plans:

- i. Drawing up a time bound program for exploitation of ground water in areas that have the potential;
- ii. Promoting micro irrigation projects like drip and sprinkler in water scarce regions;
- iii. Encouraging conjunctive use of water and rain water harvesting through farm ponds;
- iv. Revival of traditional rain water harvesting methods;
- v. Proper upkeep and maintenance of canals;
- vi. Exploring possibilities of use of tanks for promotion of reservoir fisheries;
- vii. Regular updating of geo-hydrological data and extending extension services to locate the well sites;
- viii. Formation of water users' associations for judicious water use; and
- ix. Appropriate targeting of the State government subsidies that are given for different crops brought under micro irrigation system.

**5.17 Investments in water conservation:** The Group wishes to caution against over development of minor irrigation. While recognising that investment in this sector is important for augmenting resource potential of land and reducing impact of climatic uncertainties, it needs to be ensured that incremental investment in this sector is not chasing diminishing water resources at increasing costs. Investment in water conservation should instead be aimed at improving the effectiveness and efficiency of water use. Commercial banks may like to review their portfolios and focus on supporting cost effective sprinkler, drip, and other such systems, not only in water scarce but also in water surplus areas.

**5.18 Participatory community investments:** Recent experience of NABARD with community based watershed development projects in dry land areas under the Watershed Development Fund (WDF) has shown that watershed projects, when

designed, implemented and maintained through community participation and voluntary community labour, are better executed in terms of technical parameters and lead to substantial downstream benefits for all participants. These projects not only use surface run-off more effectively, but more importantly augment ground water resources. As a spin-off to community participation, they induce desired changes in crop and animal husbandry practices and facilitate their integration with the project parameters as natural extensions. Special banking plans may also be prepared for the developed watersheds. Watershed development projects implemented by NABARD under Indo-German Watershed Development programme (IGWDP) in water scarce districts of Maharashtra could be worth replicating in other states having similar environment.

**5.19 Strengthening infrastructure:** The State Governments' efforts in strengthening infrastructure need to be stepped up. In states where agriculture production base has been established and agriculture is diversified, promotion of public private partnership model for building infrastructure needs to be encouraged. Enabling policies to attract private investment in irrigation projects and setting up of power transmission and distribution lines in rural areas, setting up of private R & D units and herbal parks may have to be put in place. Different public-private partnership (PPP) models like Annuity based model, First Loss Deficiency Guarantee (FLDG), Risk Guarantee, Outright Payment Contract, Least Subsidy Model, etc could be tried to have effective partnership.

5.20 The Group observes that the public investment, particularly in medium and major irrigation, has suffered. In order to reduce the regional disparities, the Group recommends that the public investment in medium and major irrigation needs to be stepped up, particularly in poorer states in the eastern and north eastern regions where potential exists. This will encourage private investment.

### **Institutional credit mechanism**

**5.21 Integrating short term with term credit:** Kisan Credit Cards (KCC) have been in use for some time now, and some banks have also started integrating term credit as well as an element of consumption needs with the crop loan requirements

in the same KCC. This practice needs to be made more widespread. Banks could consider determining the normal credit requirements in a given geographic area, for various sizes of holdings and for investments that farmers generally make on their farms such as crop practices, animal husbandry activities, purchase of small implements, etc., Banks can arrive at safe limits that could be sanctioned under a given size of holding, thus obviating time taken for case by case appraisal. The Group also here reiterates the recommendations of the Expert Group on CDR in respect of financing large number of tenant farmers, sharecroppers and oral lessees by enhancing consumption component under KCC in such cases. Banks may also consider developing general- purpose credit cards with special features such as flexi repayment schedules, etc.

5.22 In order to make KCC more client-friendly, banks may also think of allowing transactions on KCC limits through other than designated input and equipment dealers. In this context simple off-line IT enabled cards could go a long way in facilitating the process. Banks could also consider charging differential rates of interest within a narrow band to borrowers depending on their credit utilisation and repayment performance, thereby reducing transaction costs and improving repayments. Some cooperative banks have put this into practice with great success. Commercial banks and RRBs could study these models with a view to replicating them.

### **Supplementary Banking Mechanism**

5.23 **Reaching the 'unreached'**: Dispersed nature of agriculture demands dispersed agricultural banking, entailing a higher transaction cost, adversely affecting profitability of banks. Under such circumstances banks may have to adopt different methods such as hub and spoke model, satellite banking, etc., to increase the outreach for filling up structural inadequacies. Banks may have to resort to alternative/ supplementary mechanisms of rural credit delivery such as SHGs, JLGs, MFI/ NGO/ Cooperatives/ Agent Base banking, etc., for cost effective channels of credit delivery. Collateral issues of poor borrowers could also be effectively addressed through this mechanism.

5.24 **Agency model for credit delivery:** In this connection, the Group has studied with interest the recent budget announcement relating to banks' adopting the 'agency model' for providing credit through NGOs, rural kiosks, etc., which would help in expanding their outreach, as also in reducing transaction costs, both to banks and borrowers. It is given to understand that the related issues are being examined by Reserve Bank of India.

5.25 In particular, development of the SHG bank linkage programme has shown that clientele hitherto untapped and thought unbankable can be successfully brought under banking fold in a highly profitable manner with designing of appropriate credit products and a delivery mechanism that reduces transaction costs at both ends i.e. to both banks and clients. It has also pointed out that traditional collaterals are better substituted through non-tangible collaterals like peer pressure and community acceptance. Banks therefore need to closely study the local social and cultural systems and harness them into designing of newer savings and credit products. In areas like the north eastern states where traditional community structures are strong and significant, banks may like to consider using the medium of the community structures for client identification and credit monitoring.

5.26 **Promoting supplementary credit delivery channels:** Promotion of investments in association with NGOs / Voluntary Agencies could also be explored. Experiments in horticulture development in Uttarakhand and Wadi project implemented by NABARD in the tribal area of Gujarat could be good examples.

5.27 **Outsourcing of monitoring services:** Monitoring and supervision of projects are essential components of project lending. This aspect could also be outsourced by the banks to the agriclinics or to unemployed agricultural graduates on a fee based arrangement.

5.28 **Strengthen Extension Network:** Technological progress and technical efficiency are the two important factors, which influence investment decisions of the farmers. Both, to a large extent, depend upon the stock of information and knowledge available and its dissemination at the grassroots level. While R & D in

agriculture increases stock of scientific knowledge, extension services facilitate dissemination of knowledge.

5.29 Historically, during green revolution period, the public research and extension played a major role because of the ' public good nature of services. In the post green revolution period however, the efforts in this direction appeared to be inadequate in terms of their coverage and outreach. While public extension service should continue to play a lead role in diffusion of technology it could be supplemented by farmers organizations, NGOs, cooperatives, corporate private sector, input suppliers, MNCs which are inclining to become active extension agencies to provide information about the inputs as also value addition through post harvest technologies particularly in the well endowed regions. This invites proper coordination to develop a synergy among the various extension services providers as also appropriate regulation and legal provisions to protect the interest of farmers. There is also a need to involve farmers including women in this endeavour for making it more participatory even by charging fees for the services rendered particularly to farmers growing remunerative crops in agriculturally developed areas. In the disadvantaged areas and for low asset based farmers, however the public sector intervention need to be restructured and strengthened.

5.30 **Reorient R & D activities:** In the changing agricultural environment, R & D in agriculture needs to be demand driven, with involvement of farmers in technology development. While public sector should continue to play a catalytic role the entire R & D process could be made more pluralistic by involving public, private farmers' organizations, voluntary sector. There is a need to refocus R & D agenda from crop centric research in irrigated areas to location specific cropping systems in dry lands and hills and tribal areas. Greater attention may have to be paid to horticulture crops which are land and water saving. Efforts may also be made in harnessing remote sensing technologies to optimize application of inputs and exploring areas in emerging capital-intensive biotechnology. The Group feels that major, medium and minor irrigation projects sanctioned should have a component of R & D.

5.31 **Role of NABARD in promotion of R & D in agriculture:** In refocusing the agenda for R & D, NABARD is expected to play a catalytic role through policy advocacy. NABARD may have to identify the research gaps and establish links between the Agricultural Universities and the centres from where the technology is propagated to the farmers. NABARD may also earmark a certain amount of loan component of a project for R & D purposes.

#### **Risk Mitigation**

5.32 **Development of suitable financial products:** With the emphasis shifting to financing of the value chain, there is also a need for stepping up of pledge financing, credit for marketing and introduction of Negotiable Warehousing Receipt System. The Group notes that at present, produce (Marketing) Loans of up to Rs.10 lakh, given by banks for durations not exceeding twelve months to farmers against the pledge of warehouse receipts, are treated as direct finance to agriculture under priority sector lending, provided the farmers had earlier availed of crop loan from the same bank. The Group feels that in view of the importance of post-harvest operations including storage of agricultural produce, there is a case for de-linking it from the requirement of obtaining crop loan from the same bank. Suitable action may be taken by the Reserve Bank in this regard.

5.33 **Commodity Exchanges:** The measures like price discovery through commodity exchanges (NCDEX) and derivatives may help farmers cope with the price risk, provided proper checks and balances are put in place. Weather insurance, yet another related product, may help in shifting risk away from the producer. However to what extent volume risks could be hedged through this need to be examined further.

**5.34 Commodity futures:** There is need to develop commodities futures market by allowing banks to operate on behalf of farmers and participate in commodity derivatives. This would encourage the investors. RBI may therefore, prescribe upper limit to banks for their participation in the commodities market. This would necessitate amendment of the Banking Regulation Act, 1949. This would be beneficial for all the stakeholders - market, banks, and the farmers.

**5.35 Establishment of risk fund for fragile agriculture:** Keeping in view the fragile base of agriculture in less developed States particularly in north eastern and hilly States, it would be worth exploring the possibility of establishing a risk fund to meet natural calamities like flood, tsunami, hailstorm, pests and diseases, cyclone etc. This may call for higher allocation through RIDF.

**5.36 Collateral free loaning for low asset based borrowers:** To address constraints of low credit absorption capacity, and limited credit worthiness of small and marginal farmer the Group recommends the designing of appropriate products like Risk Fund, especially for this borrower group. Risk Fund with contributions from Government and banks as also developing Special risk mitigation packages. Measures like formation of SHGs, Joint liability Groups and alternative models like the 'Grameen' need to be explored. Weather insurance schemes like that floated by ICICI-Lombard and IFFCO-TOKYO could also be examined.

**5.37** A key aspect is to promote investments so as to overcome imperfections in markets for agricultural produce. This could take the form of supporting innovative products like 'warehouse receipt financing' as well as fostering competition in agricultural markets in rural areas. The Group agrees with the recommendations made by the Working Group on Warehouse Receipts & Commodity Futures (2005), recently appointed by Reserve Bank of India that collateralizing agriculture inventories will lead to an increase in availability of credit and reduce cost. Warehouse receipts can be combined with price hedging instruments such as 'put' option which could encourage banks lending to agriculture.

**5.38 Use of technology for dissemination of market intelligence:** Group is of the view that progress made in information technology should be made use of in

agriculture lending by banks to reduce cost of transaction to both banks and farmers. IFFCO has developed chain of automated kiosks being operated on touch screen basis at cooperative level. These kiosks contain information on crop technology in local languages. They are also providing updated *mandi* information on prices of various products along with arrivals. e-Choupal of ITC is yet another example whereby farmers can have access to information, enabling them to take appropriate decisions for their benefits.

**5.39 Sharing of borrower information:** Credit information tracking and sharing through establishing a Credit Information Bureau enables lenders to provide incentives to those with good credit history and provides a strong deterrent to wilful default. This will also facilitate transition to individual lending programmes from group lending over time. Ministry of Rural Development, Government of India has undertaken an initiative in collecting information on census basis of all the households in the rural areas. Information generated from these surveys could be used for supplementing information on credit profile of borrowers. The National Loans Register in South Africa is one such example. The bureau has been formed as a unique collaboration between the public and the private sector<sup>4</sup>. It provides negative feedback on default behaviour of clients. The Philippine National Bank, Bangko Sentral Pilipinas (BSP) of Philippines is in its final stages of setting up a similar credit bureau for financial institutions catering to the needs of the unorganized sector<sup>5</sup>.

#### Value Chain

**5.40 Financing value chain:** Banks should increasingly adopt financing of the 'value chain'. They should put in place suitable loan policies in this regard keeping in view the local practices, and facilitate replication of scalable ideas. In this connection, investment potential in emerging areas such as grading, standardising, certification, setting up of laboratories for research and handling facilities needs to

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<sup>4</sup> Micro Finance Regulatory Council of South Africa was set up on June 1, 1999 and was identified as the official and single regulator of all money lending transactions falling within the scope of the Usury Act Exemption Notice <http://www.mfrc.co.za/detail.php?s=340>

<sup>5</sup> Lirio, Ricardo P. Managing Director SEII, Supervision and Examination Sector, Bangko Sentral ng Pilipinas in the *National Conference on "Regulation of Microfinance in India"* New Delhi, India 19 – 20 January, Organized by Sa-Dhan, 20

be explored. Bank assistance provided for establishing supply chain for apples in Himachal Pradesh is noteworthy in this regard. The bank has not only provided finance to the investors in supply chain but also given guidance to them which has enhanced the income realization to the apple growers with reduction in the loss of produce. The terminal market like one created by NDDDB for auctioning of horticulture produce in Bangalore is another example of increasing market realization of the farmers where by both growers and buyers are being brought on the same platform.

5.41 The Group also recommends that in the States where private investment in infrastructure development would not be adequately forthcoming, value chain infrastructure could be promoted through RIDF.

#### **Implementation / Doubling of credit**

5.42 **Location specific strategy** : The Group is of the view that for increasing flow of investment credit, strategy has to be location specific in tune with weather conditions and resource endowments in different regions, instead of a single, uniform strategy. The region /location specific strategy should be supported by adoption of project approach entailing identification and formulation of area based investment projects. Agriclincs and local agricultural universities could be of use in identification and formulation of projects.

5.43 **Minimising regional disparity**: The Group is of the view that reduction in the regional disparity needs to be refocused. The group therefore recommends two distinct approaches for developed and less developed States.

5.44 **Enlarging the focus from primary production to value addition**: The present system of financing agriculture is predominantly 'crop-based'. The Group is of the view that while the credit requirements of the primary production should continued to be focused by the credit institutions, they may increasingly cater to the credit demand for diversification of agriculture and for a series of other value chain activities. The relative availability of investment opportunities would differ from state to state. However, in the States such as Maharashtra, Gujarat, Andhra Pradesh, Tamil Nadu, Kerala, Punjab, Haryana, Himachal Pradesh and West

Bengal, where agriculture production has been stabilised there could be more investment opportunities in upstream and downstream activities of supply chain such as inputs, production, processing and marketing including exports. These States are also experiencing a significant change in the output mix in agriculture. A substantial shift is reflected from food grains to non-food grains and within food grains from coarse cereals to finer cereals. The decline in the area under coarse cereals is accounted for by a progressive shift on favour of market-oriented crops like oilseeds, cotton, sugarcane, fruits and vegetables. Similar change in the input structure is observed in the form of adoption of modern technology through increased use of fertilizers, insecticides, mechanical power and improved seeds. Allied activities are also picking up fast in these states as a supplementary source of income. While financing of existing activities may be continued to the extent required, particularly in these states, efforts need to be simultaneously made by credit institutions to increase credit flow to upstream and downstream activities in the value chain such as those mentioned above. State Governments also have to be more pro-active for promoting agriculture related activities and providing infrastructure.

**5.45 Strengthening of production base :** Group recognizes that in the less developed states viz., Chhattisgarh, Bihar, Orissa, Uttar Pradesh, Jharkhand, Madhya Pradesh, Rajasthan, Uttaranchal and Jammu & Kashmir a different strategy needs to be adopted. Though detailed sub-sector wise data are not available the group is given to understand that even the traditional types of investments are on a lower key in these States. Hence, investment priority in these States is to be given for strengthening production base of agriculture through enhancing land productivity and other resources deployed. The Group feels that for increasing investment credit in these states, the unit of credit planning should be the 'district' with focus on those districts which have credit deposit ratio of less than 40 as explained in the subsequent paragraphs.

**5.46 Support for diversified agriculture:** Conventional investments like land development, on-farm development, farm mechnisation, etc. assume importance,

particularly in the less developed states. Besides, loan support on an increasing scale could also be considered for animal husbandry and aquaculture activities, particularly inland fisheries in the eastern states. Wherever possible, diversification and commercialization of agriculture by way of support for plantation and horticulture crops, aromatic and medicinal plants could be considered. In tribal areas, marketing and processing of produce need to be strengthened.

### **Thrust Areas**

5.47 About 24 million hectares of wasteland and about 17 million hectares of fallow land in the country are presently not available for cultivation. A large proportion of this area could be brought under cropping if adequate investment is made in soil treatment. NABARD, in consultation with State Governments, could play a lead role in preparing bankable projects for development of such land.

5.48 **Special treatment for districts having low CDR:** About 67 per cent of the total 196 districts in major states having a lesser per capita SDP than national average i.e. less developed States and 32 per cent of 187 districts in major States having a higher per capita SDP than the national average i.e. developed states have CDR less than 40 per cent. Recommendations made by the Expert Group on CD Ratio appointed by the GOI are relevant for accelerating credit flow in these districts. The Group, therefore, reiterates that

- i. Unit for implementation of plans for accelerating credit should be the district.
- ii. Credit flow to be assiduously monitored so as to conform to localised sectoral potentials through available fora like the DLCC.
- iii. In the districts where CD Ratio is less than 40%, there is a need to focus more closely on sub-sectoral credit allocations with an implementable action plan for rural infrastructure and creation of linkages.
- iv. Constitution of a Special-Sub Committee of the DLCC to undertake this exercise on a bi-monthly basis.
- v. Close monitoring of the flow of term and working capital credit.
- vi. As agriculture is likely to be the main occupation for a majority of the rural population in such districts, it may be worthwhile to monitor flow of credit per

- cultivated hectare to see if adequate credit is flowing in the district to support agriculture.
- vii. Banks will have to look very seriously at available untapped potential and deploy adequate trained staff with the right aptitude in their branches.
  - viii. State governments will have to seriously look at the infrastructure bottlenecks in these districts.

**5.49 Develop marketing links:** Contract farming can provide a mechanism whereby, small and marginal farmers can participate in diversification and commercialization of agriculture. While contract farming has the potential to offer a better deal to the small and marginal farmers, a few issues need to be addressed upfront before it can become truly helpful. The Group would like to urge up on the State Governments to put in place the necessary legal framework to facilitate smooth operation of contract farming. Once such a legal framework is in place, banks can provide finance, including investment credit, to the parties involved in the process. *Rythu Bazars* in Andhra Pradesh is an example where producers and consumers are brought on the same platform and a large number of intermediaries are eliminated. The ***Apni Mandis*** is another experiment in Punjab which particularly aimed at giving small farmers around cities direct access to the consumers by eliminating the middlemen could be replicated.

**5.50 Review HR policies:** Commercial banks are today focussing on core banking solutions together with rural lending. It is, therefore, likely that human resource management in banks may come under strain, as some of them do not have human resource policies specific to their rural banking operations. As deceleration in rural credit has sometimes been attributed to the absence of personnel with appropriate attitudinal and skill sets to man rural branches, banks may like to review their human resources policies pertaining to staff promotion, training, incentive structure and attitudinal changes so as to attract competent and dedicated staff having knowledge of agricultural science and small and medium scale industries. Some of these issues in respect of cooperatives are being addressed by the two Task Forces on Short Term and Long term Cooperative

Credit Structures under the chairmanship of Prof. A Vaidyanathan appointed by the Government of India. RRBS may have to focus on these issues in consultation with sponsor banks.

**5.51 Sharing the pool of technical expertise:** In the post-VRS situation, maintaining specialized and technical personnel in each branch may not be financially viable. Hence, arrangements for sharing of a pool of available technical knowledge at the district level could facilitate identification and formulation of projects. The Group also feels that retired bank employees and technical personnel could be involved on a voluntary basis in project formulation and credit plan preparation particularly, in backward districts, as is done in Kerala under peoples' campaign.

#### **Doubling of Credit Dispensation**

**5.52** The Government of India had announced a package of measures in June 2004 aimed at doubling of credit to agriculture in three years. One of the measures announced related to each rural and semi-urban branch of the commercial banks taking up at least two to three new investment projects in the areas of plantation and horticulture, fisheries, organic farming, agro-processing, live-stock, micro-irrigation, sprinkler irrigation, watershed management, village ponds development and other agricultural activities. Pursuant to this, NABARD has prepared State/area specific model bankable projects and forwarded the same to banks for their use. The Group feels that banks should make use of the model schemes for formulating projects in their areas of operation. The Group is aware that all rural branches of banks may not possess the technical expertise to evaluate and appraise different types of projects in agriculture. In that case, there will be a need for outsourcing such expertise. The Group is of the view that NABARD, through its District Offices and in consultation with the District Consultative Committees, should build up a pool of expertise, which can be accessed by banks at the time of need.