

# Financing Agriculture



A National Journal of Agriculture & Rural Development

January-February 2008

Volume 40 1 Rs. 50/-



*Rural Initiatives of Dena Bank*



# Financing Agriculture

*A National Journal of Agriculture & Rural Development*

Volume - 40

January - February

1

2008

Editorial

## HONORARY EDITORIAL & ADVISORY BOARD

**Shri Y. C. Nanda**  
Chairman, AFC Ltd.

**Shri N. S. Mehta**  
General Manager  
Union Bank of India

**Shri B. G. Baria**  
General Manager  
Bank of Baroda

**Shri V. P. Choudhary**  
General Manager  
Punjab National Bank

**Shri V. K. Upadhyay**  
General Manager  
UCO Bank

**Shri R. K. Kalia**  
General Manager  
Central Bank of India

**Shri M. Akshay Kumar**  
General Manager  
Canara Bank

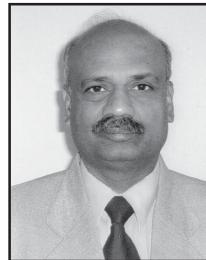
## HONORARY EDITOR

**Shri A. K. Garg**  
Managing Director  
AFC Ltd.

## ASSOCIATE EDITOR

**Shri P. M. Kshirsagar**  
General Manager  
AFC Ltd.

Views expressed by the authors do not necessarily reflect those of the Agricultural Finance Corporation Ltd. No permission is necessary to reproduce contents except for the copyright text.



## Income security to farmers – Only way towards sustainable rural livelihoods

Post independence after sixty years, with meager farm incomes, nearly 40 percent of the farmers in India, contemplating abandoning farm activities and pursue for other income generating activities. Disastrous policies, woeful access to affordable credit, greedy and corrupt middlemen, and indifferent administration are among the factors that have pushed farmers to the breaking point. Since Green Revolution in 1966-67 the farm systems witnessed usage of great deal of chemical fertilizers, insecticides, hybrid seeds, tractors and other machines, leading to higher yields. However, high-chemical input based technology has mined the soils and ultimately led to the lands gasping for breath, with the water-guzzling crops sucking the groundwater aquifer dry, and with the failure of the markets to rescue the farmers, the tragedy is that the human cost is entirely being borne by the farmers. Much of the agrarian crisis is because of the terms of trade being heavily loaded against the rural areas – more money is being taken out of the villages than what is being invested.

The policy makers and agricultural scientists are busy laying the foundations for the second Green Revolution. The fundamental issue of destruction of sustainable livelihoods is not at all being addressed. The second green revolution that harps on agribusiness and biotechnology, has become the new mantra to pull out the farming community from the raging farm crisis. Without first drawing a balance sheet of the first phase of the technology era, jumping into the second phase of green revolution would only worsen the crisis.

The agrarian crisis in India is to be seen as a livelihoods crisis – why agri-business corporations are not in a crisis while farmers are attempting to commit suicides? The agri-industry is in fact posting growth figures that are impressive. What farmers need is income security, especially given that the liberalized trade policies have pushed them into unfair disadvantage from all sides. Unlike corporate sector, agriculture growth model in India cannot be based on western world. Farmers need measures to increase incomes i.e continuous steady income. The subsidised loan cannot replace the steady income. Hassle free affordable credit can be a supportive factor not the end product. Agriculture sector will be keenly awaiting the Budget which is expected to address the problems of the farmers.

**A K Garg**  
Honorary Editor



## Contents

<b>Editorial</b>	<b>1</b>
<b>RURAL CREDIT</b>	
<b>Impact of Microfinancing on Employment, Income and Empowerment - Micro Evidence from Himachal Pradesh</b> <i>- Virender Kumar, R K Sharma and HR Sharma</i>	<b>3</b>
<b>Retail Boom : New opportunities in Agricultural Finance</b> <i>- S V Atre</i>	<b>9</b>
<b>Functioning of Dhanlaxmi Gramin Bigar Sheti Sahakari Patsanstha Maryadit - An Evaluation Study</b> <i>- S W Gorade, Dr S L Sananse, S M Kshirsagar</i>	<b>12</b>
<b>Rural Initiatives of Dena Bank</b>	<b>15</b>
<b>ENVIRONMENT &amp; FORESTS</b>	
<b>Venture Capital Models for Sustaining Forests and Forest based Microenterprises</b> <i>- T T Krishnan</i>	<b>19</b>
<b>Nutrients and Environmental Quality</b> <i>- S Ghongane and M V Ravi</i>	<b>26</b>
<b>AGRI BUSINESS</b>	
<b>Prospects for coconut based agri-business in India</b> <i>- C V Sairam, S J D Bosco, S Arulraj, V Rajagopal and S Prabhu Kumar</i>	<b>28</b>
<b>Information and Communication Technologies (ICTs) in India : An insight into progress of Rural Economy</b> <i>- Yogisha G M, Ramappa K B, Mahajanshetti S B and Vijayakumar H S</i>	<b>34</b>
<b>Livelihood through Entrepreneurship - Reducing hunger and poverty</b> <i>- O P Misra</i>	<b>37</b>
<b>NEWS &amp; ISSUES OF INTEREST</b>	
<b>Smartcard solution for Microfinance</b>	<b>11</b>
<b>An All-women News Channel</b>	<b>14</b>
<b>Water availability for agriculture may dip up to 12 per cent by 2025</b>	<b>36</b>

### Annual Subscription

India, Nepal and  
Bangladesh Rs. 300/-

Other Countries  
(By Air Mail) \$35/-

Single Copy Rs. 50/-

Agricultural Finance  
Corporation Limited

Dhanraj Mahal,  
Chhatrapati Shivaji Maharaj Marg,  
Mumbai 400 001

Tel. : 022-22028924  
Fax : 022-22028966  
e-mail : afcl@vsnl.com  
URL : www.afcindia.com



# Impact of Microfinancing on Employment, Income and Empowerment - Micro Evidence from Himachal Pradesh

*Virender Kumar, RK Sharma and HR Sharma*

*Credit alone is not enough to graduate rural households successfully from 'survival activities' to more productive enterprises and realise larger 'second round impacts' on income, employment and poverty. The structural constraints such as low skills, lack of training and market infrastructure have started emerging as binding constraints that need to be addressed on priority to make microfinance as an effective instrument against the scourge of unemployment and poverty.*

The microfinancing (mF) movement in India which is more than a decade old now, owes its genesis and evolution to the acute economic deprivation of the lowest strata. And if microfinancing does not succeed in transforming this economic deprivation into economic empowerment of target clientele, then its very purpose gets negated. In order to examine whether the mF activities has helped in this pursuit of economic empowerment or not, an endeavour has been made in this article to study the impact of mF activities on employment, income and empowerment in Himachal Pradesh. The evidence at disposal revealed that the microfinance did make a significant 'first round impact' on income, employment and poverty of the member households. However, credit alone is not enough to graduate rural households successfully from 'survival activities' to more productive enterprises and realise larger 'second round impacts' on income, employment and poverty. The structural constraints such as low

skills, lack of training and market infrastructure have started emerging as binding constraints that need to be addressed on priority to make microfinance as an effective instrument against the scourge of unemployment and poverty.

The pilot project on 'Linking Self-Help Groups (SHGs) with Banks' of the National Bank for Agriculture and Rural Development (NABARD) was mainstreamed as a normal lending activity of banks in 1996. Since then the mF movement through self-help groups (SHGs) has made unprecedented progress in India. It has emerged as the largest microfinance/microcredit programme in the world accounting for 13 per cent of the all clients and 16 per cent of the poorest clients (Nair, 2005). The mF movement, however, continue to witness highly lopsided growth across various regions during the very incipient decade; the southern region alone accounting for 63.0 per cent of the SHGs in the country and 79.0 per cent of SHG credit in 2004 (Dasgupta, 2001; Dasgupta, 2005.).

The performance of the northern states has been lacklustre. However, the spread of mF activities through the self-help groups (SHGs) in the hilly north Indian state of Himachal Pradesh (HP) has been quite phenomenal. There were 13,228 self-help groups that were linked to the banks up till March, 2004 and these had been provided loans to the tune of Rs 315.04 million. About 1,30,000 families stood assisted under this programme. Average loan per SHG at Rs 23,816 was 66 per cent lower as compared to that at the national level. Likewise average loan per family worked out to be Rs 2,423 against the national average of Rs 2,412 (Kumar, et al, 2005).

In order to examine whether the mF activities in the state has helped in the pursuit of economic empowerment or not, a study was conducted in three districts of Himachal Pradesh namely, Kangra, Mandi and Solan since these districts accounted for the largest proportion of the self-help groups (SHGs) in the state. Using appropriate methodology for sample selection, a



sample of 150 member households and 90 control households was chosen from the thirty SHGs in these districts. The non-participating households in the neighbourhood of the selected member households of the groups constituted the control group. The requisite data were collected from the sample households through specially designed schedules using personal interview method for the year 2003-04. Information from the SHG members as well as from the members of the control group on their socio-economic profile, saving and borrowing behaviour, use of loaned funds, repayments, etc. was collected. This information was then used to draw inferences regarding the economic empowerment of the members of self-help groups in terms of enhanced incomes, employment, and hence reduced poverty levels. The information generated on all such aspects can go a long way in redesigning the mF policies to serve its clientele in the best possible manner. With this background in view, an endeavour has been made in this article to present the impact of

mF activities on employment, income and empowerment in Himachal Pradesh by dealing separately with the aspects of asset structure of sample households, the employment and income generation through SHGs, empowerment of women, etc. followed by the policy implications.

**Asset Structure of Sample Households**

To understand the socio-economic background of the SHG members, and the control group households, the asset structure of sample households was studied in terms of the size of landholding, inventory of farm buildings, household durables and livestock. However, since land is the main asset of people living in rural areas, the discussion of the asset structure has been restricted to land holding only (Table 1). About 17 to 20 per cent of the sample households were found to be landless in the three study districts. In Kangra, majority of the members (68.33 per cent) had very small land holdings (less than 0.20 ha). However, in other two districts about one-fifth of the member

households had less than 0.20 ha each. In Mandi, the member households had highest land endowment even in the highest category (> 0.60 ha). However, in Solan and Mandi, most of the members had holdings between 0.21-0.40 ha. The average holding size was highest in Mandi (0.36 ha) and lowest in Kangra (0.14 ha). On the contrary, landlessness was higher in case of the members of control group as compared to SHG members. It was highest at 50 per cent for Solan, followed by Kangra (36.11 per cent) and Mandi (27.67 per cent). While a large section (44.44 per cent) of the members in Kangra had less than 0.20 ha of land, nearly one third in Mandi had more than 0.60 ha. In Solan also 29.17 per cent members had land holding between 0.21-0.40 ha. Average holding size of the control households was slightly lower than the SHG members in all the three districts. It was again lowest (0.12 ha) in Kangra and highest (0.33 ha) in Mandi.

**Table 1: Land Holding Structure of the Members of SHGs and Control Group**

(Per cent households)

	Kangra		Mandi		Solan		Overall	
	SHGs	Control Group	SHGs	Control Group	SHGs	Control Group	SHGs	Control Group
Landless	16.67	36.11	18.00	26.67	20.00	50.00	18.00	36.67
0.01 to 0.20	68.33	44.44	22.00	23.33	20.00	8.33	40.00	27.78
0.21 to 0.40	15.00	16.67	30.00	16.67	42.50	29.17	27.33	20.00
0.41 to 0.60	-	2.78	6.00	3.33	10.00	4.17	4.67	3.33
Above 0.60	-	-	24.00	30.00	7.50	8.33	10.00	12.22
All size classes	100 (60)	100(36)	100(50)	100(30)	100(40)	100 (24)	100 (150)	100(90)
Average holding size (ha)	0.14	0.12	0.36	0.33	0.29	0.19	0.25	0.21

Note: Figures in parentheses are absolute values (households number) on the basis of which percentages have been computed.



**Employment and Income Generation**

The main philosophy of the mF movement has been to firstly meet the day to day consumption needs of the poor households through self-help before graduating to undertake the production activities which in turn result in increased employment and hence incomes of these people. But before examining that it was deemed necessary to know various sources of household incomes of the sample households. This composition of household incomes of sample households has been given in Table 2. As may be seen in this table, service (salaried private/government job), shop/small business and agriculture accounted for two-thirds of the household income in Kangra district. In Mandi, while service accounted for 50 per cent of the income, small trade

(17 per cent) and dairy (12.50 per cent) were the other major sources. In Solan, where service accounted for the highest share of 54 per cent, dairy (13 per cent) and DPL (daily paid labour) in non-agriculture (10.40 per cent) contributed most to household incomes. In the overall scenario, service (44 per cent), small trade (16 per cent) and dairy (10 per cent) were the main sources of household income. Contrarily, in case of control households, service (40 per cent) and small business and DPL (daily paid labour) in non-agriculture sector (each contributing 18 per cent) were the most important sources of household incomes. Also, absolute incomes of the control households were lower in all the three districts as compared to those of member households.

The employment generating potential

of different economic activities was estimated on the basis of number of employment days generated in a year by various activities undertaken by the SHG households and the results have been brought out in Table 3. As may be seen in this table, the highest number of employment days (252) were generated by the setting up of provisional stores/small business. This was followed by dairy wherein 175 days of employment were created in a year. Only these two activities were found to be undertaken by the households in all the three districts. It is evident from the table that the activities such as soft toy making, bamboo product making and tailoring had lower employment generating potential as compared to trading and service activities such as small businesses, etc.

**Table 2: Composition of Household Incomes of Sample Households**

(Per cent)

	Kangra		Mandi		Solan		Overall	
	SHGs	Control Group	SHGs	Control Group	SHGs	Control Group	SHGs	Control Group
Service	33.24	41.79	50.04	34.47	53.76	42.83	44.12	39.51
Agricultural labour	4.91	2.49	2.30	7.21	3.19	4.26	3.55	4.59
Pension	8.50	4.97	3.29	6.77	1.62	3.41	5.01	5.20
DPL in non agriculture	11.00	20.45	6.91	19.52	10.44	11.83	9.35	17.92
Small business	20.80	21.01	16.72	12.91	7.01	19.07	16.16	17.69
Dairy	6.45	4.70	12.45	11.29	12.96	11.66	10.15	8.78
Agriculture	12.68	4.59	4.15	7.83	5.36	6.94	7.86	6.32
Other Enterprises	2.43	-	4.14	-	5.66	-	3.80	-
Total (Rs/ annum)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	(65,867)	(50,250)	(72,955)	(53,187)	(55,663)	(48,938)	(65,508)	(50,879)

Note: Figures in parentheses are absolute values on the basis of which percentages have been worked out.



**Table 3: Employment Days Generated in Different Household Enterprises**

Enterprises	Kangra Days	Mandi Days	Solan Days	Overall Days
Dairy activities	182	169	175	175
Vegetable growing	-	-	20	20
Provisional store	225	250	241	252
Photo studio	-	300	-	300
Beauty parlour	-	-	150	150
Bamboo products making	-	-	45	45
Soft toys making	-	-	45	45
Tailoring	-	90	-	90

**Table 4: Impact on Household Income and Poverty**

Particulars	Kangra	Mandi	Solan	Overall
Pre-group formation income (Rs/household)	46,173	48,561	34,969	43,981
Post-group formation income (Rs/household)	65,867 (42.65)	72,955 (50.23)	55,663 (59.18)	65,508 (48.95)
Incidence of poverty in Pre-group formation situation (per cent)	6.67	6.00	2.50	6.67
Incidence of poverty in post group formation situation (Per cent)	3.33	2.00	2.50	2.67

Note: Figures in parentheses represent percent hike over pre-group formation stage.

**Table 5: Impact on Women Empowerment: Response of Members**

(Per cent)

Particulars	Kangra	Mandi	Solan	Overall
Can attend meeting	63.33 (38)	44.00 (22)	52.50 (21)	54.00 (81)
Can do marketing	43.33 (26)	20.00 (10)	40.00 (16)	34.67 (52)
Can take other decisions	76.67 (46)	78.00 (39)	77.50 (31)	77.33 (116)
Voice heard in the family	80.00 (48)	64.00 (32)	82.50 (33)	75.33 (113)
Total	100 (60)	100 (50)	100 (40)	100 (150)

Note: Figures in parentheses are the number of households on the basis of which percentages have been worked out.

The impact of the mF activities on the household income of the sample population was estimated by comparing their incomes in the pre-group formation and post-group formation stage (Table 4). As can be seen, in Kangra district pre-group income of Rs 46,173 per household increased by 43 per cent to Rs 65,867 in the post group formation stage. Likewise, there was an increase of 50 and 59 per cent in the household incomes in Mandi and Solan district, respectively. In the overall category, this hike was 49 per cent in the post group formation stage wherein the household income went up from Rs 43,981 to Rs 65,508. The incidence of poverty has also declined in the districts of Kangra and Mandi while it remained unchanged in Solan. In the overall scenario, the proportion of poor declined from 6.67 per cent to 2.67 per cent. It is however important to note here that severe poverty is not a commonly seen malaise in this hilly state as is the case with the large and many underdeveloped states.

**Impact on Women Empowerment**

The mF movement through the upliftment of economic wellbeing of the members of SHGs has also resulted in other spillover effects. And most commonly cited spillover benefit pertains to the greater women empowerment in day to day activities. The impact on women empowerment was captured through eliciting response on such issues as freedom to attend meetings, freedom to take marketing as well as other decisions and whether the women voice is heard in the family, etc. The results are given in Table 5. As regards the liberty to attend SHG meetings 63 per cent of the respondents in Kangra reported such freedom whereas it was only 44 per cent in Mandi district. Both in Solan and in the overall



category, more than 50 per cent of the respondents reported that they were free to attend these meetings. In case of marketing related decisions, while two-fifths of respondents expressed such freedom in Kangra and Solan districts; it was only one-fifth in Mandi. In the overall scenario, about one-third respondents revealed the freedom to take marketing related decisions. Also, around three-fourths of the respondents in all the three districts reported the freedom to take other decisions. Again, about 80 per cent of the respondents in both Kangra and Solan districts opined that now their voice in family affairs was heeded while in Mandi, this proportion was 64 per cent. Thus, from these responses it may be concluded that in Kangra and Solan women were more empowered as compared to those in Mandi.

The economic empowerment of the women was ascertained by enquiring from the respondents as to who managed the household finances. The response revealed (Table 6) that across three districts, in 60 to 68 per cent of the households, the females managed the finances. Thus, in the overall scenario, 63 per cent of the respondents reported their control over household expenses. Thus, it is amply evident from these responses that mF activities are resulting in higher economic empowerment of women in the state which is known for its gender equality status.

**Conclusions and Policy Implications**

The evidence presented above and the insights gained from field survey revealed that the microfinance did make a significant impact on income, employment and poverty of the member households. These initial impacts of the microfinance programme on different socio-

**Table 6: Management of Finances**

(Per cent)

Particulars	Kangra	Mandi	Solan	Overall
Wife	61.67 (37)	60.00 (30)	67.50 (27)	62.67 (94)
Husband	38.33 (23)	40.00 (20)	32.50 (13)	37.33 (56)
Total	100.00 (60)	100.00 (50)	100.00 (40)	100.00 (150)

Note: Figures in parentheses are the number of households on the basis of which percentages have been worked out

economic parameters may be termed as 'first round impacts'. Among these first round impacts, the easy and timely availability of small amount of loans to rural poor women to meet their day to day urgent consumption requirements has been the single most remarkable accomplishment of the formation of self help groups. Besides, the women folk stood more empowered in terms of decision making at the household level. Not only their voice was being heard, they were playing a greater role in managing the household finances. Easy access to credit has also enabled many of the households to undertake a variety of productive activities both in agricultural and non-agricultural sectors depending upon their initial resource endowments like land, manpower and hereditary skills. The buying of improved dairy animals and selling milk and milk products was, however, the most important activity undertaken by most of the member households. This activity did not require any extra skills and had yielded significant returns. Likewise, in the non-agricultural sector opening small retail shops, undertaking small scale business and petty trading were important activities. Some households also undertook small scale productive enterprises depending upon their hereditary occupational skills like

weaving mats, making bamboo products, tailoring and stitching, knitting, making soap, candles, etc. Though, most of these activities could be termed as 'survival activities', these did make a perceptible impact on the living conditions of the member households, and some of them who were poor succeeded in crossing the poverty line and improving upon their quality of life.

The field experience, however, clearly reveals that credit alone is not enough to graduate rural households successfully from 'survival activities' yielding moderate returns to more productive enterprises and realise larger 'second round impacts' on income, employment and poverty. The structural constraints such as low skills and human capital, lack of training and technical know how and lack of market infrastructure have started emerging as binding constraints that need to be addressed on priority to make microfinance as an effective instrument of creating and enhancing production skills and securing appreciable and sustained increases in income and employment

**References**

*This paper has been drawn from the larger study entitled 'Micro Financing through Self-Help Groups and the*





*Rural Poor: A Study of Evolution, Functioning and Impact using Micro Evidence from Himachal Pradesh' financed by Indian Council of Agricultural Research, New Delhi.*

*Dasgupta, Rajaram.2001: An Informal Journey through Self-Help Groups, Indian Journal of Agricultural Economics, 56(3), 370-386.*

*Dasgupta, Rajaram.2005: Microfinance in India: Empirical Evidence, Alternative Models and*

*Policy Imperatives, Economic and Political Weekly, 40(12), 1237-1249.*

*Kumar, Virender; R K Sharma and H R Sharma (2005), "Micro Financing through Self-Help Groups and the Rural Poor: A Study of Evolution, Functioning and Impact using Micro Evidence from Himachal Pradesh", Research Report 34, Department of Agricultural Economics, CSK HPAU, Palampur, Himachal Pradesh.*

*Nair, Tara S.2005: The Transforming World of Indian Microfinance,*

*Economic and Political Weekly, 40(17), 1695-1698.*

*Virender Kumar, Scientist (Agricultural Economics), R K Sharma, Head of the Dept., and HR Sharma, Professor, Dept. of Agricultural Economics, CSK HPAU, Palampur, Himachal Pradesh-176 062. E-mail: vkumar@hillagric.ernet.in*

## AFC Introduces Microfinance Courses

- **Certificate course in Microfinance**
- **Diploma course in Microfinance**

The contents of the courses have been designed in consultation with the experts in the field. The study material will be self-instructive with suitable assignments to the candidates.

**Mode of Education:** Through distance learning education

**Duration:**

• **Certificate Course** would be of **6 months** duration, including 10 days of field training.

• **Diploma Course** which is of a higher degree will be of **8 months** with provision of 15 days for practical field training.

**Eligibility - Qualifications:** a) The minimum qualifications for **Certificate Course** will be **8<sup>th</sup> class pass**; b) For **Diploma Course** a candidate should have passed **10<sup>th</sup> examination**

**Fee:** Rs.3000 per candidate for certificate course; Rs.5000 per candidate for diploma course

**Target Group:**

• 'Certificate Course in Microfinance' is targeted for the benefit of field level functionaries of NGOs, Government Departments, Banks, Kisan Clubs and other SHPIs.

• Similarly, 'Diploma Course in Microfinance' has been launched to meet the needs of the field level professionals to appreciate microfinance scenario of the country in holistic manner, and also enable them to be a vibrant member of any MFI/NBFC/NGO, etc.

The interested organizations / candidates may contact: Programme Director (Microfinance), AFC Foundation, B-1/9, Community Centre, Janakpuri, New Delhi-110 058 (Tel: 011-25595088, 25550810; Email: [agrifinance@eth.net](mailto:agrifinance@eth.net), for further details and application forms.



## Retail Boom : New opportunities in Agricultural Finance



S V Atre

*With corporate buyers around, farmers may be better able to raise loans from banks to invest in land development, irrigation, farm equipment, seeds, fertiliser, storage & processing, transportation and banks will also find it conducive to push lending in agriculture sector as involvement of retail chains will enthuse confidence in them about the economic viability of the projects*

The growth of the retail sector in India is spectacular during past few years. In fact, no sector in India has grown with such a rocket speed in such a short period. The major corporate houses in India (e.g. Tata, Birla, Reliance, Bharati etc.) and the world's giant retailers (e.g. Wal-Mart, Tesco, Carrefour etc) are doing their best to have the headstart in the field and reap the benefits. Indian retail industry expects investment of over \$ 30 billion over the next five years.

The size of the retail market in India is estimated between \$320-350 billion which is growing at 30-35 per cent per annum. Organised retail trade, a predominantly urban phenomenon, constitutes about 4 per cent of the total retail trade in India. India has about 13 million retail outlets providing direct and indirect employment to nearly 18 million people. The opportunity for the retail industry truly looks unprecedented.

Most of the debate on this sector has focused on the issue of permitting FDI and the consequences of loss of business due to the entry of the global retail giants. That is unfortunately an extremely short sighted view of the issues at hand. Corporate India has

committed significant amounts of funds to the sector on its own accord without having any foreign investment. The impact of corporate investment into retail is likely to be multi-faceted. The first and foremost is on the supply chain - starting from the farmers to the small and medium enterprises (SMEs) manufacturing goods to consumers. Various studies have focused on its likely impact on SMEs, unorganised retail and consumers. The impact on these segments will be tremendous. But much attention has not been paid in these studies about its likely effect on agriculture and agriculture credit.

On the agricultural front, the organised retailers are providing farmers with seeds and also advising them how to increase yields with the understanding that their produce would be purchased directly by these retailers. This has increased the net realisations to the farmers as it obviates the need for middlemen (disintermediation) in the transaction. Typically, the retail price of farm products is several times higher than the price at the farm due to the presence of various levels of intermediaries. Intermediation, has a

mix of sourcing options ranging from accessing produce directly from the farmers to relying on other aggregators and loading of margins at each level without any value addition at these stages. There is usually at least a 10-15 per cent increase in retail prices due to such intermediation. With disintermediation, the investment into the cold storage chain including warehouses, stores and displays is likely to result in significant efficiencies on the supply chain. In its bid to put the cheapest and best produce on store shelves, organised retail could end up helping the Indian farmers directly & the banks indirectly in increasing their agricultural lending.

The entry of private companies will result in greater investment in farm technology, for example, Bharti is trying to leverage the relationships that Pepsi has built with farmers over the past 17- years of its presence in India to set up a captive base for the agri-produce it needs. Reliance Retail is bringing the state-of-the-art technology to potato cultivation. It intends to take contract farming to another level by not just helping negotiate better seed prices for its



farmers, but also improving farm productivity through introduction of modern techniques such as growing tubers in nurseries and transplanting them to the farms to cut crop cycle time. By growing tubers in nursery, Reliance can cut down the amount of time the crop needs in the farm. Indian farmers can do wonders with such help.

Although nearly 700 million Indians depend on agriculture for their livelihoods, the sector accounts for just 20 per cent of the GDP and has been struggling to grow consistently. In fact, agriculture's slow growth is one reason why the Indian economy hasn't been able to breach the 10 per cent mark. The reasons for under performance of agriculture sector are well known. They range from fragmented holdings to poor irrigation and a complete absence of modern supply chain to antiquated regulations. Therefore, although India is among the world's largest producers of foodgrain, fruits and vegetables, it is also among the most inefficient. An estimated 25-40 per cent of farm produce worth \$12 billion (Rs.50,400 crore) rots every year even before it reaches consumers, thereby squeezing both ends of the chain—namely, the farmer and the retail consumer. This has adversely affected the agriculture and consequently the agriculture credit growth of banks in India.

This situation may change soon. Some retail companies are positioning themselves along different parts of the farm-to-fork supply chain. These include new retailers such as Reliance Retail and Bharti (Field Fresh) and produce exporters' such as Gautam Thapar's Global Green Company and Mahindra & Mahindra (Mahindra Shubhlabh), and consolidators such as DCM Shriram (Hariyali). Many

companies, though not a substantial direct consumer of farm produce themselves, are also banking on a model to position as a farm aggregator for emerging retail chains as well as a delivery platform for companies wanting to offer goods and services to rural farm and non-farm consumers. Their model is to provide to rural India "the right inputs at the right time, at the right place, and at the right cost".

Some of the issues get accentuated where small and marginal farmers are concerned, as they have limited investment capabilities and low cushions against loss. Horticulture, which is people-intensive, is certainly an option for marginal farmers. Farm incomes rise by as much as 30-40 per cent by growing fruits and vegetables as against traditional crops of wheat and rice. Also there are some advantages that are typically for the small farmers. For example, in case of harvesting, the small farmer probably does it with his family, whereas the large farmer will pay labour charges.

#### **Are Banks ready to face this challenge?**

The entry of retail giants will lead to two things that will enhance value in the agriculture sector. First, it will result in greater investment in farm technology, be it in the form of better seeds and irrigation techniques or crop care. This will generate huge demand for Bank Credit. Second, and this is perhaps more important, it will aggregate demand, thereby allowing direct sourcing from farmers. This will greatly help bankers for credit expansion and credit monitoring. With corporate buyers around, farmers may be better able to raise loans from banks to invest in land development, irrigation, farm equipment, seeds,

fertiliser, storage & processing, transportation and banks will also find it conducive to push lending in agriculture sector as involvement of retail chains will enthrone confidence in them about the economic viability of the projects which will improve the quality of advances and reduce the chances of turning them bad (NPA). The higher incidence of NPA in this sector was one of the reasons for slow growth in agriculture credit. With Basle II norms, banks have become extra cautious about credit risk. The agriculture advances are spread widely on a large geographical area hence the risk is also spread evenly and so minimised. The yield on agriculture advances are comparatively higher than corporate advances. These factors are luring banks for agriculture credit. Are Indian banks really ready for this challenge?

#### **Innovative Products**

The new opportunities from Retail Boom will require Innovative and Need Based Products. The existing vanilla products will not suit the new needs. Banks will have to prepare themselves for big ticket loans as the volume will be the key factor for the economic viability of projects. The production and marketing mechanism in the agriculture sector will be revolutionized and innovative products will have to be designed. The farmers will need credit for grading, sorting, packaging, storing and marketing in addition to traditional crop loans. Consequently there will be linkage on the lines of Farm to Fork and hence Channel Credit will gain currency in agriculture also like that in SME.

**Network** - Public Sector Banks have 43858 (as on 30/06/2007) Rural and Semi Urban Branches in the country. This constitutes 68% of their total



branch network and 93% of the total Rural and Semi Urban Banking Network in the country. This widespread network gives a great strength to them in the field of agriculture credit. But inspite of this PSBs could not achieve stipulated target of agriculture credit of 18% of the Net Banks Credit. With 93% branch network they contributed 80% of the outstanding agriculture credit. These branches will have to be strengthened with technically qualified and dedicated workforce. It is an unfortunate fact that most of the Rural & Semi Urban Branches are either understaffed or lack technically competent staff. This new opportunity will require strengthening

infrastructure at these branches including skilled staff to deal with new requirements and needs of agriculture sector with innovative approach.

Considering the huge potential in the sector, the private sector banks (e.g. ICICI, HDFC ) have also entered this market. The private sector banks have 3085 Rural & Semi Urban branches. But with 7 percent of the Rural & Semi Urban branch network, they have 20 percent of the outstanding agriculture credit. The private sector banks can overcome the problem of lack of sufficient number of Rural & Semi Urban branches by promoting channel credit through their corporate customers, tie up with machinery manufacturers,

franchises and other innovative methods. It is certain that the competitive battlefield of bankers will shift to agriculture in the near future. After all, the colour of money has always been green in India.

*(The author is working in a nationalised bank but the views expressed in the article are personal)*

*Sudhakar Atre,  
Faculty, Management  
Development Institute,  
Bank of India,  
Navi Mumbai 400 614*

### Smartcard solution for Microfinance

Microfinance today plays pivotal role in providing banking services to citizens, especially in remote areas, where typical banks are unable to reach them. India's largest IT-ITeS company, Tata Consultancy Services (TCS) is all set to launch TCS SmartBANK Solution, which helps rural financial institutions to know their customers better, minimize frauds and reduce infrastructure costs by supporting hand held terminals.

Punjab National Bank and Bank of India are planning to implement the TCS's smartcard solution that would enable banks to reach the remote areas and address their need for microfinancing. PNB intends to apply the solution in three locations spread across Punjab, Gujarat and Delhi, while Bank of India is planning to enforce it in Maharashtra. State Bank of India also had shown interest in implementing the solution on a pilot basis in Andhra Pradesh.

TCS's solution is aimed at tapping the potential of microfinance and extending a broader range of financial services to the people in rural areas. This will help the banks in achieving financial inclusion in the long-run. The smartcard technology will enable banks to provide a multi-application smartcard to the account holders. The card stores the necessary customer information including demographic details and financial applications such as loans, deposits and insurance. It also contains secure identification and authentication, and can be integrated with the core banking system for automatic account update and fraud control. Both fingerprint and PIN are provided for user authentication. TCS has also designed a hand-held terminal which will have the ability to operate in both offline and online environments. They function like automatic teller machines, but with a difference. Unlike the normal ATMs, which can be used by any account holder, the POS terminals can be operated only by an authorized agent of the bank concerned. According to the TCS model, banks have to appoint agents who can carry POS terminals to the remote areas to conduct banking transactions.

*Source: Electronics Today, December 2007*



# Functioning of Dhanlaxmi Gramin Bigar Sheti Sahakari Patsanstha Maryadit - An Evaluation Study

*S W Gorade, Dr S L Sananse, S M Kshirsagar*

*In meeting the credit needs of rural India, Co-operative Banks and Credit Societies play a significant role. With a view to fulfilling the growing demands of credit by non-agriculturists and the farmers for their non-agricultural purposes, a special category of Credit Institution in the form of Gramin Bigar Sheti Sahakari Sanstha came into being in the State of Maharashtra, since 1993. Dhanlaxmi Gramin Bigar Sheti Sahakari Patsanstha is one such successful and well performing Co-operative Institution in Nashik District.*

## Introduction

A Co-operative society is a voluntary organization collectively sponsored, owned and democratically managed by persons who come together for satisfying their social, cultural and economic needs. Cooperative movement is widespread and has a long history in Maharashtra, one of the major Indian State. Even today cooperative institutions play important role in the economy of Maharashtra. The co-operative institutions in the state are registered and functioning under the Maharashtra State Co-operative Societies Act. 1960. There are over 1,46,000 cooperative institutions operating in Maharashtra State. The Nashik Division comprising of Nashik, Dhule, Jalgaon, Nandurbar and Ahmednagar districts has 28891 such cooperative institutions, and in Nashik District alone, there are about 9675 cooperatives.

Rural cooperative credit institutions have an important place in meeting the credit needs of farmers and the rural population. In order to meet the growing financial needs of common

people, the Government of Maharashtra has been considering relaxations for the organization and registration of cooperative societies. As a result, the new cooperative credit structure in the form of Urban Co-operative Credit Societies and Gramin Bigar Sheti Sahakari Patsanstha in the Urban and Rural Maharashtra have been developed in the state since 1986.

Dhanlaxmi Gramin Bigar Sheti Sahakari Patsanstha Maryadit, a rural cooperative, was formed in the year 1988 -89 with its Head Office at Naygaon, Sinnar Taluka, Nashik District. The area of operation of the society encompasses the entire Nashik district. Since its inception, the society has expanded its business year after year and has now nine branches located at various places in the district. The business of the society comprises mobilization of different types of deposits, providing various credit facilities to its members and thereby achieving overall developmental aspirations of the members. Some Gramin Bigar Sheti Sahakari Patsansthas are doing

extremely well in the State and contributing considerably in the overall development of rural areas; Dhanlaxmi Patsanstha is one of them. With a view to evaluate the performance of the Society, an attempt was made to study the broad areas/vital issues concerning its operations, on various parameters so as to know the constraints and suggest remedial measures. The specific objectives framed for the study were: i) to study the overall working and financial analysis of the society; ii) to study the various business parameters and services rendered by the society; and iii) to know the constraints/problems faced and suggest remedial measures.

The study was based on the secondary data available and published by the society in its duly audited Annual Reports for the period 1999-00 to 2005-06 as also information collected through personal interviews with the key personnel/office bearers at head office and main branch. The statistical tools viz. arithmetic mean, standard deviation, co-efficient of variation were used to analyze data,



in addition to management accounting techniques.

### Results

The society has been offering various services viz. collection of deposits, grant of credit facilities to its members. The research findings on different business parameters of the society are furnished below:

a) Membership : It was observed that the membership of the society increased steadily from 1379 in 1999-00 to 2900 in 2005-06. The percentage increase in membership was highest (41.53 per cent) during 2002-03 while it was lowest (0.48 percent) in 2005-06.

b) Funds Positions: Generally cooperative societies have two major sources of funds i.e. owned funds and borrowed funds. Owned funds comprise of share capital and reserve funds. The study revealed that this society managed its operations from owned funds i.e. without outside borrowings. The total funds of the society increased from Rs. 27.45 lakh in 1999-00 to Rs.143.08 lakh in 2005-06

c) Loans Granted to the members and overdue position: It was observed that the society has granted credit facilities by way of cash credits, loan against deposits and loans for other purposes. The outstanding loans during 1999-00 were Rs.97.87 lakh which increased year after year and by 2005-06, the loans outstanding reached to Rs.852.30 lakh. Percentage of overdues to total loans was 5.28 per cent during the year 1999-00 and it increased to 21.16 per cent in 2000-01. The Overdue position further aggravated to 31.98 per cent in 2003-04, however it sharply fell to 9.99 per cent in 2004-05 and further to 8.71 per cent during 2005-06.

d) Type of deposits: The Society's deposits comprised of savings and fixed deposits. It was found that the percentage of savings deposits to total deposits was 9.48 per cent in 1999-00, which came down to 6.79 per cent in 2005-06.

e) Cost of deposits: The study revealed that the cost of deposits was 3.27 per cent in 1999-00, which rose sharply to 11.51 per cent in 2000-01, and further to 16.56 per cent in 2001-02. The cost of deposits came down marginally to 15.06 per cent in 2002-03 and to 12.52 per cent in 2005-06. The fluctuations in the cost of deposits may be attributed to revision of interest rates from time to time.

f) Yield on Funds: The yield denotes income by way of interest earned on the funds deployed. It was observed that yield on funds was 13.43 per cent in 1999-00, which rose to 16.90 per cent during 2000-01 and to 17.87 per cent in 2001-02. The yield slightly declined to 17.28 per cent in 2002-03 and further came down 12.80 per cent in 2005-06. The spread in the yield on funds and cost of funds was 10.16 per cent in 1999-00, which sharply fell to 5.39 per cent during 2001. The spread showed declining trend during the subsequent years to 0.28 per cent in 2005-06.

g) Income, Expenses, Net Profit & Audit Rating: The percentage of expenses to income was 87.92 per cent in 1999-00, which went up thereafter reaching to 98.06 per cent in 2005-06. It was further observed that the percentage of net profit to income was 12.07 per cent in 1999-00 and showed declining trend thereafter to 1.94 per cent during 2005-06. The study also revealed that the audit rating of the society was "A" from 1999-00 till 2002-03, it was downgraded to "C" during 2003-04 and it was again upgraded to "A" in

the year 2004-05.

### Conclusion

The study revealed that Dhanlaxmi Gramin Bigar Sheti Sahakari Patsanstha Maryadit, a Co-operative Credit Society, has been progressing extremely well in its operations of providing various types of services to its members, which included collection of deposits and providing credit facilities. The number of membership increased multifold since its year of establishment, i.e. from 397 to 2900 in 2005-06 creating a very strong client base. The total deposits stood at Rs.1360.36 lakh with total loans outstanding at Rs. 852.30 lakh for the year ending March 2006, which suggests a good business mix. The business of the society is being managed from owned funds and deposits, without any bank borrowing, establishing a healthy financial standing. The society has succeeded in bringing down the overdue position from 31.98 per cent in 2003-04 to 8.71 per cent in 2005-06. The cost of deposits mobilized by the society has been above 12.52 per cent for 2005-06 and 12.67 per cent for 2004-05. The yield on funds was 12.80 per cent and 14.18 per cent for the corresponding period. The spread was just 0.28 per cent during 2005-06 which is a matter of concern from profitability point of view. The net profit has been reduced to Rs.4.03 lakh during 2005-06 as against Rs.14.30 lakh in 2004-05. The audit rating is a mirror of overall working of the cooperative institutions. The society's audit rating was downgraded to "C" during 2003-04, which has again improved to "A" during 2004-05. The audit rating for the year 2005-06 is awaited. One of the good features is that the deposits of the members are covered under Deposit Guarantee Corporation. All



branches including head office operations are computerized.

### Suggestions

a) The Management of the society may organize special campaigns through its various branches to mobilize deposits, particularly savings and current deposits; b) Some innovative schemes may be devised to attract saving and current deposits which has direct bearing on profitability; c) The society has to device measures and systems including some incentives for ensuring timely recovery of dues, bringing down overdue position, which would help maintaining good profitability; d) Trained manpower is an integral part of every successful organization. Special attention may given to this aspect and provisions for regular training be made to its staff members on different business parameters.

### References

Ardalkar B. B. (1999) "Values and Principles of Co-operation," Maharashtra State Co-operative Federation Ltd., Pune.

Bapat V. V. (2000), "A manual of Banking Transactions", Publisher Mrs. Sarla V. Bapat, Pune.

Commissioner for Co-operation and Registrar of Co-operative Societies, Maharashtra, Pune (1997), "Co-operative Movement at a Glance in Maharashtra".

Devaskar Sudhakar (2002), "Urban Co-operative Credit Societies operations and Management", Ashay Enterprises, Pune.

Dhanlaxmi Gramin Bigar Sheti Sahakari Patsanstha Maryadit, Naygaon "Annual Reports from 1988-89 to 2005-06".

Gajare L. S. (2001), "Urban Co-operative Banks", State conference of Maharashtra State Co-operative Federation Ltd. Pune.

Haujwala P. G., Nakhe V. S., Yerawadekar P. D. (2000) "Banking" Maharashtra State Co-operative Federation Ltd., Pune.

IIB Vision (Sept. 2006), "A monthly news letter of Indian Institute of Banking and Finance", Mumbai. )

Joshi. G. S. (2000), "NPA recovery of Co-operative Credit Institutions" - Banks

Maharashtra Co-operative Societies Act. 1960 (Government of Maharashtra Publication)

Mujumdar N. A. (1996), "Financial sector reforms", An exercise in Introspection, Economic and Political Weekly (EPW), Vol. XXXI, No. 12

Mukane H. B. (2002), "Problems of Urban Co-operative Banks and Solutions," Sahakari Maharashtra, Maharashtra State Co-operative Federation Ltd., Pune.

S W Gorade & S M Kshirsagar,  
Research Fellows, YCMOU, Nashik  
Dr S L Sananse, Statistician,  
Dr B.S.K.K.V. Dapoli

### An All-women News Channel

An all-women "news channel" is creating waves in the rural backwaters of Bihar. "Appan Samachar" (Our News), an all-women weekly news programme, is a hit in Ramlila Gachhi and its adjoining villages in Paru Block of Muzaffarpur District ever since its launch last month. Unlike flashy studios of private news channels, its rural cousin works from an asbestos-roofed room having a wooden table, two chairs and a portable TV. Its reporters, Ruby Kumari and Anita Kumari (both 20), move around Ramlila Gachhi and its adjoining villages six days a week carrying a Sony handycam, a tripod and a microphone in hand to gather news. Later, they show a 45-minute bulletin on the TV using a video cassette player powered by a battery, at the weekly fair in the village.

"In our channel, we cover activities relating to development, women empowerment and human rights," says 18-year-old Khushbu Singh, a eleventh standard student. The village has no electricity, no landline phone connections and the mobile phone service reached it only last year.

"We have so far been funding the channel through our own resources, but now hope to get some revenue from the local traders whose activities we report," says Ruby, who along with Anita, is studying in BA first year from a college in Sahebganj here.

Source: Press Trust of India, 2 January 2008



## Rural Initiatives of Dena Bank

*Continuing our series on innovative efforts made by the member banks in priority sector lending, we present the various rural initiatives taken up by Dena Bank for attaining financial inclusion.*

Dena Bank was founded on 26th May, 1938 by the family of Devkaran Nanjee under the name Devkaran Nanjee Banking Company Ltd. It became a Public Limited Company in December 1939 and later the name was changed to Dena Bank Limited. In July 1969 Dena Bank Limited, along with 13 other major banks was nationalized and is now a Public Sector Bank constituted under the Banking Companies (Acquisition & Transfer of Undertakings) Act, 1970. Under the provisions of the Banking Regulations Act 1949, in addition to the business of banking, the Bank can undertake other business as specified in Section 6 of the Banking Regulations Act, 1949. The main Vision of the Bank is to emerge as the Most Preferred Bank of customer choice in its area of operations, by its reputation and performance.

### Rural Initiatives

The Bank has a major foray into rural initiatives, leveraging its sound presence in rural and semi urban centers, particularly in Gujarat, Maharashtra and Chattisgarh. Dena Bank has been the first bank, way back in 1988, to introduce Credit Card in rural India known as "Dena Krishi Sakh Patra". Besides pioneering into the measures on financial inclusion by being the first to introduce 'No frills Account' and 'General Credit Card', it made a further headway in issuing 'Kisan Credit Cards'. While the Bank

continued to exceed the regulatory norms with regard to priority sector lending, greater attention is being laid towards inclusive banking by way of supporting rural innovations, devising innovative schemes viz. 'Dena Swachcha Gram Yojna', 'Dena Paryavarn Suraksha Yojana' etc. The Bank continued its commitments towards Corporate Social Responsibility by adoption of villages for integrated development, imparting knowledge / enhancing skills of the farmers / rural folk by way of its initiatives in the form of *RUDSETIs*, Farmers' Clubs, Self Help Groups and 'Dena Mitras'. The Bank also continues to sponsor education of a girl child in each of the villages under its command area in the state of Gujarat and Chattisgarh. Detailed account of the rural initiatives taken up by the Bank are enumerated in the following paragraphs.

**a) Credit under agriculture and rural lending:** i) Flow of credit to rural lending is one of the thrust area of the Bank. In pursuance with the farm credit package announced by GOI in June, 2004, the Bank has been

exceeding the target set for flow of credit to agriculture as evident from the data given below:

It may be stated that flow of credit to agriculture has increased from the level of Rs.498 crore during the year ended March 2004 to a level of Rs.1315 crore during the year ended March 2007 showing an impressive growth of 264 per cent.

ii) In order to ensure sustained flow of credit to agriculture, the Bank has revamped its policy and implemented various strategies including the concept of high potential branches for lending to agriculture.

As a result of these efforts, the flow of credit to agriculture has not only been doubled but the outstanding credit to direct agriculture has increased from the level of Rs.662 crore as of March 2005 to a level of Rs.1772 crore as of December 2007, registering a growth of 267 per cent. The number of borrowal accounts have also registered an upward increase from 1.30 lakh as of March 2004 to 2.02 lakh as of December 2007.

### Flow of credit to Agriculture

(Amount in Rs.crore)

Year ended	Target	Disbursement	% of achievement to target
2004-2005	650	662	101.87
2005-2006	861	990	104.65
2006-2007	1175	1315	111.91





iii) The Bank has introduced a number of innovative credit delivery products such as Dena Kisan Credit Card wherein kisan credit cards have been issued to as many as 130689 farmers for meeting their production credit requirements. The Dena Kisan Credit Card is a revolving credit facility which enables the farmer to draw against limit as and when he needs and deposit cash in his account as and when he has surplus funds.

Dena Bank has added another feather to its rural initiatives by introducing Dena Kisan Gold Credit Cards to the farmers for meeting their term credit requirements. The Bank has issued Kisan Gold Credit Cards to as many as 4673 farmers.

The Bank is also implementing Dena Bhoomiheen Credit Card scheme to meet the credit requirement of small and marginal farmers/ tenant farmers, oral lessees (not only of those farmers having land but also of those who are landless). The credit flow under Dena Bhoomiheen Credit Card was more than 3 per cent of the new farmers financed during 2006-2007.

Dena Bank has entered into tie ups with various organisations like Amul Dairy under its Kamdhenu Yojana to extend finance to milch animals, sugar cooperatives, corporates for cultivation of organic cotton. Besides, the Bank has entered into MoUs with 15 Tractor Manufacturing Companies to give impetus to farm mechanization so as to expand its outreach to farmers. Taking another initiative, Dena Bank has tied with Life Insurance Corporation of India (LIC) for providing life insurance cover to Tractor Loan account holders, a group Mortgage Redemption Insurance Scheme wherein the prospective as well as existing borrowers' life is insured at a nominal

premium.

b) **Micro Irrigation System (MIS):** In order to enlarge the area under irrigation, the Government of Gujarat has announced a massive subsidy linked credit scheme for installation of MIS. The scheme is being implemented in association with Gujarat Green Revolution Company Limited. The Bank has actively been participating in the implementation of the scheme by sanctioning loans to 1834 farmers amounting to Rs.29.35 crore for installation of micro irrigation systems.

c) **Training to Farmers:** To empower the farmers with latest technological development in the field of agriculture, the Bank has been arranging training programmes to its farmer borrowers in association with Agricultural Universities/ Colleges / Krishi Vigyan Kendras. Dena Bank has trained more than 2000 farmers with the help of its RUDSETIs and Agricultural Universities/Colleges / Krishi Vigyan Kendras.

d) **Village Adoption:** 51 Villages in the State of Gujarat, where the Bank is Convener for State Level Bankers' Committee (SLBC), have been adopted for bringing about integrated village development. The Bank aims to broad-base the activities in association with NABARD

e) **Formation of Farmers' Clubs:** The bank has promoted more than 980 farmer clubs in the command area of its branches. The experience is very encouraging. The farmers are very enthusiastic taking keen interest in learning about the improved package of practices of farming for improving their farm income. This in turn, facilitates towards adopting of scientific agriculture, animal husbandry, horticulture and thereby improving sustainable productivity.

All the rural / semi-urban branches have been mandated to form five farmer clubs at their respective centres. One of the farmers club viz. Dena Farmers Club, promoted by Dena Bank in Singhali village of Mahudha Taluka promoted by Bank's Mahudha branch in the district of Kheda (Gujarat) has been chosen for National Award as one of the farmer clubs from various states.

f) **Financing to Self Help Groups (SHGs):** Promoting and linking Self Help Groups (SHGs) and other Micro Finance Intermediaries (MFIs) with Bank credit continued to be thrust area of the Bank. The Bank has been providing financial assistance to MFI's of repute to enable them to onlend to its members / SHGs. A success story of one of its SHGs is presented in the Box.

g) **Tie-up with India Post, Maharashtra Circle:** The tie-up arrangement envisages provision of various types of rural farm and on-farm credit for various purposes such as production and investment credit for agricultural operations, composite loans for rural artisans and craftsman, loans for setting up of business units and issue of General Credit Cards (GCC) etc. The scheme is being implemented on a pilot basis in the state of Maharashtra in Vidarbha region covering Amravati and Akola districts.

h) **Biometric ATMs:** The Bank has the distinction of being the first amongst public sector Banks in Gujarat to launch the on-line Biometric ATM at two of the rural branches namely, Balwa and Chhala, both in Gandhinagar district of Gujarat which is selected by the SLBC for 100 per cent financial inclusion. The Biometric ATMs facilitate the technology transfer to the rural areas and more particularly the illiterate



### Success Story of a Self Help Group financed by Dena Bank in Gujarat

Provision of financial services to the poor and under-privileged section being one of the objectives, among all of Bank's strategies, the SHG bank linkage programme is arguably one among the best programme in terms of outreach. Here is a success story of a borrower SHG from the Barejadi Branch, Ahmedabad Region. One of the Self Help Groups namely "Meera Self Help Group" from the village Nandej opened a Saving Bank Account with Barejadi Branch on 01.01.1993. Initially this group comprised of 11 members, with the monthly saving of Rs.700. When the saving amount reached Rs.15000/-, they approached the Bank for financial assistance to start the business of Meena work, Emboss Painting, etc. After considering the credibility of the Group, as an initiative, the Bank helped them by providing credit facility of Rs.2,50,000/- at an interest rate of 11.25 per cent, in the year 2005. After availing the credit facility, the Group embarked on new activities for income generation viz. making decorative Small Temples, *Bajatha*, *Pooja Thali*, etc for use in homes and started marketing their produce themselves and also through retail traders. Apart from these, they participated in exhibitions and *Melas* by installing their stalls all over Gujarat whenever such events are organised by the State Government. The Group also participated in a fair organized by FICCI at Delhi. The initial investment of their micro enterprise was Rs.1.50 lakh. But now, about 100 members are engaged in this business. The business activity has been extended further and they started imparting training to other self help groups in the same field. Presently they are earning about Rs1.00 to 1.50 lakh per year as net profit (20 per cent profit margin) in the business, which is sufficient for meeting their expenses and also to repay the loan installments. Recently one decorative jhula was made as a piece of art for sale to an NRI at a cost of Rs.40,000/-.

Being a more successful unit, recently the delegates from New Zealand visited this group and admired their art works and success. The group leader Yusufshah Kasamshah Diwan has narrated the success story of his Self Help Group in a Workshop at SPIPA, Ahmedabad on 26.10.2007 which was attended by more than 150 participants, Directors of DRDAs and Branch Managers from throughout Gujarat.

customers / farmers who can withdraw the money to meet their requirements for various purposes. The efforts of the Bank have been well appreciated by the State Government. The Bank plans to introduce this facility to other rural/ semi-urban branches in Chhatisgarh state.

i) **National Innovation Foundation (NIF)** : NIF is a society which has been setup by the Department of Science and Technology, Government of India at Ahmedabad in March, 2000 which aims at recognizing, respecting and rewarding innovations and outstanding traditional knowledge till the grass-root. The Bank has associated itself with NIF for financing innovators for commercialization of the innovations.

In pursuance of the above, the Bank has financed a Cycle Rickshaw Project named as 'Samman', conceived & ventured by Shri Irfan Alam. The project was launched by the Hon'ble Chief Minister of Bihar at Patna on 25th January, 2007, with about 100 cycle rickshaws having been flagged off on to the roads for an innovative and joyful journey. The event evoked a spirited response from the local populace. The Bank has been proactive in supporting such ventures / initiatives resulting into gainful self-employment.

j) **Rural Development and Self Employment Training Institutes (RUDSETIs)**: The Bank has set up a society viz. Dena Rural Development Foundation which has in turn set up

2 RUDSETIs at Bhuj and Mehsana in the State of Gujarat where it is shouldering Lead Bank responsibilities. These RUDSETIs are imparting training to unemployed rural youth and women for capacity building so as to enable them to setup self employment ventures. Over 2667 rural youth have already been imparted training by these RUDSETIs through more than 100 training programmes, on various topics which commenced operations during 2005. The settlement ratio of the trainees of both of the RUDSETIs was 53%.

k) **Sponsoring Education of Girl Child**: As a part of Corporate Social Responsibility, the Bank has introduced a novel scheme under which it sponsors education of Girl



Child in the villages served by the Bank, under its scheme viz: Dena Laxmi Shiksha Protsahan Yojana.

The scheme aims at provision of a scholarship of Rs 1500/- per annum to identified girl student belonging to Below Poverty Line (BPL) family, to be selected from each of the schools, in the command area of the Branches of Bank in the State of Gujarat and Chattisgarh and Union Territory of Dadra Nagar & Haveli, based on the highest marks secured in 7th Standard. The Bank has provided scholarship to approximately 600 children under the said scheme.

1) **Credit Counselling Centres christened as Dena Mitras:** In pursuance with the guidelines of RBI, to set up Credit Counselling Centres, Dena Bank has rolled out five Credit Counselling Centres in its lead districts at Himatnagar (Sabarkantha), Mehsana (Mehsana), Palanpur (Banaskantha), Bhuj (Kutch) in Gujarat and Silvassa in UT of Dadra Nagar Haveli. The main objective of the said centres are to educate people and prevent them from entering the debt trap, to create public awareness about financial planning and about the costs of misusing a credit, to help individuals achieve long term goals through investment, asset allocation, risk management and retirement

planning, to provide guidance for opening bank accounts and induce people to save.etc.,

m) **Other special schemes formulated by the Bank:** i) **Dena Swachha Gram Yojana:** In order to encourage hygienic condition in the village habitats, the bank has launched a scheme wherein finance upto a limit of Rs.10,000 is extended for construction of toilets and bathrooms in rural areas at concessional rate of interest without insisting on collateral security or third party guarantee. Help of NGOs / Gram Panchayats is taken in educating the rural people about the benefits of toilet uses and motivating them to go for construction of toilets/ bath rooms. As a result of the proactive steps taken by the Bank staff to make the village communes clean, one of the village, Raver, in the command area of Taharabad Branch has been declared as 100 per cent Hagandari Mukta Village and a certificate of appreciation has been conferred on the branch by the district administration. ii) **Dena Paryavarn Suraksha Yojana:** The Bank has launched a special scheme wherein loans upto Rs.25,000 are granted to auto rickshaw owners for acquiring and fitting CNG/ LPG gas kit in old auto rickshaws, as a measure to curb environmental air pollution; iii) In

order to strengthen the rural credit delivery mechanism the bank has launched a number of new products viz. Dena Rural Internet Kiosk Scheme, Indian Oil Corporation Ltd., etc. The Bank has also entered into tie up with NCDEX for displaying the price tickers at selected branches of the Bank. Dena Bank has also launched Dena Surya Urja Yojana for extending finance for installation of solar water heaters on softer terms.

In pursuance to the guidelines received from Ministry of Revenue/ IBA, Bank has formulated a new scheme viz. "Dena Tax Return Preparer" for providing financial assistance to Tax Return Preparers.

Special modules for training and updating the skills of rural Branch Managers and Officers have been devised by Dena Bank in collaboration with College of Agriculture Banking Pune wherein customized training was provided for more than two weeks .

Dena Bank is committed itself towards building a self sustainable rural economy through its various customer friendly and tailor made schemes combining farming and adoption of new technology for building a strong self reliant nation.

---

Service which is rendered without joy helps neither the servant nor the served. But all other pleasures and possessions pale into nothingness before service which is rendered in a spirit of joy.

**Mahathma Gandhi**



## Venture Capital Models for Sustaining Forests and Forest based Microenterprises



T T Krishnan

*Venture Capital for rural development has been in vogue in the United States since the 1970s. In India the Small Farmers' Agribusiness Consortium introduced a Venture Capital Scheme for agribusiness entrepreneurs only a few years back in association with commercial banks. Forest produce based micro enterprises are required for livelihood security as well as sustainability of forests. Suitable venture capital models would have to be evolved to cater to this requirement since one-size-fit-all concept would not work.*

### Introduction

India has embarked on a mandate to bring 33 per cent of its available land mass of about 300m hectares under green cover by the year 2012. Around 35-40m hectares are required to be brought under tree/forest cover to achieve this target.

In order to achieve this, the sustainability of existing forests needs to be ensured by and large. This can be done if the stakeholders who are living in the periphery of the forests and depend on them for their livelihood are provided sustainable avenues of doing so which would ensure they have vested interests in the survival of the forests. This would involve two kinds of activities: a) Afforestation and b) Micro enterprises based on forest produce.

While hitherto the funding of these activities have been based on budgetary support, it is now felt that innovative mechanisms need to be

considered for making it a viable commercial proposition. One such method is by infusion of Venture Capital. Ever since its inception venture capital has been attracted mainly to the manufacturing (secondary) and service sector (tertiary) and not the primary sector (agro based enterprises are considered in the secondary sector).

According to the Indian Venture Capital Association, during the year 2006 as many as 299 deals were struck involving an investment of \$7.5billion or Rs.3000 crore. The sectors consisted of banking/financial services, healthcare & life sciences, manufacturing, IT & ITES and others (namely, textiles/garments, media/entertainment, retail, real estate, engineering/construction and food & beverages). It can be seen that the rural economy is not represented in this picture.

This is because rural economies rarely

attract traditional venture capital. This is due in part to the structural impediments they pose for the traditional venture capital model. Because the primary driver of traditional venture capital is profit maximization, the industry tends to gravitate to areas and sectors that maximize potential investment opportunities and minimize operating costs.

It needs to be examined how Venture Capital could be attracted to something like regeneration of forests and micro enterprises based on forest produce.

Such sectors and areas have a critical mass of potential investment opportunities and the supporting infrastructure in the form of technological, managerial, legal and financial expertise necessary to take ideas to market. Their proximity to desirable quality-of-life amenities also enables these sectors to attract venture capitalists, who can minimize



travel time and operating expenses by living near their investments.

By contrast, rural areas are characterized by limited deal flows and supporting infrastructures, and large distances that make supervision difficult. Because of these structural impediments, the venture capital required for rural areas needs to be developmental in nature. **Unlike traditional venture capital, which has a primary objective of financial returns for investors, developmental venture capital has to foster both social and financial returns.** In the case of rurally-focused developmental venture capital firms, the social returns are often in the form of economic growth, either general or specifically targeted at helping low- and moderate-income populations.

#### Scenario in the US

The US has been conscious of the need for having specialized venture capital funding for rural development. Due to the characteristic differences in the industrial and rural milieu, in the US, **Community Development Venture Capital (CDVC) is one form of developmental venture capital that has evolved for rural areas.** Like traditional venture capitalists, CDVC providers make equity and near-equity investments in small businesses. Equity investments consist of preferred and common stock. Near-equity investments consist of debt that is convertible to equity and debt with warrants, royalties or participation payments. Near-equity can be structured to act like equity, with deferred payments that give nascent firms the start-up capital they need in their early years. However, their investments are contingent on a company's potential for high-quality job creation for low-

and moderate-income individuals as well as its likelihood of rapid economic growth. As a result of this dual-bottom-line, CDVCs are willing to invest in companies in numerous industries, stages of development, and locations. This flexibility, as well as the operating model that it has fostered, further differentiates CDVC funds from traditional venture capital, and has made this model particularly well suited to address the structural impediments that rural areas present.

The earliest community development venture capital funds, formed during the 1970s and 1980s, had a primarily rural focus. They included the Kentucky Highlands Investment Corporation (KHIC), Northeast Ventures, Coastal Ventures Limited Partnership, Development Corporation of Austin, and the Minnesota Technology Corporation Investment Fund (MIN-Corp). While most of the subsequent CDVC funds targeted broader geographies, the industry also has seen the creation of new CDVC funds focused on the rural regions of Oklahoma, New Mexico, Ohio, Tennessee, Virginia, West Virginia, North and South Carolina, Georgia, Alabama, and Mississippi.

*The obstacle to establishing more rurally-focused CDVC funds is this model's need for subsidy.* The present economic and political environment in the US is not supportive of subsidy-based models, particularly those intended to benefit low- and moderate-income populations. This has limited both the growth of new CDVC funds and the capitalization levels of existing ones. *If this hostility is overcome it will foster the innovation and entrepreneurship that will enable rural areas to participate in the knowledge economy.*

#### The CDVC Model

In order to understand the CDVC model, it is helpful to contrast it with traditional venture capital. Although CDVCs differ from traditional venture capital funds in a number of ways, these differences all stem from CDVCs' double-bottom line objective. The social bottom-line for rurally-focused CDVCs is their commitment to economically developing a particular non-metro segment. To do so, they must find ways to overcome the structural limitations such segments present for venture capital investing.

**The first structural limitation of rural areas is their lack of the supporting infrastructure that venture capital requires.** In particular, small populations often translate into few experienced company managers with the knowledge to guide young firms. CDVCs address this limitation with technical assistance, either directly from CDVC fund staff or indirectly from outside experts. In either case, this technical assistance translates into higher costs for the fund.

**Another structural limitation of rural areas is a scarcity of high-quality deal flow.** By definition, rural areas have smaller concentration of populations, which translate into fewer entrepreneurs and fewer firms. While traditional venture capitalists may review hundreds of potential investments in order to select the most promising one, a venture fund operating in a rural area may have only a few dozen investment options to consider. Additionally, the quality of their investment options may not be comparable to those reviewed by a traditional venture fund.

**One way that rurally-focused CDVC funds maximize their**



investment options is by investing in a broad range of industries. This differentiates them from traditional venture funds, which concentrate their investments in those technologically intensive sectors that offer the greatest promise for significant returns. Such high-tech investments are particularly difficult to find in rural areas. **Thus, most of the investments made by rurally-focused CDVC funds have been in lower-tech, primarily manufacturing firms. These investments lack the potential financial volatility, both positive and negative, of traditional venture, but meet the social objective of economic development and job creation.**

**The lack of deal flow in rural areas also means CDVC funds must invest in companies at various levels of development.** In particular, rural CDVC funds have had to “create deals” by investing in early-stage firms. Traditional venture capitalists are reluctant to make early stage investments because they are higher risk than those in firms that have demonstrated their market potential. **Seed/start-up stage investments accounted for only 2.11 per cent of all dollars invested by traditional venture capitalists in 2005.** While comparable figures are not available for CDVC funds, **almost fifty percent of rural CDVC fund investments through the end of 2000 were in seed/start-up stage firms.** Early stage investments also are more expensive for venture capitalists because they involve both longer timeframes and intensive oversight to develop a successful company. This can result in additional costs related to delayed exits – when the company can be sold to investors or another company.

**All venture capitalists must exit their investments in order to make a profit and free up capital for new investments.** The longer it takes a venture fund to exit an investment, the more operating costs it accrues. Unless the longer holding time results in a higher exit price, it also translates into lower returns for the venture fund, which cannot re-invest the capital until it exits its original investment.

**In general, exits are critical to the ability of venture capitalists to make a profit.** The majority of traditional venture funds make a profit by exiting a few investments so successfully that the returns are sufficient to offset losses on the rest of their portfolio. Such exits, whether by initial public offering or buy-out by another firm, are not uncommon when investing in the technologically-intensive industries favored by traditional venture funds. Their high-quality deal flow also enables traditional fund managers to invest only in those firms that have the greatest promise of rapid growth, thus further maximizing the possibility of a highly profitable exit.

**While exits are challenging for all community development venture capitalists, they present a particular challenge for rurally-focused CDVC funds.** In large part, this reflects the primarily low-tech, moderate-growth, early-stage firms in which rural CDVC funds invest as a result of their limited deal flow. Such companies are not likely to qualify for initial public offering and have fewer potential buyers.

**An additional factor complicating exits for CDVC funds is the unwillingness of many CDVC fund managers to force an exit that would be detrimental to their social**

**objectives of high-quality job creation for low- and moderate-income individuals and economic development of rural areas.** Managers of rurally-focused CDVC funds must always weigh the social and financial benefits of any exit opportunity against its social costs. If, for example, an acquiring firm closes down a facility or moves it to another location, the social benefits to a rural area, in the form of jobs created by that firm, would be negated. This would detract from the financial benefits that the exit might provide for the fund.

**The innovations rurally-focused CDVC funds have adopted to overcome the structural limitations of their environments have resulted in higher operating costs and lower financial returns.** These have reinforced the difficulty these funds face in raising investment capital from the pension funds, endowments, financial institutions, and wealthy individuals that make up the bulk of traditional venture capital investors. Such investors are interested primarily in profit-maximization and perceive rurally-focused CDVC funds’ commitment to a specific area and their dual bottom line as diversions from that objective.

**To date, sources of capital for rural CDVCs have consisted of investors who prize the social objective primarily or equally with the financial one. These have consisted mostly of federal, state and local governments and foundations, as well as a few local utilities, wealthy individuals, and commercial banks aiming to fulfill their Community Reinvestment Act (CRA) obligations.** These “social” sources of capital have been fairly limited in the dollars they were willing to invest



in CDVC funds.

**The difficulty that rurally-focused CDVC funds have encountered in raising capital has left them with smaller capitalization levels than traditional venture funds.** While the median fund size for a traditional fund is now \$209 million, most of the large CDVC funds raise between ten and twenty million dollars. Because they have less capital to invest, and because their portfolio companies lack the growth potential to justify a large investment, CDVC funds make smaller investments than traditional venture funds. However, venture capital costs are labour-based, driven by the number versus size of investments that fund managers must select and manage. Thus, rather than resulting in cost savings, the smaller fund and investment sizes of CDVCs have contributed to higher operating expenses as a percentage of investment capital.

Traditional venture funds cover their operating expenses via an annual fee equal to two to three percent of capital under management. While this is a substantial amount for a two hundred million dollar fund, it provides much less financial flexibility for a twenty million dollar one. **Thus, most CDVC investors require a subsidy to fund their operations. This subsidy can take the form of lower salaries for CDVC fund managers, lower returns to investors, or foundation and government grants to a non-profit partner that provides technical assistance on behalf of the CDVC.** Most rurally-focused CDVC funds require all three forms of subsidy.

#### **Existing Sources of CDVC Capital in the US**

##### **a) Community Development Financial Institutions (CDFI) Fund**

The CDFI Fund of the U.S.

Department of the Treasury is an important source of capital for community development venture capital. Under the Bush Administration, the Fund has seen a dramatic reduction in funding from \$118 million in 2001, the last budget under President Clinton, to \$55 million in 2006 (CDFI Coalition 2006). In addition to reducing overall funding levels, the administration also has limited the Fund's flexibility in utilizing its allocation by pushing it to focus more of its resources on evaluation, and by prioritizing NMTC administration and the Bank Enterprise Award (BEA) program over other spending.

##### **b) New Markets Venture Capital**

The New Markets Venture Capital (NMVC) program was designed to increase the supply of equity and near-equity capital flowing into distressed communities. The program, which is administered by the Small Business Administration of the U.S. Department of Commerce, was intended to provide 10 to 20 new NMVC Companies with matching capital — \$100 million in debt for making investments and \$30 million in grants to offset overhead expenses. The program would have resulted in a significant expansion of the financial resources available to the CDVC industry.

##### **c) Rural Business Investment Program**

The Rural Business Investment Program (RBIP) was designed to promote developmental venture capital investments in smaller enterprises located in rural areas. It was created by the 2002 Farm Bill and modeled on the NMVC program. The original legislation indicated that the program would make available approximately \$280 million of

investment as well as operational grants to provide technical assistance to portfolio companies. In 2003, the U.S. Department of Agriculture reached an agreement with the SBA to have the latter administer the program.

The 2005 budget allocated \$10 million for the program, which would have supported two to three Rural Business Investment Companies. The SBA conditionally approved three RBIP Companies, giving them a year to raise the \$10 million in equity capital required to become fully approved. Upon full approval, each of the companies would have been eligible for \$20 million of government guaranteed debentures for making investments and a \$1 million operational assistance grant for the provision of technical assistance to those companies that received investments.

##### **d) New Markets Tax Credit Program**

The New Markets Tax Credit (NMTC) program was designed to combine public and private sector resources in order to bring \$15 billion in new investments to impoverished rural and urban communities. The program came into existence with strong encouragement and support from the CDVC industry. When the program was being designed, there was great hope that it would be a significant new source of equity capital to fund business lending and investments. **Due to several statutory and regulatory provisions, however, the program has so far been used almost exclusively to finance real estate-related transactions.** The highly competitive nature of the program and the expense and expertise required to meet its legal and compliance requirements have also precluded all



but the largest and most sophisticated organizations from being able to take advantage of an NMTC allocation.

#### *e) Conventional Financial Institutions*

Commercial banks have been a very important source of capital for CDVCs, particularly since the 1995 regulatory revisions to the Community Reinvestment Act (CRA), which instituted the investment test and expressly recognized community development financial institutions as qualifying CRA investments and borrowers. Both of these changes gave commercial banks a significant incentive to financing CDVCs. Recent changes to the CRA, however, have reduced the number of banks expressly evaluated for their investment activities. This change, in combination with the dramatic consolidation in the banking industry and the growth of alternative options that meet the investment test while providing a market-rate return, has made it much more difficult for CDVCs to raise capital from banks.

#### *f) Foundations*

Foundations have been a small but important source of capital for CDVCs. Over the last decade, a handful of large foundations, including The Ford Foundation, The John D. and Catherine T. MacArthur Foundation, and the F.B. Heron Foundation, have made numerous investments in the industry, while others have supported specific organizations and/or initiatives. In the last few years, foundation support for community development venture capital has declined. This is due partly to the stock market decline that began in 2000, which shrank foundation assets and led to an overall reduction in foundation giving. More significant, however, have been decisions by the

most active foundation investors to change the nature of their support for the sector or to withdraw support entirely. Foundations generally view their dollars as seed money, intended to catalyze other sources of capital and ultimately lead to organizational or project sustainability. For CDVCs, this has meant that the subsidized dollars that foundations provided to many organizations in the industry's beginnings have become rare or unavailable.

#### **New CDVC Funding Opportunities**

- **State and Local Governments :** State and local governments have been a source of capital for CDVCs since the industry's beginnings, accounting for eleven percent of all capital raised by the industry as of the end of 2000. As alternative sources have dried up, however, states have become an increasingly attractive option for CDVC funds trying to raise new capital. This may be particularly true for rurally-focused CDVC funds, as state governments may be closer and thus more accountable to their rural constituents than the federal government.

The power of state-level initiatives is best illustrated by California, where public-sector activity over the last decade has encouraged the creation of numerous innovative sources of capital to fund community development finance. In 1996, The Community Organized Investment Network (COIN) was established in the state at the request of the insurance industry as an alternative to state legislation that would have required insurance companies to invest in underserved communities.

- **Pension Funds :** U.S. pension funds control over seven trillion dollars in assets. Historically, most pension

fund assets have been very conservatively invested in fixed income, public equities and real estate. In the last few decades, however, pension funds have expanded their parameters to include "alternative" investments such as venture capital. Pension funds now account for over 50 percent of all the capital placed in venture funds. While pension investments in CDVCs are still the exception, they are likely to increase if the CDVC funds can demonstrate an appropriate risk-adjusted rate of return and an ability to absorb larger investments.

- **Individual Investors :** Although some CDVC funds have been able to attract investments from individuals, they accounted for only six percent of all CDVC investments as of 2000, the last year for which this data is available. As the field of social investing continues to evolve, however, CDVCs increasingly are looking at individuals as a potentially important source of future capital.

#### **Scenario of Venture Capital for Rural India**

In India we have the **Small Farmers' Agribusiness Consortium** which among other activities also caters to the Venture Capital requirements of rural enterprises. For this purpose it has the Venture Capital Assistance and Project Development Facility schemes.

#### **Objectives**

The main objectives of the Scheme are:

- a) To facilitate setting up of agribusiness ventures in close association with banks.
- b) To catalyze private investment in setting up of agribusiness projects and thereby providing assured market to producers for increasing rural





income & employment.

- c) To strengthen backward linkages of agri-business projects with producers.
- d) To assist farmers, producer groups, and agriculture graduates to enhance their participation in value chain through Project Development Facility.
- e) To arrange training and visits, etc. of agripreneurs setting up identified agribusiness projects.

#### Salient features of the Scheme

**i) Venture Capital:** To promote investments in agri-business projects with the participation of banks

- Equity participation in agri-projects upto 10 per cent of the total project cost, or 26 per cent of the total project equity or Rs.75 lakh whichever is lower.

- In special cases, higher equity possible for Projects located in hilly and North Eastern States and in Projects recommended by State agencies/ State SFACs.

Some of the conditions of the Scheme are:

- a) Beneficiary will submit the project proposal in the form of DPR to area lending bank. On receipt of project proposal, bank will appraise, assess and sanction requisite amount of term loan/working capital required by the beneficiary for execution of the project.
- b) Bank will also workout the amount of Venture Capital, as per criteria laid down and communicate it to SFAC with its recommendation.
- c) SFAC will make said amount available to the recommending bank on case to case basis for disbursement to the beneficiary either in lump sum or in stages, as may be considered appropriate by the bank.

d) Term Loan/working capital and equity amount from SFAC as Venture Capital assistance will be extended to the beneficiary through a single-window by the project financing bank.

Financial assistance from SFAC would be in the nature of equity, till the banks term loan is fully repaid by the beneficiary and would automatically be converted into a term loan on the last date of such repayment. The venture capital after it becomes loan could be repaid to SFAC in lump sum or in four quarterly installments together with the amount of interest at the same rate as was applicable on the term loan of the lending bank.

**ii) Project Development Facility (PDF):** To provide financial assistance to farmers, Producer Groups, Agripreneurs, Units in Agri-Export Zones, Organizations and Agriculture graduates for the preparation of bankable Detailed Project Reports (DPR).

#### iii) Eligible Criteria for funding

- a) Project should be in agriculture or allied sector namely horticulture, floriculture, medicinal and aromatic plants, minor forest produce, sericulture, organic farming, vermi compost, apiculture, plantation crops, and fisheries. However, poultry and dairy projects will not be covered under the scheme.
- b) Project should provide assured market to farmers/ producer groups.
- c) Project should encourage farmers to diversify into high value crops, to increase farm incomes
- d) Project should be accepted by banks for grant of term loan

**iv) Memorandum of Understanding (MOU)** signed with Commercial

Banks for smooth implementation of the scheme. The banks are:

Oriental Bank of Commerce, UCO Bank, Bank Of Baroda, Punjab National Bank, Central Bank of India, Allahabad Bank, Canara Bank, Vijaya Bank, The Jammu & Kashmir Bank Ltd, Bank of Maharashtra, United Bank of India, Syndicate Bank, State Bank of India, State Bank of Bikaner & Jaipur, Indian Bank, State Bank of Saurashtra, State Bank of Patiala, Bank of India, Dena Bank and Union Bank of India.

It may be noted that exit from the scheme takes place by the venture capital assistance being treated as equity only till the bank loans are cleared. Thereafter the assistance gets automatically converted into a loan. In normal venture capital operations, the equity is offloaded by the venture capital provider at a premium once the unit takes off. This option is not feasible in microenterprises.

#### Models that could be considered by the Ministry of Environment & Forests, GOI

Looking into the experience of US in this field and that of India, the following Venture Capital models could be considered for the timber and non-timber forest produce microenterprises:

- **Strengthen SFAC by inducting National Afforestation & Eco-development Board (NAEB) into the consortium**

SFAC which is a consortium of the Government, banks and institutions like NABARD, APEDA, NAFED and NHB could be strengthened by NAEB also being inducted into the consortium for rendering greater support to forest based micro enterprises. It may be seen in the eligibility criteria that minor forest



produce, medicinal and aromatic plants are already included in the list of activities to be supported. The nearly 700 FDAs in the country could then prepare and forward proposals for the more than 100,000 JFMCs in the country. These proposals would be required to be appraised by the empanelled consultants of SFAC.

**Capacity Building of the FDAs would need to be done so that they could gear themselves for this task.** Regional Centres of NAEB could also assist the FDAs in identifying and preparing suitable proposals.

● **Setting up a dedicated Forest Produce Venture Capital Institution**

A look at the projects sanctioned by SFAC shows a number of private limited companies and firms which are located in small urban towns. However, typically the venture capital microenterprises based on forest produce would be village based requiring much smaller fixed capital and working capital. Hence mixing up these small venture capital proposals with the relatively larger proposals at present being handled by SFAC could generate its own problems of prioritizing scrutiny, appraisal and sanction.

If, therefore, it is felt that the option proposed is not feasible or would not be able to impart the required thrust to the establishment of forest produce based microenterprises due to the various ongoing activities of SFAC, then an exclusive Venture Capital Institution could be set up with equity contribution by NAEB. Equity contributions could be invited from banks, corporates, foundations and trusts (national and international) and even individuals by proposing tax incentives for such equity

investments. This exclusive institution could then have MOU with commercial banks for working capital funding by them with equity contribution for the micro enterprises coming from the VCI similar to the schemes and arrangements made by SFAC.

● **A PPP tie-up with existing Venture Capital Institutions in India**

The Indian Venture Capital Association (IVCA) which is based in New Delhi has nearly 100 venture capital companies and firms as its members. **NAEB could enter into a dialogue with IVCA for Public Private Partnership arrangement by which some leading members of the IVCA would set up separate CDVCs for the purpose of promoting forest produce based micro enterprises.** NAEB and the identified Venture Capital Company would each contribute to the equity of the CDVCs in an agreed proportion. Equity could also be invited from corporates etc as mentioned above by offering tax incentives. The CDVCs would then proceed to assist in the establishment of forest produce based microenterprises. As the Venture Capital Companies already have the experience and expertise in funding venture capital enterprises, they would be able to render the assistance in more professional manner and with greater speed than the first two models.

A report published in the Business Line dated January 9, 2008 with headlines "Private equity players step up 'green' investments" is encouraging. According to the report private equity players and big ticket investors are making a beeline to tap investment opportunities in 'green projects'. IFC, the private sector lending arm of the

World Bank is reported to be investing in a third-party environment focused private equity fund amounting to 15m euro handled by French management company Aloe Private Equity. This would be targeted specifically at companies primarily in India and China which focus on clean and renewable energy, waste recycling, emissions control and eco-processes. There is therefore no reason why microenterprises which ensures sustainability of forests should not be able to attract such funds.

**Summing Up**

For successful implementation of venture capital funded forest produce based microenterprises, the following issues would have to be tackled on a sound footing:

- i) Identify the appropriate funding mechanism in the light of experiences gained so far.
- ii) Put in place an appropriate delivery mechanism to ensure that project appraisals, sanctions and fund flow take place expeditiously
- iii) Invest in capacity building, hand holding of potential entrepreneurs, JFMCs, FDAs, FDOs and all those who would be associated with implementation
- iv) Install an appropriate monitoring and follow up mechanism.

**References**

*Financing Rural Innovation with Community Development Venture Capital: Models, Options and Obstacles* by Julia Sass Rubin, Rutgers University

[www.sfac.com](http://www.sfac.com) for scheme information.

T T Krishnan,  
Head – Corporate Planning Dept.  
AFC, Mumbai



## Nutrients and Environmental Quality

*S Ghongane and M V Ravi*

*Mineral fertilizer and animal manure in organic and inorganic form are the valuable nutrient source for crop production to meet worlds feed and fibre demands. Fertilizers are more predictable and be used with proper management and as per crop demand and soil testing reports. To achieve high agricultural crop production, there is a need for sound nutrient management, which sustain optimum yield while also protecting the environment and human health.*

The increasing global population is now confronted by a major shortage of plant products and there is worldwide need to produce higher yielding quality crops. One important aspect of crop production is that of crop nutrition, as high productivity can only be achieved if plants are properly fed. The practical side of plant nutrients is the application of organic and inorganic fertilizers. However, now a days people believe that organic agricultural systems are more environmental friendly and more sustainable than high yielding conventional farming systems. In fact, long term studies from around the world indicate that sustained yields and plant production can be achieved with balanced nutrition, using either or both organic and mineral fertilizer nutrient source (inorganic).

The properly managed mineral fertilizers and animal manure can increase soil productivity, enhance sustainability and increase carbon. There are however management challenges and risks associated with both organic and inorganic sources relative to: i) nitrogen (N) and phosphorus (P) losses to surface and groundwater; ii) heavy metal

accumulation; iii) pathogen accumulation and iv) greenhouse gas production. It is well known that plant nutrients are absorbed primarily as inorganic ions. For example, N is taken as either ammonium ( $\text{NH}_4^+$ ) or nitrate ( $\text{NO}_3^-$ ), phosphorus as  $\text{HPO}_4^{2-}$  or  $\text{H}_2\text{PO}_4^-$  and potassium (K) as  $\text{K}^+$ . Eventhough the nutrient source is organic, it must undergo transformation so that the nutrients it contain can be released in the inorganic form for the absorption of plants.

Organic matter (OM) have positive effect on soil structure, texture, bulk density, water holding capacity, cation exchange capacity (CEC), etc. The humus fraction of OM, along with certain cations, is able to retain significant amounts of P. The organic matter under some acid soil condition reduces P. However, continuous heavy application of animal manure can result into P movement into ground water.  $\text{NO}_3^-$ -N is mobile than phosphorus (P) in soil.  $\text{NO}_3^-$  leaching is most likely in humid or irrigated area where sandy soils are overlain shallow aquifers. In clay or clay loam soils that grow slowly, de-nitrification can

significantly reduce  $\text{NO}_3^-$  and prevent its leaching to groundwater. On well-drained soil, the  $\text{NO}_3^-$  leaching goes up as manure or fertilizer rates increase above crop use.

Micronutrients and heavy metals occur naturally in varying amounts of rocks, soils and water. Several heavy metals are essential for both plants and animals but may be toxic if accumulated in excessive amounts. There is a need for proper management to reduce the build up of toxic levels in agricultural soils. Cadmium (Cd) is heavy metal, most toxic, because of levels found naturally in phosphate rock and material from which phosphatic fertilizers made. While long term use of phosphatic fertilizer can result in gradual build up in soil, micronutrients and heavy metal concentration in animal manure, swage, sludge, etc. are variable.

Further, N and P application in excess can over stimulate aquatic growth creating algal blooms in high rainfall area and when that plant dies bacteria starts decomposing it.

**Risks from pathogen:** Animal wastes contain intestinal bacteria, many of which present harmful



Element	Essential to		Toxic to	
	Plants	Animals	Plants	Animals
Arsenic	No	Yes	-	Yes
Cadmium	No	No	Yes	Yes
Chromium	No	Yes	Yes	DU
Cobalt	Yes <sup>3</sup>	Yes	Yes	Yes
Copper	Yes	Yes	Yes	Yes <sup>2</sup>
Lead	No	No	Yes	Yes
Merecury	No	No	DU1	Yes
Molybdenum	Yes	Yes	Du	Yes <sup>2</sup>
Nickel	No <sup>3</sup>	Yes	Yes	Yes
Selenium	Yes	Yes	Yes	Yes(4 ppm)
Link	Yes	Yes	DU	DU

Source: Webber and Singh, 1995

1. DU = Data on critical limits unfavourable
2. = Toxic to ruminants (cattle and sheep) at 5 to 20 ppm
3. = Other sources consider that cobalt to be non-essential and nickel to be essential

human health risks if infested through drinking water. One of the bacteria of most concern is E.coli. There are about 10000 cases of infection and more than 60 deaths each year caused by this particular bacterial strain according to US Centres for Disease Control (CDC). The animal manure is not only a source for this pathogen, it is also a contributor; presence of viruses in the manure are also reported. Those found in poultry litter may produce greater problem to environment than bacteria. A number of antibiotics, growth regulators and disinfectants are used to protect animal health and improve production. The consequences of these substances have not been thoroughly assessed.

**Air quality:** Odour from ammonia (NH<sub>3</sub>) and other gases are released from animal production facilities, in waste storage lagoons, in excreta by grazing animals, stockpiles, composted waste, etc. Odour-causing gases can arise from the decay of organic substance in the absence of air. The offensive odour from gases such as H<sub>2</sub>S (hydrogen

sulphide) can cause health problems. Atmospheric loss of NH<sub>3</sub> from N fertilizers is considerable. Such losses can be minimized by proper N management. High NH<sub>3</sub> concentration can be hazardous to birds and farm labours.

**Green house gases:** Increased emissions of green house gases are responsible for increase in potential global warming through carbon dioxide (CO<sub>2</sub>) and nitrous oxide (N<sub>2</sub>O) which are the most important green house gases related to agriculture. CO<sub>2</sub> comes from burning of fossil fuel, decomposition of OM and crop residues; methane comes primarily from ruminant animals and anaerobic condition, livestock manure, wetlands and rice production. All forms of N, either organic or inorganic contribute to N<sub>2</sub>O emission. By proper management, we can minimize this effect. Agriculture has an opportunity to reduce CO<sub>2</sub> emission by sequestering C in soil. Long term researches have shown that soil organic N and C levels are high when conservation tillage combined with rotation of high residue crop and

adequate fertilizer to maximize crop yield.

### Summary

Mineral fertilizer and animal manure in organic and inorganic form are the valuable nutrient source for crop production to meet the worlds feed and fiber demands. Fertilizers are more predictable and we have to use this with proper management and as per crop demand and soil testing reports. If improperly used, any source can potentially pollute soil, air and water. There is a need for high agricultural crop production essentially based on sound nutrient management which sustain optimum yield production and also protect the environment and human health.

*Prof S Ghongane and  
Prof M V Ravi  
Dept of Soil Science and  
Agricultural Chemistry,  
University of Agricultural Sciences,  
Dharwad College of Agriculture,  
Raichur, Karnataka*



## Prospects of coconut based agribusiness in India

*C V Sairam, S J D Bosco, S Arulraj,  
V Rajagopal and S Prabhu Kumar*

*Due to increase in consumer awareness, the domestic demand for value added coconut products is expected to increase in medium to long run especially in urban India. Agri-business entrepreneurs can capitalize this situation for small /medium /large scale production and marketing of coconut based value added products.*

### Introduction

India is the third largest producer of coconut in the world. Based on 2004-05 Statistics (DES, New Delhi), the country annually produces 12832.9 million nuts from an area of 19.35 lakh ha and the present realized productivity of 6632 nuts/ha is the highest in the world in terms of nut equivalent. The crop provides employment opportunities to more than 10 million people. However, the country does not play a significant role in the international trade pattern for coconut products. Lack of suitable policies for strengthening Post Harvest Technology and Value Addition made India incompetent in the current international trade scenario for coconut. Indian coconut sector faces daunting challenges in this liberalized era of global agricultural economy. Major competing countries like the Philippines, Indonesia and Sri Lanka are posing stiff challenges for Indian coconut sector both at domestic and international markets. To overcome these challenges, Indian

coconut sector is compelled to restructure its production, processing and marketing activities on agri-business mode. This paper depicts the scope for coconut based agri-business in India with reference to processing and value added products. The crop provides employment opportunities to more than 10 million people. India exports coconut products such as raw coconut, coconut oil, desiccated coconut and coir products to many countries.

The current scenario of Indian coconut sector could be well understood through the following SWOT analysis.

### Coconut based agribusiness

Agribusiness management on a mission mode approach aims for maximization of farmers' farm income with sustainability. Though India is one among the largest producer of coconut in the world, its relative share in the international trade arena is non-significant as compared to other major coconut producing

countries such as the Philippines, Indonesia and Sri Lanka. Lack of organized marketing having vertical integration with the agro-processing is the prime reason for the same. Technologies are available for individual processing for the production of snow ball tender nut, coconut chips, copra, vinegar, desiccated coconut, coconut shell powder, coconut shell charcoal, packed tender nut water, coconut cream and milk powder. Based on this, this paper suggests four types of agri-business.

### (i) Production of value added coconut products as an individual enterprise

- a) **Snow Ball Tender Nut (SBTN):** It is a globular tender kernel with water rich in nutrient content suited for eating and drinking;
- b) **Coconut Chips:** It is ready to eat dehydrated coconut slices prepared by osmotic dehydration of coconut kernel;
- c) **Coconut Oil:** It is a vegetable oil extracted from dried kernel copra;
- d) **Copra:** It is a dried coconut with a



**SWOT Analysis**

<b>Particulars</b>	<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
Area under coconut	Fairly large	Limited scope for larger expansion	Scope for replanting / under planting	Lack of availability of elite planting materials
Production	One among the largest producer	Less exportable surplus due to huge domestic demand	Scope for increasing the productivity in low / medium productivity zones	Production in terms of copra equivalent is low as compared to other major coconut growing countries
Productivity	High productive zones in parts of Kerala, Tamil Nadu, Andhra Pradesh, Konkan and Maharashtra	Prevalence of vast area under low productive zone in Kerala and Karnataka	Scope for improving the productivity by adopting location specific Integrated Crop Management strategies	Structural problems such as predominance of small holdings and consequent less investment to farming
Processing	Technologies available for production of value added products	Processing sector is not organized to the desired level	Scope for practicing Agribusiness by farmer themselves as a group approach	Competition from International trade sector
Marketing	Existence of co-operative agencies in the marketing process	Prevalence of non organized channels of marketing; Presence of unorganized linkage between marketing and processing	Scope for practicing Agri-business by farmer themselves as a group approach	Competition from International trade sector
Research and Development	Appropriate findings are there for specific problems in production, protection and processing sector	Not prioritized before formulation and implementation of development programmes	Technology Prioritization for various coconut production zones	Missing linkage between production – processing and marketing sectors
Coconut farmer and farming	Suits for group approach Suits for systems approach	Less capital Less investment Less marketable surplus	Group farming Rich support from institutions Scope for agribusiness	Structural constraints and lack of entrepreneurship



moisture content of < 6 per cent; e) **Vinegar:** An acetic acid prepared from coconut water used in pickle industry and fast food centres; f) **Desiccated Coconut (DC):** It is the dehydrated disintegrated coconut kernel with a moisture content of < 3 per cent prepared from the matured coconut; g) **Packed tender nut water:** It is the storable form of tender nut water with necessary additives; h) **Coconut Shell Powder:** It is a powder prepared from matured coconut shell; i) **Coconut Shell Charcoal:** It is a charcoal prepared by burning matured coconut shell; j) **Coconut Cream:** Cream prepared from coconut milk extracted from the kernel of coconut; and k) **Coconut Milk Powder:** Dehydrated coconut milk extracted from kernel of matured coconut.

The economics of production of coconut based value added products as furnished in Table 2, indicates that fairly high level of capital is required towards establishment and operation of these enterprises. For this, institutionalized credit may be arranged through development agencies especially in those areas which are congenial for sustainable production and marketing of these products. Initially these firms may concentrate on domestic markets. Subject to meeting the requirements on quality standards, they can expand their horizons to the international markets. A huge amount of returns will act as the motivating factor. Further coconut farmers are expected to realize better price stability in medium to long run.

**ii) Small scale coconut based agro-industrial complex.**

Indian coconut sector is predominated with small and marginal farmers and the scale of operation of the intermediaries is also limited. In this situation, it is rational for resorting

**Table-1 Investment analysis of production of coconut based value added products**

Sl. No	Industry	Capacity (No. of nuts/day)	Quantity of products	Investment (Rs. in lakh)	Gross Returns (Rs. in lakh/year)
1	Snow Ball Tender Nut	500	500 Nos	2.00	0.54
2	Coconut Chips (Smaller Scale)	500	75 kg	3.00	27.00
3	Coconut Chips (Larger Scale)	10000	1300 kg	30.00	468.00
4	Coconut oil mill	10000	750 kg	6.00	135.00
5	Copra production	10000	1500 kg	6.00	135.00
6	Desiccated Coconut	10000	1000 kg	30.00	180.00
7	Coconut vinegar	10000	1000 ltr	8.00	36.00
8	Coconut Shell Powder	10000	1000 kg	13.00	60.00
9	Coconut Shell Charcoal	35000	1150 kg	13.00	17.25
10	Coconut Cream	10000	2500 kg	128.00	600.00
11	Coconut Milk Powder	20000	1000 kg	250.00	360.00
12	Packed Coconut Water	12500	2500 ltr	32.00	75.00

\* Based on 2005-06 prices

**Table-2 Cost economics of small scale coconut based agri-processing unit**

Sl.No	Particulars	Value (Rs)
1	Total investment	550000
2	Capacity of the complex	1750 nuts/day
3	Number of labour required	10/day
4	Per day working capital	12500
5	Gross Cost per day	13000
6	Gross Return per day	15000
7	Net return per day (after accounting for investment)	2000
8	Benefit-Cost Ratio	1.15

\* Based on 2005-06 prices

to small scale coconut based agro-industrial complex, limiting the production and marketing activities to two or three products such as coconut oil, snow ball tender nut and coconut chips. The cost analysis of such a business for the production of 60 kg of coconut oil, 500 numbers

of snow ball and 75 kg of coconut chips per day is furnished in Table 2. Coconut farmers could venture this on a group basis with or without the involvement of traders in urban areas. It could be inferred from the above table that the realized net return from this business could be to the tune of



Rs.6 lakh/year. The production cost could be further reduced if the raw material is procured within the farmers' group and a part of the labour requirement is also met within them. Proper implementation of these models would pave way for better price stabilization for coconut products.

**iii) Medium scale integrated production of value added coconut products**

In order realize better economies of scale, integrated production of value added coconut products can be taken

**Table-3. Cost economics of medium scale agri-processing unit**

Sl.No	Particulars	Value (Rs)
1	Total investment	550000
2	Capacity of the complex	1750 nuts/day
3	Number of labour required	23/day
4	Per day working capital	19500
5	Gross Cost per day	20000
6	Gross Return per day	22700
7	Net return per day (after accounting for investment)	2700
8	Benefit-Cost Ratio	1.14

\* Based on 2005-06 prices

**Table-4 Estimated investment and return of the different models of coconut processing complexes**

Model No.	Component of the model	Initial Investment (Rs.in lakh)	Manpower requirement	Electricity (KW)	Cost of coconut & other items (Rs.in lakh)	Returns/day (Rs.in lakh)	Percentage increase of returns over edible oil
I	Edible oil + DC powder + Chips + Vinegar + Shell powder + Oil extraction from testa + Fibre + Compost	121	120	425	1.07	2.36	87.3
II	Edible oil + DC powder + Chips + Vinegar + Shell powder + Oil extraction from testa	90	108	275	1.04	2.03	61.1
III	DC powder + Chips + Vinegar + Shell powder + Oil extraction from testa	120	150	255	1.08	2.20	74.6
IV	Edible oil + Vinegar + Shell powder	36	40	250	1.00	1.45	15.08
V	DC powder + Vinegar + Shell powder + Oil extraction from testa	130	130	225	1.00	2.00	58.73
VI	Chips + Vinegar + Shell powder + Oil extraction from testa	105	180	300	1.20	2.50	98.41
VII	DC powder + Chips	95	145	205	1.08	1.70	34.92
VIII	Edible oil	18	35	200	1.00	1.26	

\* Based on 2005-06 prices





in a medium scale. Subject to the availability of resources, the same may be implemented by farmers' groups. The number of products involved in the production may be restricted to five to seven. The cost benefit analysis of a similar business for seven products viz., coconut oil (120 kg/day), snow ball (500 nos/day.), coconut chips (35 kg/day), mushroom (15kg/day), coir yarn (1000 kg/day), coir pith compost (30 kg/day) and vermi-compost (30 kg/day) is furnished in table 3.

As in the case of small scale agro-processing unit, it could be inferred from the above table that the realized net return from this business could be to the tune of Rs.8.1 lakh/year. This acts as a motivation for the farmers and entrepreneurs for adopting these models. The production cost could be further reduced if part of the labour and raw material is met within the unit.

#### iv) Large scale integrated production of value added coconut products

Coconut based agro processing complex is a suggested long term investment with an initial expenditure of Rs.121 lakh for setting up processing units (including land and buildings) integrating copra, coconut oil, fibre, compost, shell powder, vinegar, desiccated powder and coconut chips for processing 25,000 nut per day. Based on the initial availability of the capital few or more components of these products can be integrated. Maximum investment (34.71 percent) is required for DC units and the minimum (1.65 percent) for compost unit. A total labour of 36,000 man-days is required per year. The average power requirement is 12750 units. The realized grass returns of various integrated coconut

processing models over edible oil industry alone varies from 19.05 percent in case of DC powder to 98.4 percent in case of model VI. Though the present BCR of certain highly intensive model are lower as compared to low intensive models, in long run, subject to technology development and long run price trends, it is better to integrate more number of possible components. Such an integrated approach ensures better price stability for coconut and its products and stabilizes the gross farm income for coconut farmers. This would lead to better rate of adoption of technologies by the coconut farmers in different parts of the country and the overall productivity of coconut industry would improve.

Investment analysis for integrated coconut processing models was performed and the results are given in Table 4. The investment parameters were highly positive and increase with the degree of integrations. Combination of edible oil, DC Powder, Chips, Vinegar, Shell Powder, Industrial Oil and Oil Cakes proved to be economically viable and their economic worthiness is higher than the conventional edible oil production or DC powder manufacturing. It could be inferred from the table that investment in coconut based agro-processing is economically viable and the realized BCR ranged from 1.63 (Chips + Vinegar + Shell Powder+ Industrial Oil + Oil Cake from Testa) as compared to 1.18 in the case of edible oil alone. It could be observed from the table that though the BCR between the edible oil and DC is not significantly different, the additional NPW of 94.82 lakh confirms the economic worthiness of investment in DC as compared to edible oil.

Moreover DC has a steady domestic demand and price as compared to fluctuating coconut oil prices.

The Internal Rate of Return (IRR) is highly positive for all the agro-processing models which indicate that subject to the availability of other infrastructures and other major inputs it is economically worth to start these industries by availing institutional credit.

The estimates of economic worthiness are made based on the domestic market conditions and prices. However those who are willing to start these units on a larger scale needs to understand the basics of international demand for diversified coconut products and the expected quality parameters at the international level.

#### Role of Krishi Vigyan Kendra (KVK) in promoting agri-business

Farm Science Centres (Krishi Vigyan Kendra) located in each district can play a vital role in promoting coconut based agri business especially with reference to coconut processing and value addition. KVK staff operating in major coconut producing zones viz., Kerala, Tamil Nadu, Karnataka and Andhra Pradesh can be trained in various Post Harvest Technologies and Integrated agro-processing by CPCRI, SAU's and development agencies like Coconut Development Board. They in turn can transfer the knowledge acquired to the farmers / entrepreneurs in their respective districts through appropriate transfer of technology programmes. KVKs can also play a crucial role in the formulation of commodity based farmers' association such as coconut farmers' association with the help of State Department of Agriculture / Horticulture and can serve as a



perennial technology tank for the farmers.

### Conclusion

Plantation crops like coconut are prone for high degree of production and price risks. Due to increase in consumer awareness, the domestic demand for value added coconut products is expected to increase in medium to long run especially in urban India. Agri-business entrepreneurs can capitalize this situation for small/medium/large scale production and marketing of coconut based value added products. Technologies are available for individual processing for the production of edible oil, DC powder, vinegar, coconut chips, shell powder, industrial oil and cakes. However due to their small scale operation the economies of scale and their relative profitability is low as compared to those, which could be achieved through scientific integration. To implement these strategies, the Government of India needs to formulate a major project at macro level involving huge budget. State Governments assistance and attention is also needed as in India agriculture remains as a state government subject. Research and Development agencies needs to strive for achieving sustainable growth in

coconut production and productivity. Market surveys needs to be taken up both in India and abroad for assessing the nature and quantum of demand for value added coconut products. The existing value added technologies needs to be tested for getting credibility about their technical feasibility and economic viability especially as an integrated system. Quality parameters especially with reference to ISO standards need to be studied and based on that the budget revision needs to be made for project implementation. Suitable locations in various agro-production zones may be identified. More number of pilot plants may be started and their techno-economic viability may be studied. An intensive market promotion is a must for creating consumer awareness about the products. A strong will and commitment is a pre-requisite for achieving success in this endeavour. It is difficult but not impossible

### References

1. S.Arulraj, C.V.Sairam, S.J.D.Bosco and Anitha Kumari, "Economic viability of community level processing of coconut for value addition", Paper presented in the International Global Summit 2003 held at Kochi from 7th to 11th May 2003

2. Bosco SJD, GV Thomas and A Shamina. 2002. Sweet coconut chips – a new coconut kernel based product. In. *Coconut J.* 32(12):4 – 5.

3. Bosco, S.J.D and C.V.Sairam, "Modelling of coconut processing complex through integrated system", In: *PLACROSYM – XV, 10-13 December 2002 at Central Coffee Research Institute, Mysore*

4. Gittinger. 1981. *Compounding and discounting table for project evaluation, IDBI, Mumbai, India*

5. Sreekumar Poduval. 2000. *Prospects for domestic and small scale processing of coconuts. In. Coconut J. 21(3): 41-45.*

C V Sairam, Senior Scientist and S Prabhu Kumar, Zonal Coordinator, ICAR Zonal Coordinating Unit – Zone VIII, Mrs HA Farm Post, Hebbal, Bangalore 560 024  
S J D Bosco, Professor & Head, Dept of Food Processing, SRM College of Engineering, Chennai;  
S Arulraj, Project Coordinator; & V Rajagopal (Former Director), Central Plantation Crops Research Institute, Kasaragod, Kerala 671 124

We think sometimes that poverty is only being hungry, naked and homeless. The poverty of being unwanted, unloved and uncared for is the greatest poverty. We must start in our own homes to remedy this kind of poverty.

**Mother Teresa**



# Information and Communication Technologies (ICTs) in India : An insight into progress of Rural Economy

*Yogisha G. M., Ramappa K. B., Mahajanshetti S. B. and Vijayakumar H S*

Farming community is facing lot of problems in maximising the crop productivity. In spite of successful research on new agricultural practices, the majority of farmers are not getting upper bound yield due to several reasons. One of the reasons is that expert/scientific advice on crop production and marketing is not reaching the farming community in a timely manner. In order to take stock of the real status of agricultural production and marketing, there is an urgent need to develop the following steps like: i) Farmers-crops database management; ii) Creation of crop information service system; iii) Creation of inquiry system for providing information on production techniques and production equipments; iv) Dissemination of marketing details of the produce on anywhere and anytime basis.

Information and communication technologies are making tremendous impact on the rural economy due to its wide application and appeal. It may seem paradoxical that modern ICTs associated with developed country markets and capital intensive methods of production, has any relevance for a country like India where many millions of people lack in basic needs. Nevertheless, there are many efforts underway in India and other developing countries to demonstrate the concrete benefits of ICT for rural

population and to carry out the same in a manner that makes economic sense. (Singh, Nirvikar, 2004). A large number of initiatives have been made and are being made in rural India, to deploy ICT as a developmental tool for creating awareness among farmers and rural artisans, and for their betterment.

Both public and private sectors have

initiated many projects for enhancing the rural livelihoods and improving the status of agriculture in the country. These can be grouped under central government sponsored, state government initiated, corporate sectors undertaken and NGO sponsored projects as enumerated in Table 1:

**Table-1**  
**Different ICT Projects undertaken in the country by various agencies**

Sl. No.	Organization	Projects undertaken
1.	<b>Central Government sponsored</b>	<ul style="list-style-type: none"> <li>• Department of Agriculture and Co-operation - National Agriculture Technology Project.</li> <li>• Agmarket</li> <li>• Community Information Centres (CIC)</li> <li>• Warna Project of Maharashtra.</li> </ul>
2.	<b>State Government Supported</b> a. Rajasthan b. Madya Pradesh c. Andhra Pradesh d. Karnataka e. Tamil Nadu f. Gujarat g. Maharastra h. Kerala	Janmitra Gyandoot eSeva Bhoomi, Raitha Samparka Kendra Rasi, Miyams Karchipular Seva Setu, Online Complaint Management System – Mumbai. E- Srinkala
3	<b>Corporate Sector Sponsored</b> a. ITC-IBD b. EID-Parry's	eChoupal Kisan Kendras, Tata Chemicals Chirag Kendra.
4	<b>NGO &amp; Other private sector</b> a. M.S.Swaminathan Research Foundation b. Agriwatch.com c. Drishti.com	Information Village Research Project (Chennai)



Many ICT projects have found success both in their implementation and also in reaching the rural economy efficiently by addressing their queries; to give a few examples: Bhoomi project in Karnataka, Gyandoot in Madhya Pradesh, Information Village Research Project of Chennai based M. S. Swaminathan Research Foundation, ITC eChoupal etc.

**Bhoomi (Karnataka):** Bhoomi is centrally sponsored scheme implemented by the government of Karnataka through the Revenue Department in all the 177 talukas of the state. The project was implemented in the year 2001. Here, the online updation of land records is performed through a Kannada interface software. The technology completely designed inhouse by the National Information Centre (NIC) which provides for printing of land records as and when required. It incorporates the process of online updation to ensure that the RTCs (Tenancy and Crop Inspection Register) provided to the farmers are in sync with the time. When a change of ownership takes place through sale or inheritance, farmers can file for a mutation of land record at the Bhoomi centre. The Government of Karnataka has passed a ruling that as and when the land records scheme is operationalised in a taluka, manually written records will become null and void. Bhoomi covers more than 20 million land records and more than 6.7 million land owners in the Karnataka state.

**Gyandoot (Madhya Pradesh):** Gyandoot is a low cost, self sustainable and community owned rural intranet project in the backward tribal district of Dhar in Madhya Pradesh. The project was implemented in the year 2000, to provide economic, social and

governance related service to the tribal and rural people of Dhar district. Through its unique centric approach (government to citizen model), the project has reached out to thousands of villagers across 311 gram panchayats and over 600 villages, touching a population of around 5 lakh. Actual service provided by gyandoot centres are access to information on agriculture produce auction centre rates (Mandi Bhav), access to copies of land records (Bhu abhilekh), employment news (Rozgardoot), business facilities (Nirmitti Kendra, Roopayan and Charm vikas Pan sar), Free email facilities on social issues (Samaj Seva), e-education (Shiksha Gyandoot), on-line public grievance redressal (Samasyain), Information regarding government programmes and schemes (Suvidha), access to application forms (Avedan Patra) etc. The success of Gyandoot is largely attributed to its participatory rural approach, relevance to rural user communities and financial sustainability.

**Information Village Research Project (IVRP):** This IVRP project was initiated by Chennai based M S Swaminathan Research Foundation working since 1998. The IVRP funded by International Development Research Corporation (IDRC) has revolutionised the working of fishermen and other village folk by providing them location and time specific information. Providing demand driven and day to day relevant information being one of the important objective, IVRP extends services with respect to agri-information, weather information, support for rural entrepreneurship, banking, financial and insurance service outlets etc. The information is provided in local language i.e., Tamil. Computer aided

instructions have been generated for information on government aid programs: agri-produce information; and even a networked system of job opportunities. Beneficiaries of this project are the rural population of Pondicherry and the project is proposed to be replicated in thousands of villages through National Alliance, MSSRF is striving to build.

**ITC eChoupal:** ITC Limited is a 97-year-old Indian company with annual revenue of more than US \$ 2.6 Billion, has diverse interests in tobacco, agribusiness, paper, hotels, information technology, lifestyle apparel and packaged foods. "Improving quality of life in rural India" is the mission of ITC eChoupal. By leveraging Information technology, ITC eChoupal helps increase farmers incomes by facilitating empowered access to farm input and output markets to the farmers, small and big alike to enhance resource productivity, improve produce quality and reduce transaction costs.

eChoupal was started in the year 2000 and the project covers the states of Madhya Pradesh, Uttar Pradesh, Maharashtra, Rajasthan, Andhra Pradesh and Karnataka. As of June 2004, 4100 choupals (internet access points in villages) are covering 24,000 villages serving 2.5 million farmers. The vision of ITC is to cover 1,00,000 villages in 15 states servicing 10 million farmers by 2010. ITC eChoupal leverages information technology to: (i) deliver real time information and customised knowledge to improve farmer's decision making ability, and thereby better-align farm output to market demands and secure better quality, productivity and improved price discovery; (ii) aggregated demand in the nature of a virtual producers'



co-operative and thereby access higher quality farm inputs and knowledge at low cost; and (iii) set up direct marketing channel virtually linked to the mandi system for the purpose of price discovery, yet eliminating wasteful intermediation and multiple handling.

Resource flows are the results of entrepreneurial resourcefulness and the competitive enterprises create successful economies. IT, e-commerce, e-business, e-agriculture, e-governance and virtual networks have a substantive impact on the resourcefulness of the frontline actors in the farm economy. Interestingly, ITC eChoupal has also been diverging from the traditional sequence of development. The traditional sequence -social, political and economic empowerment, in that

order, has a potential death valley in the form of the community's inability to link with markets and attain economic sustainability. By contrast, economic empowerment happens first in the eChoupal model.

#### Conclusion

Sustainable economic growth in the rural India can be achieved through public private partnership. The multi service public private kiosks will be the engine of growth in the rural markets and ICT infrastructure is the backbone of this engine. ICT infrastructure deployed for offering e-governance service could be utilised in more than one way to create awareness, create entrepreneurship, provide better education, healthcare services and generate new wealth for

the rural population.

#### References

- a) Ashim Roy and Sudhakar Chandra, 2004, *ICT – the backbone in the growth of rural markets. International Conference on Rural Markets, University of Mysore, pp. 62-67.*
- b) Sandeep Krishna, P. S., 2004, *ICTs for Development – Case Studies. National Institute of Smart Government Report, pp. 1-121.*

Yogisha G M, Ramappa K B,  
Mahajanshetti S B and  
Vijayakumar H S,  
Research Scholars  
Department of Agribusiness  
Management, College of Agriculture,  
Dharwad – 580 005

#### Water availability for agriculture may dip up to 12 per cent by 2025

Water availability for agriculture is estimated to go down up to 12 per cent from the current level by 2025 if remedial measures are not taken, a top scientist of the country warned. The Director General of Indian Council of Agricultural Research, Mangala Rai said while inaugurating the Krishi Vigyan Mela, that the farmers would in fact require 25 per cent more water in 2025 than what they are consuming currently to produce food grains for feeding the domestic population. He warned farmers not to misuse water, which is precious, by seeking short-duration rice varieties. The ICAR DG also said that the country can produce 40-50 million tons more food grains by increasing the water-use efficiency level by 10 per cent. Commenting on productivity of crops, he said the yield level could not be raised unless farmers get remunerative prices for their products. "Productivity will not improve till farming becomes remunerative". Pointing out at stagnation in agricultural land, Rai wondered how the production will go up substantially when the total agricultural land at 140 million hectares in 2007 was the same as it was in 1980. Besides, land productivity has to be improved by enriching the soil with proper nutrients, he said. Referring to the demand for declaring Pusa-1121 variety as Basmati, Rai said a suitable definition would soon be in place so that any variety developed with all Basmati qualities could come under it in future.

Source: *The Economic Times* /21 February 2008



## Livelihood through Entrepreneurship, reducing hunger & poverty

*O P Misra*

Information & Communication Technologies (ICTs) offer tremendous potential for accelerating development. But persuasive urban bias has prevented rural areas and poor farmers from benefiting fully from the ICT revolution. The benefits of modern science including the ICT technologies must be brought to bear on their problems, on their crops and their ecologies.

The beginning of 21st century witnessed widespread poverty, chronic hunger, malnutrition, disease, conflicts and the tenable development appeared elusive. The human family is facing formidable development challenges. Nearly five million people, a majority of them women and children, go hungry to bed every day – paradoxically, the large pockets of hunger exist in rural areas where food is grown. Sustainable agriculture holds the key to addressing these multifaceted challenges. Technological solutions, an important part of development strategy, must address the specific needs of small farmers in more than 700,000 villages that form India's rural landscape.

During the earlier plan periods, the strategy was to increase agricultural production. It was expected that higher agricultural production would bring about substantial improvement in the standard of living of the agricultural population. Keeping this objective in view, research and extension organisation were strengthened. Any increase in agricultural production can be

effected by either increasing the area or the yield rate of the crop or both at the same time. The area covered under cultivable wasteland and old fallow after reclamation. Since the percentage of area of under these two categories is very small, the scope of increasing area under the crop is very limited. For taking up intensive agriculture, which means purchase of improved seeds, fertilizers, pesticides, higher investment was necessary, which was beyond the reach of our poor farmers.

When one look at food, one seldom realizes the journey that the food has made from farm to home, how it gets handled at different stages, how it also gets value added. When we look at food as a total holistic organic matter, we see following five important activities: (i) Land, water and agricultural management; (ii) Traditional and scientific management of field; (iii) The role of skilled labour and women in the agricultural sector; (iv) Pre and post harvest practices and technologies adopted and subsequent value addition; and (v) The farm –consumer–to farm cycle of operation.

For all the above things to happen. the entire chain has to be sustainable. Sustainable development is a difficult, if not elusive concept, both development and sustainability can be defined in different ways, sometimes fundamentally very far apart. Sustainability stems from the sustainability of agriculture. For the sustainability of production verses

productivity, the sustainability stems from preventing losses, especially post harvest and from encouraging micro-entrepreneurship at the rural level. Such micro entrepreneurs also need a mega push, underpinning value–addition and processes that gets adopted at the micro level and will impart value to local grower, the local farmer and the local seller many more times the value of the raw material that he trades today. In such a system, the role played by Science & Technology can be phenomenal and it is this synergy that we should address and be clear about the role played by the state governments, the central government and the large number of micro and mega enterprises and the financiers and non-governmental agencies who all have to be networked to deliver the final product. Obviously, there must be clear underpinning, clear strategy encompassing a clear societal mission and the end beneficiaries must be aware of the benefits in the chain. If we have to mobilize large amount of food grown in India, currently like 84 million tones of rice, nearly 75 million tonnes of wheat and 135 million tonnes of fruits and vegetables and close to 78 million tones of milk, we obviously need a very efficient system of networking to minimize waste and adding value. This also should ensure that farm-to-consumer –consumer–to–farm concept” reaches a clear mandate and becomes a commitment and imbibed into entire chain of ‘supply food.’

‘Entrepreneurship’ - It is here we may



find a partial solution in the supply chain of food. Entrepreneurship is something which every one of us may have in our system. Depending upon the level of entrepreneurship, the right environment that needs to be created. Some may have good entrepreneurship as a business person, some others may be excellent teachers and yet some more may excel in social work and so on. But one thing common in all these activities is a sense of belonging and commitment braving several odds that one may face at different stages. But in any kind of entrepreneurship getting "more from less" either from small, medium or large scale enterprise with ensured quality of the product with a total integrated approach and firm eye on Human Resource Management is critical for success.

**Information and communication technologies (ICTs) for modernising agriculture:** To say that we live in the information era is to repeat a truism. ICTs are transforming our lives, creating wealth, and impacting every facet of human endeavor. The 2001 Nobel Prize in Economics Sciences was awarded to three economists – George Akerlof, Michael Spence and Joseph Stiglitz for showing how information is of utmost importance to society and well functioning economics. Nokia, the world's largest manufacturer of cell-phone – ubiquitous tonnes of the ICT revolution- has annual sale of 825 billion, roughly equivalent to the entire budget of the Government of the Finland. In March 2000, Nokia's stock was valued 8300 billion more than any other company in continental Europe. Thirtyfive of Finland's richest venture capitalists made their millions from Nokia stocks or jobs.

In growing recognition of the importance of ICTs, the theme of the

influential Human Development Report 2001 was making new technologies work for human development. The report noted that Internet use is growing exponentially from 16 million users in 1995 to more than 4000 million users in 2005. According to World Development Report, knowledge for development: approaching development from knowledge perspective – that is, adopting policies to increase know-how and knowledge attributes – can improve people's lives in myriad ways, increase incomes and promote balanced development.

Seventyfive percent of the world's poor live in rural areas. Subsistence farming by definition is a perilous enterprise. Low germination rates, pest attack, and severe climatic events such as a failed monsoon can decimate harvest, deplete assets and bring farmers' family to the brink of starvation and bankruptcy. Empowering farmers with relevant, timely information about different crop varieties including details about their ability to withstand abiotic stresses (e.g. drought, salinity, nutrient deficient growing conditions, and water logging and biotic stresses (e.g. pest and diseases) can significantly reduce farming risks. New ICT technologies, including Geographic Information System (GIS) can make such information available more widely in rural areas through a hub-and-spoke model of information dissemination.

#### Conclusion

Agriculture is a corner stone of development in our country and easily the most important sector frequently accounting for between one-third to one-fourth of gross domestic product. Currently, agriculture accounts for 25 per cent of India's GDP down from a high of 39 percent in 2005.

Much more is involved in such results, of course, than new varieties

alone. A complete technology is required: new varieties plus improved sowing and cultivation practices plus applications of fertilizers and water plus protection measures against plant diseases and pest plus improved harvesting, drying, threshing, and storage methods. And or all these elements may change radically as a result of the new varieties. For example, the new third crop of rice in Thanjavur District in southern India matures in the rainy season, requiring the introduction of wholly new mechanical drying methods in place of the older sun-drying systems. For another example, the preparation of land between crops in Ludhiana District in northern India requires operation of such speed and precision as to give great advantages to tractor over bullock power, and the rural nights in the Punjab are beginning to be lighted – as in Iowa – by the headlamps of tractor working the dark hours. Improvements in agriculture can help unleash a virtuous cycle of economy wide benefits such as increased food availability, higher incomes in rural and urban areas, improved health and nutrition, and ultimately to sustainable management of natural resources.

It is time that the full potential of the ICTs is harnessed so that the specific awareness help make it a central pillar of overall development strategy. Only then the sustainable development in the truest sense could be achieved. With a patriotism in us, there is an imminent need to contribute our best in terms of our own technologies adaptable to us for ultimately realizing Adaptable Rural Technologies (ART), with the help of state governments through national programmes, with the help of the financiers and bankers and obviously with a clear techno-vision to make a difference.

*O P Misra,  
Asst. Project Officer, AFC, Ranchi*



***Homage to Mr Ghulam Ghouse,  
Ex-Managing Director, AFC***

*We, the staff members of Agricultural Finance Corporation Ltd., Mumbai were deeply saddened to hear about the passing away of Mr. Ghulam Ghouse, our beloved ex-Managing Director on November 30, 2007. Even though it is more than twenty-years since he retired after leading AFC in a very distinguished manner, yet each one of us has very vivid and fond memories of him.*

*We remember him as a person of great urbanity and extreme civility the likes of which is rare to come by. He treated every staff member with a very human and compassionate approach. Above all he was liberal, broad minded and generous in his dealings. With such qualities, it was not surprising that he had endeared himself to all and sundry.*

*During his tenure as Managing Director, from May 1973 to July 1984, AFC not only consolidated itself as a premier consulting agency in the country but also obtained international recognition by taking up several assignments for World Bank, IFAD, Asian Development Bank, Islamic Development Bank. In recognition of his eminence, he was nominated as the Chairman, FAO-Bankers' Programme, Rome.*

*On this solemn occasion, we the staff members of AFC acknowledge his immense contribution to our organisation. We offer our heartfelt condolences to the family members of late Mr. Ghulam Ghouse and pray that his soul rests in peace in heaven.*



## Invitation for Articles – Guidelines for Contributors

### Contributing articles to “*Financing Agriculture*” (English / Hindi)

Articles submitted to the “*Financing Agriculture*” should be original contributions by the author/s. Articles will only be considered for publication if they have not been published, or accepted for publication elsewhere.

**Articles should be sent to :** The Editor, “*Financing Agriculture*”  
Agricultural Finance Corporation Limited  
Dhanraj Mahal, 1st Floor  
C.S.M Marg, Mumbai 400 001, India  
Email: afcl@vsnl.com

### Objectives

The main objective of *Financing Agriculture* is to present the theory, practice, analysis, views and research findings, case studies, success stories aiming at policy advocacy or replicable ideas in the area of agriculture and its allied activities, rural development, environment and forestry, rural finance, microfinance, organic farming, agri business / exports and marketing, medicinal & aromatic plant sector, and NGO sector / livelihood promotional activities. Articles focusing on these issues are highly preferred.

### Vetting of manuscripts

Every article submitted to the *Financing Agriculture* is first reviewed by the Editorial Committee for general suitability. The article may then be vetted by a subject matter expert, based on which the decision is taken whether to accept, modify or reject the article.

### Features and formats required of authors:

Authors should carefully note the following before submitting any articles:

- i) *Word length:* Articles should generally be around 6000 words in length
- ii) *Title :* A title, preferably of ten words or less should be provided
- iii) *Autobiographical note & photograph:* A brief autobiographical note should be supplied including full name, designation, name of organization, telephone/fax numbers, email address, last position held in case of retired persons, and passport size photograph.
- iv) *Format:* The article should be submitted in MS Word, Arial, Font size 12 with 1 ½ line spacing. A soft copy of the article should be sent either in a floppy or by email to afcl@vsnl.com
- v) *Tables, figures, charts and diagrams* may be used wherever essential with brief title and kept to the minimum e.g. one or two. Sources should be explicitly acknowledged.
- vi) *Copyright:* It is important that authors should declare that the work is original and does not infringe on any existing copyright.