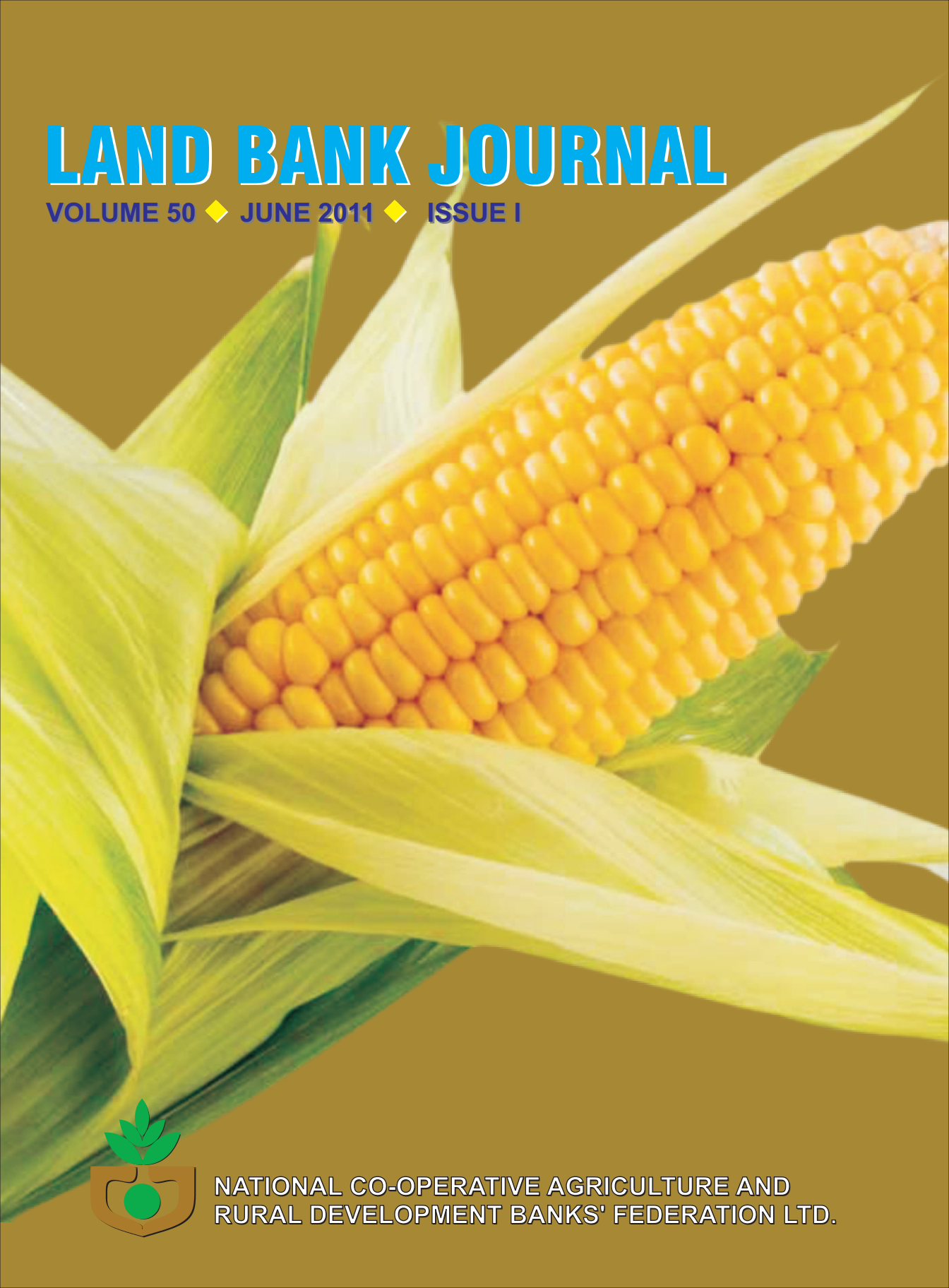
LAND BANK JOURNAL

VOLUME 50 ◆ JUNE 2011 ◆ ISSUE I



NATIONAL CO-OPERATIVE AGRICULTURE AND
RURAL DEVELOPMENT BANKS' FEDERATION LTD.

Volume 50 **Issue I**

LAND BANK JOURNAL
(QUARTERLY)

JUNE 2011

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Managing Editor

Published by;

NATIONAL CO-OPERATIVE AGRICULTURE AND RURAL DEVELOPMENT BANKS' FEDERATION LIMITED

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Opp. Railway Station, Vashi, Navi Mumbai-400 703
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E-mail : nafcard@vsnl.com
Website : www.nafcard.org • Price ₹ 15/. per copy

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EDITORIAL

The Loan system for extending refinance to State Cooperative Agriculture & Rural Development Banks introduced by NABARD recently is a welcome move but for its timing and lack of planning in implementing the same. The Federation and SCARDBs were advocating for switch over to loan system from debentures with a view to streamlining procedure and to avoid multi layer approvals of State Govt for each drawal of refinance by SCARDBs through debentures. However, implementation of the loan system mid way through the year coupled with lack of planning and preparations at the level of NABARD as well as SCARDBs not only deprived the likely gains of loan system but also resulted in serious problems for the institutions. ARDBs have been raising funds only through debentures for over 80 years. The statutes and procedures of ARDBs are, therefore, attuned to debenture system. In many States, there are no provisions in the statutes to draw funds from NABARD other than through debentures.

SCARDB Acts in some States also do not permit State Govt to extend guarantee to NABARD for its funding to SCARDBs other than through debentures. Introduction of loan system without giving time for SCARDBs and State Govts to make necessary changes in the statutes and procedures, therefore, resulted in further delays and difficulties in drawing refinance instead of avoiding it. NABARD also announced certain changes in its refinance policy, which heavily impact the liquidity position of SCARDBs. The reduction in the quantum of refinance to 90% of loans and linking repayment period of refinance with the period of corresponding loans are the two policy changes which SCARDBs find extremely difficult to cope with.

SCARDBs are now required to involve owned funds to the extent of 10% in their long term lending. Similarly, given the extent of overdues under agricultural loans, they also require substantial amount of funds to complete repayment of refinance within the period of loans. Being non resource based institutions without permission to accept deposits like other banks, raising additional resources to meet these requirements will be an impossible task for most of the SCARDBs. It is necessary that NABARD should review these policies and postpone the implementation of loan system till the beginning of next year to avoid a fresh crisis in this sector, which is in its own long term interest.

K. K. Ravindran
Managing Editor

An Economic Analysis of Alternative Methods of Cattle Dung Disposal in Ludhiana City of Punjab

Mini Goyal and Anurag Choudhary*

Introduction

Dairying in India has emerged as an independent agricultural enterprise. A large number of dairy farms have come up in the urban and suburban areas of the country, which fulfill a part of the need of urban population (Chard etal 2002). These dairies run on commercial basis, help in increasing the supply of milk to the urban population and supplement nutrients in their diet. Besides the large quantities of milk, a considerable amount of dung is also produced. On an average one dairy animal produces around twenty thousand kilograms of cow dung a year (http://www.planetart.com). This dung is the waste produced by animals. The disposal of the waste depends upon the one's economic needs, availability of time and the efforts one can put in. Anyhow for some of the dairy farmers, it is a problem but for others, may be few, apart from the income from milk, the cattle dung so produced also augments their income. Rapid growth of urbanization, upcoming of residential buildings around the dairy complexes has led to the environmental problems especially with the disposal of cattle dung in the cities. If it accumulates, it releases offensive odors into the surrounding area; it provides a spawning ground for vermin. On drying, it is a source of unsavory dusts; in rainstorms, it produces runoff high in biochemical oxygen demand and it may be a source of certain infectious agents found in streams. In the absence of storing capacity, the dairy farmers in cities generally use water extensively for flushing the waste into drains. In this way a lot of potable drinking water is wasted and it leads to pollution and other related problems. Cow dung is also recycled as domestic fuel or farm manure. Crowded together at a new breed of mega farms livestock produce three times more waste than people, more than can be recycled as fertilizer for nearby fields (Hobson and Robertson 1977). The excess manure gives off air pollution and it is the fastest growing large source of methane, a green house gas (Fahrenthold 2010). A good source of fuel, manure and energy gets

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wasted or remains under utilized in the way. These uses may not be economically as rewarding as its use in bio-gas plants. In northern part of the country, cases of community run goushalas have been noticed (Anonymous 2007) to run bio gas plants for conversion of cattle waste to electrical energy. This energy may be provided to micro enterprises such as milk chilling plants, flour mills, power irrigation system and the drinking water. The waste slurry can also be used as high quality organic compost. Therefore, the Ministry of Non Conventional Energy Sources has a great interest in implementing several demonstration projects in this field. The cattle dung based energy conversion power plant with a General Electric (GE) energy Jenbacher engine at the dairy complex Haibowal, Ludhiana is the first of its kind demonstration project which utilizes cattle dung for generation of electricity. It brings the benefits of odour control, prevents air and water pollution, reduces green house effect and captures biogas and converts it into energy and produces one mega watt electricity per day. The power so generated is supplied in Punjab State Electricity Board grid at Kitchlu Nagar Substation through an 11 Kilowatt dedicated transmission line. Moreover, the dry manure, so obtained, can be easily bagged and transported as it contains highly valuable nutrients for crop production especially organic farming. Keeping in view the above methods of the cattle dung disposal, which one may be more economic for the dairy farmer, the present study was carried out with the following objectives:

1. To analyse the various methods of disposal of cattle dung.
2. To analyse the economics of various methods of cattle dung disposal.

Methodology

The study was conducted in Haibowal Dairy Complex in Ludhiana city of Punjab State. A complete list of dairy farmers in Haibowal Dairy Complex was made. The three categories of small, medium and large dairy farmers were made on the basis of animals kept by them, by using the cumulative cube root frequency method (Singh and Mangat 1996). The farmers with number of animals from 1 to 62 were classified as small farmers, with number of animals from 63 to 162 as medium and with number of animals from 163 to 345 were categorized as large farmers. A sample of total 60 dairy farmers comprising 45 small, 15 medium and 5 large dairy farmers were randomly selected by

using proportional allocation method. A self-designed questionnaire was prepared and primary data regarding the methods of disposal of cattle dung, costs, investments, returns and income from various method of cattle dung disposal were taken and compared. Fixed costs as well as variable costs were calculated. The variable costs include labour cost, electricity, diesel cost and interest on variable costs. Labour cost includes the cost of labour employed by the dairy farmers on loading the cattle dung to the rehras (carts) brought by the plant employees.The net returns were estimated by deducting total cost from gross returns. The capital-output ratio, share of fixed and variable cost in the capital-output ratio, benefit-cost ratio, benefit-cost ratio at variable and total cost and pay back period were calculated by the following formulae:

(a) Capital- output ratio = Gross returns/ total cost

(b) Share of fixed cost in capital-output ratio = $\frac{\text{Capital output ratio}}{\text{Total Cost}}$ x Fixed Cost

(c) Share of variable cost in capital-Output ratio = $\frac{\text{Capital--output ratio}}{\text{Total Cost}}$ x Variable Cost

(d) Pay back period = Initial fixed investment / Annual net returns

(e) Benefit cost ratio (at variable cost) = Returns over variable cost / Variable cost

(f) Benefit cost ratio (at total cost) = Returns over total cost/ total cost

Results and Discussion

The study revealed that mainly following four methods of cattle dung disposal were prevalent among the dairy farmers under the study :

Method A-The method of draining away the cattle dung by using the submersible pump:

The method of draining away the cattle dung by using submersible pump was the most popular method of disposal of the cattle dung among the dairy farmers. This method involves washing away the cattle dung by applying the high pressured water showers on the cattle dung scattered on the dairy floors. One Horse Power submersible pumps are used in this activity. The cattle dung so washed is drained into the sewage pipes that further open up into a city open drain called *Budhha Nallah* flowing along the Haibowal dairy complex which gets highly contaminated by the cattle dung drained into it. Considering the contamination of

the *Budhha Nallah* the Municipal Corporation of Ludhiana took strict action by issuing challans since 2007. The dairy farmers in dairy complex were forced to build the decantation tanks of concrete and cement by the efforts of the Municipal Corporation. Whatsoever dung is washed is stored in these tanks. Water is then passed through the floors and the tank. The toxic elements present in the dung get washed away in this process and the remaining dung settles down. As a result, comparatively very less quantity of dung and toxic elements present in the dung are drained into the nallah. Though this process reduces the toxicity of dung but the toxicity is not completely destroyed. Possible reasons for practising this method are as follows:-

a. Social constraint: The majority of the dairy farmers practicing this method belonged to the high sections of the society and high castes as well. So, a feeling of superiority compels them to wash away the cattle dung rather than to make its economic use.

b. Time constraint: Though the Method D, discussed later, is comparatively a respectable work than Methods B and C, and the dairy farmers have no hesitation in following this method but the problem arises at time of draining the dung and picking the cattle dung by the employees of the plant coincides.

c. Other sources of income: Along with the dairy business though a small one, most of the farmers have other sources of income also such as property dealing, shops for selling the milk and other by-products, selling the cattle, etc.

d. Easy: Method A is considered easy to follow by the dairy farmers. They are not ready to take the trouble of indulging in Methods B and C.

e. Located far off: Dairy farmers were ready to follow the method D but dairies being located away from the biomethanation power plant the employees of the plant went to the nearby dairies.

Method B-Making the cow dung cakes out of the cattle dung:

Table 1 shows different methods of cattle dung disposal among the sampled dairy farms. This method is the most economical of all the methods. The method is totally manually operated operation. In this method the cattle dung is

Table 1 Methods of Cattle Dung Disposal by different catergories of Dairy Farmers

(No. of farmers)

Method/Farm size	A	B	C	D	Total
Small	14 (35.00)	9 (22.50)	7 (17.50)	10 (25.00)	40 (100.00)
Medium	7 (46.67)	2 (13.33)	1 (6.67)	5 (32.26)	15 (100.00)
Large	2 (40.00)	1 (20.00)	1 (20.00)	1 (20.00)	5 (100.00)
Total	23 (38.33)	12 (20.00)	9 (15.00)	16 (26.67)	60 (100.00)

carried from the dairies by a transporting vehicle called *rehra* to the place (land) so rented. Labourers especially women are hired for this purpose. Cattle dung is given a circular shape by hands in the form of a cake and is left for drying in sunlight. These cakes (*pathi*) so produced are very good fuel for cooking and burning for producing fire. The weights of these cattle dung cakes vary according to their demand. Two types of cow dung cakes were prevalent in the area of study. First was the dung cake of approximately 2 kilograms, which was sold to the householders and second was of approximately 4 kilograms, which was sold to factories such as dying units in the local market.

Method C-Making the farm yard manure out of the cattle dung:

This method was the same as method B in the initial stage but differed from the above method in the terms of product. The cattle dung is picked and transported in the same way as in the method B. It is dumped on the land that is rented by the dairy farmers. The dung so dumped is scattered by manual operations on the land in open sky and is exposed to sun and rain. After two three months this scattered cattle dung gets converted into Farm Yard Manure (FYM). This farm yard manure is high in nutrient contents as compared to the fresh dung. It has 0.5% of nitrogen (n) content, 0.5% of phosphorous (p) content and

0.25% of potassium (k) content. This form of cattle dung when applied to the soil, improves the nutrient content of the soil. FYM also acts as very good fertilizer. It is sold to the local farmers for agricultural operations. It is also taken by the local residents for their house-gardens.

Method D- Selling the cattle dung to the high rate bio-methanation power plant located in the Haibowal dairy complex:

This method is different from the above three methods as it is environment friendly. In this method, the cattle dung is simply sold to the high rate bio-methanation power plant. The employees of the plant come along with the transporting vehicles (*rehra*) and take away the cattle dung to the bio-methanation power plant where it is used as a raw material for first generation of methane gas and then this gas is converted into electrical power. In this operation the labour employed by the dairy farmers work along with the employees of the bio-methanation power plant and in turn they are paid by the dairy farmers themselves.

As per the study (table 1) there were four methods by which the dairy farmers practiced in disposal of the cattle, dung. According to the Table 1, out of the sample of 60 farmers, 23 farmers (38.33%) of them were practicing method A i.e. were draining the cattle dung with high pressure of water. Those who were draining the cattle dung, 60.87% were the small farmers, 30.44% were medium and 6.69% were the large farmers. 20% of farmers were making cow dung cakes out of the cattle dung. Among those dairy farmers who were disposing off cattle dung through this method, 75%, 16.67% and 8.33% were the small, medium and large dairy farmers respectively. Only 15% of the total dairy farmers in the sample were found practicing the Method C i.e. were making farm yard manure out of the dung, out of which 7.78% were small farmers and 11.11% each were medium and large dairy farmers. Nearly 26.67% of the dairy farmers were practicing the Method D i.e. were selling the dung to the power plant, out of which majority (62.50%)were small and 31.25% and 6.25% were the medium and large dairy farmers respectively.

From the study, it was found that (Table 2) on an aggregate, 20034.03 thousand kilograms of the cattle dung was disposed off annually by the dairy farmers. Around half of the cattle dung (48.36%) was disposed away uneconomically by Method A. More

Table 2 Quantity of Cattle Disposed by Different Categories of Farmers by Different Methods of Cattle Dung Disposal

('000/Per annum)

Method/Fam Size	A	B	C	D	Total
Small	4133.88 (60.13)	760.89 (11.07)	567.00 (8.25)	1412.82 (20.55)	6874.59 (100.00)
Medium	2858.40 (39.81)	1089.00 (15.17)	498.60 (6.94)	2734.20 (38.08)	7180.20 (100.00)
Large	2694.60 (45.06)	9540.00 (15.95)	756.00 (12.65)	1574.64 (36.34)	5979.24 (100.00)
Total	9686.88 (48.36)	2803.89 (13.99)	1821.60 (9.09)	5721.66 (28.56)	20034.03 (100.00)

than one fourth (28.56%) of the cattle dung was being supplied to the power plant for the generation of electricity while 13.99% and 9.09% were disposed away through Method B and C respectively. Among all the three categories of large, medium and small dairy farmers, a major portion of the dung was disposed away through Method A. Almost an equal quantity of cattle dung was found disposed off through draining it and through converting it into power in case of medium dairy farms. In case of small farmers, a majority of the dung was disposed off by Method A while 20.55%, 11.07% and 8.25% of it was disposed by Methods D, B and C respectively.

An economic comparison of different methods of cattle dung disposal

An economic comparison of different methods of cattle dung on per farmers basis was made. It was found from the study (Table 3) that the capital investment involved in method A was very high (₹42455.73) as compared to ₹13983, ₹13667 and ₹ 1266.67 per farmer per annum for Methods B. C and D respectively. The average total cost was high for Method A, due to more labour requirements for draining away the cattle dung. Moreover, a lot of diesel as well electricity was used in operating the submersible pumps in method A. Therefore, the charges of these

components were added to the total costs. Since all of the cattle dung gets wasted through draining, there were no gross returns for Method A. On the other hand mean gross returns for Method B, C and D were to the tune of ₹ 395761, ₹ 320544 and ₹ 37712.70 per farmer per annum respectively. The annual net-returns per farmer for Method B, C and D were ₹ 250678.43, ₹ 192349.66 and ₹ 6739.04 respectively. Average break-even quantity for Method C was more (94660.12) kilograms which means that dairy farmers will financially survive if only this quantity of cattle dung is recycled in the form manure. The average pay back period was compared of all the methods except A

Table 3 An Economic Comparison of Different Methods of Cattle Dung Disposal by Different Categories of Dairy Farmers

(₹/Farmer/Annum)

Sr. No.	Methods / Particulars	A	B	C	D
1	**Capital Investment**	42455.73	13983.00	13667.00	1266.67
2	Fixed Costs	4591.06	73283.00	73229.00	212.80
3	Variable Costs	169330.94	69256.93	54965.00	30760.90
4	**Total Costs**	173922.00	142539.46	128194.33	30973.70
5	Dung Output (Kgs.)	--	263841.00*	320544.00**	754254.00***
6	Price/Kg.	-	1.50	1.00	0.05
7	**Gross Returns**	-	395761.00	320544.00	37712.70
8	Returns over Variable Costs	-	326504.06	265579.00	6951.80
9	**Net Returns**	-	250678.43	192349.66	6739.04
10	**Break-even quantity (Kgs.)**	-	59258.82	94660.12	18928.00
11	Break - even quantity as % total out put	-	37.24	42.68	2.78
12	**Pay Back Period**	-	2m 12d	2m 19d	2m 23d
13	Capital Output ratio	-	2.38	2.19	1.29
14	Share of Fixed Costs in Capital Output ratio	-	1.22	1.28	1.01
15	Share of Variable Costs in Capital Output ratio	-	1.16	0.91	1.28
16	**Benefit Costs ratio (at Variable Costs)**	-	4.56	4.67	0.31
17	**Benefit Costs ratio (at Total Costs)**	-	1.36	1.18	0.30

* Total dung output in the form of cattle dung cakes.
** Total dung output in the form of farm yard manure
*** Total dung sold to high rate biomethanation power plant

(no net returns) and it was found that there was not much difference in all these methods. Mean pay back period was less in Method B i.e.2 months 12 days, as compared to 2 months 19 days and 2 months 23 days for Methods C and D respectively. However, the mean capital/output ratio in Method B was higher than those of the Methods C and D. It was 2.38 for method B, 2.19 for Method C and

Table 4 An Economic Comparison of Different Methods of cattle Dung Disposal by Different Categories of Dairy Famers

(₹/Cattle/Annum)

Sr. No.	Methods / Particulars	A	B	C	D
1	**Capital Investment**	408.36	201.77	195.81	8.29
2	Fixed Costs	4372.00	105506.00	105406.00	139.00
3	Variable Costs	1174.08	712.49	593.22	120.76
4	**Total Costs**	1217.80	1767.55	1647.28	172.16
5	Dung Output (Kgs.)	-	2333.51*	2989.80**	4379.39***
6	Price/Kg	-.	1.50	1.00	0.05
7	**Gross Returns**	-	3500.26	2989.80	218.97
8	Returns over Variable Costs	-	2787.77	2396.59	48.21
9	**Net Returns**	-	1732.71	1342.53	46.81
10	**Break-even quantity (Kgs.)**	-	882.90	1314.30	126.36
11	Break-even quantity as % total output	-	37.83	43.95	2.88
12	**Pay Back Period**	-	0.12	0.15	0.18
13	Capital Output ratio	-	1.98	1.81	1.27
14	Share of Fixed Costs in Capital Output ratio	-	1.18	1.16	0.01
15	Share of Variable Costs in Capital Output ratio	-	0.80	0.65	1.26
16	**Benefit Costs ratio (at Variable Costs)**	-	3.91	4.03	0.28
17	**Benefit Costs ratio (at Total Costs)**	-	0.98	0.81	0.27

* Total dung output in the form of cattle dung cakes.
** Total dung output in the form of farm yard manure
*** Total dung sold to high rate biomethanation power plant.

1.29 for Method D. Average benefit-cost ratio at total costs were higher for Method B (1.36) as compared to Methods C (1.18) and D (0.30) the reason being that the price per kg was high for cow dung cakes in method B (₹1.50/kg) than the manure in Method C (₹ 1.00) and the cattle dung supplied to power plant under Method D (₹ 0.50).

Another comparison of different methods of cattle dung disposal (Table 4) was made on per cattle basis. Mean of different economic parameters of all the Methods A, B, C and D were compared. Per cattle mean capital investment involved in Method A was high (₹ 408.36) as compared to other methods i.e. ₹201.77 for Method B, ₹ 195.81 for Method C and ₹ 8.29 for Methods D. Mean total costs were ₹ 1217.80, ₹1767.55, ₹ 1647.28 and ₹ 172.16 for the Methods A, B, C, and D respectively. Since all of the cattle dung was drained so there was no input as well as output, there were no gross returns for Method A. Per annum per cattle mean gross returns for Method B, C and D were ₹ 3500.26, ₹ 2989.80 and ₹ 218.97 respectively. Per annum per cattle net-returns were the highest in Method B (₹1732.71) whereas these were the least in Method D (₹46.81). Average break-even quantity for Method C was the highest (1314.53kg) as compared to Method B (882.90 kg) and Method D (126.36kg). If the average pay back periods were compared of all the Methods except A where there were no returns, then there was not much difference in all these methods. However the mean capital/output ratio in Method B was higher than those of the Methods C and D. It was 1.98 for Method B, 1.81 for Method C and 1.27 for Method D. Average benefit-cost ratio at variable cost was higher in Method C whereas average cost benefit ratio at total cost was higher in Method B as compared to Methods C and D. Benefit cost ratio both at variable cost and at total cost were least for Method D, the reason being a nominal price (₹0.05/per kg) of cattle dung supplied to the power plant under Method D.

Conclusion

Draining away the cattle dung with high pressure of water, making the cow dung cakes, making farm yard manure out of the cattle dung and selling the cattle dung to the high rate bio-methanation power plant located in the Haibowal dairy complex were the four methods of cattle dung disposal prevalent among the dairy farmers taken under the study. A majority of the farmers drain of the

cattle dung due to some socio-economic reasons. About half of the cattle dung was disposed of by Method A. More than one fourth of the cattle dung was being supplied to the power plant for the generation of electricity. Capital investment calculated both at per farmer and per cattle basis was found to be high in Method A and on the other hand returns were 'nil' as whole of the dung was drained away uneconomically under this method. Annual net returns were found the highest in case of Method B while the same were the least in case of Method D at both per farmer and per cattle basis. Similarly benefit cost ratio at both the levels was found the highest in Method B while it was least in Method D, the reason being the nominal price of cattle dung which is supplied to the power plant under Method D as compared to that of the cow dung disposed in Method B. Thus, the eco-friendly Method of disposing the cattle dung was lesser suitable on economic grounds. Efforts can be made in fixing the price of cattle dung at higher level so as to encourage the dairy farmers to dispose off the dung through this Method for the cause of energy conservation.

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Impact of Doubling of Agricultural Credit on Borrower Households in Tamil Nadu-An Economic Analysis

K.Mani[1]
S. Selvanayaki[2]

Doubling of agricultural credit was announced as a measure of strengthening of institutional credit agencies in order to relegate private lending agencies. The performance of the credit package for doubling the flow of credit to agriculture during 2004-05 to 2006-07 was quite impressive in Tamil Nadu. However, a study was attempted to assess the economic impact of the doubling of agricultural credit and the extent of implementation of Kisan Credit Card Scheme in the borrower farm households of Tamil Nadu. Two hundred borrower farm households constituting 80 commercial bank borrowers, 60 borrowers from each of the RRBs and PACBs spread over the Cuddalore and Virudhunagar districts formed the sample respondents. The results indicated that the commercial banks financed more to large farms in both districts, which were followed by small and marginal farms while the Regional Rural Banks and PACBs gave more finance to marginal farms followed by small and large farms. As regards term loans, only 14 per cent of the sample farmers availed them. Only about one third of the sample farmers actually fell under the category of new farmers. There existed a huge mismatch between the actual cost of cultivation and the scale of finance which might not be sufficient enough for carrying out all the inter-cultural operations. Awareness needs to be created among the farmers regarding the KCC product through farmers' club and Self Help Groups (SHGs).

Introduction

Agricultural growth is crucial for alleviating rural poverty in a developing country like India. In turn, access to institutional credit to more farmers and appropriate quantity and quality of agricultural credit become vital for realizing the full potential of agriculture as a profitable activity. The institutional credit is highly favoured by weaker sections of the farming community namely, the marginal and small farmers, because of its better terms of credit besides the subsidy component. However, the share of institutional credit agencies in the outstanding cash dues of the rural households was 61.1% in 2002 and this would highlight that the non institutional lending agencies like

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professional money lenders, land lords, traders, friends and relatives still play a dominant role in rural areas. Further, only about 13% of the rural households were indebted to institutional agencies and 16% to non-institutional agencies during 2002 (NSSO, 2005).

Concerned over the slower growth of agriculture credit, the Government announced a comprehensive policy on June 18, 2004 which envisaged a 30% increase in credit to agriculture sector in 2004-05 over an estimated credit flow of ₹ 80,000 crore in 2003-04 to ₹1,05,000 crores during 2004-05, ₹1,41,000 crores during 2005-06 and ₹1,75,000 crores during 2006-07. The implementation of the policy has been entrusted to Public Sector Banks (PSBs), Private Sector Banks, Regional Rural Banks (RRBs) and Co-operative banks *(Economic Survey 2004-2005)*. The other initiatives to enhance credit flow to agriculture are given below:

- Under special agricultural credit plan, at least 100 new farmers should be financed at each rural and semi urban branch during the current year, resulting in enrolment of about 50 lakh new borrowers.
- Financing of at least 2 to 3 new investment projects by each branch in area of plantation and horticulture, fisheries, organic farming, agro-processing, livestock, micro-irrigation, sprinkler irrigation, watershed management, village pond development and other agricultural activities.
- Financing at least 10 Agro Clinics in each district during the current year.
- Providing credit to tenant farmers and oral lessees.
- Revisiting of scales of finance and re-aligning the same to meet the realistic needs of the farmers, especially capital-intensive agricultural operations.
- Special packages to promote technological up gradation in agriculture, agro-processing and agri-biotechnology.
- Debt restructuring as opposed to debt write off in the following forms:

a) Relief to farmers in distress by restructuring / rescheduling of their loans and making them eligible for fresh loans.

b) Rescheduling of the debts of farmers in arrears and making them eligible for fresh loans.

c) One Time Settlement (OTS) for small and marginal farmers and consider them eligible for fresh loans.

d) Redemption of past debts from non-institutional lenders.

The performance of the credit package for doubling the flow of credit to agriculture during 2004-05 to 2006-07 was quite impressive as could be seen from Table 1. However, a critical analysis of extent of inclusion of new farmers and marginal and small farmers, financing of new investment projects, financing tenant farmers, debt restructuring as indicated in the credit package is necessary to assess its success.

Objectives

In order to assess the economic impact of the doubling of agricultural credit in the borrower farm households of Tamil Nadu, a study was attempted with the following specific objectives:

i) to study issues relating to production and investment credit with respect to the factual position in respect of different categories of farmers; and

ii) to review the implementation of

Table 1: Flow of Agricultural Credit in Tamil Nadu and India

(₹ in Crore)

Year	Tamil Nadu				India			
	Commercial Banks	Regional Rural Banks	Co-operative Banks	Total	Commercial Banks	Regional Rural Banks	Co-operative Banks	Total
2003-04	5,018.8 (70.3)	332.0 (4.7)	1,784.3 (25.0)	7,135.1 (100.0)	52,441 (60.3)	7,581 (8.7)	26,959 (31.0)	86,981 (100.0)
2004-05	7,682.7 (73.5)	507.8 (4.9)	2,261.8 (21.6)	10,452.3 (100.0)	81,481 (65.0)	12,404 (9.9)	31,424 (25.1)	1,25,309 (100.0)
2005-06	10,654.0 (78.1)	710.6 (5.2)	2,281.8 (16.7)	13,646.4 (100.0)	1,25,859 (69.7)	15,223 (8.4)	39,404 (21.8)	1,80,486 (100.0)
2006-07	13,960.5 (86.5)	831.8 (5.2)	1,345.2 (8.3)	16,137.5 (100.0)	1,40,382 (69.1)	20,435 (10.1)	42,480 (20.9)	2,03,297 (100.0)
Percentage Change	178.2	150.5	-24.6	126.2	167.7	169.6	57.6	133.7

Figures in parentheses indicate percentages to their respective totals.
Source: NABARD, Chennai and Economic Survey-2006-07 and 2007-08.

Kisan Credit Card (KCC) as a product, its usefulness for ensuring hassle-free credit to farmers and to obtain feed-back from farmers regarding the reasons for dormancy of KCCs, wherever such situation occurred.

Design of the Study

The present study aims at analyzing the magnitude of credit and issues relating to agricultural lending system of different banking institutions. Hence, it was decided to select those districts where all the three types of lending institutions namely, Commercial Banks, Regional Rural Banks (RRBs) and Co-operative Banks were functioning. A composite development index was constructed so as to compare different districts considering (i) Ratio of Agricultural Credit Flow between 2003-04 and 2006-07, (ii) Percentage of Net Sown Area to Total Geographical Area (2005-06), (iii) Percentage of Gross Sown Area to Net Sown Area (2005-06), (iv) Percentage of Net Irrigated Area to Net Sown Area (NSA) (2005-06), (v) Agricultural Advances per Ha of NSA (₹000's) (2005-06), (vi) Percentage of Agricultural Advances to Priority Sector Lending (2006-07) and (vii) Agricultural Advances per Bank Branch (₹ in lakh) (2006-07).

Cuddalore district from the developed region, which had the lowest composite index and Virudhunagar district (which had the highest composite index indicating less development in terms of agricultural and banking activities) from the relatively backward region of the State were selected for the study. From the records of the banks branches, a sample of 100 beneficiary - farmers per district were randomly selected so as to give reliable and unbiased estimates relating to the cost of cultivation, the problems faced by the farmers in accessing the credit, and the like. It was decided to select 40 borrowers from Commercial Bank and 30 farmers from each of the RRBs and PACBs. Thus, 200 borrower farm households constituting 80 Commercial Bank borrowers, 60 borrowers from each of the RRBs and PACBs spread over the selected two districts formed the sample respondents. The cost of cultivation and other details collected from the sample farmers were pertaining to the agricultural year of 2006-07.

Results and Discussion

The results of the analyses of the data collected from the sample borrower households are discussed under this section.

Size of Farm Holdings

The average size of the sample farm holdings as a whole was 2.51 hectares (Table 2). Marginal farmers who had less than one ha of land constituted 34% of the total number of sample farmers selected for the study and they operated 0.68 ha, on an average. Small farmers who operated 1.01 to 2 ha accounted for 30.5% of the total number of farmers and they, on an average, had 1.58 ha and large farms constituted 35.5% of the number and had 5.06 ha each. Commercial banks financed more to large farms in both districts, which were followed by small and marginal farms. Regional Rural Banks and PACBs gave more finance to marginal farms followed by small and large farms.

Table 2: Average Size of Farm Holdings in Cuddalore and Virudhunagar Districts

Agency / Category of Farm	Cuddalore		Virudhunagar		Overall	
	Number	Area (Ha)	Number	Area (Ha)	Number	Area (Ha)
Commercial Bank						
Marginal	3	0.71	9	0.72	12	0.72
Small	16	1.59	10	1.78	26	1.67
Large	21	5.07	21	5.03	42	5.05
Sub Total	**40**	**3.35**	**40**	**3.25**	**80**	**3.30**
Regional Rural Bank						
Marginal	4	0.54	22	0.69	26	0.67
Small	12	1.51	7	1.50	19	1.50
Large	14	4.21	1	4.05	15	4.20
Sub Total	**30**	**2.64**	**30**	**0.99**	**60**	**1.81**
PACB						
Marginal	9	0.75	21	0.64	30	0.67
Small	8	1.82	8	1.26	16	1.54
Large	13	6.16	1	4.05	14	6.01
Sub Total	**30**	**3.38**	**30**	**0.92**	**60**	**2.15**
All Banks						
Marginal	16	0.69	52	0.67	68	0.68
Small	36	1.61	25	1.54	61	1.58
Large	48	5.11	23	4.94	71	5.06
Total	**100**	**3.15**	**100**	**1.87**	**200**	**2.51**

Table 3: Average Area under Different Crops Grown in both Cuddalore and Virudhunagar Districts

(Area in ha)

Crops	2003-04		2004-05		2005-06		2006-07	
	Area	Per cent	Area	Per cent	Area	Per cent	Area	Per cent
Sugarcane	1.08	45.9	1.08	45.9	1.03	43.2	0.99	41.7
Paddy	0.33	13.9	0.32	13.4	0.34	14.4	0.36	14.9
Coconut	0.33	14.1	0.33	14.0	0.33	13.9	0.33	13.9
Casuarina	0.18	7.6	0.18	7.6	0.23	9.7	0.23	9.8
Banana	0.17	7.2	0.17	7.4	0.15	6.4	0.16	6.9
Ground nut	0.08	3.5	0.09	3.7	0.07	3.1	0.07	2.9
Cashew	0.05	2.0	0.05	2.0	0.05	2.1	0.05	2.1
Cotton	0.03	1.2	0.03	1.3	0.04	1.4	0.04	1.5
Others*	0.09	4.6	0.11	4.7	0.14	5.8	0.15	6.3
Total	**2.34**	**100.0**	**2.36**	**100.0**	**2.38**	**100.0**	**2.38**	**100.0**

* Others included Sorghum, Bajra, Maize, Black gram, Onion, Chilli, Sunflower, Tapioca, Jack and Teak.

Cropping Pattern

Average area under different crops grown in the study area during 2006-07 (Table 3) would indicate that sugarcane was the major crop cultivated in the study area accounting for 42% of the total area under cultivation followed by paddy (15%), coconut (14%), and so on. This would reveal that the farmers who cultivated cash crops such as sugarcane, coconut, banana besides paddy were able to get crop loan from the institutional agencies and 'other crops' listed in the table were not considered for financing. Commercial banks in both the districts preferred to finance for sugarcane cultivation as there was a tie up arrangement between banks and sugar mills in the study area so that loan recovery could be easier to the bankers.

Kisan Credit Cards Used by the Sample Farmers

Although the crop loan was treated as loan under KCC scheme, majority of the farmers did not use the KCC facility, i.e., withdrawal of loan amount as and when they

required money to meet the cultivation expenses (Table 4). In commercial banks, all the borrowers had withdrawn the loan amount only once in a year. In RRBs, only 70%, and in case of PACBs, 88% of the borrowers used KCC. Of them, only 3 and 2 per cent of the borrowers of RRBs and PACBs respectively made two withdrawals during 2006-07.

Nearly 40% of the farmers were not aware that KCC was also for availing term loan apart from the amount advanced for cultivation of crops and only 2% of the farmers had availed term loan under KCC. And none of the farmers were aware that the KCC has a component for consumption purpose as well. As farmers did not know about all the facilities under KCC, they need to

Table 4: Number of Times of KCC Withdrawal by the Sample Farmers in Cuddalore and Virudhunagar District

(Number of Respondents)

Agency	2003-04			2004-05			2005-06			2006-07		
	1	2	T	1	2	T	1	2	T	1	2	T
Cuddalore District												
Commercial Bank	40 (100.0)	0 (0.0)	40 (100.0)	40 (100.0)	0 (0.0)	40 (100.0)	40 (100.0)	0 (0.0)	40 (100.0)	40 (100.0)	0 (0.0)	40 (100.0)
RRB	7 (23.33)	0 (0.0)	7 (23.33)	14 (46.67)	3 (10.0)	17 (56.67)	19 (63.33)	1 (3.33)	20 (66.67)	23 (76.67)	2 (6.67)	25 (83.33)
PACB	25 (83.33)	3 (10.0)	28 (93.33)	16 (53.33)	0 (0.0)	16 (53.33)	16 (53.33)	0 (0.0)	16 (53.33)	29 (96.67)	1 (3.33)	30 (100.0)
Virudhunagar Dist.												
Commercial Bank	40 (100.0)	0 (0.0)	40 (100.0)	40 (100.0)	0 (0.0)	40 (100.0)	40 (100.0)	0 (0.0)	40 (100.0)	40 (100.0)	0 (0.0)	40 (100.0)
RRB	12 (40.0)	0 (0.0)	12 (40.0)	17 (56.67)	0 (0.0)	17 (56.67)	17 (56.67)	0 (0.0)	17 (56.67)	17 (56.67)	0 (0.0)	17 (56.67)
PACB	18 (60.0)	0 (0.0)	18 (60.0)	21 (70.0)	0 (0.0)	21 (70.0)	21 (70.0)	0 (0.0)	21 (70.0)	23 (76.67)	0 (0.0)	23 (76.67)
Overall												
Commercial Bank	80 (100.0)	0 (0.0)	80 (100.0)	80 (100.0)	0 (0.0)	80 (100.0)	80 (100.0)	0 (0.0)	80 (100.0)	80 (100.0)	0 (0.0)	80 (100.0)
RRB	19 (31.67)	0 (0.0)	19 (331.67)	31 (51.67)	3 (5.0)	34 (56.67)	36 (60.0)	1 (1.67)	37 (61.67)	40 (66.67)	2 (3.33)	42 (70.0)
PACB	43 (71.67)	3 (5.0)	46 (76.67)	37 (61.67)	0 (0.0)	37 (61.67)	37 (61.67)	0 (0.0)	37 (61.67)	52 (86.67)	1 (1.67)	53 (88.33)

Note: 1-Single time; 2-Two times; and T: Total. Figures in the parentheses indicate percentage to total.

be educated on the utility of KCC. In general, the farmers opined that they were allowed to withdraw the loan amount as and when required by them.

Crop and Term Loans

Average amount borrowed from different banks by the sample respondents for cultivation of crops and also making farm investment during 2006 - 07 is given in Table 5. In Table 5, * Figures givenen column 3, 6 and 9 refer to the total loan amount disbursed to the corresponding number of farmers given in column 2, 5 and 8 respectively. The amount per account given in columns 4, 7 and 10 would indicate the average loan amount availed by the respective type of farms, i.e., marginal, small, large and all farms, on an average.

For example, ₹11,51,956 given under total short term loan amount disbursed by commercial banks (column 3) corresponding to small farmers indicates the total short

Table 5: Crop and Term Loans Borrowed by the Sample Farmers in 2006-07

Agency / Type of Farms	Short Term Loan			Term Loan			Total = Short Term + Term Loan		
	Number of Farms	Total Loan Amount Disbursed*	Amount / Account (₹)	Number of Farms	Total Loan Amount Disbursed*	Amount / Account (₹)	Number of Farms	Total Loan Amount Disbursed*	Amount / Account (₹)
1	2	3	4	5	6	7	8	9	10
Commercial Banks									
MF	12	201677	16806	0	0	0	12	201677	16806
SF	26	1151956	44306	3	145000	48333	26	1296956	49883
LF	42	5254053	125097	15	2874800	191653	42	8128853	193544
All Farmers	**80**	**6607686**	**82596**	**18**	**3019800**	**167767**	**80**	**9627486**	**120344**
RRBs									
MF	26	596650	22948	0	0	0	26	596650	22948
SF	19	837600	44084	3	301000	100333	19	1138600	59926
LF	15	1045500	69700	7	978500	139786	15	2024000	134933
All Farmers	**60**	**2479750**	**41329**	**10**	**1279500**	**127950**	**60**	**3759250**	**62654**
PACBs									
MF	30	491976	16399	0	0	0	30	491976	16399
SF	16	625790	39112	0	0	0	16	625790	39112
LF	14	839767	59983	0	0	0	14	839767	59983
All Farmers	**60**	**1957533**	**32626**	**0**	**0**	**0**	**60**	**1957533**	**32626**
All Banks									
MF	68	1290303	18975	0	0	0	68	1290303	18975
SF	61	2615346	42875	6	446000	74333	61	3061346	50186
LF	71	7139320	100554	22	3853300	175150	71	10992620	154826
All Farmers	200	11044969	55225	28	4299300	153546	200	15344269	76721

Note: MF Marginal Farmers; SF Small Farmers; and LF Large Farmers.

term loan amount received by all the 26 small farmers whereas ₹ 44,306 (₹11,51,956 divided by 26) (column 4) corresponding to small farmers indicates the short term loan availed by an individual small farmer, on an average. Similarly, ₹1,45,000 (column 6) corresponding to small farmers would indicate total amount of term loan received by all the 3 small farmers (column 5) and ₹48,333 (₹1,45,000 divided by 3) indicates the term loan amount received by an individual small farmer, on an average. Likewise, ₹12,96,956 was the total (short plus term) loan amount received by all the 26 small farmers (column 8) and ₹49,883 (₹12,96,956 divided by 26) was the short and term loan amount received per small farmer, on an average.

The average short term loan disbursed by commercial banks to marginal farms was ₹16,806. Similarly, the average short term loan disbursed to small and large farms was ₹44,306 and ₹125,097 respectively. ₹82,596 as indicated in column 4 corresponding to "All farmers" was the average short term loan disbursed by the commercial banks to an individual farmer. This amount (₹82,596) is not the total of all the three categories of farms and it indicates the average of all the three categories of farms (viz., marginal, small and large). ₹82,596 was arrived at by dividing the total short term loan amount disbursed by commercial banks to all the farmers (2,01,677 + 11,51,956 + 52,54,053 = 66,07,686) by the total number of short term loan borrowers of commercial banks, i.e., 80.

Similarly, in case of RRBs, PACS and All banks, the total loan amount disbursed (columns 3, 6 and 9) would refer to the total loan amount disbursed to the corresponding total number of borrowers (column 2, 5 and 8). Further, the amount per account would indicate the loan amount availed per borrower, on an average.

Average amount borrowed from different banks by the sample respondents for cultivation of crops and also making farm investment during 2006-07 is given in Table 5. On an average, the loan amount per account was more in commercial banks (₹1,20,344) followed by RRBs (₹62,654) and PACBs (₹32,626) in both Cuddalore and Virudhunagar districts (Table 5). As long term loan was not provided by PACS, the average loan amount disbursed by them was much lower when compared to that of commercial banks and RRBs. The loan amount

per farmer in all banks was more in large farms (₹1,54,826) followed by small (₹50,186) and marginal (₹18,975) farms. Obviously, large farms demanded more credit as they required more working capital to meet the cultivation expenses of their larger farms. The average short, term and total loan amount borrowed by the sample farmers were ₹55,225, ₹153,546 and ₹76,721 respectively.

As regards term loans, only 14 % of the sample farmers (28 farmers) availed the term loan. Commercial banks provided more term loans both in terms of number and amount than that of RRBs. As PACBs do not provide term loans, the sample farmers of PACBs got only crop loans. The different purposes for which the term loans were borrowed are given in Table 6.

As could be seen from Tables 5 and 6, in Cuddalore and Virudhunagar districts, 28 farmers (6 small farmers and 22 large farmers) with an average farm size of 4.7 ha have borrowed term loans. Of these 28 farmers, 10 borrowed from RRBs (36% of the total) and the remaining from commercial banks. Of the term loan borrowers, eight have borrowed as sugarcane premium (for laying down drip irrigation system in sugarcane field) accounting for 28.6% of the total number of term loan borrowers, 6 borrowed for purchasing tractors (21.4%), 4 each

Table 6: Purpose wise Term Loans Borrowed by the Sample Borrowers

(Amount in ₹)

Sr. No.	Purpose	Borrowers of Term Loan		Total Amount Borrowed		Amount per Account
		Number	Percentage to Total	Amount	Percentage to Total	
1	**Sugarcane Premium**	8	28.6	565000	13.1	70625
2	**Bore loans**	4	14.3	753500	17.5	188375
3	**Pipelines**	3	10.7	334000	7.8	111333
4	**Oil Engines**	2	7.1	153500	3.6	76750
5	**Well**	1	3.6	38500	0.9	38500
6	**Tractor loans**	6	21.4	2064800	48.0	344133
7	**Tractor Maintenance**	4	14.3	390000	9.1	97500
	Total	**28**	**100.00**	**4299300**	**100.00**	**153546**

for tractor maintenance and bore well (14.3 %), 3 for laying pipe line (10.7%), 2 for purchasing oil engine (7.1%) and one for digging up of well (3.6%).

In terms of the loan amount, purchase of tractors accounted for a maximum of 48 % of the total term loan amount disbursed. Bore wells, oil engines, drip irrigation system and tractors purchased under term loans were being properly maintained by them as these assets were highly useful to them in terms of yielding more returns. Farmers purchased tractors with term loan assistance from banks as the sugar mills authorized these farmers to use their tractors for transporting sugarcane to the mills. Banks were also ready to give such tractor loans owing to assured repayment.

Table 7: Coverage of New Farmers among the Sample Borrower Farmers

(Number of farmers)

Particulars	2004-05					2005-06					2006-07						Total			
	Tenants	MF	SF	Others	Total	Tenants	MF	SF	Others	Total	Tenants	MF	SF	Others	Total	Tenants	MF	SF	Others	Total
i) First Time Availing Credit from Institutions																				
a) To clear the dues of private money lenders – Nil																				
b) Investment Credit - Nil																				
c) Production Credit																				
A. Commercial Banks																				
i) Cuddalore	-	-	6	6	12	-	2	6	7	15	-	-	1	-	1	-	2	13	13	28
ii) Virudhunagar	-	1	-	3	4	-	1	-	6	7	-	7	10	10	27	-	9	10	19	38
Sub total	-	1	6	9	16	-	3	6	13	22	-	7	11	10	28	-	11	23	32	66 (33)
B. RRBs																				
i) Cuddalore	-	-	-	-	-	-	1	3	1	5	-	1	-	1	2	-	2	3	2	7
ii) Virudhunagar	-	-	-	-	-	-	3	2		5	-	14	1	1	16	-	17	3	1	21
Sub total	-	-	-	-	-	-	4	5	1	10	-	15	1	2	18	-	19	6	3	28 (14)
C. PACBs																				
i) Cuddalore	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ii) Virudhunagar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D. Overall																				
i) Cuddalore	-	-	6	6	12	-	3	9	8	20	-	1	1	1	3	-	4	16	15	35
ii) Virudhunagar	-	1	-	3	4	-	4	2	6	12	-	21	11	11	43	-	26	13	20	59
Total	**-**	**1**	**6**	**9**	**16**	**-**	**7**	**11**	**14**	**32**	**-**	**22**	**12**	**12**	**46**	**-**	**30**	**29**	**35**	**94**
E. Percentage to total *																	15.0	14.5	17.5	47.0

* Percentage to 200 farmers. Figures in brackets also indicate percentage to 200 farmers. MF-Marginal Farmer; SF- Small Farmers; Others Large Farmers with more than 5 acres.

New Farmers among the Sample Farmers

The details on the number of new farmers are given in Table 7 below: In PACBs, all the respondent farmers were borrowing from the same PACBs even before the doubling of agricultural credit period. 33 and 14% of the sample farmers in commercial banks and RRBs respectively were the new farmers. For the sample as a whole, 47% of the borrowers belonged to the 'new farmer' category. Among new farmers, large farmers were more in number accounting for 17.5 % of the total sample borrowers and they were followed by marginal (15%) and small farmers (14. 5 %).

The details about the farmers who migrated from other banks to the present bank are given in Table 8. Totally, 30 farmers accounting for 15% of the total number of farmers had migrated to the present bank from other institutional financing agencies. Large farmers who migrated to the present bank were more in number (8.5%) followed by small (3.5%) and marginal farmers (3%). Therefore, among 47% of the 'new farmers' as indicated by the banks, 15% of them had migrated from other banks. Therefore, only 32% (about one third) of the sample farmers actually fell under the category of new farmers. The following were the main reasons for migration of the borrowers from one bank to another:

a) Farmers need production credit immediately after the onset of the monsoon or at the beginning of the normal sowing season. If there was any delay in sanctioning of loan by the bank where they had regular dealings, farmers approach the other alternative banks so as to take up timely sowing.

b) In general, farmers show less preference towards PACBs because a part of the production credit is disbursed by PACBs as fertilizers. Farmers do not have adequate facilities to store these fertilizers and use them during appropriate time. So farmers usually sell these fertilizers to private dealers at lower prices and purchase them later at higher prices. Sometimes, PACBs do not supply the specific type of fertilizer required or preferred by the farmers. Therefore, farmers try to get crop loan from either CBs or RRBs where they get the entire loan amount as cash.

As regards the coverage of farmers benefited under OTS was concerned, only three farmers were benefited through PACBs during 2005-06. Commercial banks and RRBs provided such benefits during 2008-09 as indicated in Table 8.

None of the selected borrowers was a tenant farmers or oral lessee. In 45% of the sample respondent households, wife of the farmer was a member of SHGs and out of this, 85% of them have availed Cash Credit Loan (CCL) through SHGs.

Cost and Returns from Cultivation of Crops

The scale of finance is fixed by the officials at the district level considering the cost of cultivation for the major crops grown in the district. Average costs of cultivation of major crops grown by the sample farmers in Cuddalore and Virudhunagar districts were estimated for the study and they included cost of seeds, farm yard manure, fertilizers and plant protection chemicals, and value of machine and bullock power and human labour charges.

Table 8: Number of Migrant Farmers and Farmers Benefited under One Time Settlement (OTS) Scheme

(Number of farmers)

Particulars	2004-05					2005-06					2006-07					Total				
	Tenants	MF	SF	Others	Total	Tenants	MF	SF	Others	Total	Tenants	MF	SF	Others	Total	Tenants	MF	SF	Oth-ers	Total
i) Migrants from Institutions																				
a) Co-ops to CBs	-	-	-	6	6	-	1	1	1	3	-	3	1	5	9	-	4	2	12	18
b) Co-ops to RRBs	-	-	-	-	-	-	-	-	-	-	-	-	--	-	-	-	-	-	-	-
c) RRBs to Co-ops	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
d) RRBs to CBs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
e) CBs to CBs	-	-	-	2	2	-	-	1	1	2	-	-	1	-	1	-	-	2	3	5
f) CBs to RRBs	-	-	-	-	-	-	1	3	2	6	-	1	-	-	1	-	2	3	2	7
Total	**-**	**-**	**-**	**8**	**8**	**-**	**2**	**5**	**4**	**11**	**-**	**4**	**2**	**5**	**11**	**-**	**6**	**7**	**17**	**30**
ii) Benefited under One Time Settlement (OTS)																				
a) Covered under OTS	-	-	-	-	-	-	1	1	1	3	-	5*	8*	9*	22*	-	6	9	10	25
b) Average Amount disbursed under OTS (Rs.)	-	-	-	-	-	-	7,960	20,000	2,500	10,153	-	8,921	27,531	36,087	26,802	-	8,761	26,694	32,728	24,804
c) Provided fresh loans after OTS	-	-	-	-	-	-	1	1	1	3	-	5	8	9	22	-	6	9	10	25

* - OTS benefit extended by commercial banks and RRBs during 2008-09.

As could be seen from Table 9 below that the cost of cultivation per ha was maximum for banana (₹64,850) followed by sugarcane (₹52,894), tapioca (₹22,375), paddy (₹22,100), groundnut (₹18,100) and so on in Cuddalore district. However, the scale of finance as fixed by the lending institutions was lower for all the major crops (excepting ground-nut and black gram) cultivated by the Cuddalore farmers. Farmers were then forced to borrow from money lenders to meet out the additional expenditure. The percentage of additional cost over and above the scale of finance varied from 9% of the total cost of cultivation in case of sugarcane to 39% in case of banana.

Table 9: Cost of Cultivation, Income from Major Crops Grown by the Sample Respondents and Scale of Finance in the Study Area

(₹ per Ha)

Crops	Gross Return			Cost			Net Return			Cuddalore District		Virudhunagar District	
	Cudda-lore	Virudhu-nagar	Combi-ned	Cudda-lore	Virudhu-nagar	Combi-ned	Cudda-lore	Virudhu-nagar	Combi-ned	Scale of Finance*	Percentage of Scale of Finance to Total Cost	Scale of Finan-ce*	Percentage of Scale of Finance to Total Cost
Sugarcane	113955	115195	114575	52894	56395	54645	61061	58800	59931	48185	91.10	42995	76.24
Paddy	53727	54766	54247	22100	19607	20854	31627	35159	33393	18533	83.86	13343	68.05
Tapioca	45000	-	45000	22375	-	22375	22625	-	22625	16803	75.10	-	-
Groundnut	52565	-	52565	18100	-	18100	34465	-	34465	19768	109.22	-	-
Banana	162000	-	162000	64850	-	64850	97150	-	97150	39536	60.97	-	-
Bajra	12900	16400	14650	5560	6375	5968	7340	10025	8683	3917	70.45	3954	62.02
Black gram	9000	-	9000	3860	-	3860	5140	-	5140	4942	128.03	-	-
Maize	-	38000	38000	-	15500	15500	-	22500	22500	-	-	5683	36.66
Coconut	-	70975	70975	-	29190	29190	-	41785	41785	-	-	19768	67.72
Chilli	-	54216	54216	-	20423	20423	-	33793	33793	-	-	15567	76.22
Cotton	-	62631	62631	-	22562	22562	-	40069	40069	-	-	16309	72.29
Onion	-	47800	47800	-	14100	14100	-	33700	33700	-	-	11737	83.24
Sunflower	-	30000	30000	-	10500	10500	-	19500	19500	-	-	5337	50.83

Source: * District Central Co-operative Banks of the concerned districts.

The average costs of cultivation of major crops grown in Virudhunagar district would indicate that the cost per ha was higher for sugarcane (₹56,395) followed by coconut (₹29,190), cotton (₹22,562), chilli (₹20,423), paddy (₹19,607) and so on. The percentage of additional amount over and above the scale of finance varied from 17% in onion to 63% in maize.

As the cost of cultivation varies from place to place, the cost of cultivation / Scale of Finance needs to be updated considering the cost of cultivation of major crops grown in different districts. In Cuddalore and Virudhunagar district, the wage rate for male labour was ₹80 per day during 2003-04 and it increased to ₹120 per day in 2006-07. The daily wage rate for female labour increased from ₹40 to Rs.60. The tractor hire charges for ploughing operation was ₹350-400 per acre in 2003-04 and it increased to ₹600 in 2006-07. In Virudhunagar district also, the daily wage rate for male labour increased from ₹80 to ₹120 between 2003-04 and 2006-07. The female labour wage rate increased from ₹30-40 to ₹60 per day and the hire charges for tractor increased from ₹300 to ₹600 per acre. The cost of other agricultural inputs also increased significantly during the study period. Therefore, the scale of finance needs to be revised every year according to the changes in the cost of cultivation for different crops.

The gross and net returns from the crops grown in the study area are also given in Table 9. As could be seen from the table, net return per ha was higher for banana (₹97,150) followed by sugarcane (₹59,931), coconut (₹41,785), cotton (₹40,069) and so on. As the net returns for these crops were higher, institutional finance could be made available to cultivate all these crops. However, institutional finance was easily available to sugarcane cultivation as there was a tripartite agreement among farmers, sugar mills and bankers.

Conclusions

The following are the suggestions based on the results of the study. The packages announced along with doubling of agricultural credit were focused only on limited scale by the bankers. Hence, more efforts may be taken up to strengthen the agricultural credit system with the following initiatives:

i) Financing of at least 2 to 3 new investment projects by each branch in plantation and horticulture, fisheries, organic farming, etc.

ii) Financing at least 10 Agro Clinics in each district.

iii) Providing credit to tenant farmers and oral lessees.

iv) Revisiting of scales of finance and re-aligning the same to meet the realistic needs of the farmers, especially capital-intensive agricultural operations.

v) Special packages to promote technological up gradation in agriculture, agro-processing and agri-biotechnology.

vi) Debt restructuring as opposed to debt writes off in the following forms:

(a) Relief to farmers in distress by restructuring / rescheduling of their loans and making them eligible for fresh loans,

(b) Rescheduling of the debts of farmers in arrears and making them eligible for fresh loans, (c) One Time Settlement (OTS) for small and marginal farmers and consider them eligible for fresh loans, and (d) Redemption of past debts from non-institutional lenders.

There existed a huge mismatch between the actual cost of cultivation and the scale of finance which might not be sufficient enough for carrying out all the inter-cultural operations. Hence, scale of finance may be fixed based on the data on cost of cultivation to be collected every year in each district.

Awareness needs to be created among the farmers regarding the KCC product through farmers' club and Self Help Groups. Efforts were already taken up to strengthen the Farmers' Club in Seithur village (Virudhunagar district). Similar efforts could also be taken up in other areas.

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Impact of Livestock based micro credit on rural economy under MCAB Ltd: A case study from East Khasi Hills District of Meghalaya

Kangkan Patgiri *

With some other factors credit is an important input for rural development specially for Agricultural development to generate income and self-employment, alleviating poverty and improving living standard of rural poor. In such situation micro credit may play better role to change the rural economic scenario and may give maximum self employment opportunity especially in North Eastern Region (NER) as the entire region is far behind in industrialisation in comparison to other parts of India. Further micro-credit has had a positive impact on tribal up liftment in NE Region. Being a hilly tribal State with more than 80% hardworking rural population Meghalaya possess good prospect for micro-credit in Agril & Allied Agril sector. Moreover the entire State is free from any social taboos and almost entire population prefer non-vegetarian diet and livestock for meat purpose is coming every day from outside the State which indicates potential market for credit investment in this sector to increase income and employment opportunity. Livestock rearing is a traditional practice and a subsidiary source of income among rural population and modern technology based support is required to upgrade livestock rearing practice to increase income generation, for which no credit constraint should be there. So micro credit may be the only tool to heal the credit pain of rural poor who are unable to give mortgage to avail loan from any financial institution for modern agricultural practice. Due to geo-social problems bank networking in entire NE Region is not expanding like other parts of India. As a result agricultural lending rate in this region is far below than the national average. Among all existing financial institutions in the State, the Meghalaya Cooperative Apex Bank Ltd since its inception (1972) working for rural development in the entire state through lending in agricultural sector. Though credit flow towards agricultural development is not very encouraging but significantly increasing during the last few years

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and expected to increase more in the near future. To make it more sound and successful emphasis should be given on proper utilisation of the loan to ensure asset creation and income generation which in turn will impact on repayment of the bank loan also. Misutilisation of loan will hamper the mandate of micro credit and ultimately creates serious blockage in micro credit flow which impedes the process of development and social up liftmen of the State. Therefore an attempt is made in this study to analyse the impact of livestock based micro credit on rural economic development under East Khasi Hills District of Meghalaya financed by the Meghalaya Cooperative Apex Bank Ltd.

Objectives of the study

The specific objectives of the present study are

(1) To assess the impact of livestock based micro credit on rural household economy and self employment generation.

(2) To study the role of MCAB Ltd on rural micro credit and livestock development

Nature and Period of Study

To examine the objective of the present study a period of 8 (financial) years i.e from 1998-99 to 2006-07 under East Khasi Hills District of Meghalaya was considered. Maximum amount of credit ₹50,000/- per beneficiary for livestock activity like Dairy, Piggery and Poultry (broiler) was considered under micro credit linked schemes.

Methodology

For the present study, out of 7 Districts in Meghalaya only East Khasi Hills District was selected because maximum number of beneficiaries only belong to this district during the study period. The borrowers were selected based on livestock activity and quantum of credit (not more than ₹ 50,000/- per beneficiary). The required information was collected with the help of an open ended questionnaire-cum-schedule from 150 randomly selected samples under the district irrespective of sex, age and literacy. The collected data was analysed as per standard statistical norms.

Results

Impacts on annual house hold income:

One of the major objectives of the present study was to examine the impact of livestock based micro credit on annual house hold

income. The MCAB Ltd is providing different quantum of micro credit for livestock development as well as development of annual house hold income by adopting scientific rearing method of dairy, piggery and poultry (Broiler) with quality breed. So training on concerned livestock activity was considered as a pre qualification for availing loan so that management become easy to get maximum benefit by the borrower after availing credit. In order to provide more employment opportunity and to raise their annual income levels the credit institutions have started a drive with all emphasis on credit development schemes under different sectors (Raja Rantham, 2004).The results prove significant improvement in annual house hold income of the micro credit borrowers. From Table 'A' we may observe the increasing trend of annual house hold income during post loan period. The average household annual income to dairy borrowers in pre loan period was ₹19, 490/- which increased up to ₹ 28,930/- during post loan period. Like wise annual house hold income of the piggery and poultry borrowers were increased up to ₹ 32,640/- and ₹37,700/- from ₹18,780/- and ₹18,800/- respectively. The overall average net income for dairy, piggery and poultry farming increased up to ₹ 9,440/- (48.44%), ₹13, 860/-(73.80%) and ₹18, 900/-(100.53%) respectively after availing micro credit. From table 'A' it is also clear that house hold annual income become double (100.53%) in poultry farming and the lowest income generated (48.44%) from dairy farming. Highest income generated from poultry may be because of improved management practice, quality breed, low gestation period (6-7 weeks only), rearing 6-7 batches within a year and most of the beneficiaries are well educated (minimum 10th passed). But borrowers' availed micro credit for dairy and piggery are comparatively less educated, though trained but could not adopt it properly and as a result management practice observed was poor and neglected, quality breeds were not available, Veterinary facilities were also poor. In dairy within limited amount (₹50,000/-) capacity of dairy unit not more than 1 or 2 cows, as a resulted in less production, more over artificial insemination and treatment of animal can't be done on proper time due to poor Veterinary facilities. So income generation was also less. Further income generation from piggery also increased up to 73.80% and occupied 2nd position in terms of production. Scope was there to increased it further but due to mismanagement, lack of quality breed and lack of veterinary aid like

vaccination and treatment of animal in time which increased morbidity and mortality rate and leads to poor achievement. Debabrato Das (2002) in his findings for impact of APSCAB's loan reported that Horticultural sector shows a very encouraging amount on average incremental income per borrower (39.05%) followed by livestock and poultry rearing. In present study also overall incremental income from livestock rearing including poultry was found at 73.99%. From above discussion it can be concluded that micro credit provided by the MCAB Ltd in livestock sector helped the beneficiaries to increase their annual income and there by improved the rural economic condition.

Impact on Employment Generation:

Opportunity for better utilisation of available manpower should be created through programmes of Horticulture and Animal Husbandry and other allied activities.(Govt of India'1977). One of the major objectives of the micro credit is creation of self employment among educated un-employed youth, small or marginal farmers, agriculture labourers, farm women etc. In livestock, fishery and horticulture employment days increased by 55.44, 40 and 20 % respectively but in agriculture, employment creation recorded insignificant under APSCAB Ltd (Debabrato Das, 2002).The creation of employment includes both fresh and additional employment creation for under employed. During pre loan period the borrowers for dairy farming activity the average employment was 102 days, in poultry 95 days and piggery 99 days only, which increased up to 191, 210 and 197 days respectively after availing micro credit from MCAB Ltd. In Table 'B' we find that highest employment was generated in poultry farming with 121%

Table-A: Annual house hold income of micro credit beneficiaries under various livestock activities

Activities	Total house holds	Average net income perhousehold (₹)		Aver .incremental (₹) income per house hold	% increase in Average. net income
		Pre loan Period	Post loan Period		
Dairy	47	19490	28930	9440	48.44
Piggery	72	18780	32640	13860	73.80
Poultry(Bro)	31	37700	18800	18900	100.53

increased. However, employment increased 89.25% and 99 % in dairy and piggery farming respectively. The highest employment creation recorded in poultry farming due to fresh employment among the educated un-employed youth because of quick income generation (within 6-7 weeks). This is followed by piggery farming. The overall employment generation in livestock increased more than 100% which possess positive impact in self employment creation. The significan't increase in employment creation brings additional income opportunity to the rural households, brings opportunity of micro credit linkage and increasing the responsibility of the banks for more and more credit coverage to the poor. The overall employment generation increased 102.72 % (in man days). So MCAB Ltd has got success to some extent in micro credit but yet to achieve its goal and many rural areas remain uncovered under micro credit in the district.

Misutilisation of Loan:

The concept of misutilisation in the present context has been considered as not utilised the loan 100% as per objective of the scheme approved and conditions laid down by the bank in the loan sanctioning letter. All micro credit released in 3 instalments.1st for construction of livestock shed, 2nd for purchasing 50% of livestock and its recurring expenditure sanctioned by the bank as per scheme and 3rd instalment for rest of livestock and its recurring cost. In present study we found that proper utilisation (70.96%) of micro credit was observed in poultry farm activity, followed by dairy (48.94%) and piggery (43.06%). However maximum misutilisation was observed on 3rd instalment and the lowest was observed on 1st instalment irrespective of activity. The release of subsequent instalments (2nd or 3rd) is depending on the utilisation of its previous instalment (1st or 2nd). If utilisation of 1st instalment

Table-B: Activity wise employment creation during (Man Days)

Activity	No of Borrowers	Employment days per micro credit borrower			
		Pre Loan	Post loan	Increase in days	% increase
Dairy	47	102	191	89	87.25
Piggery	72	99	197	98	98.99
Poultry	31	95	210	115	121.05

Table-C: Activity wise utilisation and misutilisation of Loan

Nature of Utilisation	Dairy		Piggery		Poultry	
	No of borrowers	% of sample population	No of borrowers	% of sample population	No of borrowers	% of sample population
Proper Utilisation	23	48.94	31	43.06	22	70.96
Misutilisation of 1st Instalment	4	8.5	9	12.50	2	6.45
Misutilisation of 2nd instalment	6	12.77	14	19.44	2	6.45
Misutilisation of 3rd Instalment	14	29.79	18	25.00	4	12.90

is good then only 2nd instalment is recommended for release and if the 2nd instalment was utilised as per scheme then 3rd instalment was released. Because of this utilisation of 1st and 2nd instalments were comparatively better than final instalment. On the other hand misutilisation is recorded the highest in the third instalment. But most of the borrowers under poultry farming are educated and most of them utilised third instalment for productive purpose as per scheme. But if we see the overall performances of livestock micro credit then we found that out of 150 micro credit beneficiaries only 77 (51.33%) utilised loan properly and rest misutilised some parts of the loan. In most of the cases of misutilisation recorded due to some emergency need of the family or for medical aid. Some beneficiaries misutilised it without any specific reason.

Repayment of Loan:

When we observe the repayment performance in Table D we will find that maximum regular (repayment on due time) repayment (45.19%) is recorded in poultry farming and minimum is recorded (29.17) in dairy farming. Low degrees of vertical and horizontal spread benefits under milch scheme could not generate enough repaying capacity among the beneficiaries (A.S.Rana,1988).However overall repayment performance irrespective of regularity it is recorded 67.29%, 52.78% and 57.45% in poultry, piggery and dairy respectively. The maximum repayment observed in poultry farming may be

Table-D: Activity wise repayment performance

Activity	Regular repayment		Irregular Repayment		Overall repayment		Defaulter		Not yet due	
	No	%	No	%	No	%	No	%	No	%
Dairy	17	36.17	10	21.28	27	57.45	11	23.4	9	19.15
Piggery	21	29.17	17	23.61	38	52.78	19	26.39	15	20.83
Poultry	14	45.16	5	16.13	19	67.29	7	22.58	5	16.13

due to better production because beneficiaries comparatively better educated than others so the scientific management practice was followed better than others. However, the highest default (in percentage) was observed in piggery farming may be because of poor production due to lack of quality breed, poor education and poor management practice. In dairy farming also repayment performance was not satisfactory. The production of dairy farming was less due to yielding animals, unit size is small to maintain regular milk production round the year as well as poor management and veterinary practice. In some cases the poor recovery could be attributed due to poor post monitoring of the projects by the concerned branches and some borrowers become wilful defaulters.

Conclusion

The State Cooperative Bank and its under controlled cooperative societies are the most desirable form of institutional credit for rural development among all other source of finance. Besides financing into cooperative societies, the MCAB Ltd also financing in Agril & Allied Agricultural sector into individual borrowers in rural areas and achieving a good response, specially for livestock based micro credit among the rural marginal farmers, farm women, landless agricultural labourers and unemployed educated youth. Micro credit helped them in house hold income generation and employment creation. Livestock based micro credit under MCAB Ltd helping to increase annual house hold income of the beneficiaries and improved their standard of living. Average repayment (irrespective of regularity) is more than 50% but due to lack of quality breeds of animals and other technical constrains production of the farms are not satisfactory except poultry, as a result repayment process also

affected. Regular post monitoring from branch may prevent misutilisation of loan and improve repayment frequency. This micro credit facility reduced the credit constraint for livestock development and encouraged unemployed educated youth, farm women and landless labourer to avail loan specially in rural sector without any collateral security. But due to lack of proper transportation and communication, inadequate veterinary facility, distances to bank offices etc may be considered as primary bottle necks in the way of balance development of rural areas as per opinion of the beneficiaries. Besides lots of credit constraints, growing responses of rural people and unemployed educated youth inspired the bank for more credit linkage through microcredit in allied agricultural sector and hope for better rural economic scenario in Meghalaya.

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Angtha Women Self Help Groups A Case with a Difference

Smt. Arambam Jolly*

It all happened in the year 2001, when Women Cooperative Education Project, Imphal East, a project of National Cooperative Union of India, Ministry of Agriculture and Cooperation, Government of India, launched a special programmes. The programmes is to form women self-help groups. The main idea behind the formation of SHG is to enhance the socio-economic development of women folk thereby their families. The project is implemented and executed by Project officer and 5 Lady Cooperative Education Instructors (LCEI). The LCEI has to go village to village to form SHG. In Manipur its office is located at Institute of Cooperative Management Lamphelpat.

The 'Angtha' village is one of the identified and adopted East District under Andro assembly constituency. The village comprises of 200 households with a population of around 1200. The literacy rate is approximately 35%. Most of the villagers don't have proper access to higher education, vocational training, etc. Before adopting the village, the married ladies used to do weaving, a traditional Manipuries day to day household chores. The other adolescent girls and women were sitting idle having no income generation work for them. Being illiterate they were not aware about government or NGOs schemes. Even if they also know they were exploited by the middlemen or implementing agencies.

A total membership of 315 women who were formed into Self Help groups with the help of Women Cooperative Education Project. The key activity of these SHGs is weaving in which almost all the members were engaged. Each group has 15- 20 members. Their thrift collection ranged from ₹30 - 50/-. The members were able to get loan from the group itself at low interest. The SHGs concept helps the members to develop both economic and social strength. The members could meet their contingent obligations without going to private money lenders.

From time to time, they were, given training on accounting, book keeping, management of SHGs, documents to be maintained by

*LCEI, Women Cooperative Education Project, Imphal.

SHGs, leadership development programme, HIV/AIDS awareness, food processing, rural health and sanitation etc. by the Women Cooperative Education project. The project staff made sincere efforts to make them aware of benefits of forming SHG and ways to run this group successfully.

The members developed regular saving habit and decided to save a small portion of their monthly income to SHG fund. The monthly meeting was organized on a particular day as suited to them. In this meeting they could share their sorrows and happiness.

Availing loan from the SHG improves the condition of the family to a great extent. The unity of the SHGs is enhanced by the formation of United Coordination Committee of 14 SHGs. The coordination committee meets once a month. From the committee the SHG can also avail loan. The executive members of the committee were selected from the SHGs members itself. The representative members of the SHGs bring up the problems of -the group in a meeting. In this meeting they try to solve the problems.

It is said that credit is the lifeblood of development. With the changing scenario and competitive market, the members were in need of more capital to invest in their business. Most of the women have loom at their homes so working hour is independent to them. Some of them prefer working at late evening, others like to enjoy the work in early morning time. The women have strength, skill, confidence in their weaving work but the problem of finance is a big hurdle to their economic development. They applied loan to State Bank of India, M. G. Avenue Branch and Manipur Rural Bank, Yairipok Branch with the help of concerned LCEI and the project. The Bankers visited these groups as pre lending schedule of the particular bank. Four of the SHGs got loan amount ₹ 1,50,000/- and all of them got loan from MRB in instalment till ₹50,000/. Some of the groups have completed repayment before expected recovery term. The excellence of repayment gave light to bankers of MRB, Yairipok for more loan sanction to these needy SHGs. The bank has faith in the collective wisdom of the group. The use of group pressure and moral social security as a collateral substitute without any tangible security contributes to the viability of the bank through reduced transaction costs and prompt repayment.

The working of these Self Help Groups is highly commendable. The unity, strength, confidence of these SHGs is worth mentionable. One of the example is "Mela-SHGs product exhibition 2006" organized by themselves in their own village community park. They have a strong support from the community. The locality MLA and Pradhan agreed to buy plot and construct United Coordination Committee office. They are working hard towards this.

The success of the SHGs in Angtha village has reached to almost all the corner of Manipur State. Other areas' SHGs are also developing in all respects. The linkage with banks, local pradhans, councilors, village community leaders gave a ray of hope to the Angtha SHGs to a sustainable development. Sustainable development rightly recognizes all decisions pertaining to development must simultaneously consider various aspects of economy, environment, society and people. The pioneering effort of the Women Cooperative Education Project is credit to the development of the village

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Scale of finance and periodicity of Major Sectors

Farm Sector

Sr.No.	Name of the Scheme	Period	Scale of finance
1.	Minor Irrigation	9 years	₹ 36,000 to 1,50,000
	i. WCS/UGPL	-do-	90% of the project cost
2.	Farm Mechanisation	5-9 Years	85% of the cost of the Machinery
3.	Purchase of Agriculture Land	10 Years	Upto Rs. 10.00 Lacs
4.	Horticulture/Plantation	5-9 Years	₹ 40,000 to 1,55,000 per Acre
	i. Medicinal & Aromatic Plants	-do-	90% of the project cost
5.	Animal Husbandry	5-7 Years	90% of the project cost
6.	Rural Godowns	Upto 10 Years	75% of the project cost

Non Farm Sector

Sr.No.	Name of the Scheme	Period	Scale of finance
1.	Rural Housing	Upto 10 Years	Upto ₹ 5.00 Lacs
2.	Marriage Palaces	Upto 10 Years	90% of the Project Cost
3.	Community Halls	Upto 10 Years	90% of the Project Cost
4.	Village Cottage Industry	Upto 10 Years	90% of the Project Cost
5.	PublicTransport Vehicles	Upto 10 Years	85% of the Project Cost
6.	Rural Educational Infrastructure	Upto 10 Years	90% of the Project Cost
7.	Other SSI Units	Upto 10 Years	90% of the Project Cost

Rate of Interest

The Bank has revised the rate of interest and fixed it at 10.50% p.a. to be charged from the ultimate borrowers on all types of loans w.e.f. 15.12.09 and a rebate of 5% w.ef. 1.1.2010 to 31.12.2010 is allowed on all slabs to regular paymasters.

Note:-

For further details, kindly contact The Haryana State Coop. Agri. & Rural Dev. Bank Ltd., Panchkula or the District Co-op. Agri. and Rural Dev. Banks at District level and its branches at Tehsil & Sub-Tehsil level in the State.

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Sahakar Sameeksha

Dr. P.R. Dubhashi*

The Book "Sahakar Sameeksha" briefly reviews the evolution of the cooperative movement before independence and after, analyses the present state of the cooperative movement as a whole and in various sectors, and makes suggestions for reforms with the aim of rejuvenating the cooperative movement at the present juncture. They are reforms in (1) cooperative policy, (2) cooperative law and (3) functioning of cooperative institutions.

Reforms of Cooperative Policy

The cooperative policy as adopted after independence gave a pride to the cooperative movement in the policy for economic development of the stagnant and underdeveloped Indian economy especially the agricultural and rural sectors which provided living for the overwhelmingly large majority of the Indian people. Jawahar Lal Nehru, the first Prime Minister of free India, wanted to "convulse India with cooperation' and make cooperative the basic economic institutions in the rural areas. Cooperation was considered the shield of the weak. India embarked on planned economic development in 1951 when the first Five year plan started. It stated that the economy will be a mixed economy and will have three sectors - the public sector, the cooperative sector and the private sector, but it is the cooperative sector, combining the sense of social commitment of the public sector and the freedom of operation of the private sector, which will give a sense of balance, direction and value to economic development of the country. Agriculture, animal husbandry and fishery, rural and small industries, retail consumer distribution and housing for the poor and middle classes were earmarked as specially suitable for cooperative activity. Economists like Prof. D.R. Gadgil spoke of "Cooperative Common Wealth" by integrating vertically

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Experts of key note address delivered on the occasion of National Seminar on Review of Cooperative Movement in India organised by Yashwantrao Chavan Pratishthan, Mumbai, Agriculture and Cooperation Forum, Pune.

and horizontally, all the cooperative institutions.

The Direction Committee appointed by RBI for Survey of the rural credit and submit a report based on it, recommended a structure of three tier cooperative credit institutions at the village level, district level and state level for supply of short term and medium term credit system and a two tier credit system at district and state level for long term credit to provide resources for investment in land including construction of wells and land levelling. It recommended a crop loan scheme which would give credit for production, storage, marketing and processing of agricultural commodities. It also vigorously advocated State participation in cooperation by way of finance and deputation of personnel since it felt that cooperation of the poor and disadvantaged will have no chance against the landlord moneylender and trader deeply entrenched in the rural economy holding it in its grip, without massive state support. The recommendations formed the basis of cooperative policy.

This policy enabled a network of cooperative institutions to be established all over the country. Maharashtra and Gujarat were at the fore front, the cooperative sugar factory at Pravaranagar guided by Prof. D.R. Gadgil and Amul Cooperative dairy at Anand through the efforts of Dr. Kurien blazed a new trail. They provided models for rest of the country.

Public institutions like RBI credit development [now replaced by NABARD) and National Cooperative Development Corporation (NCDC) gave substantial support for the growth of the cooperative movement. in 1991, in the face of economic and foreign exchange crisis, there was a U turn in India's economic policy; "Nehruvian Model" was given up. Planning gave way to marketisations, privatisation was encouraged through concessions while the public sector was sought to be partially privatised through disinvestment of public funds. "licence and permit raj" and "command and control" economy was dismantled through a policy of liberalization and "closed economy" to encourage domestic enterprise give way to "open economy" giving free entry to multinationals and foreign direct investment as well as portfolio investment. Neither Cooperation found place in the new set up nor in the Five Year Plan documents. Private banks and

finance companies entered into the field of rural credit. Recently it has been found that some micro-finance companies are lending to farmers at usurious rates of interest. On the other hand cooperative credit and banking are suffering a retreat. Land development banks in Maharashtra are responsible for long-term defunct lending. Many District Central Cooperative banks and urban cooperative banks have become functional.

Cooperative leaders and workers have not demanded a proper place for cooperation in the new set up. On the other hand many cooperative sugar factories have been privatized and that has encouraged further privatization. Multi-national companies like Monsanto have entered the rural economy in a big way for the supply of seeds and pesticides. Wallmart, the U.S. multi-national, is planning to enter into retail distribution of consumer commodities. Big businessmen in India like Reliance and Birla Group have already done so. The housing business has been takeover by the builders and they form "bogus" housing cooperatives - only in name and not spirit. The direction of policy is to set up a "competitive economy" which in fact is monopolist or oligopolist in character. The so called cooperative leaders have themselves lost faith in cooperative ideology and are following the private businessmen in naked pursuit of profit and self-interest or family interest.

Reform in Cooperative Law

Cooperators have long asked for simplification of cooperative law and removal of its restrictive features which have become increasingly stringent with successive amendments. Such cumbersome and restrictive legislation is inconsistent with cooperative autonomy which is essential for its growth and its character as a "participative economic democracy". In the era of liberalisation, private 'sector is deregulated but the restrictions in cooperative law have only increased in the name of preventing cooperative malfunctioning.

The "authorities" do not seem to realise cooperative malfunctioning has to be prevented by alert, vigilant and participative membership and not by functionaries of the cooperative department.

The Planning Commission had appointed a Committee under the Chairmanship of Choudhary

Brahm Prekash to make recommendations regarding cooperative law. They provided a simplified draft of cooperative law consistent with cooperative principles and respecting the autonomy of the cooperatives. The draft was commended by the Planning Commission but most of the states including Maharashtra chose to cold shoulder the draft. Maharashtra later appointed a Committee on Cooperative Law and Finance under my chairmanship which recommended removal of several restrictive provisions in cooperative law. That report too was put in cold storage. Recently, Shri S.T. Bhide of Yeshwantrao Pratisthan has sent a copy of the report to Secretary, Cooperation, Govt. of Maharashtra. N.T. Ramarao Govt. (Telegu Desam) introduced a parallel law for cooperatives receiving no aid from government and giving them autonomy. Many cooperative took advantage of the new law.

After watching patiently for years for suitable changes in cooperative law, Shri Kurien took a lead in proposing the concept of "cooperative company" for producers' cooperatives like cooperative dairy which has found a place, after suitable amendment, in Company Law. It is a pity that for proper functioning, a cooperative has to resort to "Company Law" especially meant for private enterprises.

Recently, the Union Govt. has mooted a proposal to amend the constitution to include provisions regarding "cooperation". The amendment seeks to ensure "autonomy" to cooperatives and would have provisions regarding working of cooperative institutions including conduct of regular elections. Though well meaning, the proposal is ill-advised. The constitution has to deal with the machinery of government. Cooperatives are not part of governmental machinery. Ensuring "autonomy" through institutional injunction is contradiction in terms. Rather it would be more appropriate to add a Directive Principle which directs the state to promote "cooperative commonwealth" as a part of its economic policy.

Reform in the Functioning of Cooperative Institutions

Many cooperatives have earned a bad name owing to malfunctioning and mismanagement, financial defalcations and competition. Even in the cooperatively advanced state of Maharashtra, the land

development banking system is defunct for many years, while the State Cooperative Bank, has been facing financial crisis. Some District Cooperative Banks had to be wound up. Many credit cooperatives had to be liquidated or compulsorily merged with other cooperatives or non-cooperative companies. The so called cooperative leaders have no regard for cooperative principles and cooperative ideology. They have become cooperative "samrats" running cooperatives as their freedom. Many cooperative sugar factories are known after their leaders and not cooperatives owned by farmer members. This has had strange consequences. The farmer members themselves under the leadership of Raju Shetty, now an M.P. have revolted against their own sugar factory for getting that they are the "owners" of the cooperative sugar factory and not the leaders or family presiding over it. Some cooperative sugar factories have been privatised and many other are following the lead. Dynastic rule in the cooperative field has to end and cooperatives must function as "economic democracies'.

Cooperatives must recruit best and the most competent and qualified professionals as managers and not just their kith and kins or their retainers. The Cooperative Board of Management should lay down general policy and should leave day to day management to professional managers.

Other serious ailments of cooperative are caused by "politicization" of cooperatives. Political parties try to have a grip over cooperatives using them as their instrument for political power. Office bearers in cooperatives look upon their position and work the cooperative as a stepping stone to political career. The cooperative principle of "political neutrality" has long been abandoned. With a change of governing party, there is a systematic attempt to remove the existing cooperative leadership or liquidate the cooperative and bring them under Govt. control. Politicization has done great damage to cooperative development on sound lines.

"Governmentalisation" has also severely damaged cooperative development. Governments often look upon cooperatives as their instruments. Sometimes with good intention, cooperatives are entrusted work which is

diametrically opposite to which they are supposed to do. Thus, "NAFED" whose job is to market" agricultural products is entrusted with the task of consumer distribution.

Conclusion

The set-backs suffered by the cooperative movement due to wrong policies, wrong type of law and wrong type of management has done untold damage not only to the cooperative movement but to the national economy or society as a whole, and we are seeing the consequences. Cooperative economy is supposed to bring about diffusion of development and decentralized ownership of means of production, dispensed location of economic enterprises, a measure of stability by eliminating wild fluctuations in prices of agricultural commodities and volatility in agricultural commodity markets. All this has gone in the era of neoliberalization. We have recently witnessed Union Govt. becoming a helpless spectator of relentless rise in the prices of essential commodities which have gone beyond the reach of the common man causing acute distress. The Chief Economist of Finance Ministry has himself stated that the Govt. has no instrument. A robust network of producers' and consumers' cooperatives mutually linked to each other would have been the best instrument to contain inflation and ensure stability in prices with weakening of the cooperative institutions Govt. has no instrument at its disposal, to contain inflation.

Prime Minister, the Dy. Chief of Planning Commission and Chief of PM's Economic Advisory Committee have been predicting fall in prices by certain date. Their predictions have all gone wrong.

The nation would not have been in such dire straits if the cooperative system had been built on solid foundations of cooperative - ideology and principles, simple enabling cooperative law, honest and dedicated leadership and competent professional management. Cooperative movement has to be rejuvenated.

This is the conclusion of "Sahakar Sameeksha". The seminar on the subject should give earnest thought to the facts and ideas set out in this paper and suggest detailed recommendations to rescue the cooperative movement and the nation from the current difficult economic situation.

THE MEGHALAYA CO-OPERATIVE APEX BANK LTD.

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A premier State Cooperative Bank in the North-Eastern Region having democratically elected Board of Directors since inception and managed by professionals.

FINANCIAL HIGHLIGHTS

	(As on 31.03.2008)	(As on 31.03.2009)
• Paid up Share Capital & Reserves	: ₹ 6615.30 Lakhs	₹ 8425.65 Lakhs
• Deposits	: ₹ 71947.65 Lakhs	₹ 79279.24 Lakhs
• Loans & Advance	: ₹ 19388.52 Lakhs	₹ 20549.81 Lakhs
• Investments	: ₹ 22613.15 Lakhs	₹ 27804.26 Lakhs
• Net Profit	: ₹ 202.77 Lakhs	₹ 352.00 Lakhs
• Working Capital	: ₹ 86408.26 Lakhs	₹ 97942.73 Lakhs

Our Banking Products & Services

- *Current Deposits*
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- *Recurring Deposits*
- *Monthly Income Deposits*
- *Double Benefit Scheme*
- *Cash Certificates*
- *Fixed Deposit linked with Recurring Deposits*
- *Housing Loan Linked Deposits*
- *Children Education Deposits*
- *Crop Loans for Agriculture through KCC / SHG / Cooperatives*
- *Term Loans for Agril. & Allied Agriculture*
- *Aquaculture Development One Thousand Ponds Scheme*
- *Loans for Housing / Housing Complex*
- *Loan for SRTO*
- *Consumer Durables Loans*
- *Loans to Technocrats & Professionals*
- *Loans to educated unemployed youths*
- *Cash Credit & Overdraft Facilities*
- *Loans for Children Education*
- *Integrated Village Development Scheme*
- *Term Loan for Tourism Development*
- *Personal loan to salary earners*
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MADHYA PRADESH STATE COOPERATIVE AGRICULTURE & RURAL DEVELOPMENT BANK LTD.

8, Arera Hills, Old Jail Road, Bhopal - 462 004.

- The MPSCARDB provides long term loans to agriculturists through its affiliated Distt. ARDBs in the State for various agricultural and rural development activities like Minor Irrigation Schemes, Dry Land Farming, Land Development, Wasteland Development, SGSY, Organic Farming, Horticulture Development, Aromatic & Medicinal Plants, Farm Mechanisation, Dairy Development, Fisheries, Poultry, Bio-gas Plants etc.
- The Bank also disburses long term loans under Non-Farm Sector mainly for setting up of Cottage and Village Industries, SRTO, Establishment of Milk Chilling Plant, various service sector activities in rural areas, for Clinic, Nursing Home and Pathology, Radiology etc.
- To facilitate availability of loans to farmers at nearby place, the affiliated 38 Distt. ARDBs have opened 273 Branches in the State.
- The Bank has, so far disbursed long term loans of Rs. 2839.59 crores to 9.49 lakhs farmers from its inception in 1961.
- The Bank also accepts Term Deposits from Individuals & Institutions for the period of one year & above. All Distt. ARDBs in the State accept FD on behalf of MPSCARDB in various Schemes i.e. Fixed Deposit, Double Deposit, Recurring Deposit etc.

Financial Particulars of the Bank as on 31st March 2011 (Provisionals)

(₹ in crore)

1.	Paid up Share Capital	:	₹	44.99
2.	Reserve and other funds	:	₹	251.98
3.	Debentures in circulation	:	₹	1001.51
4.	Fixed Deposit	:	₹	106.99
5.	Loan Disbursed During the year	:	₹	13.95
6.	Loan Outstanding	:	₹	1140.49
7.	Investment	:	₹	37.96
8.	Working Capital	:	₹	1476.19

Prakash Khare
Managing Director

Kishan Singh Bhatol
Chairman

NEWS & NOTES

132nd Board Meeting of the Federation

The 132nd meeting of the Board of Management of the National Cooperative Agriculture & Rural Development Banks' Federation was held on 21st April 2011 at Malad, Mumbai. The meeting was chaired by Shri K. Sivadasan Nair, MLA, Chairman, Federation.

The Board considered and took note of the Recommendations of Zonal Seminars on Preparedness of ARDBs for Revival conducted by the Federation in four zonal centers during January-February 2011. The Board also took note of the upward revisions in the rate of interest on refinance announced by NABARD from August 2010 to February 2011 resulting in increase in the cost of refinance. In the same context, it was suggested that the SCARDBs include a provision in the loan agreement to facilitate one time revision in the rate of interest on the basis of actual cost of refinance when it is drawn after the disbursement of loans.

The Board considered and took note of the major aspects of the Model Policy on Bank Deposits issued by Indian Banks Association and decided that SCARDBs may also incorporate the same in the guidelines for deposit mobilization by ARDBs.

The meeting concluded with vote of thanks to the chair.

RBI authorized to order special audit of cooperative banks

The Finance Minister, introduced a Bill in Parliament that will allow the promoters and shareholders of private banks to exercise voting rights in proportion to their shareholding. At present, this right is restricted to 10% of the total voting rights of all the shareholders of a banking company. The Bill also enables the RBI to order a special audit of cooperative banks in public interest for a more effective supervision of cooperative banks. The Banking Laws (amendment) Bill 2011 also seeks to explicitly allow nationalized banks to issue bonus shares and come up with rights issue to raise capital required for expansion of banking business. Banking companies will also be enabled to issue preference shares. In a far-reaching move, another amendment will allow the RBI to

supersede the board of directors of a banking company for a period not exceeding 12 months and appoint an administrator to manage the banking company during that period. Power will also be conferred upon the RBI to levy penal interest in case of non-maintenance of required Cash Reserve Ratio.

Bad loans to cross ₹ 1 lakh crore this fiscal

A bad loan, or Non-Performing Assets (NPAs) of banks are set to cross the ₹ one-lakh crore mark in the current fiscal as the weakened asset quality of the banking sector is likely to spill over to the year 2011-12. After the 25 % rise in gross NPAs of bank to ₹ 77,048 crore in 2009-10, bad loans of banks shot up by another 20.97 % in 2010-11, impacting the earnings of many banks and showing an overall rise of 77.75 % in the last three years. Of this, State Bank of India alone accounts for over one-fourth of the NPAs as the largest bank reported bad debts of ₹ 25,326 crore in 2010-11. Among other banks, Punjab National Bank NPAs rose from ₹ 3,214 crore to ₹ 4,379 crore and Bank of Baroda from ₹ 2,400 crore to ₹ 3,152 crore. Among private sector banks, HDFC Bank managed to bring down its NPAs from ₹ 1,816 crore to ₹ 1,694 crore, ICICI Bank reported a marginal rise in bad debts from ₹ 9,480 crore to ₹ 10,034 crore in 2010-11. "Advances classified as "sub-standard" will attract a provision of 15 % as against the existing 10 %. The "unsecured exposures" classified as sub-standard assets will attract an additional provision of 10 %, i.e., a total of 25 % as against the existing 20 %.

Women's co-op bank in Jharkhand

A cooperative bank for women, known among villagers as 'Didi Bank', has become a success in the remote villages of Jharkhand's West Singhbhum. The all-women private cooperative bank, registered on July 9, 2009, has a roster of 847 members from 87 self-help groups (SHG) of the total 135 in the block. The bank is run by women and has only women on its board of directors and members. Set up with a membership contribution of ₹ 125, the bank functions on the 4th and 12th of every month. Each SHG group deposits a minimum of ₹ 100 per month. Its member base is spread over 35 villages while efforts are on to enroll other

members of the remaining SHGs. The bank disburses loans through SHGs and it takes responsibility to ensure repayment by members within 10 months.

For the process of recovery of loan, the 11-member board of directors go through the application of a member and discuss with the members of the SHG before sanctioning the loan. The bank charges only ₹ 1 per ₹ 100 as interest. The bank also provides an insurance cover for its members at a premium of ₹ 100 a year as premium and pays ₹ 1,500 in emergency or in case of death of a member in the family. It also plans to set up some cottage industries to generate employment as the Anandpur block has potential for growth in animal husbandry and forest resources. Although, the bank so far has refrained from seeking the State Government's help, it has now decided to approach it for building of infrastructure.

Regional rural banks seek sops to open more branches

Regional Rural Banks (RRBs) which have been mandated to open 2,000 branches in the unbanked areas of the country by 2012 have urged for certain subventions from the Union Government. In August, 2009, the Union Government had directed 82 RRBs, working with the then highest rural network of 16,500 branches, to open 2,000 more branches in the unbanked area over the next two years. RRBs have urged the Government to allow some of these branches to be set up as satellite, extension counters or even mobile van branches. They have also asked for subvention for opening branches in the hilly or terrorist areas at the initial period. RRBs have so far sent around 1,500 proposals to the Reserve Bank of India for opening new branches. They have already opened more than 900 branches in the unbanked areas. The satellite or extension counters could act as subsidiary channel of the nearest branch within a radius of maximum 10 km.

World Bank okays $1 b credit for rural livelihood project

The World Bank has approved $ 1 billion credit for National Rural Livelihoods Project (NRLP), which it said is aimed at strengthening the implementation of the newly launched National Rural Livelihoods Mission (NRLM). NRLM is one of the world''s largest poverty reduction initiative of approximately USD 7.7 billion,

aiming to reach 350 million people or almost a quarter of India's population. The success of NRLM, which is expected to serve as a backbone for pulling together all other poverty reduction efforts under one umbrella, will help India move closer to some of the key Millennium Development Goals in the near future.

Banks will Have to Resolve ATM Complaints within seven days

The Reserve Bank of India (RBI) has reduced the time that banks take to resolve customers' complaints regarding ATM transactions to seven working days from 12 working days. Banks, which fail to resolve complaints within seven working days, will have to pay customers ₹100 per day as compensation. The new guideline will be effective from July 1 this year. The move to resolve the dispute has come as a major relief to millions of customers who are increasingly using ATMs to withdraw cash.

While issuing this directive, RBI has also said customers have to lodge a complaint to the issuing bank within 30 days of the date of transaction to be entitled to receive such a compensation for delay in resolving it. Also, the central bank has clarified that the number of free transactions permitted per month at other bank ATMs to the savings bank account holder will be inclusive of all types of transactions - financial or non-financial. More importantly, banks take considerable time in reimbursing the amounts to card holders involved in such failed transactions. In many cases, the time taken is as much as 50 days. RBI directed banks to compensate customers as it felt the delay of this magnitude is not justified, as it results in customers being out of funds for a long time for no fault of theirs. Also, the delay can discourage customers from using ATMs.

High NPAs remain deterrent for bank lending in NE :RBI

The RBI has said a high level of Non-Performing Assets (NPAs) has been a stumbling block for banks extending loans in the North Eastern states of the country. The Central bank said there was a need to improve credit culture and asked banks to increase staff strength. A deterrent for bank lending is the high level of non-performing assets (NPAs) in the region (North-East). This has been, in part, due to the unavailability of some of the activities financed by banks and a

lack of adequate engagement with the borrowers," said Mr. Deepak Mohanty, Executive Director of RBI. "There is, therefore, a need to improve credit culture in which financial education could play a vital role. In addition, banks will have to augment the staff strength in their branches with an emphasis on staff with knowledge of local customs and practices," he said. The group lending model could be successful for credit delivery in the region and for that bank linkages with self-help groups (SHG) should be promoted. The central bank said the National Bank for Agriculture and Rural Development (NABARD) had an important role to play, not only in the promotion of SHGs, but also in capacity building, along with SIDBI and the state government agencies concerned. Banks could explore innovative structures for housing loans with a greater emphasis on group lending because expansion of housing loans remained poor as mortgages could not be created in many parts of the North Eastern States (NES). In order to speed up the financial inclusion processes in NES, RBI had relaxed the branch authorization policy and permitted domestic scheduled commercial banks (other than Regional Rural banks) to open branches in rural, semi-urban centres in NES and Sikkim without prior permission from the RBI. "However, the progress towards opening branches has been slow because of lack of proper infrastructure in the identified centres," said Mr. Mohanty, He said 55 %of the finance in the region was availed from the non-formal sector, which was significantly higher than the all-India level, with the share of the informal sector at 42 %.

Banks should explore subsidiary route to drive financial inclusion

Indian Banks should explore the subsidiary route to drive down distribution costs in their financial inclusion drive, according to Dr. Janmejaya Sinha, Chairman Asia Pacific, Boston Consulting Group (BCG). Given that the average distribution cost of banks, at ₹5.5 lakh per employee, is prohibitive, Dr. Sinha said they should consider floating subsidiaries to bring down human resource costs. These subsidiaries could harness local talent (at a substantially lower average distribution cost of ₹ 1 lakh or less per employee) in rural and semi-urban areas for reaching basic banking services to the un-banked. Keeping in view the central bank's concerns on regulatory arbitrage, the BCG chief suggested that policymakers allow

banks to set up subsidiaries only for the financial inclusion drive. BCG, in its report 'Financial Inclusion: From Obligation to Opportunity,' has assessed that in the traditional model for pushing financial inclusion, the cost-income ratio was about 1000%, that is, the cost of rendering service (at about ₹ 600) per account exceeds income earned from the account (₹ 60). Ideally, this ratio should be around 50%. Almost two-thirds of the respondents in the BCG survey, which interviewed 12,321 households in 60 districts and four metros across 15 states, said they took loans mainly for consumption-related purposes; 24% took credit for income generation and 9% for education. Over 50% of the respondents depended on the informal channel (money lenders/friends and family) for credit to smoothen income gaps. As credit from the informal channels is available 24x7, is easily accessible, and does not have any documentation hassles, respondents did not seem unhappy with this source of financing. To enhance revenues from the financial inclusion drive, the BCG report has recommended that banks offer credit products in addition to deposits and remittances; shift their transaction model from the conventional rich man's float-based model to poor-friendly, transparent pay-per-use model.

U.N. Releases 2012 International Year of Cooperative Logo

The United Nations (U.N.) International Year of Cooperatives (IYC) Secretariat released a logo in six languages recognizing 2012 as the International Year of Cooperatives. The logo illustrates the official 2012 IYC theme released earlier this year **Cooperative Enterprises Build a Better World**. The International Year of Cooperatives officially begins Oct. 30, 2011, with a celebration at the U.N. headquarters in New York City, and runs through November 2012. In a release, WOCCU has said that it is urging credit unions worldwide to join with other cooperatives in using the logo to increase public awareness about cooperatives' contributions to socio-economic development. WOCCU has also formed a global advisory committee of member organization representatives and is coordinating with the International Cooperative Alliance (ICA), the global cooperative association collaborating with the U.N. on the

event, and the U.S. National Cooperative Business Association. "With the spotlight on cooperatives, credit unions have a unique opportunity to show community members and policymakers the tangible changes they are making on a local, national or international level and educate them on the cooperative difference" said Dave Grace, WOCCU senior vice president of association services heading WOCCU

NABARD set to improve functioning of Rural Coop Banks

Boards of Co-operative Banks may come under stricter scrutiny with the sectoral regulator finding many of them not being run properly. NABARD's 2009-10 Annual Report said nine State Cooperative Banks (SCBs) and 214 District Central Coop Banks (DCCBs) where not being run properly. Various experts and committees have pointed to the lax oversight of cooperative banks because of multiple jurisdiction of states, the Reserve Bank of India, Registrar of Cooperatives and in the case of rural ones NABARD as well. The fit and proper criteria will ensure that there are at least three professionals on the board with voting rights," said the official, NABARD is closely working with the states and the finance ministry. The NABARD moves come after the Board of the 100 year old Maharashtra State Cooperative Bank was superseded by the state government on directions from the Reserve Bank of India. One of the major reasons for its failure was that the bank was unable to recover its non-performing assets because of political pressure from within the bank board. The total NPAs for the bank were at ₹500 crore in 2010. A Finance Ministry official said that all steps would be taken so that there are no systemic issues in cooperative banks. The sectoral regulator in 2010 had issued fresh guidelines 'On inspection of District Central Cooperative Banks, to ensure that steps are taken by the cooperative banks to induct professionals on their board. "NABARD will still continue to focus on the financial parameters. But corporate governance practices will determine if they would be eligible for any central support," the Finance Ministry official said. "NABARD has initiated training programmes for the Board members. Routine on-and-off site inspections have been conducted to ensure all banks are following the norms," said UC Sarangi, ex-Chairman, NABARD, adding that further stress on corporate governance will strengthen the banks.

RBI notifies enhancement of Rates of Provisioning for NPAs and Restructured Advances for commercial banks

Following the announcement made in the Monetary Policy Statement for the year 2011-12 to enhance the provisioning requirements on certain categories of non-performing advances and restructured advances, RBI has revised provisioning requirements for the following categories of non-performing advances and restructured advances as under :

1. Sub-Standard Advances : Advances classified as "Sub-standard" will attract a provision of 15 % as against the existing 10 %. The "unsecured exposures" classified as sub-standard assets will attract an additional provision of 10%, i.e., a total of 25% as against the existing 20%. However, "unsecured exposures" in respect of infrastructure loan accounts classified as sub-standard, in case of which certain safeguards such as escrow accounts are available as indicated in RBI circular DBOD.No.NP..BC.96/08.12.0 14/2009-10 dated April 23, 2010 will attract an additional provision of 5 % only i.e. a total of 20 %as against the existing 15 %.

2. Doubtful Advances : Doubtful Advances will continue to attract 100% provision to the extent the advance is not covered by the realizable value of the security to which the bank has a valid recourse and the realizable value is estimated on a realistic basis. However, in respect of the secured portion, following provisioning requirements will be applicable:

   The secured portion of advances which have remained in "doubtful" category up to one year will attract a provision of 25%(as against the existing 20%; The secured portion of advances which have remained in "doubtful" category for more than one year but upto 3 years will attract a provision of 40 % (as against the existing 30%); and the secured portion of advances which have remained in "doubtful" category for more than 3 years will continue to attract a provision of 100%.

3. Restructured Advances : Restructured accounts classified as standard advances will attract a provision of 2 % in the first two years from the date of

restructuring. In cases of moratorium on payment of interest/principal after restructuring, such advances will attract a provision of 2 % for the period covering moratorium and two years thereafter (as against existing provision of 0.25-1.00 %, depending upon the category of advances); and restructured accounts classified as non-performing advances, when upgraded to standard category will attract a provision of 2 % in the first year from the date of upgradation (as against existing provision of 0.25-1.00 %, depending upon the category of advances).

Provide portfolio management details, RBI tells banks

The Reserve Bank of India (RBI) has asked banks to furnish details of the portfolio management services offered by them. The Financial Stability and Development Council (FSDC) had earlier mandated RBI and the Securities and Exchange Board of India (SEBI) to undertake a review of the existing practices followed by banks and brokerage houses in offering wealth management services. The regulators were also asked to come up with fresh guidelines for wealth management services. RBI guidelines pertain to portfolio management services. A senior official of a public sector bank said that the RBI has asked us to furnish details of the various parameters of portfolio management services like nomenclature, the products offered and the disclosures we make to clients about risks and returns. Portfolio management services offered by banks are classified into four categories referral services, investment advisory, non-discretionary and discretionary. Sources said the current norms do not clearly distinguish between investment advisory and non-discretionary portfolio management services. Currently, to offer portfolio management services, banks need RBI's approval. Registration with Sebi is also required to offer investment advisory services, which are non-discretionary in nature (the client's approval is required for investment).

Banks to cover 3,50,000 villages by 2013 : RBI

Around 3,50,000 villages across India would secure access to financial services offered by banks in the next two financial years,

according to a plan banks have given to the Reserve Bank of India (RBI). RBI has asked banks to ensure that 2,23,473 villages have access to basic financial services by March 2012. "Banks are still engaged in ecosystem development. Once that is done, banks said they would be able to scale up," said Dr. K.C. Chakrabarty, Deputy Governor, RBI. Banks have been asked to include their financial inclusion performance when they evaluate the performances of their field staff, he added. Dr. Chakrabarty said the number of 'no frills' accounts rose to 74 million from 50 million in a year in March, while the growth in no frills accounts with overdraft facilities has been sluggish. According to RBI, a 'no frills' account is one for which no minimum balance is insisted upon, and for which there are no charges levied if the balance is lower than the minimum balance permitted. Chakrabarty said opening no frills accounts was not enough to bring about financial inclusion. He said banks needed to strike a balance between opening branches and appointing business correspondents. He also added that one cannot cover all services only through banking correspondents. You need to have brick-and-mortar branches, and that is why we have now made it mandatory that 25 % of the new branches have to be in unbanked, rural centres. In March 2011, 99840 villages were covered by banks, of which, 76,801 were covered through business correspondents.

Changes in ARDBs

i) Shri V.M. Chaudhari, has assumed charge as Managing Director I/C of the Gujarat State Cooperative Agri. & Rural Dev. Bank Ltd., w.e.f. 1st April 2011.

ii) Shri Nishi Kanta Mehta, has assumed charge Chairman of the West Bengal State Cooperative Agri. & Rural Dev. Bank Ltd., w.e.f. 8th April 2011.

iii) Shri Hukum Singh Thakur, Addl. RCS/HP has assumed charge as Managing Director of the Himachal Prades State Cooperative Agri. & Rural Dev. Bank Ltd., w.e.f. 18th May 2011.

iv) Thiru R. Jayaram, Addl. Registrar of Coop. Societies has assumed charge as Special Officer of the Tamil Nadu State Agri. & Rural Dev. Bank Ltd., w.e.f. 6th June 2011.

v) Ms. K. Usha Devi, has assumed charge as Managing Director of the Kerala State Cooperative Agril. & Rural Dev. Bank Ltd., w.e.f. 6th June 2011.

AGRICULTURAL NEWS

Innovative solutions for combating food inflation

In India, apart from natural catastrophes and growing demand from the rising population, a paradigm shift is observed in the consumption pattern of the expanding middle class, which consumes more nutritive food including meat and milk that require larger quantities of grains to produce. The cumulative effect of erratic monsoons and natural disasters including floods, rising population, growing income especially in semi-urban and rural areas has fuelled demand for food leading to multifold rise in food inflation since the last five years.

It is important to point out that food inflation in wholesale prices since 2005 has been accelerating, and it was close to 20 % in January 2010. Annual average food inflation during 2006-2009 was more than 80 % higher than inflation in non-food commodities. Within the food group, the highest inflation is observed in the case of pulses and the lowest in the case of edible oils. High Food inflation has become a matter of global socio-economic concern and must be addressed with a war-footing.

Increase farm productivity: Given limitations in expansion of agriculture acreage, improvement in yields assumes great significance. As compared to developed countries, India's crop yields are low and in some cases, less than the world average. Yield growth rates in 2001-2010 have stagnated to <1.5 % for rice and wheat as compared to over three % in the 1980s. Although steps have already been taken by the Government to increase productivity of various crops, strong and urgent focus is needed to enhance farm productivity by way of technology transfer in seeds, advance agriculture practices including farm mechanisation and drip irrigation and other agri-inputs. A case in point is cotton, where the introduction of Bt cotton yields have grown at a CAGR of 11 % in the decade 2001-2010.

1) Lower costs of inputs: India is a significant net importer of phosphatic and complex fertilisers and large subsidies would be unsustainable in the long run leading to ballooning fiscal deficits which lead to inflation. Impact of fuel costs, which is a key input for transportation of agri-commodities to processing or consumption centres is significant.

2) Increase in share of irrigated land: Water would play an extremely important role in food security and food prices given the large dependence on monsoon and restriction of large cultivation acreage to a single crop cycle. 60 % of net sown area is rain fed and this needs to increase and projects such as the river linking project can be viable long term solutions to achieve the same.

3) Improve storage and processing infrastructure: Inefficient and insufficient post-harvest storage infrastructure in the form of warehouses and cold storage results in loss of over 10 % of food grains and fruits and vegetables produced. The WADA Act passed in 2007 and notified recently will provide a fillip to creation of storage infrastructure and also provide access to credit to farmers against warehouse receipts. Improvement in post harvest processing (which currently is <10 % of F&V produced) can also significantly contribute to reduction in losses and longer shelf life for perishables.

4) Improvements in supply chain: Processors and organised retailers should be incentivised to procure directly from the farmer groups and minimise layers in supply chain which add to the prices of agri-commodities.

5) Public Distribution System: India needs to act quickly to invest in expanding and modernising storage capacities in both the public as well as private sectors to capture the huge amount of wastage due to inefficient distribution supply chain along with a huge amount of leakages.

6) Risks due to Natural Calamities: A recent study predicts about $3 trillion in annual global agriculture production is increasingly at risk from wild and unpredictable weather fluctuations. In a vast and geographically heterogeneous country such as India, which has over 40 million hectares (about 8 %) is prone to floods, 68 % of the area susceptible to drought and over 8,000 km coast line prone to cyclones/high wind velocity. It is absolutely necessary to manage such risks if impossible to mitigate them.

Response to the Macro Weather Calamities

India has largely focused on micro risk management at the farmer level and the macro level response is mostly ad hoc and need based.

Globally various countries have adopted various measures to tackle large scale weather risks and natural calamities that affect people, animals, infrastructure, agriculture etc. Some of these measures are very pertinent for Indian conditions.

(a) Advanced weather risk modelling & forecasting systems: Advanced weather information from renowned weather institutions should be sought to decide the regions and quantum of insurance required to cover the risks.

(b) Catastrophe bonds/CAT bonds: The 2009-10 Economic Survey suggested introduction of Catastrophic Bonds in India. With roughly $12 billion market size, CAT bonds are mainly prevalent in the West, and are used by the governments and re-insurers to raise money and hedge the risk arising from natural calamities. These bonds act like any other debt instruments and are mostly linked to insurance.

CONCLUSION

Tackling food inflation is the key priority of the Government and policy makers as it impacts the weaker sections of the society. The issue should be tackled by addressing supply side risks through economic and policy-oriented actions and by mitigating risks due to natural calamities. Only an integrated approach would ensure long term food security.

A High Tech Floriculture Project of Roses

Using modern technology, Dr. Babasaheb Ambedkar Marathwada University (BAMU) in AUrangabad has not only successfully cultivated roses in an environment considered hostile to the flower but is also generating revenue from the endevour. The project generated a revenue of ₹ 60,000 in 2009 and ₹ 90,000 in 2010. The department expects to double the income in the current year. In August 2008, the BAMU approved a 'high-tech floriculture project', under which the University started growing around 5,000 plants in a poly-house set up on barren land. The project to commercially grow roses on wasteland was the brainchild of Dr Sudhir Gavhane. All imported and popular varieties of roses that included the red Bordeaux from England, the yellow Gold Strike and Starlight from France, saffron coloured Tropical Amazona from the UK and the pink Noblesse variety from France were cultivated. The project took shape

in a 25 metre by 20 metre polyhouse, which is 8 metre in height. The water requirement was taken care of by raising the water level of around 40 old wells on the campus and constructing canals. Drip irrigation system and foggers were put in place to avoid water losses.

Castor oil

Castor (*Ricinus Cummunis*) is also known as the "Palm of Christ". The Caster crop is cultivated around the world for its non-edible oilseed. Castor is a perennial crop but is grown as an annual for economic purpose. It is cultivated mostly in the arid and semi- arid regions of the world. The crop duration is 4-5 months. In India, it is sown in July/August and harvesting commences around December /January.

Castor oil and its derivatives have applications in the manufacturing of soaps, lubricants, hydraulic and brake fluids, paints, dyes, coatings, inks, cold resistant plastics, waxes and polishes, nylon, pharmaceuticals and perfumes. Castor meal, the byproduct of the oil extraction process is mainly used as fertiliser. The major castor producing States in India are Gujarat, Rajasthan and Andhra Pradesh. Together, these States account for more than 90 % of total domestic production with Gujarat being the largest castor oil seed producing State. Gujarat also leads in terms of productivity with a yield of 1.71 mt/ha.

Given that castor is a non-food crop, developing genetically modified varieties that are resistant to lepidopteron pests could be an important focus that could take the productivity of the crop to higher levels.

Securing food for an emerging India

The Food and Agriculture Organisation (FAO) estimates that global food production needs to increase 70 % by 2050 compared to average 2005-07 levels to feed the rising global population. Clearly, a large part of the consumption will happen in India and China; which would require an additional 1.6 billion hectares of land to be brought into cultivation compared to the current 1.4 billion hectares being cultivated presently. With approximately 210 million starving people, India needs to proactively take measures to reduce the demand-supply gap and address food security concerns.

The Union Government has undertaken multiple initiatives to help improve access to food and nutrition for a massive target group. These initiatives include public distribution system (PDS), Mid-day meal (MDM) scheme, National food for work programme (NFWP), Antyodaya anna yojana (AAY), Integrated child development scheme (ICDS), National food security mission (NFSM), the Targeted PDS and National Rural Employment Guarantee Act (NREGA). On the other hand, the private sector has also played a pivotal role in securing the nation's need for food by developing and marketing high yielding seeds, pesticides, nutrients, fertilisers, irrigation equipment and farm machinery.

In spite of the Green Revolution and constant efforts for the past 60 years since independence, India today faces challenges of stagnating growth rates in yield (<1.5 % in the decade of 2001-2010 for rice and wheat as compared to over three % in the 1980s), depleting ground water levels, declining arable land area per capita and increased occurrence of natural catastrophes. The private sector could further contribute towards the common objective by leveraging opportunities across the agri value- chain, few of which include:

1) Building integrated dairy farms: Milk is considered as a perfect food in many aspects given its fair blend of nutritional components. A growing and more affluent population will have a growing demand for more nutrition.

2) Developing agro food parks: Development of innovative models such as agro food parks to directly link farmers to processors, reduce wastage, increase processing capacity and improving agro-management models will ensure superior food and supply chain management.

3) Investment in storage infrastructure: Inefficient and insufficient post-harvest storage infrastructure results in enormous loss of food grains, fruits, vegetables, spices and exotic crops. As India's appetite for food grows, we need to ensure year-round availability of food. It is, therefore, critical that to address this growing need of storage, warehouses are established after due diligence on locations and capacities to ensure economic viability and food security.

4) Developing crops that withstand abnormal weather: The

International Rice Research Institute (IRRI) in Manila is working on paddy strains that can withstand submerged water conditions in fields and in saline waters. Boosting such studies and collaborations between agriculture research institutes and private players to enable commercial launch of such innovative products will help mitigate the risk of crop loss by draught or flood.

5) Developing crop and area specific farm equipment: Agriculture is an extremely labour-intensive occupation, which has now started facing a challenge of labour shortage. Hence, developing innovative crop-specific farm equipment and making them available at modest prices so as to enhance the level of mechanisation would contribute in the long run to increase output.

6) Establishing strong linkages between research and extension: There is a huge gestation period of several years for a product to launch from lab to farm. A well coordinated approach between companies, research institutions and Government organisations working in partnership to optimise agriculture livelihood, would ensure speedy delivery of innovative products, concepts and actions.

7) Adapting technology transfer: Early introduction and adaptation of well proven and ably demonstrated agricultural inputs, which have led to better economic returns in western geographies could boost the development roadmap and reduce the time to achieve the goal of achieving food security.

SRI helps enhance rice productivity

Indian being the important consumer of rice, the per capita availability of food (rice) had reached an all-time low of 64 kg per annum in 2008-09, which is 20 kg less than the minimum annual requirement of a normal person (NSSO survey). Therefore, to meet the nutritional needs of the people, the food production has to 'more than double' in next 3-4 decades. Problematic weather aberrations due to climate change such as flooding and drought, temperature fall, frost, submergence and cyclone etc., the sector loses around 40% of crop production annually due to system inefficiency and wastage in addition loss due to pests, diseases and weeds infestation. In view of static area planted under food crops reinforced by population competition and spate of urbanisation, the onus lies

on productivity enhancement that ensure food security at various level (global, national and household level).

System of Rice Intensification (SRI) provides ample scope for enhancing productivity and breaking the yield barrier in the smallholders' fields. The novelty is that SRI produces more rice with less input while conserving precious water. The government, civil society organisation and NGOs are promoting SRI in an unprecedented scale and helping farmers in capacity building. SRI is an integrated package of agronomic approaches to exploit the genetic potential of rice plants; create a better growing environment (both above and below ground); enhance soil health; and reduce inputs cost substantially. Phenomenal saving in seed (90% saving) and water upto 40%, attracted farmers to adopt SRI. The origin of this simple technique can be traced in Madagascar where SRI was first practiced. This method has recently been introduced in India, where farmers improved productivity by using less water while incurring no additional cost.

Strengthening institutional framework including rural credit system, crop insurance, marketing and remunerative pricing policy is essential booster for rural areas. SRI rice is preferred by the farmers for seed. Therefore, SRI seed may be promoted. Policy interventions should build on resource conserving property could be a source of sustainability. Increase irrigation facility in the rainfed areas through introducing water harvesting system. As SRI is suitable in rabi season, given the availability of controlled irrigation, the problem of rabi fallow may be addressed.

Onion variety that yields well and is drought resistant

An onion cannot be dismissed as just another vegetable. A farmer named Mr. Manaram Chowdhary developed an onion variety after nearly a decade of trial and error and says these ones yield well, are drought resistant, and fetch a better price compared to the other local varieties. Named "Rashidpura", the variety attained wide popularity in the northern states of Rajasthan, Delhi, Punjab, and Haryana for its distinctive taste and strong smell. He stabilised the characteristics over a period of ten years (1983 to 1993) by performing

repeated selection. Once he was satisfied with the yield stability of the variety, and the drought resistant characteristic of the variety, he named it Rashidpura. This variety is usually used to spice soups, salads and pizzas due to its peculiar taste. Urban consumers seem to prefer these variety and the requirement for this type of onion is also expected to increase. Farmers would definitely benefit from growing this variety of onion.

Officials from the agriculture extension department in Sikar and research station, Durgapur (Jaipur) appreciated the variety developed by Mr. Choudhary. For more information readers can contact Mr. Manaram Chowdhary, Village Sanvloda Ladkhana, District Sikar, Rajasthan at 09799237178.

Farms vote for machines

Soaring labour costs arising from the dearth of farm workers for harvest operations in the midst of huge disguised unemployment in rural India highlight the stark paradox in the agrarian economy. Farm labour availability has worsened in recent years for many reasons, including the success of welfare schemes such as NREGA and migration of the rural youth to urban areas in search of non-farm job opportunities. No wonder, then, that large growers and crop-user industries are calling in machines to replace men and women for some farm-related operations. Agro-processing industries in the sugar and oilseeds sectors are encouraging growers to increasingly adopt mechanised harvesting, which is efficient, economical and user-friendly. For instance, some sugar mills in Tamil Nadu have been helping cane growers with mechanised harvesting because labour costs have turned unaffordable. Up North, such a practice is already common. Groups of farmers in Junagadh district of Gujarat's Saurashtra region (the country's peanut bowl) regularly hire combines (harvesting machines) to harvest groundnut in-shell during the kharif season and complete the process efficiently, not only to market the produce in time but also to save the harvested crop from weather aberrations. Despite its recognised commercial advantages, an important constraint to farm mechanisation here is the highly fragmented nature of landholdings (80 % of farmers are smallholders with just about one hectare of land), diverse soil types and limited financial capacity of small farmers

to own and operate machines. The way forward could be to motivate small farmers in clusters of villages to combine or form consortia to hire the services of farm machine suppliers. It is important for the policymakers to realise that mechanist.

Agflation

Agflation is the generalised rise in prices, led by an increase in agricultural commodity prices. The concept gained prominence when the central bank on several occasions attributed the steady high rate of inflation, especially the rise in prices of food articles, to supply side pressures as agricultural productivity could not match the rise in demand for edible items. The prices of food articles have risen by 8.71% year-on-year in the financial year 2010-11. It was the highest in January 2011 at 16.08%.

Farmers make Geography a history

Call it innovative farming if you will growing coffee in Himachal, tea in Kolhapur, and apples in Rajasthan. Driven by the urge to do something different or to earn higher returns, a new breed of farmers is cultivating crops not usually grown in their areas. Balasaheb Tekawade, grows quality tea on 30 acres of farmland in Kolhapur district of Maharashtra. His adjoining tea factory produces 100 kg of tea every day, fetching him premium prices, and he now plans to bring in another 30 acres under the crop. This was also the motivation for hotelier Rustom Cama, who wanted to see the climatic extreme an apple tree could endure. The 150 apple trees he planted on his farm in Mount Abu, Rajasthan, three years ago have started bearing fruit. Having successfully grown apricots, plums, pears and peaches on his farm in the Aravallis, Cama is now looking forward to a commercial crop of apples in the next few years. This new thinking has also been embraced by some farmers wanting to move out of traditional crop cycles. Vikram Sharma began experimenting with coffee in Himachal Pradesh 12 years ago, using 50 different plant varieties. It was an isolated move then, but gradually others joined in, wanting to move out of wheat and maize. Himachal has become home to more than 40,000 coffee plants, with 80 farmers across Mandi, Bilaspur, Hamirpur, Kangra, Una and Shimla districts replicating the effort. Most of the farms are situated in the sub-mountain and low-hill sub-tropical zone of the

state at a height of 670 metres and above.

These farm entrepreneurs, who have closely studied the climate of their regions, have dared to go against the advice of agricultural experts. Premium rice variety basmati is now being grown outside its key producing states of Punjab and Haryana, driven by growing demand, good returns and incentives from state governments. Kerala has lost its place as the top pepper-producing state to neighbouring Karnataka, where it is being cultivated in coffee estates in the districts of Kodagu, Chikmagalur and Hassan.

Farmers cannot solve the crises in agriculture on their own

The present crisis cannot be solved by the farmers alone. The initiative must come from the government, according to Dr. P. Murugesa Boopathi, Vice Chancellor, Tamil Nadu Agriculture University, (TNAU), Coimbatore. "The government should view agriculture as a national requirement. Till then, the livelihood of farmers and sustainability cannot improve," he says.

Absence of cash means loss of purchasing power and for a cash-strapped farmer it means the end of life. A small farmer's first need today is to make money from the meagre land holding. "To help such small farmers, technologies available today must be affordable and easy to locate."

Market orientation must be in terms of what to produce, when to produce, and how much to produce. Losses are incurred due to excess production (storage loss and price reduction) and price rise during deficit production.

There is an urgent need to attract private sector investment in agriculture, especially for storage and transport infrastructure. "Although we take efforts to disseminate the information through several media, only a few farmers show interest in adopting them. Progressive farmers following these developments approach the nearest college campus, research stations or KVKs and get required directions. Such farmers show marvellous development.

"Our farmers are extremely hard working and entrepreneurial. What they need is a platform, to utilize it to improve their life market orientation and market linkages with a greater share for them in the consumer's rupee," he says. To help the farmers, TNAU has uploaded

complete details of all the technologies in its Agri Portal website www.agritech.tnau.ac.in A farmer can get almost any information he is looking for regarding field preparation, seeds, machinery, expert advice and marketing.

It is the duty of our scientists to develop relevant need based technologies to augment productivity. It becomes the task of State extension functionaries to facilitate market orientation of the farmers and provide all the required technologies to improve.

MSP for paddy raised by ₹ 80

The Union government in June 2011 June 11, 2011 allowed an increase in the Minimum Support Price (MSP) of ₹ 80 per quintal for paddy during the current kharif season, but it is said to be way below the hike recommended by both the Union Ministry of Agriculture and the Commission for Agricultural Costs and Prices (CACP). The Government said the objective was to boost production during the current kharif season and meet the increased demand in case the Food Security Act were to be put in place. The Cabinet Committee on Economic Affairs fixed the MSP of paddy common at ₹ 1,080 per quintal and of paddy grade A at ₹ 1,110 per quintal, which is an increase of ₹ 80 per quintal over the MSP fixed for 2010-11. Continuing with its initiative towards self-dependence in pulses, the government increased the MSP by up to ₹ 400 per quintal. Production of pulses was at a record level of 17.29 million tonnes, thanks to a sharp rise in the MSP in 2010-11. The MSP of arhar (tur) is ₹ 3,200 per quintal, moong ₹ 3,500 per quintal and urad ₹ 3,300 per quintal, marking an increase of ₹ 200, ₹ 330 and ₹ 400 per quintal. As last year, this year too, an additional incentive of ₹ 500 per quintal for tur, urad and moog sold to the government procurement agencies during the harvest and arrival period of two months will be paid. Oilseeds too have been given a favourable treatment with an increase of up to ₹ 500 per quintal.

Bt Cotton acreage rises by 1 m ha in India: ISAAA

The area under Bt Cotton cultivation has increased by 1 million hectare across the country, reflecting growing popularity of the biotech variety of the commercial crop, a prominent seed company said. Bt cotton was grown in an area of 9.4 million hectare (ha) in 2010

as compared to 8.4 million ha in the precious year, Usha Barwale, Chief Technology Officer of Mahyco, a pioneering private seed company, said quoting figures from ISAAA (International Service for the Acquisition of Agri-biotech Application) . Bt cotton constitute 86 per cent of the total cotton grown in the country presently. Mahyco (Maharashtra Hybrid Seeds Company Limited) was the first company to successfully commercialize hybrid cotton and the first company in the country. According to the Cotton Advisory Board, cotton is produced in 11 million hectare of areas and its total production in 2010-11 was estimated at 312 lakh bales. In 2002, the cotton production in the country was only 150 lakh bales. The area under Bt cotton has multiplied many times in different states since 2002, according to ISAAA statistics. The area under Bt cotton increased to over 8.3 million hectares in 2009 from a meagre 50,000 hectares in 2002, the ISAAA figure said.

Technique to help farmers reduce harvest costs

Tamil Nadu Agricultural University demonstrated the system of sugar intensification in sugar-mill areas to help farmers reduce labour costs. State Government had allotted ₹ 1 crore for popularizing the technique, and it was planning to conduct demonstrations comparing this technique with conventional practices. The university has imported two types of harvesters for the demonstrations. These machines could help bring down the cost of harvesting sugarcane, a labour-intensive crop, to ₹ 225-250 a tonne, according to estimates, against ₹ 650-700 a tonne when done manually. The university has planned to develop a 'model sugarcane farm' in its sugarcane research station in Cuddalore. There are an estimated 75 lakh small and marginal farmers in Tamil Nadu at present, and the Government is interested in transforming their lives within the next three years by helping them double their production and productivity.

TNAU would take up more field demonstrations of new varieties and technologies through its KVKs (Krishi Vigyan Kendras) across the State. The university had so far released 36 high-yielding varieties of cane. It has also developed an early clone with a yield potential of 136 tonnes/hectare and three mid-late clones with potential to yield more than 132 tonnes/hectare.

Jackfruit revival bears fruit

Jackfruit, which has remained a neglected crop all these years, is now on the revival path with farmers showing interest in exploring its potential. The trend of revival is visible in the number of jackfruit fairs being held in various villages and towns of Kerala and Karnataka. Keeping the potential of the crop in mind, some farmers are even planning exclusive jackfruit plantations in these States.

The revival process started with a jackfruit festival at Wayanad in Kerala in 2006. Following this, over three dozens of fests have been conducted in various villages and towns of Kerala and Karnataka. Some farmers at Meeyapadavu (a small village on the northern most part of Kerala adjoining Karnataka) organised one such jackfruit fest to identify the best varieties in their vicinity and develop them. Of the 1,000 population in that area, 45 farmers participated in the fest to judge the quality of the variety they grow. A farmer, who has been supplying unripe jackfruits for producer of chips in Mangalore, explained how he benefited from the crop. Stating that jackfruit can provide an answer to food security, he said it has about four levels of maturity tender, slightly grown, unripe and ripe. The first three stages can be used as vegetable. The fourth stage has many value-addition possibilities such as desserts, squash, pulp and so on. Added to this, the tree remains for centuries and offers valuable timber when grown. Though no official statistics are available on the area of crop and production, a fact sheet published by International Centre for Underutilised Crops in 2003 says that the total area under jackfruit cultivation is approximately at 26,000 hectares with trees grown in backyards and as inter-crops amongst other commercial crops in southern India.