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**K. K. RAVINDRAN**  
Managing Editor

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## EDITORIAL

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The Finance Minister presented Union Budget for 2016-17 in the Parliament on 29<sup>th</sup> February 2016. The budget was presented on the background of India's GDP growth accelerated to 7.6% in 2015-16 and Indian economy emerging as the fastest growing in the world surpassing the growth rate of China in spite of unfavourable global conditions and two consecutive years of shortfall in monsoon. At the same time, the country faces the risks of getting affected by further global slow down and turbulence.

Ensuring macro economic stability and prudent fiscal management, increasing domestic demand and maintaining the pace of economic reforms and policy initiatives are the priorities set for the year 2016-17. The budget heavily relies on development of agriculture and rural sectors for maintaining the pace of growth and surge in domestic demand. Thrust also is given for social sector including health care, education, skill development, job creation and infrastructure.

It has been announced that the fiscal deficit target of 3.9% for the current year has been achieved and the Govt sticks to the target of 3.5% for the coming year. This is appreciable in the background of anticipated expenditure pressures of over ₹1 lakh crore in implementing pay commission report and ₹7500 crore to implement one rank one pension scheme. While high debt to GDP ratio is not considered good for macro economic stability, a faster GDP growth is the preferred solution to address the issue rather than drastic reduction in expenditure which will be counter-productive through its impact on demand. This is relevant in the Indian context with debt-GDP ratio coming down from 83.3% in 2003-04 to 67.1% in 2013-14.

In agriculture, irrigation continues to get special attention. It is proposed to set up a Long Term Irrigation Fund in NABARD with a corpus of ₹20000 during 2016-17 to support private investment in irrigation infrastructure. It is also proposed to increase the area of farm lands under irrigation by 28.5 lakh ha under Pradhan Mantri Sinchai Yojana and an additional 80.6 lakh ha by completing on fast track 89 medium and major irrigation projects during 2016-17. Extending Soil Health Card Scheme to entire 14 crore farm holdings,

speeding up the process of unifying agricultural marketing system at national level through common e-platform, expanding the coverage of Prime Minister's Crop Insurance Scheme to more farmers and crops, continuing the crop loan interest subvention scheme, stepping up agricultural credit flow to ₹9 lakh crore and continuing the Paramparagat Krishi Vikas Yojana and Organic Value Chain Development in North East to promote organic farming are other major programmes in agriculture.

Overall, the budget is hailed as forward looking and growth oriented with thrust on rural sector. However, the budget has completely sidelined the cooperative sector which accounts for a major share of rural economy. The prospects of reaching the goals of increasing agriculture production which registered a negative growth during 2015-16, improving availability of credit to farmers and other rural sections as well as creating jobs in the rural sector would have been brighter with the strengthening of cooperative sector. The revival scheme for short term credit structure is only partially implemented. Implementation of revival package for long term cooperative credit structure which is considered essential for stepping up capital formation in agriculture is yet to be initiated. It is disappointing that contrary to expectations, the Budget has not given allocations for implementing the revival package for long term cooperative credit structure and for completing the revival programme for short term credit structure. It is also seen that Govt has not given any allocation in the budget for investing in the debentures of SCARDBs during 2016-17. The Govt introduced the scheme of investing in debentures of ARDBs on matching basis with State Govts to promote capital formation in agriculture in the early 60s in view of lack of permission to these institutions to raise resources through public deposits like other banks or through market borrowings. The abrupt withdrawal of the scheme will result in serious resource crunch for these institutions to make good the gap between their advances and refinance given by NABARD. Govt should consider restoring the scheme to avoid further reduction in the availability of investment credit to farmers.

**K. K. Ravindran**  
**Managing Editor**

## **Increasing the membership, share capital and governance in agricultural cooperatives**

Dr. Daman Prakash\*

In view of the clearly stated provisions of the bye-laws, identification of services of the agricultural cooperatives, members' expectations from the cooperative, recognizing the principles of transparency and accountability, it is emphasized that the increase in membership and share capital becomes inevitable and possible.

In order to enhance the membership and share capital, it is considered essential that there should be an intensive cooperative member education and propaganda highlighting the successes of cooperative enterprises. The purpose of member education is to explain the advantages of a large membership and a comfortable level of share capital to keep the business moving.

The following points might, therefore, be taken into view:

### **A. Increase in Membership**

-Make members aware of the provisions of the bye-laws of the agricultural cooperative by holding periodic discussions on various key provisions;

-Members should have deep confidence and trust in the leadership and among themselves and for the betterment of their own cooperative;

-Make members aware of the Cooperative Principles to take the positive advantage of agricultural cooperatives, rather than be misguided by other forms of business enterprises;

-Explain to the members and general public about the definition of a cooperative and highlight the importance of doing business with the agricultural cooperative;

-Emphasize on the members to repay their loans in full and in time and with interest. Such a practice strengthens the economic base of the cooperative as well as gives opportunity to other members to take loans;

-Emphasize on the members that if they borrow from the cooperative for agricultural production, it is necessary that they sell their produce through the cooperative;

-Implement strictly the principles of accountability and transparency to earn the confidence of members;

-Receipts must be issued promptly for all payments made to the cooperative;

-Organize member education and employees' training programmes regularly to discuss the plans of their agricultural cooperatives and invite suggestions from the members;

-An efficiently-run agricultural cooperative encourages members of

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the community to become members, thus increasing the membership and income;

-Keep on reminding members the vision, mission, and objects of the agricultural cooperatives – these are specifically written in the bye-laws. Members should be aware of the provisions of the bye-laws;

-Use member education on a regular basis with the purpose of explaining the provisions of bye-laws, significance of democratic management and participation in all cooperative affairs;

-Use persuasion to join the cooperative by explaining the advantages of becoming members and the benefits the members receive from the collective efforts of the agricultural cooperative;

-Enhance motivation and skills among the members and employees;

-Show benefits to the members/general public through publicity campaigns and personal meetings;

-Show success cases to the members and general public during public meetings and festive occasions;

-Write simple success stories which are easy to understand and to develop enthusiasm among the members of the community;

-Use known social and religious personalities, government officials to propagate the true functions of agricultural cooperatives and stress on the proper use of loans;

-Agricultural cooperative is the only organization which comes to

help the members in hard times; Agricultural cooperative should propagate this fact to members;

-Highlight the implications of cooperative failures. Such acts provide good information and advice to members;

-Making use of self-help group, farmers' groups, irrigation groups, planters' groups;

-Organize community meetings as frequently as possible and at places which are easily accessible to members, men and women;

-Implement means of good governance through active member participation and respect to the bye-laws and the Cooperative Principles;

-Expand member participation in democratic structure [e.g., meetings] and business operations;

-Expand employees' participation from the point of view of giving quick and efficient service to the members and to activate good interaction among the members, Board members and the employees;

-Agricultural cooperatives generate more goodwill if they purchase all products of the members [just as is done by milk cooperatives];

-Cooperative Principle No. 1 [Voluntary and Open Membership] and No. 5 [Education, Training and Information] are the key principles to enhance membership. Principle No. 3 [Member Economic Participation] is aimed at strengthening the funds of a cooperative, especially through share capital and capital accumulation. These need to be

explained clearly to the members;

- Keeping in view of the organizational structure and management of agricultural cooperatives, the needs of the members are met from their own sources. To understand the organization and management of agricultural cooperatives, a look at the steps to organize an agricultural cooperative would be useful.

These steps depict clearly that cooperatives are different from private enterprises and are member-friendly. These are legal entities and provide adequate protection to the members and their assets. If these steps are clearly understood and explained to the members, there can be increase in membership as well as in share capital.

A higher level of participation in management and organizational structures is crucial to create goodwill for the cooperative among the members. When the services offered by the cooperative are efficient, timely and need-based many people will come to join the cooperative and participate in business development. They would be happy to purchase more shares.

Unfortunately, many agricultural cooperatives in Cambodia have usually promised high share dividend [20-30% per share value per year] to farmers in order to increase membership and most profit of those agricultural cooperatives has been given to members as share dividend. The

officials of agricultural cooperatives are generally misunderstanding about the agricultural cooperative like as the organization of which principal service is to pay high share dividend to members. This is because of that promoters of agricultural cooperatives in Cambodia including government officers have not fully understood the Cooperative Principles and basic character of the cooperative. They have encouraged agricultural cooperatives to pay high share dividend to increase membership and number of agricultural cooperatives.

Agricultural cooperatives are tied with their members by offering and utilization of businesses, not tied with by paying and receiving high share dividend. Officials of agricultural cooperatives and the promoters in Cambodia must fully understand the Cooperative Principles, especially No. 3 "Members usually receive limited [limitation of share dividend]", and make every effort to increase membership by providing necessary businesses for members, not by paying high share dividend.

Agricultural cooperatives in Cambodia should also pay more Patronage Refund to members from the profit in accordance with the volume of business utilization by each member instead of paying share dividend.

#### **B. Increase in Share Capital**

It should be borne in mind that

everyone, including the Board members, promoters of the cooperative, and even the government officials who help promote the agricultural cooperative, should encourage increase of share capital and savings in its capital. The capital is the treasure, and it should not be left loose to be distributed among the members indiscriminately. A lot of sound judgment needs to be made to make a judicious use of the capital. The accumulated capital is not for lending wholesale.

Cooperative Principle No. 03 states: 'Members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any of the following purposes: developing their cooperative, possibly by setting up reserves, part of which at least would be indivisible; benefitting members in proportion to their transactions with the cooperative; and, supporting other activities approved by the membership.' In the light of this statement, all incoming funds [share capital, savings and others] need to be preserved and used in a proper way, not to be loaned out fully leaving nothing behind in the treasure of the agricultural cooperative.

It should also be noted that rich farmer-members can easily harness facilities and infrastructure by using their own funds, but the average poor farmer-members rely heavily on the funds provided by the agricultural

cooperative. Agricultural cooperative can provide funds only if there is something left in its reserves or savings. Therefore, it is of utmost importance that the advice given by the government officers, promoters and Board members to loan out the entire savings should be ignored.

The very purpose of setting up of an agricultural cooperative is to provide funds and other support to the needed and poor members. Its purpose is also to insulate members from the exploitation suffered by them at the hands of moneylenders.

-Share capital is the basic fund which is used to operate primary business activities of the cooperative;

-Cooperative can create other funds, if needed, besides the authorized funds;

-Cash is limited in the initial stages. This needs to be controlled for an effective use. It can be done by controlling expenses, reducing phone use, car use, courtesies, festivities, celebrations;

-Sense of ownership by purchasing more shares. It is a privilege to be a major shareholder as the member feels that the member is the promoter of higher business of the cooperative;

-Cooperative Principle No. 3 [Member economic participation] is aimed at strengthening the funds of a cooperative, especially through share capital;

-Agricultural cooperatives can expand their business operations if they hold some funds in their capital. If all the share capital and savings

are loaned out, then there is no scope left for promoting the business further;

-It is the duty of the government officers, promoters of the agricultural cooperative and the Board members to encourage savings in the organization. Extreme care should be exercised in loaning out funds from the accumulated capital. It is a bad practice to loan out the entire capital;

-Cooperative Principle No. 3 also emphasizes that there is limited interest on the share capital contributed by the members [limitation of share dividend]. Cooperative shares are not tradable in the market. These are given as dividend in accordance with the business transacted by the members with their cooperative. This trend controls the practice of speculation in cooperative business operations. Even otherwise, as per the practice, newly established agricultural cooperatives need not declare a high level of share dividend to the members;

-Agricultural cooperatives offer better protection to depositors and offer more services. They also give a reasonable rate of interest on deposits;

-It needs a lot of planning, motivation, persuasion and hard work to harness funds for the agricultural cooperative;

-Offer incentives, discounts, and gifts to increase the business. Such offers are usually linked with significant events e.g., festivals,

special general meetings, national celebrations and/or local events;

-Agricultural cooperative is the only organization which comes to help the members in hard times;

-Increase the value of shares, if needed. Increased value of shares means a higher amount of loan to be given to members. Members can make amendments to the bye-laws to increase the share capital;

-Promotion of patronage also generates good feelings among the community thereby increasing the members. In order to conserve own resources and make more funds available for lending and business operations, it is advisable to minimize operational costs. Use more efficient equipment to increase business and services;

-Increase capital from surpluses by reserve carried forward and voluntary reserve.

### **C. Governance in Agricultural Cooperatives**

It is a fact that all developmental activities of an agricultural cooperative revolve around the members and their interest in their own cooperative. At the same time it is also important that members' needs and aspirations are adequately met by their cooperative – this is possible only if there are proper and truly followed principles of governance and management in member handling and decision-making. In this context the following points need to be taken into consideration:

-All decisions should be based on members' wishes;

-All decisions are democratically taken;

-All members be given a place of recognition and dignity in the management and affairs of agricultural cooperative;

-There should be an open-door policy between the Board of Directors and the General Manager, and between the management and the general membership;

-All members should be made aware of the implications of various provisions of the bye-laws e.g., meetings, rights and duties etc.;

-All payments received and made should be fairly and effectively recorded and nothing should remain hidden from the members;

-Implement means of good governance through active member participation and respect to the bye-laws and Cooperative Principles;

-All members should be exposed to member education on a regular

basis, and all employees should be exposed to professional training;

-The principles of 'transparency' and 'accountability' should be effectively followed;

-The Board of Directors should remain always accessible to the members;

-It should be the duty and total endeavor of the Board to encourage the members to bring in new and additional members and also to take part in the finances of the agricultural cooperative. Good objective and honest governance are the keys to enhance membership and finances in an agricultural cooperative;

-There is a strong need for the education and training of government officials and promoters on the philosophy and practices of agricultural cooperatives in relation to the Cooperative Principles. They should understand clearly the difference between the cooperative and private enterprises.



## THE HARYANA STATE COOPERATIVE AGRICULTURE AND RURAL DEVELOPMENT BANK LTD.

Sahakarita Bhawan, Bay No. 31-34, Sector - 2, Panchkula

The Haryana State Cooperative Agriculture and Rural Development Bank Ltd., is the specialised institution in the State, which caters to the Long Term credit needs of the farmers for the upliftment of the economic position of the agriculturists and allied fields.

The bank advances Long Term loans to the farmers for the following purposes :-

### Scale of finance and periodicity of Major Sectors

#### **Farm Sector**

Sr.No.	Name of the Scheme & Purpose	Period	Scale of finance
1.	Minor Irrigation	9 Years	₹75,000 to ₹4,00,000
2.	Land Development	-do-	90% of the project cost
3.	Farm Mechanisation	5-9 Years	85% of the cost of Machinery
4.	Purchase of Agriculture Land	10 Years	Upto ₹12.00 Lacs
5.	Horticulture/Plantation	5-10 Years	₹25,000 to ₹3,55,000 per Hectare
	Medicinal & Aromatic Plants	-do-	90% of the project cost
6.	Animal Husbandry	5-7 Years	90% of the project cost
7.	Construction of Rural Godowns	Upto 9 Years	90% of the project cost

#### **Non Farm Sector**

Sr.No.	Name of the Scheme/Purpose	Period	Scale of finance
1.	Rural Housing	Upto 10 years	Upto ₹6.00 lacs
2.	Marriage Palaces	Upto 10 years	90% of the project Cost
3.	Community Halls	Upto 10 years	90% of the project Cost
4.	Village Cottage Industry	Upto 10 years	90% of the project Cost
5.	Public Transport Vehicles	Upto 5 years	85% of the project Cost
6.	Rural Educational Infrastructure	Upto 10 years	90% of the project Cost
7.	Other SSI units	Upto 10 years	90% of the project Cost

#### **Rate of Interest**

The rate of interest to be charged from the ultimate borrowers has been reduced to 13.25% P.A. w.e.f. 01.04.2015 for all type of loans advanced by the DPCARDBs in the state of Haryana.

#### **Note:-**

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

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## Is government serious about credit cooperatives?

Dr. Subrata Mukherjee\*

The term “Inclusive growth” has become a common word for every political party forming the Government whether in state or in centre or it may be put in another way as whatever decision is taken it is in the interest of inclusive growth or for “Aam Admi”. If it is so then why income disparity is increasing or why even after 68 years of independence a farmer has to be dependent on informal sources of finance. Over a period of ten years of studying credit policy of different banks and other financial institutions both formal and informal, it can safely be concluded that co-operative institutions are only the credit facilitator of the left alone people of the society and these institutions with small means comes as saviour of people of small needs. Financial inclusion has become a buzz word. Everybody is talking of financial inclusion. The paradigm shift from corporate banking to retail banking to social banking no doubt has helped in financial inclusion.

We will try to explore the threats of co-operative and the prospects that co-operative can explore in near future for the betterment of the marginalised people of the society. In the name of delayering of co-operative the report of Dr. Prakash

Bakshi suggests of converting the Primary Agricultural Credit Societies (PACS) into Business Correspondents (BCs) of different banks. Let us discuss about the mode of operation of BCs. Financial Inclusion Network & Operations Ltd (FINO) is acting as Corporate BC which is bestowed with the work of appointing BC of different banks at ground level or at point of transaction. Who are the promoters of FINO? Website of FINO shows that representatives from leading financial institutions such as The BlackStone Group, HAV3 Holdings, The International Finance Corporation, ICICI Bank Limited constitute their Board of Directors. The promoters of the FINO have no experience of agricultural credit and lending policy and learned people from NAFSCOB and ARDB looking after short term and long term credit co-operatives have no place in the Board of FINO. When a BC is appointed by FINO s/he has to pay ₹15,000/- (₹7,500/- for OD (Overdraft) Limit and ₹7,500/- for a POD Machine and a mobile phone with compatible software to run the POD Machine) and the Bank has to pay ₹53,000/- per annum per BC to FINO from which FINO pays ₹2,500/- per month to BC at the

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point of transaction. The promoters are running FINO at the expense of the bank. What is the inference? – If the bank is operating with a spread of 2 percent then the BC at the point of transaction has to give a minimum business of rupees twenty six lakhs.

How a MFI (Micro Financial Institution) could get license from RBI to start banking business but PACS are not given this status though there are several PACS operating for more than 100 years is having experience in Banking. MFIs are taking help of people from various prestigious institutes to make study report on these institutions and present it to various authorities to influence including RBI. For a small study for collection of primary data we require money and the study that is being conducted by premier institute are being funded by these MFI for their own branding.

MFIs are formed by individual or partners who leads the show and start the business as NGOs later turned into NBFCs. Where as in PACS or co-operative bank local leaders try to dominate the management of running the business and cannot project and uplift the organization. Leadership role played by organizers of MFIs holds the steering of the business projecting and branding the role of MFIs.

Face and Mask (Chehara and Mukhota) – These MFIs try to project a social, sympathetic, emotional face of working for the betterment of poor.

The rate of interest charged by the moneylenders and ushers are as high as 2,000 to 3,000%. For example where a vegetable vendors or small businessman or rickshaw pullers take ₹100 in the morning s/he has to pay ₹105 – ₹110 in the evening which suggests that the rate of interest per day varies from ₹5 to ₹10. The rates of interest of these MFIs are also not less. They have many hidden costs which are not informed. This will be verified from the loan portfolio. These MFIs mainly do refinancing and not help in creation of credit as they cannot keep deposits. My question is what is the amount of loan they have taken from the financing institutions? and what is the present loan portfolio? They are able to increase the amount of loan by charging exorbitant rate of interest.

The recent Saradha scam in West Bengal, these chit fund companies also raised money from the public under tour and travel programme where public is paying money today and can book a room in a resort for 4 days on a future date. Apparently or *prima facie* these chit fund companies also justifies their activities and suggest that they do not raise money with assurance of high return rather they wants to fulfill the desire and dreams of poor.

Another interesting point that these MFIs try to project that they fill up the gap of rural credit not being provided by the credit co-operative institutions. In other words they are in existence due to the failure of

credit co-operatives. Time has proved that neither socialism/communism nor capitalism can help in inclusive growth. Only co-operative can help in the development of the marginal section of the people.

**Comparative Analysis of Buldana Urban Co-operative Credit Society Ltd and Bandhan Financial Services Pvt Ltd (based on the data available in the website of the respective organisations)**

The co-operative form of enterprise in India came into existence at the beginning of the 20th century through the government intervention with an intention to alleviate the problems of poor and rural people. Due to traditional and historical reasons, India remained predominantly an agriculture based country, hence the co-operative movement also came through formation of rural credit co-operatives. Buldana Urban Co-operative credit Society ltd (BUCC) was promoted on June 19, 1986 by Mr. Radheshyam Chandak and his associates. It was registered with a small capital of ₹12,500 and a membership of just 72 persons. The main motive behind the formation of BUCC was to provide safe and affordable banking services to all people. The social banking concept as is followed at BUCC can be understood from the words of its Founder Chairman. He explains that there are four types of banking practices in India. “Rule book

banking” refers to providing banking services within the boundaries of rules and regulations. “Banking beyond Rule book” refers to providing banking services sensitivity and sensibility which may even involve not following in the strictest sense of the spirit and the letter of the laid down rules and regulations. “Serving beyond Banking” refers to providing the customer with social services alongside traditional banking and services. “Political banking” refers to manipulating the banking system for personal gratification and political mileage. In India, most of the public sector banks just follow the “Rule book banking”. Many of the co-operative banks follow the “Political banking” and therefore have become bankrupt or are on the verge of becoming so. BUCC follows all the first three banking practices and collectively calls it “Social Banking”. 339 branches of the society are serving 7 lakh customers relentlessly and efficiently on 31.03.14.

To assess the BUCC Ltd's financial performance trend analysis of different performance parameters were done. The parameters considered for evaluating the performance of the bank are deposits – savings, current, fixed and other deposits, investment, advances and borrowings, operating profit, total income, interest income, other income, total expenses, interest expenses and other expenses.

The growth rates have been directly measured from the

estimated co-efficient of 't' (i.e. time) in case of exponential (with normalization of time i.e. shifting the origin to the mid-point of the time period) trend equation. The form of the equation to estimate the growth

rates of different performance indicators of the BUCC is  $\text{LogYt} = a + bt + ct^2$ ; where  $Yt$  is the variable whose overtime growth is mentioned and 't' is the time variable. Log implies natural logarithm (i.e.  $\text{Log}_e$ )

**Estimated whole periods' nominal growth rates of different parameters of Buldana Urban Co-operative Credit Society Ltd as a whole, 2008 to 2014.**

**Table 1**

Parameters	R <sup>2</sup>	DW	Growth Rate Percentage <sup>k</sup>	(+)Acceleration/(-) Deceleration
Total Deposit	0.985* (0.05697)	1.803	13.40* (0.007)	0.50* (0.002)
Savings Deposit	0.960* (0.09149)	1.684	13.10* (0.011)	0.20* (0.003)
Current Deposit	0.755* (0.15901)	1.636	8.20* (0.019)	0.80* (0.006)
Fixed Deposit	0.927* (0.19402)	1.832	20.00* (0.023)	1.40* (0.014)
Other Deposit	0.282* (0.22036)	1.594	5.00* (0.026)	-0.70* (0.008)
Investment	0.885* (0.12265)	1.751	10.10* (0.015)	0.40* (0.005)
Advances	0.928* (0.13828)	1.872	14.70* (0.001)	-0.20* (0.005)
Borrowings	0.751* (0.39277)	1.85	18.30* (0.047)	-3.30* (0.015)
Operating Profit	0.937* (0.23100)	1.519	26.3* (0.028)	0.00* (0.009)
Total Income	0.945* (0.12916)	1.866	15.80* (0.015)	-0.10* (0.005)
Interest Income	0.957* (0.12293)	1.711	17.10* (0.015)	-0.50* (0.005)
Other Income	0.318* (0.42653)	1.969	1.80* (0.051)	3.40* (0.016)
Total Expenses	0.944* (0.12312)	1.956	14.90* (0.015)	-0.10* (0.005)
Interest Expenses	0.942* (0.12673)	1.937	15.10* (0.015)	-0.10* (0.005)
Other Expenses	0.937* (0.12585)	1.733	14.30* (0.015)	-0.20* (0.005)

and all others (a, b and c) are the constant parameters to be estimated. The growth rates, expressed in percent per annum are presented in Table 1. It is seen that the trend lines fitted to the time series of the performance indicators give good fits since  $\bar{R}^2$  (adjusted  $\bar{R}^2$  ), which is a measure of goodness of fit for each of the estimated trend equations is statistically significant different from zero. Further from the values of the DW statistics it is seen that the disturbance term did not suffer from auto correlation problem in the trend equation.

**Notes:** - '\*' implies significant at 1% probability level, '\*\*' implies significant at 5% probability level, '\*\*\*' implies significant at 10% probability level. Figures under the R2 column indicate observed values of F statistics; all other figures within the parenthesis are standard errors. All the values of DW statistics indicate the absence of autocorrelation problem in the disturbance term. Growth rates are represented in the form of percent per annum. Growth Rate and Acceleration / Deceleration is calculated using the formula  $\ln Y_t = a + bt + ct^2$ , where b is the growth rate coefficient and c is the acceleration / deceleration rate coefficient.

From the estimated value of parameters, it is observed that the rate of growth of total deposit was 13.4%. Among the total deposit, fixed deposit growth rate (20%) was highest followed by savings deposit growth rate (13.1%), current deposit

growth rate (8.2%) and other deposit growth rate (5%). All these growth rates were statistically significant at 1% probability level. Total deposit increased from ₹975 crore on 31.03.08 to ₹3,637 crore on 31.03.14. Fixed deposit increased from ₹346 crore to ₹2,187 crore during the same period. Fixed deposit is 60.13% of total deposit. Earlier it was 35% of total deposit on 31.03.08. Saving deposit is 12.85% of total deposit, current deposit is 1.98% of total deposit and other deposit is 25.04% of total deposit as on 31.03.14. Though various experts committee on co-operative banks which were formed by RBI recommended to increase the CASA deposit but CASA deposit of BUCC remained at around same level over the years but fixed deposit and other (special) deposits increased rapidly. This is mainly people who deal with co-operative banks are of small means who try to increase their capital by depositing in fixed deposit.

The growth rates of investment, advances and borrowings were 10.10%, 14.70% and 18.30% during 2008 to 2014. The Credit-Deposit (CD) ratio was 0.78 on 31.03.14 and NPA was just 2.17% on the same day. Operating profit increased from ₹4.70 crore on 31.03.08 to ₹50.53 crore on 31.03.14 and increased at a rate of 26.30% during the same period. Interest income and interest expenses increased at 17.10% and 15.10% respectively during the study period. BUCC Ltd's other income is very negligible which is

just 2.80% of total income. The bank must find avenues to increase other income apart from interest income. Interest expenses varied from 74% to 78% of total expenses during the study period.

Bandhan Financial Services Pvt Ltd (BFSPL) is the current name of erstwhile 'Ganga Niryat Pvt Ltd' (GNPL) – a registered NBFC set up in 1995. The current promoters of BFSPL took over the NBFC in May 2006 and started micro financing activity in the north-eastern states of India from June 2006. In April 2007, GNPL was rechristened as BFSP. In April 2009, the micro-financing activity of a related entity of the group – 'Bandhan Konnagar' (Bandhan) was registered under the West Bengal Societies Registration Act, was set up in 2001 and was working both as an NGO and MFI prior to the transfer of MFI activity to BFSPL.

Apart from report of CARE Ratings (Credit Analysis & Research Ltd) no financial report is available in the

website of Bandhan (<http://www.bandhanmf.com>). CARE has graded BFSPL as MFI 1 based upon transparency, operational set up, scale of operations and sustainability. Transparency can be judged with the disclosure it make in the annual financial audit report. Unfortunately these are not available for the public to view from the official website. In detailing the scale of operations by CARE it is found that the amount of loan disbursed on March 2010, 2011 and 2012 was ₹2,718 crore, ₹4,986.1 crore and ₹6,254.8 crore respectively. Whereas total liabilities during these three years were ₹1,539.77 crore, ₹2,224.03 crore and ₹4,054.8 crore. Where from the fund is made available to the organisation for the disbursement of loan?

The slogan of "sab ka sath sab ka vikas" is only possible if co-operative movement is strengthened and co-operative organisations are professionally managed.



## THE KARNATAKA STATE CO-OPERATIVE AGRICULTURE AND RURAL DEVELOPMENT BANK LTD.

Tippu Sultan Palace Road, Bangalore - 560 018.

Telephone: 080-26702024, 26702074 Fax: 080-26705035

e-mail: [kscardbank@yahoo.com](mailto:kscardbank@yahoo.com)

**RECIPIENT OF FIRST EVER INDIRA PRIYadarshini VRIKSHA MITRA AWARD PROUDLY  
ANNOUNCES JUST A FEW OF ITS RESPLENDENT ACHIEVEMENTS**

● Advances (From inception to 31-12-2015)	Over ₹4852.28 Crores
● No. of loan cases sanctioned as on 31-12-2015	17.79 Lakhs
● Share of Small & Marginal Farmers in Bank's financial assistance.	54.33%

### **STRIKINGLY INNOVATIVE PROGRAMMES INTRODUCED BY THE BANK**

<ul style="list-style-type: none"> <li>● Non-Farming Rural Enterprises, Rural Housing, S.R.T.O.</li> <li>● Sericulture, Integrated Horticulture / Floriculture, Medicinal Plant</li> <li>● Individual Dairy Development and Sheep / Goat rearing / Poultry / Piggery / Rabbit Rearing / Fisheries and Fishing Boat</li> <li>● Big and Small Lift Irrigation Schemes.</li> <li>● Rural Godowns / Agri Clinic &amp; Agri Business Centres</li> <li>● Purchase of Agriculture Lands</li> <li>● Solar Lights / Solan Pumps</li> <li>● Purchase of Two Wheelers</li> </ul>	<ul style="list-style-type: none"> <li>● Rain Water Harvesting Structures</li> <li>● Vermi Compost Units</li> <li>● Bio-digester</li> <li>● Farm Mechanisation</li> <li>● Combined Harvester</li> <li>● JCB/Dozers</li> <li>● Coffee curing, Drying yards (Paddy, Areca, Coffee etc.)</li> <li>● Agricultural Implements</li> <li>● Short term crop loan</li> <li>● Gold Loan, Salary Loans etc.</li> </ul>
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### **BANK ACCEPTS FIXED DEPOSITS**

1. 91 days - 7.00%
2. 181 days - 8.00%
3. One year and upto two years - 9.50%
4. Two years and above - 9.75%
5. 0.50% of additional Interest to Senior Citizens
6. Bank advances Gold, Vehicle Loan, Salary, House Mortgage Loans etc. at an attractive rate of interest.

### **STRENGTHEN THE FARMERS' BANK**

**FOR DETAILS, PLEASE CONTACT US OR OUR BRANCH OFFICES OR ANY PRIMARY  
CO-OPERATIVE AGRICULTURE AND RURAL DEVELOPMENT BANK LTD. IN THE STATE.**

**K. Shadakshari, MLA**  
President

**Mohammed Zafarulla Khan, K.C.S.**  
Secretary

**H. Balashekhar, KCS**  
Managing Director

# **An analytical study of proposed and actual credit supply, demand for credit made by the District Co-operative Agriculture and Rural Development Bank, Hoshangabad District (M.P.)**

Ms. M. Sahu<sup>1</sup>,  
 Dr. J.S. Raghuwanshi<sup>2</sup>  
 Dr. A.M. Jaulkar<sup>3</sup>

## **Introduction**

Agriculture continues to be the most vital sector of Indian economy, contributing a major share to our national income and also providing livelihood to the majority of our population. Agricultural growth depends on the growth of productivity, which in term requires sustained infusion of finance. The growing tendency among the farmers to replace the traditional farming practices with scientific and modern technology has necessitated the increased use of capital both for improving farm infrastructure and for meeting the operational cost. Consequently, the need for cash in rural economy has increased manifold as one of the strategic inputs for agricultural development. Rural finance plays an important role not only in production, storage, maintenance and marketing, but contributes immensely to the merely expansion of all other agricultural activities.

All India Rural Credit Survey Committee (1951) felt that Cooperative was the only alternative to promote agriculture credit and

development of rural areas. Much attention will be paid for the improvement of long term credit in the farm credit sector. Long term credit played a crucial role in stepping up agriculture production. This type of credit is mostly provided by District co-operative agriculture and rural development bank. Government of India, World Bank and Reserve Bank of India are deeply involved in the reorganization of the District co-operative agriculture and rural development bank. That is why it is an important subject for extensive study.

## **Objective**

To analyze the percentage relation between the proposed and actual credit supply by District Co-operative Agriculture and Rural Development Bank Hoshangabad (M.P.) during 2005-06 to 2009-10.

## **Methodology**

For the present study, Hoshangabad district of Madhya Pradesh was selected purposively. In order to achieve the above objective of the study, simple random sampling was used for data collection.

<sup>1</sup> Research scholar, Department of Agriculture Economics & F.M., RVSKVV Gwalior.

<sup>2</sup> Professor and HOD, Department of Agriculture Economics & F.M., RVSKVV Gwalior.

<sup>3</sup> Professor of Agriculture Economics, Department of Agriculture Economics & F.M., RVSKVV Gwalior.

District Cooperative Agriculture and Rural Development Bank Hoshangabad were purposively selected for this study.

There are six branches of District Co-operative Agriculture and Rural Development Bank Hoshangabad i.e. Itarsi, Bankhedi, Piparia, Sohagpur, Babai, Sionimalwa. District Cooperative Agriculture and Rural Development Bank Hoshangabad (Madhya Pradesh) provided loans for different type of productive and non productive purposes. All the branches are selected for the study of proposed credit supply, demand for credit and actual credit supply (for productive and non productive purposes) made by the district cooperative agriculture and rural development bank, Hoshangabad (M.P.) during 2005 to 2010.

The data were collected by survey method with the help of a specially designed pre-tested schedule. For the analysis of data simple statistical tools viz. means, percentage was employed.

### **Result and discussion**

District Co-operative Agriculture and Rural Development Bank Hoshangabad was registered in 24<sup>th</sup> April 1963 and started financing. The sole objective of establishing the bank was to provide long term credit to the farmers. The bank is financing successfully since 1963, and has financed a lot of farmers of its vicinity.

The amount to be disbursed is

sanctioned by District Cooperative Agriculture and Rural Development Bank, Hoshangabad since its establishment. The proposed credit supply, demand for credit and actual credit supply (for productive and non productive purposes) made by the district cooperative agriculture and rural development bank, Hoshangabad (M.P.) during 2005 to 2010 is shown in Table 1. Thus the proposed credit supply in the year 2005-06 was ₹1783.35 lacs and the demand for loan was recorded as ₹1474.22 lacs while actual disbursement of loan was only for 1019.96 lacs. Thus the bank could not meet the actual demand and was unable to reach the proposed target. In 2006-07 proposed credit supply was raised by 1% over the previous year recorded as ₹1800 lacs, the actual demand too raised by 18% over that of the previous year. The actual disbursement made was however only for ₹1348.32 lacs although the percentage increase over the previous year actual supply was by 32%.

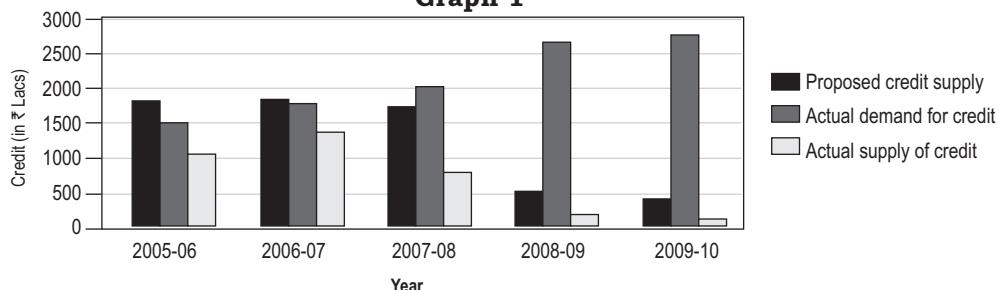
In 2007-08 the proposed credit supply was ₹1700 lacs. The demand was for ₹1982.04 lacs, that is 34% of the demand in 2005-06, but the actual supply was less than the proposed credit and the bank below the target financing ₹763.14 lacs the amount being 75% of the actual supply in 2005-06. In 2008-09, the proposed target was ₹500 lacs the demand increased up to ₹2625.52 lacs, that is 78% more than that of the previous year but the bank below the target and financed ₹171.69 lacs

**Table 1**

Proposed credit supply, demand for credit and actual credit supplied (for productive and non productive purposes) by the District Cooperative Agriculture and Rural Development Bank, Hoshangabad (M.P.) during 2005-10

(In ₹ Lacs)

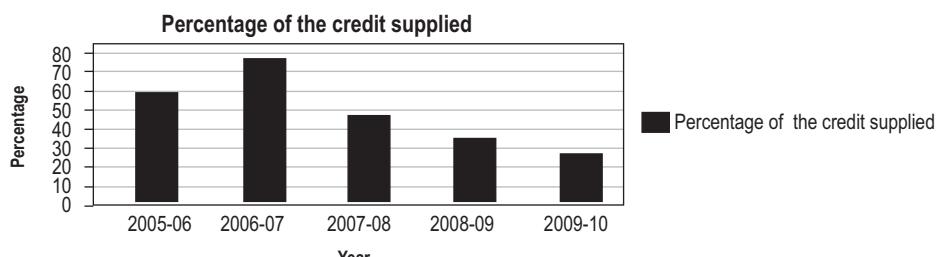
Year	Proposed credit supply	Percentage	Actual demand for credit	Percentage	Actual supply of credit	Percentage
1	2	3	4	5	6	7
2005-06	1783.35	100	1474.22	100	1019.96	100
2006-07	1800.00	101	1740.18	118	1348.32	132
2007-08	1700.00	95	1982.04	134	763.14	75
2008-09	500.00	28	2625.52	178	171.69	17
2009-10	394.00	22	2728.92	185	98.57	10
<b>Total</b>	<b>6177.35</b>	-	<b>10550.88</b>	-	<b>3401.68</b>	-

**Graph 1****Table 2**

Percentage relation between the proposed and actual credit supply (for productive and non productive purposes) by District Cooperative Agriculture and Rural Development Bank, Hoshangabad (M.P.) during 2005-10

(In ₹ Lacs)

Year	Proposed credit supply	Actual credit supply	Percentage of the credit supplied	Remarks
1	2	3	4	5
2005-06	1783.35	1019.96	57	Below the target by 43%
2006-07	1800.00	1348.32	75	Below the target by 25%
2007-08	1700.00	763.14	45	Below the target by 55%
2008-09	500.00	171.69	34	Below the target by 66%
2009-10	394.00	98.57	25	Below the target by 75%
<b>Total</b>	<b>6177.35</b>	<b>3401.68</b>	<b>55</b>	<b>Below the target by 45%</b>

**Graph 2**

that is 83% less than that in the year 2005-06. In 2009-10, the proposed credit was for ₹394 lacs which was 78% less than that in the very first year, the demand increased up to ₹2728.92 lacs, that is 85% more than the demand in the year 2005-06. The bank again below the target and financed ₹98.57 lacs that is 90 % less than that in the year 2005-06.

It is observed therefore, that the factor i.e. actual demand was increasing from 2005-06 upto 2009-10, indicating the increasing popularity of the branch amongst the farmers. But other two factor i.e. proposed credit supply and actual credit supply were firstly increased from 2005-06 to 2006-07 then decreased from 2006-07 upto 2009-10, indicating lack of financial liquidity in the District Cooperative Agriculture and Rural Development bank Hoshangabad.

Table no. 2 shows a percentage relationship between the proposed and actual credit supply from 2005-06 to 2009-10. It has been observed that in the year 2005-06 the proposed credit supply was for ₹1783.35 Lacs and actual supply for ₹1019.96 Lacs and thus, 57% of the proposed credit was supplied. In 2006-07 proposed and actual credit supply were for ₹1800 Lacs and ₹1348.32 Lacs respectively, only 75% of the

target was reached. In 2007-08, the target was for ₹1700 Lacs but the actual credit supply was ₹763.14 Lacs and thus percentage of the credit supply in this year below the target by 55%. In 2008-09 proposed and actual credit supply were for ₹500 Lacs and ₹171.69 Lacs respectively, only 34% of the target was reached. In 2009-10, the target was for ₹394 Lacs but the actual credit supply was ₹98.57 Lacs and thus percentage of the credit supply in this year was below the target by 75%.

In five years the proposed total credit supply was for ₹6177 lacs and the actual supply was for ₹3402 lacs and this is below the target by 45%. It shows the gap between proposed credit supply and actual credit supply, there was percentage of credit supply, only 55% and below the target by 45% due to lack of financial liquidity in the bank.

### **Conclusion**

Proposed credit supply and actual supply of credit were increased from 2005-2006 to 2006- 2007 but after that proposed and actual credit supply were decreasing from 2007-2008 to 2009-10 due to lack of financial liquidity. The percentage of demand for credit was continuously increased up to 85%.

## Structure, growth and reforms in cooperative system in Andhra Pradesh

G.Prasad Babu<sup>1</sup>  
K.Mohan reddy<sup>2</sup>  
Venu Prasad<sup>3</sup>  
K.Satish Kumar<sup>3</sup>

### Cooperation – Origin of the concept

Cooperation is 'Self-help' made effective by organization. It means working together by forming an association voluntarily. The word 'Cooperation' is derived from the Latin word 'Cooperari'. The first part of the word 'Co' means 'with' and the second part 'operari' means 'to work'. Cooperation, therefore, means 'working together with others'. Cooperative technique in our country is as old as human history. Kautilya's Arthashastra maintains that during the days of Mauryan Empire, a village functioned as a social cooperative unit. Works of Public utility such as temples, public halls, nesting places, dams etc., were constructed by the villagers as a common obligation. Autonomous guilds of workmen and industrial units existed where work was carried on in a cooperative manner. Madras Government was the first to depute Sir Frederick Nicholson "to study the theory and practice of Agricultural and Land Banks in Europe and to suggest means by which a similar movement may be popularized in India". His reports issued in 1895 and 1897 and Mr. Dupernex's book on "Peoples Banks in Northern India" in 1900, stimulated the then

Government of India to appoint Sir Edward Law Committee to suggest special legislation for Cooperative Societies. The result was the enactment of Cooperative Credit Societies Act, 1904 on 25.03.1904, which forms the basic structure for Cooperative Legislation in India (handbook on cooperative laws in Andhra Pradesh).

### Cooperatives in Andhra Pradesh

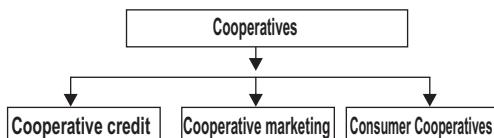
Cooperatives have traditionally been promoted and organized in a democratic frame work for achieving social and economic betterment of the people. Different types of cooperatives are organized essentially to provide agricultural credit to member-farmers so as to enhance employment to its members and for alleviating rural poverty. The Department of Cooperation is mainly concerned with the administration of Cooperative Laws. The Department has been pursuing a liberal policy towards Cooperatives to enable them function as autonomous and independent bodies. Cooperative week is celebrated every year starting from 14<sup>th</sup> November to promote better understanding of the principles and philosophy of cooperation duly highlighting achievements of various sectors of the Co-operative movement.

<sup>1</sup> Scientist, KVK Kalyandurg, ANGRAU,

<sup>2</sup> PGT, AP model school,

<sup>3</sup> Ph.D.Scholars, IARI & NDRI respectively.

## Types of cooperatives functioning in the State



### 1. Cooperative credit system

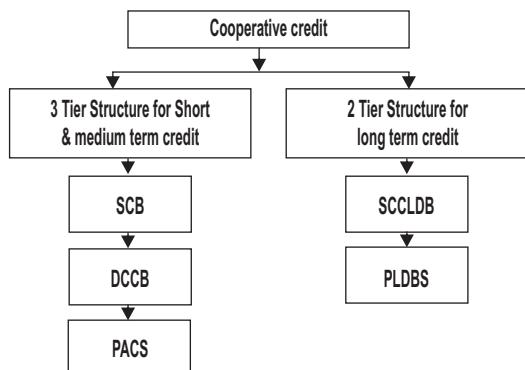
Andhra Pradesh state is basically agriculture state where majority of population depends on agriculture for their livelihood but unfortunately it is not remunerative and profitable. One of the important reasons for the unprofitable nature is rural indebtedness as they are dependent on private money lenders and one of the best sources of rural credit is cooperative societies. The state government has taken steps to revamp the cooperative credit system in the state. Andhra Pradesh state was formed on 1<sup>st</sup> November, 1956 by combining Andhra state which was formed from composite Madras state and Hyderabad (Telangana) state from Nizam dynasty. This state was containing 23 districts. Again on 2<sup>nd</sup> June, 2014 Andhra Pradesh was divided from Telangana with 13 districts of coastal Andhra and Rayalaseema regions.

Originally when the state was formed in 1956 four cooperative acts were in force. Two in Andhra region and two in Telangana region.

Acts in Andhra region : Madras Cooperative act-1932  
Madras land mortgage banks act – 1934

Acts in Telangana Regions : Hyderabad Land mortgage banks acts of 1949  
Hyderabad cooperative societies act of 1952.

When the Andhra Pradesh state was formed, these acts were abolished and brought Andhra Pradesh state cooperative societies act of 1964. According to this act a 3 tier structure for Short Term (ST) and Medium term (MT) credit and 2 tier structure for long term credit were established.



SCB: State cooperative central bank

DCCB: District central cooperative bank

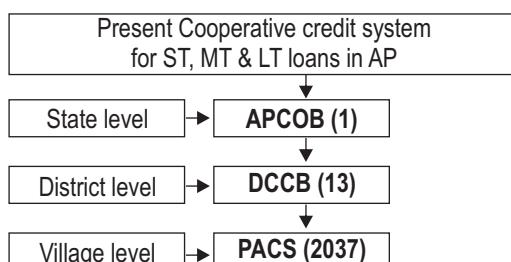
PACS: Primary agricultural cooperative societies

SCCLDB: State cooperative central land development bank

PLDBS: Primary land development banks

From 1964 onwards this system was in force in the state till 1987. In 1975 Government of India (GOI) appointed Hazari committee which recommended single window system for all states but unfortunately no state reacted positively. Again 1983 the then government of Andhra Pradesh appointed 3 member IAS officers committee headed by Mohan Kanda with two other members namely A.K.Arora and U.B.Raghavendar. This committee recommended single window system for rural credit in the state. The state government submitted report to NABARD (National Bank for

Agriculture and Rural Development) for approval. Later with the approval of NABARD it was sent to the GOI for ratification. The GOI appointed Ardhanareswara committee to examine the proposal of Andhra Pradesh. During the year 1985 this committee was approved the proposal. With this Andhra Pradesh government restructured rural cooperative credit system of district level on 1<sup>st</sup> April, 1987 and at state level on 1<sup>st</sup> April, 1994. With that a single window system that is bringing all types of credit like short term, medium term and long term credit under one umbrella. With this Andhra Pradesh has become first state to implement single window cooperative credit system in the country. Since then this system is functioning in the state.



APCOB: Andhra Pradesh State Co-operative Bank

DCCB: District Central Cooperative bank

PACS: Primary Agricultural Cooperative Societies

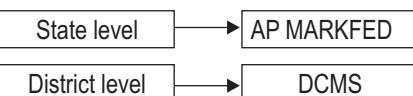
At present there are 1 APCOB, 13 DCCBs and 2037 PACSs function in the state. Based on the recommendations of the taskforce headed by Prof. A. Vaidyanathan, constituted for suggesting the re-organization of cooperative societies, the long pending re-organization of PACS has been completed for making them viable.

The PACS have been re-organized from 4465 to 2037 in the State. The total financial assistance received so far under Revival Package for Rural Coop. Credit Structure is ₹935.00 crore including the State Government share of ₹146.31 crore. A.P. State Co-operative Bank provided ₹7095.14 crore (Kharif - ₹4085.98 crore and Rabi - ₹3009.16 crore) as production credit to farmers through the Primaries and the District Co-operative Central Banks during the year 2013-14 which accounts for about 14% of total institutional agricultural credit provided. Out of the total ₹7095.14 crore loans, ₹6415.06 crore loans under Seasonal Agricultural Operations (SAO), ₹659.36 crore under Oil Seeds Production Programme (OPP) and ₹20.72 crore under Development of Tribal Programme (DTP) were disbursed (Socio economic survey, AP-2013-14).

## 2. Cooperative Marketing

As far as cooperative marketing system is concerned there is 2 tier structure in the state to carryout various activities.

2 Tier Cooperative marketing system in the state



AP MARKFED – Andhra Pradesh Cooperative Marketing Federation  
DCMS: District Cooperative Marketing Societies

There are 13 District Co-operative Marketing Societies (DCMSs) in the

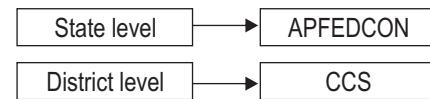
state, which undertake procurement of agricultural produce to enable farmers get minimum administered prices for their produce. The DCMSs procure seed on behalf of AP Seeds Development Corporation and also undertake procurement activities on behalf of MARKFED in addition to carrying on local business activities like sale of fertilizer, Seeds, Consumable articles, Stationary items etc., to various departments located in the districts.

APMARKFED is an apex organization for the Co-operative Marketing Societies(CMS) in the state for supplying agricultural inputs, cattle feed, fertilizers, gypsum, provisions and other requirements to Societies, other private run institutions and government hostels. Subsequent to introduction of single window system in the state in 1987, MARKFED offers its services through PACS at the primary level and through the DCMS in the district level. It undertakes procurement of agricultural produce like cereals and grams from farmers under minimum support price / market intervention scheme. Depending upon the market situation, it also procures other commodities under commercial account every year. During the year 2013-14 the MARKFED total turnover was ₹165.09 crore with ₹54.37 lakh profit.

### **3. Consumer Cooperative Societies**

With respect to consumer cooperative marketing system is concerned there is 2 tier structures in the state to carryout various responsibilities.

2 Tier consumer cooperative system in the state



AP FEDCON- Andhra Pradesh Federation on Consumer Societies  
CCS: Consumer Cooperative Societies

Consumer Cooperatives have been assigned an important role in distribution of good quality consumer articles at competitive prices to control price line in both urban and rural areas. About 216 Consumer Cooperative Societies are functioning in the State. Consumer Cooperative Societies are also undertaking distribution of textbooks, notebooks, cloth, crackers and supply of various stationary items and provisions to Government hostels etc.

### **Way forward**

Cooperatives have inherent advantages as member-owned and member-controlled institutions. Successive governments have acknowledged their role in improving the productivity and eradication of poverty among the rural masses and contribution to development of rural economy and provided support and assistance as a part of State promoted policies. However, cooperatives have to make sustained efforts to address the constraints and inadequacies. Cooperatives should practice good corporate governance and social responsibility. These institutions should be purely "mem-

ber-driven" keeping the principle of cooperation in letter and spirit. Professionalism should be introduced in staffing and adequate training opportunities should be provided to the employees of cooperatives for skill upgradation. They should frame sound and prudent policies for loans and investments and conduct themselves in the larger interests of the depositors and the general public. Cooperatives should overcome their inertia and resistance to change and emerge as technology-driven, well-managed institutions to inspire confidence in the public and secure their survival.

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# THE GUJARAT STATE COOP. AGRICULTURE AND RURAL DEVELOPMENT BANK LTD.

489, ASHRAM ROAD, AHMEDABAD 380 009

Email: gscardb@gmail.com www.khetibank.org

**KHETI BANK**

**Phone: (079) 26585365-70-71**

**Fax: (079) 26581282 / 8269**

The Bank was established in 1951 to extend long term and medium term loans to farmers for agriculture and allied agricultural activities through 176 branches and 17 district offices located at each taluka places and district places respectively in the State of Gujarat.

## THE BANK FINANCES FOR :

**Farm Mechanisation:** Tractor, Thresher set and other implements etc.

**Horticulture / Plantation:** Mango, Chickoo Plantation Chickoo Plantation, Green House etc.

**Animal Husbandry :** Dairy development, Cattle rearing, Cattle sheds, Bullock cart, Sheep & Goat rearing, Poultry, Sericulture, Fisheries etc.

**Land Development :** Land levelling, Land reclamation etc.

**Non Farm Sector:** Small scale industries, Cottage industries including service sector, Rural housing, SRTOs, Rural godowns, APMCs, Cold storage, Consumer loan, Gold Loan etc.

**Minor Irrigation:** Construction/repairs of irrigation well, Shallow tube well, Deep tube well, Installation of pumpsets, Pipelines, Lift irrigation, Drip irrigation, Check dams, Sprinkler irrigation, Solar Pumps etc.

**Kisan Credit Card:** KCC for Purchase of Fertilizers, pesticides, equipments and maintenance, and payment of electricity bills etc. It is a medium term credit requirement of its borrowers who are regular in their repayment obligation to the Bank.

**Rural Housing:** Construction of new houses, repairing and renovation of old houses.

Financial Details of the Bank (₹ in Crores)			
Sr. No.	Details	31.03.2013	31.03.2014
1	Owned Funds	511.94	542.90
2	Loans Disbursed	190.09	177.50
3	Fixed Deposit Outstanding	205.59	215.06
4	Profit	37.52	23.50
5	Dividend	12%	12%

### Bank accepts Fix Deposit at following rate of interest.

1 year and above 8% p.a. Double 108 months

0.25% additional interest for senior citizens, Bank's employees and Share Holders

Double 105 months

### Bank accepts Thrift Deposit at 5%

#### Salient Features

- Interest payable: Quarterly/half yearly and yearly as per demand
- Monthly Income Scheme is available
- TDS is not deducted on maturity of FDs
- FD outstanding as on 31.3.14 is within the own fund limit.
- All the loans issued by the Bank are theoretically recoverable since they are secured by registered mortgage of land and as such FDs mobilized by the Bank are fully secured.
- Loan against FD to the extent of 75% of FD is available.
- Thrift Deposit Scheme, 3 months and 6 months Fixed Deposit Scheme is introduced from November 2011.

**DIVIDEND ON SHARE IS REGULARLY PAID TO SHARE HOLDERS.**

**FOR FURTHER DETAILS, PLEASE CONTACT US OR THE BRANCHES OF OUR BANK IN THE STATE.**

**Shri Dhirenbhai B. Chaudhari**  
Chairman

**Shri Dolarbhai V. Kotecha**  
Vice Chairman

**Shri D. B. Trivedi**  
Managing Director

## **Perceptions of beneficiaries about the working of cooperative Agricultural service societies in Himachal Pradesh: A study of solan district**

Dr. Mamta Mokta\*  
Smt. Hans Raj \*\*

### **Introduction**

The Co-operative Agricultural Service Societies are most important base level unit of co-operative credit structure. It is necessary as they operate smoothly and fulfil the needs of their farmer member's. Owners of the co-operative societies; Members are the real owners of the co-operative societies. These members should be fully aware of the business activities and participate in all its organizational matters. They are expected to make use of their co-operatives fully and can give their suggestions and opinions for their improvement. Co-operative is regarded as the prime-movers and active partners in the process of rural development. They have a special role to play in agricultural development. A co-operative is not just an organ of the government. It is an autonomous institution and operates its activities with all the freedom and independence. How should the cooperative be operated and what precautions need to be taken, are explained in detail in the bye-laws of the cooperative itself. These bye-laws, which become the constitution

of the cooperatives, are approved by the members in their General Body Meeting. They agree to abide by all the provisions of the bye-laws. These are then registered by the Cooperative Department to accord it the status of a legal entity. It then becomes entitled to conduct business operations. The membership of a cooperative is open and voluntary. Members are free to join the co-operative on their free will and leave the membership whenever they decide.

The concept of cooperation and the utility of cooperatives as a development tool remain as valued as ever. Wherever the cooperative structures have been properly established upon a strong membership base, they have demonstrated to the world that there is no better means for promoting economic and social progress. But there are numerous problems faced by the cooperative societies which include corruption, red-tapism, delay in sanctioning loans, lack of enthusiasm and dedication in the members of societies. The hold of large farmers, political influential persons and

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the close links of these groups with government administration weaken genesis of the cooperative. The cooperative societies also suffer shortage of staff, lack of technical guidance, supervision and inspection. Due to these malfunctioning and mismanagement, the cooperative societies have become organizationally managerially and financially sick units. To understand this, the perception of beneficiaries is analyzed.

### **Objective of the Study**

To study the perceptions of beneficiaries about the working the Cooperative Agriculture Service Societies in Solan District.

### **Methodology**

The district has a total of 164 co-operative societies including 149 co-operative Agricultural Service Societies; and 15 multipurpose co-operative Agricultural Service Societies as given in following Table.1

Solan district comprises 149 Primary agricultural service societies and 15 Multi-purpose cooperative agricultural service societies as such it may not be possible to study all the societies. It was therefore, decided to select one financial sound and another financially weak society from the primary as well as Multi-purpose cooperative agricultural service societies of Solan district. A profile of the same is given in Table.2

**Table-1**  
**Profile of Co-operative Agricultural Service Societies in Solan District**

Types of Co-operative Societies	Sub- Division				Total No. of Societies in the District
	Solan	Arki	Nalagarh	Kandaghat	
Primary Co-operative Agricultural Societies	37	17	65	30	149
Multi-Purpose Co-operative Agricultural Service Societies	7	8	0	0	15
<b>Total</b>	<b>44</b>	<b>25</b>	<b>65</b>	<b>30</b>	<b>164</b>

Source: Area-wise list of co-operative societies as on 31.03.2011 in respect of Solan district

**Table-2**  
**Profile of Selected Co-operative Agricultural Service Societies in Solan District**

Types of Society	Name of Financially Sound Societies	Name of Financially Weak Societies	Total
Primary cooperative agricultural service society	Khalogra	Bhojnagar	2
Multipurpose cooperative agricultural service society	Salogra	Navgaon	2
Total No of Societies taken in sample	2	2	4

Source: Compiled from Area-wise list of co-operative societies as on 31.03.2011 in respect of Solan district.

Above four Cooperative agricultural service societies of Solan district were selected for in depth analysis. Two of the societies selected from Multipurpose cooperative agricultural service societies were Salogra (financially sound) and Navgaon (financially weak). Two societies selected from Primary cooperative agricultural service societies are Khalogra (financially sound) and Bhojnagar (financially weak).

### **Secondary sources**

The office records relevant to the present study has been collected from the various offices of the co-operative sector based at Shimla Headquarter, Division, District, Sub-division and local level.

### **Primary Sources**

Primary data has been collected from the beneficiaries of the co-operative agricultural services societies through interview schedules.

### **Interview Schedule**

The data was collected by administering a structured schedule of questions. One schedule were

designed one for 288 sample beneficiaries of societies.

### **SELECTION OF BENEFICIARY RESPONDENTS**

With a view to give proper representation to each segment of beneficiaries, the sample has been taken from Agriculturist that includes marginal farmers, small farmers, medium farmers and large farmers. The selection of the sampling beneficiaries has been done randomly from the members list of each selected cooperative agricultural service society. Total sample of the study comprised 288 Agriculturist. Through the random sampling method, 10 percent of the beneficiaries from the agriculturist category have been selected. In all 288 beneficiaries from four societies will be included in the sampling frame work.

Through the random sampling method, 10 percent of the beneficiaries from the agriculturist category have been selected. In all 288 beneficiaries from four societies were included in the sampling frame work.

**Table 3**  
**Profile of Sampled Beneficiaries of Co-operative Agriculture Service Societies**

Sampling category	Membership								Total No. in Sample	
	Khalogra		Salogra		Bhojnagar		Navgaon			
	Total	Sample	Total	Sample	Total	Sample	Total	Sample		
Agriculturist	1640	164	256	26	404	40	578	58	288	
Total/sample	1640	164	256	26	404	40	578	58	288	

Source: Compiled from Area-wise list of co-operative societies as on 31.03.2011 in respect of Solan district.

## PERCEPTION OF BENEFICIARIES

Perception of the 288 respondent agriculturists of co-operative agricultural service societies. The socio economic profile and perception of beneficiaries regarding their awareness, participation level, and employee's behaviour, supply of fertilizers, difficulties, experience and suggestions is analyzed in the present chapter.

## SOCIO ECONOMIC PROFILE OF BENEFICIARIES

A study of socio economic background of the beneficiaries of the co-

operative agriculture service societies is important and is therefore analyzed here. The demographic indicators like education availing of services gender, age and status of respondents as beneficiary in co-operative agricultural service societies are shown in Table 4.

Age is an achieved characteristic in the life cycle of a human being and it also influences the working of co-operative society. The present study reveals that the majority (63.54%) of agriculturist respondents belongs to old age groups 45 and above and

**Table 4**

**Socio-Economic Profile of Beneficiaries of Cooperative Agriculture Service Societies**

Attribute/Ranks	Number of Respondents	
	Agriculturists	Total
<b>Distribution of respondents by age</b>		
1. 20-45	105 (36.46)	105 (36.46)
2. 45 and above	183(63.54)	183 (63.54)
<b>Total</b>	<b>288(100)</b>	<b>288(100)</b>
<b>Gender classification of respondents</b>		
1. Male	198(68.75)	198 (68.75)
2. Female	90(31.25)	90 (31.25)
<b>Total</b>	<b>288(100)</b>	<b>288 (100)</b>
<b>Literacy level of respondents</b>		
1. Illiterate	125 (43.40)	125 (43.40)
2. Literate	163 (56.60)	163 (56.60)
<b>Classification of respondent by nature of services availing</b>		
1. Credit Services	180 (62.50)	180 (62.50)
2. Other Services	108 (37.50)	108 (37.50)
<b>Total</b>	<b>288(100)</b>	<b>288 (100)</b>
<b>Distribution of respondent as status of beneficiaries</b>		
1. Regular Borrowers	193 (67.01)	193 (67.01)
2. Irregular Borrowers	95 (32.99)	95 (32.99)
<b>Total</b>	<b>288(100)</b>	<b>288(100)</b>

Source:Primary Data,

Note: Figure in the parentheses are percentage

33.16% respondents are below 45 years. This indicates that the new membership does not take part in co-operative societies. Land ownership in a rural life is of considerable importance as it enables to have an access to the membership of the society. Generally, this land is under the ownership of male persons. Table 4 indicates that only 36.46% of women respondents were owners of the agricultural land and thus entitled to the benefits of the society. Literacy is an important factor which decides level of participation in various co-operative activities and its administration. Respondents having formal education are considered as 'literate' whereas those who did not get any formal education are termed as 'illiterate'. The study reveals that 43.40% respondents are illiterate.

The co-operative agricultural service societies provide credit services as well as other services like agricultural implements, seeds and pesticides, etc. according to these services 62.50% respondent avail credit services and 37.50% respondents avail other services. The study also reveals that 37.50% agriculturist members are availing other services as compared to 62.50% agriculturist.

The co-operative agricultural service societies provide their services to beneficiaries regularly. But some of the beneficiaries show irregularity in making transactions with co-operative societies. The study indicates that 32.99% agriculturists are irregular borrowers and

67.01% agriculturists are the regular borrowers of the cooperative society.

#### **P E R C E P T I O N O F T H E B E N E F I C I A R I E S O N A W A R E N E S S I N R E L A T I O N T O T H E I R R O L E A N D B E N E F I T S F R O M C O - O P E R A T I V E A G R I C U L T U R A L S O C I E T I E S**

The co-operative movement in India did not depend upon the interest and spontaneity of the people because most of them had the impression that these societies are the creation of the state government. People did not come forward to organize and manage societies. As a result, the small individual members in co-operatives are losing their identity in the control mechanism. The ultimate objective of any service organization is to provide services to the consumers/ members to their satisfaction. The same principle also applies to the co-operative agricultural service societies which are mainly promoted with the objective of improving the quality of life of the members residing in rural areas by undertaking various economic activities as well as social benefits. Table 5 describes the perceptions of respondents on the awareness in relation to these aspects.

Table 5 discloses the perception of the beneficiaries about awareness regarding their role in co-operative society. 38.89% agriculturist members assume themselves as shareholders whereas 31.25% take them as costumer of the society. The data

Table 5

**Perception of the beneficiaries in relation to their role and benefits from co-operative agricultural service societies**

Response/Question	Number of Respondents	
	Agriculturists	Total
<b>What is your role as a member in the Cooperative Society?</b>		
1. As a share holder	112 (38.89)	112 (38.89)
2. As a customer	90 (31.25)	90 (31.25)
3. Supervise the functioning	60 (20.83)	60 (20.83)
4. No Role	26 (9.03)	26 (9.03)
<b>Total</b>	<b>288 (100)</b>	<b>288 (100)</b>
<b>Do you get any benefit from the society?</b>		
1. Yes	280 (97.22)	280 (97.22)
2. No	8 (2.78)	8 (2.78)
<b>Total</b>	<b>288 (100)</b>	<b>288 (100)</b>
<b>In what way are you benefited by the society?</b>		
1. Service available in village	28 (9.72)	28 (9.72)
2. Better quality of fertilizers	22 (7.64)	22 (7.64)
3. Availability of seeds & pesticides	18 (6.35)	18 (6.35)
4. All of these	270 (76.39)	220 (76.39)
<b>Total</b>	<b>288 (100)</b>	<b>288 (100)</b>

Source: Primary Data, Note: Figure in the parentheses are percentage

also indicates 31.25% agriculturist members feel their role in co-operative societies as a costumer and on the other hand 20.83% agriculturist members feel their role as a supervisor about the functioning of the co-operative societies.

All the respondents are aware about the benefits of the co-operative agricultural service societies. The respondents reply (76.39%) that they are availing benefits like better quality of fertilizer and availability of seeds and pesticides which are available at village level.

#### **PERCEPTION OF BENEFICIARIES ON THEIR PARTICIPATION LEVEL I N C O - O P E R A T I V E A G R I C U L T U R A L S E R V I C E**

#### **SOCIETIES**

The success of the co-operatives depends on member's active participation in the affairs of management and administration of co-operative organizations. This participation in co-operative management generally implies frequency of visits, attendance in general body meetings and rising issues of concern in meetings. It encourages member's faith in the co-operative institutions. But a majority lacuna is those member farmers who are not regularly participating in the general body meetings. The study notes various reasons for non-participation of member farmers in co-operative societies. Table 6 discloses the perception of respon-

dents on their participation level in co-operative administrations.

Table 6 indicates 76.39% respondents visit the society during Rabi and Kharif, to the purchase and use of crop inputs. Data indicates 15.97% agriculturist members visit society monthly and quarterly because they purchase consumer goods which are being supplied by cooperative societies.

The data reveals that 88.20% respondents attend the General Body meetings as regularly, sometimes or rarely. Most of them raise issues in the meetings regarding increasing the business (14.17%) and taking action against defaulters (48.33%) of the cooperative societies. Another 25.00% respondent's raise issue regarding information about the business of the cooperative society where as only 12.50%

**Table 6**  
**Perception of Beneficiaries on their Participation Level in Cooperative Agricultural Service Societies**

Question/Response	Number of Respondents	
	Agriculturists	Total
<b>How often do you visit the society?</b>		
1. Rabi and Kharif	220 (76.39)	220 (76.39)
2. Monthly	8 (2.78)	8 (2.78)
3. Quarterly	38 (13.19)	38 (13.19)
4. Never	22 (7.64)	22 (7.64)
<b>Total</b>	<b>288 (100)</b>	<b>288 (100)</b>
<b>Do you attend the General Body Meetings?</b>		
1. Regularly	116 (40.28)	116 (40.28)
2. Some times	122 (42.36)	122 (42.36)
3. Rarely	16 (5.56)	16 (5.56)
4. Never	34 (11.80)	34 (11.80)
<b>Total</b>	<b>288 (100)</b>	<b>288 (100)</b>
<b>If regularly participate, what kind of issues do you raise in the meeting?</b>		
1. Information about business	30 (25.00)	30 (25.00)
2. To increase the business of the society	17 (14.17)	17 (14.17)
3. Action against defaulters	58 (48.33)	58 (48.33)
4. Regarding rules and regulations	15 (12.50)	15 (12.50)
<b>Total</b>	<b>120 (100)</b>	<b>120 (100)</b>
<b>If not, please specify the reasons for not attending meetings?</b>		
1. Pre-occupied in work	14 (41.18)	14 (41.18)
2. Don't get notice	10 (29.41)	10 (29.41)
3. Lack of awareness	6 (17.65)	6 (17.65)
4. Others	4 (11.76)	4 (11.76)
<b>Total</b>	<b>34 (100)</b>	<b>34 (100)</b>

Source:Primary Data, Note: Figure in the parentheses are percentage

respondents raise issues regarding rules and regulation of cooperatives.

It was found that 34 respondents out of 288 (11.80%) never participated in the meetings of village level cooperative society. The reasons for absence in the meeting are pre-occupied in work (41.18%), do not get notice (29.41%) and lack of awareness (17.65%). The agriculturist members have not attended the meetings because of other reasons (8.63%). Non Participation in the meetings means lack of faith in the legislative bodies.

### **OPINION OF THE BENEFICIARIES REGARDING BEHAVIOUR OF**

### **EMPLOYEES OF COOPERATIVE AGRICULTURAL SERVICE SOCIETIES**

Behaviour of officials means the attitude of the employees and their faith and feelings towards the beneficiaries while dealing with them. The cordial behaviour of the employees is more important at village level cooperative agricultural service societies because the proper guidance and interest of the secretary is necessary for the welfare of the member-farmers. It is revealed that most officials do not play member-friendly role. Table 7 prescribes the opinion of the respondents.

**Table 7**  
**Opinion of the beneficiaries regarding behaviour of Employees of Cooperative Agricultural Service Societies**

Question/Response	Number of Respondents	
	Agriculturists	Total
<b>What type of guidance do you get from the employees of the cooperative Society?</b>		
1. Proper utilization of credit	34 (11.81)	34 (11.81)
2. Repayment of credit	62 (21.53)	62 (21.53)
3. Cooperative objective	32 (11.10)	32 (11.10)
4. No guidance	160 (55.56)	160 (55.56)
<b>Total</b>	<b>288 (100)</b>	<b>288 (100)</b>
<b>What is your opinion regarding employees behaviour towards members?</b>		
1. Courteous	130 (45.14)	130 (45.14)
2. Cooperative	98 (34.03)	98 (34.03)
3. Arrogant	25 (8.68)	25 (8.68)
4. Harassing	35 (12.15)	35 (12.15)
<b>Total</b>	<b>288 (100)</b>	<b>288 (100)</b>
<b>If the behaviour of the employee is indifferent, it is due to:</b>		
1. Lack of Management control	42 (60.00)	42 (60.00)
2. Lack of interest	14 (20.00)	14 (20.00)
3. Lack of transparency	9 (12.86)	9 (12.86)
4. Any other	5 (7.14)	5 (7.14)
<b>Total</b>	<b>70 (100)</b>	<b>70 (100)</b>

Source:Primary Data, Note: Figure in the parentheses are percentage

Table 7 depicts that the employees of the cooperative society guide the farmers about proper utilization of credit (11.81%), repayment of the credit in time (21.53%) and another (11.10%) respondents said the employees guide them about cooperative objectives. But data reveal that 55.56% respondents are not satisfied with the behaviour of employees of the cooperative society.

The Behaviour of the employees towards the members can be observed from the data that 45.14% respondents reported that employees are courteous and 34.03% respondents said the behaviour of employees is cooperative. But it is clear from the Table that 20.83% respondents feel behaviour of

employees is indifferent due to their arrogant and harassing attitude. The data further highlights 60.00% respondents express their views that employees are indifferent due to lack of management control.

### **PERCEPTION OF THE BENEFICIARIES REGARDING SUPPLY OF FERTILIZERS BY COOPERATIVE AGRICULTURAL SERVICE SOCIETIES**

As a part of non-credit business activity cooperative society plays a major role in distributing the fertilizers to their member farmers at the village level. But farmers face many difficulties regarding the availability of fertilizers in time and variety of fertilizers. Due to these difficulties,

**Table 8**  
**Perception of the beneficiaries regarding Supply of Fertilizer by Co-operative Agricultural Service Societies**

Attribute/Ranks	Number of Respondents	
	Agriculturists	Total
<b>In your society, variety of fertilizers is available or not?</b>		
1. Variety available	126(43.75)	126 (43.75)
2. Variety not available	162 (56.25)	162 (56.25)
<b>Total</b>	<b>288 (100)</b>	<b>288 (100)</b>
<b>From where do you purchase the fertilizers normally?</b>		
1. Village Cooperative society	168 (58.33)	168 (58.33)
2. Market	58 (20.14)	58 (20.14)
3. Another Cooperative Society	30 (10.42)	30 (10.42)
4. Any other store	32 (11.11)	32 (11.11)
<b>Total</b>	<b>288 (100)</b>	<b>288 (100)</b>
<b>Why do you purchase fertilizer from market?</b>		
1. Low prices	14 (20.00)	14 (20.00)
2. More variety available in the market	30 (42.85)	30 (42.85)
3. Better quality	16 (22.86)	16 (22.86)
4. Borrowing facilities are also available	10 (14.29)	10 (14.29)
<b>Total</b>	<b>70 (100)</b>	<b>70 (100)</b>

Source:Primary Data, Note: Figure in the parentheses are percentage

**Table 9**  
**Beneficiaries Experience regarding difficulties faced by them in relation to credit supply of fertilizer**

Question/Response	Number of Respondents	
	Agriculturists	Total
<b>Do you face any difficulty for availing benefits from the society?</b>		
1. Yes	175 (60.76)	175 (60.76)
2. No	113 (39.24)	113 (39.24)
<b>Total</b>	<b>288 (100)</b>	<b>288 (100)</b>
<b>If yes, what sort of difficulties do you face regarding credit?</b>		
1. Surety of every year	68 (41.98)	68 (41.98)
2. Delay in sanctioning	48 (29.62)	48 (29.62)
3. Branch of Bank far from society	32 (19.76)	32 (19.76)
4. Others	14 (8.64)	14 (8.64)
<b>Total</b>	<b>162 (100)</b>	<b>162 (100)</b>
<b>And what type of difficulties do you face regarding Fertilizer?</b>		
1. Availability not in time	72 (44.44)	72 (44.44)
2. Underweight	48 (29.63)	48 (29.63)
3. Inferior quality	12 (7.41)	12 (7.41)
4. Others	30 (18.52)	30 (18.52)
<b>Total</b>	<b>162 (100)</b>	<b>162 (100)</b>

Source:Primary Data, Note: Figure in the parentheses are percentage

being the members of the cooperative society, they still approach private dealers for purchasing fertilizers. Table 8 analyses respondents' views regarding the supply of fertilizer by village level cooperative society.

Table 8 indicates views of members regarding fertilizers supply of the selected cooperative societies. As many 56.25% agriculturist respondents have expressed that variety of fertilizers is not available as per their requirements. Besides, 58.33% respondents fulfill their need of fertilizers from the village cooperative society. Data also indicates 20.14% respondents purchase fertilizers normally from the market. In this regard, the agriculturist members approach the market for

more variety (42.85%) and better quality (22.86%) of fertilizers. On the other side, 20.00% agriculturist respondents approach the market for the low price than cooperative societies.

### **BENEFICIARIES EXPERIENCE REGARDING DIFFICULTIES FACED BY THEM IN RELATION TO CREDIT AND SUPPLY OF FERTILIZERS**

The borrowers generally face number of problems while they apply for loans from various financial institutions. The member of the Cooperative Agricultural Service Society also faces difficulties regarding cash and kind services. It is more so for delay in sanctioning loan and timely supply of fertilizers Table 9

presents the data with respect to difficulties experienced by the respondents.

The data in Table 9 reveal that 39.24% of the respondents have no difficulty in availing benefits from the cooperative societies. But rest of 60.76% respondents reported to have faced difficulties. 41.98% agriculturist respondents face problem of producing surety every year and another 49.38% agriculturist respondent reveals that face difficulty of delay in getting loan.

The respondents have also experienced difficulties regarding availability of fertilizers. 44.44% respondents disclose that the fertilizers are not available in time, 29.63% respondents express that fertilizers are under weight and 7.41% respondents feel that cooperative society provides inferior quality of fertilizers.

#### **VIEWS OF THE BENEFICIARIES REGARDING SOUGHT OUT THE**

#### **DIFFICULTIES FACED BY THE OFFICIALS OF COOPERATIVE AGRICULTURAL SERVICE SOCIETIES**

The beneficiaries of cooperative agricultural service societies face so many difficulties' regarding getting loan and avail other services. On the other side, beneficiaries do not bring these difficulties to the notice of employees of the cooperative societies and other related officials. Table 10 presents the views of the respondents in this regard.

Table 10 clearly indicates 62.50% respondents do not bring their difficulties to the notice of the employees of the cooperative societies and other related officials. Data also indicates 37.50% agriculturist respondents could not come forward to bring difficulties to the notice of the employees because of callous behavior of officials.

21.67% respondents reply that they bring difficulties to the notice of

**Table 10**  
**Views of the Beneficiaries regarding sought out their difficulties by the officials of Cooperative Agricultural Service Societies**

Question/Response	Number of Respondents	
	Agriculturists	Total
<b>Have you ever brought these problems to the notice of the society officials?</b>		
1. Yes	108 (37.50)	108 (37.50)
2. No	180 (62.50)	180 (62.50)
<b>Total</b>	<b>288 (100)</b>	<b>288 (100)</b>
<b>If yes, do they take any appropriate action to seek out your problem?</b>		
1. Generally	26 (21.67)	26 (21.67)
2. Occasionally	24 (20.00)	24 (20.00)
3. Never	18 (15.00)	18 (15.00)
4. No reply	52 (43.33)	52 (43.33)
<b>Total</b>	<b>120 (100)</b>	<b>120 (100)</b>

Source:Primary Data, Note: Figure in the parentheses are percentage

the officials, they take action generally, and 20.00% reply that their difficulties are sought out occasionally by the officials but 43.33% agriculturist respondents give no reply due to inferiority complex.

### **SUGGESTIONS OF THE BENEFICIARIES FOR IMPROVEMENT OF THE COOPERATIVE AGRICULTURAL SERVICE SOCIETIES**

The Cooperative Agricultural Service Societies provide their services to the farmers mainly with an objective of improving the standard of living and quality of life of the members. The cooperative societies

also undertake various economic activities which enable the farmers to enhance the production of agriculture and allied activities. Presently; most farmers require loans for other purposes under agricultural credit from their cooperative societies.

In additions to credit requirements, farmers require other services like essential goods, agricultural inputs, and variety of pesticides and seeds, etc. from their cooperative societies. Therefore, it is essential to know the views of the respondents that how can cooperative societies be improved. Table 11 depicts that there are some loopholes in the adminis-

**Table 11  
Suggestions of the Beneficiaries for Improvement of the Cooperative Agricultural Service Societies**

Question/Response	Number of Respondents	
	Agriculturists	Total
<b>Please give suggestions for improving of the society about administration;</b>		
1. Responsible management	96 (33.33)	96 (33.33)
2. Cooperative employees	87 (30.21)	87 (30.21)
3. Transparency of working	42 (14.58)	42 (14.58)
4. Keen interest of members	63 (21.88)	63 (21.88)
<b>Total</b>	<b>288 (100)</b>	<b>288 (100)</b>
<b>About Credit;</b>		
1. Maximum credit limit for full time	100 (34.72)	100 (34.72)
2. Minimize the formalities	106 (36.81)	106 (36.81)
3. Loan for other purpose	68 (23.61)	68 (23.61)
4. Any other	14 (4.86)	14 (4.86)
<b>Total</b>	<b>288 (100)</b>	<b>288 (100)</b>
<b>And about fertilizers and other services</b>		
1. Rate of fertilizers lower than market	88 (30.56)	88 (30.56)
2. In time supply	90 (31.25)	90 (31.25)
3. Rent basis agricultural implements	72 (25.00)	72 (25.00)
4. Sale of consumer items by the society	38 (13.19)	38 (13.19)
<b>Total</b>	<b>288 (100)</b>	<b>288 (100)</b>

Source:Primary Data, Note: Figure in the parentheses are percentage

tration. As cooperative societies are being managed badly, 33.33% respondents said that responsible management is much needed for the improvement of the societies. Similarly, cooperative societies are not functioning well. 30.21% respondents said cooperation from the employees is required. Data presents that 21.88% respondents agree with keen interest of the members and 14.58% respondents are also agree with transparency in working of societies.

About the credit, 34.72% respondents reply the maximum credit limit should be made for long period. The loan is provided according to the maximum credit limit but guarantors are also required to the loanee. In this respect, 36.81% respondents feel that the formalities should be minimized for cooperative credit. A cooperative society provides only crop loan. 23.61% respondents demand loans for other purposes through the village cooperative societies. It is also observed that 4.86% agriculturist respondents demand low rate of interest.

The Cooperative Agricultural Service Societies are also required to avoid certain drawbacks in their non-credit business. It is observed from views of 30.56% respondents that societies have to reduce the price of the fertilizers than market. 31.28% respondents view is that the fertilizer is supplied in time.

The establishment Agro Service Centers in village cooperative societies is very important initiative. In this

respect, 25.00% respondent's feel that if the agricultural implements are provided by the village cooperative societies on rent basis, this will definitely provide them relief from purchase of expensive agricultural machinery. The sale of consumer items by the village cooperatives is also appreciated by 13.19% respondents.

### **Findings**

Different schedules were used to collect perception of beneficiaries for evaluating the performance of the Co-operative Agricultural Service Societies. On the basis of study following findings were drawn out,

### **Socio-Economic Characteristics of Beneficiaries**

It was found that majority of beneficiaries taking advantage of the services were limited in number. Almost (43.40%) of the respondents were illiterate. The study revealed that majority of the respondents who were availing credit services and less than 40% respondents were availing other services from the co-operative society. Almost one third of the respondents were irregular borrowers of cooperative societies and majority of the respondents were regular borrowers.

### **Awareness of Beneficiaries**

The study revealed that all beneficiaries had generally availed themselves of various benefits from their village level cooperative societies. However majority of the respondents were aware about their role as a shareholder and fully familiar with the functioning of the cooperative

societies. They perceived themselves as customers rather than members.

### **Participation Level**

It was found that majority of the beneficiaries visited the societies especially during the crop season. The study revealed that majority of the beneficiaries give importance to their participation in the annual General Body meetings of the society. Further, the beneficiaries did not take enough interest to attend the meetings regularly due to either their preoccupation with work, insufficient notice obtained about the meetings and a general lack of awareness.

### **Behaviour of the Employees**

Majority of the beneficiaries expressed satisfaction with the courteous attitude of the employees towards the members. But more than 20% respondents are not satisfied with the arrogant and harassing attitude of the employees towards the members. The management can also be held responsible for his predicament. The employees of the cooperative society did not show any keenness in educating the members regarding its proper utilization, timely repayment of credit and cooperative objectives.

### **Variety of Fertilizers**

Cooperative Agricultural Service Societies play a major role in distributing fertilizers to their member farmers. It was found that more than half of the beneficiaries were dissatisfied with the variety and quality of fertilizers available in their village cooperative society. Resultantly,

some of them were forced to approach the private dealers in the market for their fertilizer requirements. The data also indicates that the some agriculturist members approached the market for different varieties of fertilizers while some of the agriculturist members approached the market for lower priced fertilizers. This clearly indicates that the market forces have direct impact on the business of the cooperative societies.

### **Service Hurdles**

Almost half of the beneficiaries faced difficulties in procuring credit or fertilizer requirements from their respective cooperative society. The need of guarantor and witness for surety of loan taken every year and delays in sanctioning of loans in credit, bureaucratic hurdles dilly-dally practices untrained staff and unavailability of fertilizers on time were the major difficulties in non-credit services.

It was also found that beneficiaries were hesitant and did not approach the officials for finding affordable and amicable solution of their difficulties. Sincere efforts made by fewer beneficiaries in this direction proved futile as officials or their seniors did not take any appropriate or satisfactory action. It can be concluded that officials were indifferent and did not take interest in finding solutions to the beneficiaries' difficulties.

### **1. Suggestions**

On analysis of the secondary and primary data of study, the following

suggestions are offered which may help to overcome the problems faced by the beneficiaries and cooperative Agricultural Service Societies.

► Effective participation is the essence of cooperative democracy. It is suggested that beneficiaries of the Cooperative Agricultural service Societies must actively participate in the general body meetings. Their participation in building the finance, business and management is cordial cooperative business principle it is also suggested for the participation by the Managing Committee in meetings would also pave way for effective cooperative management. Nevertheless, the agenda of the meeting must be sent in advance to them so that they can make positive deliberations.

► The beneficiaries, as matter of routine, faced numerous difficulties pertaining to credit and also supply of fertilizers. The cooperative Agricultural Service Societies accept surety for loan from two witnesses as well as two guarantors from influential personalities of the villages. The latter however, have no or least interest in poor cultivators and they usually hesitate to stand as a surety for a non agriculturist. To overcome the problem of guarantor/witness, it is suggested that(1) the persons referred to above who are not prepared to stand as guarantor/witness for the poor farmers may be replaced by other villagers like a village teacher, master craftsman or even some panches who, though commanding social respect, may not be

monetarily very sound; (2) the system of group guarantee may also be introduced while comprising a group of such persons who may have economic credibility on the one hand and social status on the other; (3) the concept of security for landless farmers should be shifted from land to assets created/acquired out of them.

► Delayed or untimely supply of fertilizers to the beneficiaries by the cooperative societies to cooperative society by the supplier depot is a major setback of no-credit business of the cooperative Agricultural Service Societies. It is suggested that the supplier depot should endeavour to supply fertilizers and its different varieties in time and as per the requirements of agriculturists. Cooperative societies should play their role as a retailer otherwise the market forces will influence severely the working of village cooperatives. The department of agriculture should also play an active role at the time of shortage of fertilizers during the crop season.

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**Pradhan Mantri Fasal Bima Yojana**

Pradhan Mantri Fasal Bima Yojana (Prime Minister Crop Insurance Scheme) in which the premium rates to be paid by the farmers have been brought down substantially so as to enable more farmers avail insurance cover against crop loss on account of natural calamities. The scheme has come into effect from the current kharif season. Under the new scheme, farmers will have to pay a uniform premium of 2% for all kharif crops and 1.5% for all rabi crops. For annual commercial and horticultural crops, farmers will have to pay a premium of 5%. The remaining share of the premium, as in previous schemes, will continue to be borne equally by the Centre and the respective state governments. With farmers having been required to pay a premium share of as high as 15% in several areas in the country, there has been a long-standing discussion on the need to bring down these rates. The Centre's move to bring down and cap these interest rates is being viewed as a major government policy outreach towards the farmers.

Under PMFBY, there will be no

**Grim harvest: 3,228 farmer suicides in 2015**

Suicides by farmers touched a grim high in 2015. The year that had recorded 2,590 suicides until October, 2015 the highest ever since 2001 -- went on to register 610 more

upper limit on government subsidy and even if balance premium is 90%, it will be borne by the government. Earlier, there was a provision of capping the premium rate which resulted in low claims being paid to farmers. This capping was done to limit government outgo on the premium subsidy. This capping has now been removed and farmers will get claim against full sum insured without any reduction. The use of technology will be encouraged to a great extent. Smart phones will be used to capture and upload data of crop cutting to reduce the delays in claim payment to farmers. Remote sensing will be used to reduce the number of crop cutting experiments," the government said. The new Crop Insurance Scheme will also seek to address a long standing demand of farmers and provide farm level assessment for localised calamities including hailstorms, unseasonal rains, landslides and inundation. The centre aims to double the coverage of the scheme to 50% of the total crop area of 194.40 million hectares from the current level of about 23%.

deaths in just the last two months. The number of deaths on December 31, 2015 stood at 3,228, indicating that the slew of measures the government undertook through the

year failed to arrest the disturbing trend.

Maharashtra has recorded 20,504 farmer suicides since 2001. Data obtained from the government shows Vidarbha, the region Chief Minister Devendra Fadnavis hails from, was the worst hit last year, with around 1,541 farmers from Amaravati and Nagpur division committing suicides. As many as 1,130 farmers ended their lives in the Aurangabad division of Marathwada. Nashik in North Maharashtra witnessed 459 cases of farmer suicides. Figures indicate that that Pune division, which covers the state's prosperous Western region, too recorded 96 suicides of which 27 were registered in the last two months of the year. Of the 3,228 suicides, the state has found only 1,841 eligible for government aid, while 903 were found ineligible. While 484 cases are pending for inquiries, ex-gratia aid has been extended to 1,818.

"Packages will no longer work for farmers and the government seems

### **Suicides by farmers due to agrarian reasons'**

In a reply given in the Rajya Sabha to NCP MP D P Tripathi, the agriculture ministry has claimed that 725 farmers committed suicide in the Maharashtra state between January and October 2015 due to purely agrarian reasons. "As per records available with the state, there have been nearly 2,800 suicides committed by farmers this year. The state has, however, found that only 725 of these were due to

to be missing this point completely. There is a need of farmer oriented policy and not packages," said Chandrakant Wankhede, an activist from Vidarbha working on issues of farmers' suicides. He said when loan waivers were announced in 2008, there was a drop in suicides. But since 2011, no such steps have been forthcoming. "The number may only increase in the coming years." Maharashtra had recorded a 75% deficit in rainfall between June and September last year. While the CM had announced a ₹10,512 crore package of farmers in December 2015, he had refrained from announcing any loan waivers. Mr Fadnavis thanked Prime Minister Narendra Modi for launching the PM Crop Insurance Scheme, which assures covering over 50% of the farmers under the insurance scheme in the coming three years. Under this scheme, 90% premium money will be paid by the Centre and not just the fully grown crop but even the stem will be insured.

purely agrarian reasons. Most of the other suicides have taken place either due to poverty or other causes," farm activist Kishore Tiwari said. He had been roped in by the state government to head a mission to reduce farm distress and arrest the trend of suicides in 14 districts of the state.

As per the National Crime Records Bureau (NCRB), the total number of suicides by farmers in Maharashtra

in 2014 was 2,568. Suicide by farmers are listed under various causes, including bankruptcy or indebtedness, farming related issues like failure of crops, distress due to natural calamities, inability to sell produce, poverty, family problems and illness. The reasons behind suicides are checked by local officials and listed. The Bombay High Court had asked the state government to take the issue of farmer suicides seriously while observing that farming was considered an activity of pride in Maharashtra. The court referred to several letters it had received from farmers which stated

### **Maharashtra Govt announces package for drought-hit farmers**

The state government announced a ₹10,512 crore package for farmers in the state, affected by recurring droughts. The package is tailored to ensure that farmers benefit from it directly, and not financial institutions alone. A sizeable component of ₹7,414 crore has been allocated for crop insurance to help farmers including those not covered by insurance. Cotton, soya bean, paddy farmers, amongst worst hit, would reap the maximum benefit from the package which caters to every segment region-wise. Sensing the severe water scarcity, ₹750 crore has been sanctioned for construction of 33,000 wells. Anybody seeking to build farm ponds would be given immediate sanction, with the government willing to make part payment.

Signalling a paradigm shift, more

how indebtedness led to suicides. "This needs to be addressed," the court had said. In the wake of rising cases of farmer suicides, the Maharashtra government has decided to launch a mental health scheme aimed at bringing down the number of deaths due to the agrarian crisis. Under the plan, the government wants to create mental health wings in nine districts and five sub-district hospitals in the state. It envisages roping in accredited social health activists (ASHA) and community health workers in efforts to reduce suicides by farmers.

impetus is on higher investment in agriculture and irrigation infrastructure. Chief Minister Devendra Fadnavis stuck to his stated position of not falling prey to political populism of loan waiver. Instead, he replaced it with short and long term projects making investments for power and water sectors. How would loan waiver help when 60 to 65% farmers cannot avail loans. The chief minister said there was nothing to substantiate that loan waiver had brought down farmers suicide. He said, "There cannot be any alternative to greater investment in agriculture sector."

Outlining the two-pronged strategy of immediate relief coupled with long term infrastructure investment, he said, "In the last one year, we identified 14 worst farmers suicides districts which have been

given subsidized food at ₹3 per kg wheat and ₹2 per kg rice to 68 lakh farmers." Moreover, the FSA covered 82 lakh farmers out of 1.25 crore covered under crop insurance. Apart from the package, Fadnavis said financial support to make power and irrigation sector robust would be taken up on war footing. It includes ₹2,500 crore for jalyukta shivar. In the second phase, 6000 villages would be taken up. The ₹1,000 crore package to provide power connections to farmers is high on the agenda. Aiming to provide better

livelihood to farmers, he unveiled the mega projects of milk processing in Bhandara and Gondia district of Vidarbha with the help of Nestle. Under "orange unnati" project, private companies are being roped in to set up processing units in Morshi in Amravati district. 100 acres of land will be developed to cultivate Brazilian oranges. The government has taken the policy to enroll every individual willing to take up MNREGA in drought-affected regions.

### **Over 81% of farmers are aware of MSP: Niti Aayog**

A vast majority of farmers in the country are aware of the minimum support price (MSP) for various agricultural crops, such as rice, wheat, pulses, coarse cereals and oilseeds, announced by the government annually, a study by Niti Aayog has stated. "81% of the cultivators are aware of MSP fixed for different crops in various states while 67% of the farmers sold their produces through their own arrangements," a Niti Aayog study on evaluation of the efficacy of MSP on farmers had stated. The study took the period between 2007-08 and 2010-11 as reference period.

The study, according to a paper laid in the parliament by food minister Ram Vilas Paswan, had found out that the share of sales by farmers through private and government agencies were 8% and 4%, respectively. However 94% of the farmers covered under the study

wanted MSP to continue. The Niti Aayog study also found out that 32.13%, 41.29% and 27.4% of the farmers received their MSP payment through in cash, cheque and in the shape of bank deposit. The Commission for Agricultural Costs and Prices (CACP) under the ministry of agriculture usually recommends MSP for kharif and rabi crops, ahead of the sowing season annually. Subsequently, the Union Cabinet approves the quantum of MSPs.

However, the Food Corporation of India (FCI) and state government agencies only purchase rice and wheat from the farmers in mostly grain surplus states such as Punjab, Haryana, Madhya Pradesh, Rajasthan, Chhattisgarh, Odisha, Andhra Pradesh and Telangana. Besides, agencies such as Nafed, Cotton Corporation of India, Small Farmers Agri-Consortium (SFAC) and state government agencies carry

out pulses, oilseeds and copra from the farmers from time to time. Earlier in the year, a high-level committee (HLC) chaired by former food minister Shanta Kumar set up for the restructuring of FCI had stated that only 6% of farmers get benefit of MSPs as majority of farmers are outside the purview of MSP mechanism. HLC, in its report, had urged the government revisit MSP policy as only few commodities are being purchased by agencies.

### **RRBs will now have to lend more to priority sectors**

From January 1, 2016 Regional Rural Banks (RRBs) are up against a higher priority sector lending (PSL) target. However, the Reserve Bank of India has liberalised the amounts they can lend to segments, such as agriculture and also included medium enterprises, social infrastructure and renewable energy under the PSL category. The RBI said 75% of RRBs' outstanding advances — as against 60% now — should be for PSL, which also includes loans to micro and small enterprises, weaker sections, housing and education. The PSL norms have been revised considering the growing significance of RRBs in bringing about financial inclusion, it added. Among significant revisions in the PSL norms are: upping of the limit on loans to individual farmers to ₹50 lakh from ₹10 lakh against pledging/hypothecation of agricultural produce (including warehouse receipts) for a period not

“Currently, MSPs are announced for 23 commodities, but effectively price support operates primarily in wheat and rice and that too in selected states. This creates highly skewed incentive structures in favour of wheat and rice,” the HLC had noted. The committee stated that while the country is short of pulses and oilseeds, their prices often go below MSP without any effective price support.

exceeding 12 months, and doubling the aggregate limit to ₹2 crore per borrower in the case of loans to, among others, corporate farmers, producer organisations/companies of individual farmers, and partnership firms/co-operatives engaged in agriculture and allied activities.

In the case of housing loans, the RBI has lowered the quantum of loans that will qualify as PSL. Loans of up to ₹20 lakh (₹25 lakh now) will be made available to individuals on PSL for the purchase/construction of a dwelling unit per family, provided the overall cost of the dwelling unit does not exceed ₹25 lakh. Housing loans to banks' own employees will be excluded. As of end-March 2015, there were 56 RRBs operating in the country, with a network of 20,059 branches covering 644 notified districts across 26 States and the Union Territory of Puducherry.

## Extreme weather wreaking havoc on agriculture

Farmers in India are facing the impact of extreme weather conditions with 2015 being the third consecutive year in which standing crops across 15 States were damaged on 18.23 million hectares during the rabi (winter) harvesting season due to unseasonal rain and hailstorms. In 2013, owing to the same erratic weather conditions, crops ready to be harvested on 0.35 million hectares across five States were damaged, while the damage was reported on 5.5 million hectares across six States in 2014 for the rabi crops, according to a report "Lived Anomaly", released by the Centre for Science and Environment (CSE). "Given the way the rabi season has progressed, rather regressed, in the past three years and also that large parts of the country have faced the fourth consecutive drought during the kharif (summer) season, it is possible that Indian agriculture now faces a point of destructive inflection," said CSE deputy director general Chandra Bhushan, who led a team of experts, investigating the consequences faced by farmers of extreme weather events during the winter-spring crop season of 2015.

In 2015, the first few days of March witnessed heavy rainfall with major parts of the country seeing many times more rain than historically recorded. East Rajasthan saw an increase of 1,412% over the normal, central Maharashtra a rise of 1,372% and western Madhya

Pradesh experienced an increase of 1,075%. "We are experiencing an increased severity and frequency of extreme weather events, and such intensely growing anomaly could simply not be left unrecorded. In February-April 2015, standing crops on 182.38 lakh hectares or 29.61% of the entire rabi sown area were affected. 67% of this was wheat crop," said Mr. Bhushan. The report says that owing to unseasonal rain and hail storm, the fall in the production of major foodgrain crops was about 86.3 lakh tonnes, which translated to a loss of ₹15,777 crore. Besides, a fall in the production of oil seeds by 14.1 lakh tonnes meant an additional loss of ₹4,676 crore. The total economic loss was about ₹20,453 crore.

The team also investigated the effectiveness of crop damage assessment, estimation and delivery of relief, besides compensation mechanisms for affected farmers. The report that suggests the need for urgent reforms in the agrarian sector, says: "Corruption in relief is pervasive across the States. Disbursement of relief to farmers is a tiresome process, adding to farmers' distress and payments are chronically delayed. Unfortunately, in the system that exists today, to measure crop loss and calculate relief, the village patwari is the most critical cog. The information that patwaris provide becomes the basis for loss estimation and relief. But the

patwari reports losses by 'eye estimation'".

The report also highlighted that in the existing crop insurance mechanism, there was no direct link between the insurance company and the farmer. "81% of Indian farmers are oblivious to the practice of crop

insurance. Out of an estimated total of 9.02 crore agricultural households, only around 4.8% had insurance for wheat and paddy and about 8.9% for gram during the two agricultural seasons between July 2012 and June 2013," said the report.

### **Future belongs to countries with grains, not guns: M S Swaminathan**

Asserting that the future belongs to countries with grains and not guns, father of India's Green Revolution M S Swaminathan said India should give more priority to agriculture sector, the backbone of its economy. "Agriculture requires much more priority. Science requires more priority. Scientific bodies require more autonomy. People should be able to work on a problem," Swaminathan said in response to a question after his presentation at the Center for Strategic and International Studies - a top American think-tank. During his presentation, Swaminathan mentioned how public policy works in achieving zero hunger target.

He lamented that agriculture is not receiving necessary attention in

India. He said that the intentions of Prime Minister Narendra Modi "are good", but things are not happening the way they should at the ground level. Swaminathan said one should maintain social protection methods and strengthen them further.

Noting that food storage losses are very high, he said this is one main area that needs to be focused on. In his presentation, he also called for adaption and mitigation to combat climate change and use seeds that are resilient and participatory local research. Healthy oceans, he said, are key to achieving the sustainable development goals. "We have 97% water on earth- we can produce a lot of food with it though natural resources conservation and sustainability work," he said.

### **NITI panel proposes agriculture reforms to curb price rise**

NITI Aayog's task force on agriculture has recommended big bang reforms to address the politically sensitive issue of frequent spurt in crop prices. These include guaranteed prices for at least half the

key crops, setting up of a unified national agriculture market, changing land lease laws and creating a mechanism to facilitate easy exit for farmers who want to move out of agriculture. "The

comprehensive report talks about the need for reforms in the agriculture sector in a big way to address issues of bad weather, fluctuation in crop prices, and demand and supply problems in the long term," NITI Aayog member Ramesh Chand told.

India is looking for another green revolution to make agriculture more efficient so that the country can produce enough with lesser land, while sparing some land for industrial and infrastructure development. According to Chand, the government is considering to introduce a system of deficiency price payment for at least half of the crops in the country on a sustainable basis, compared to the existing mechanism of providing minimum support price to just four crops. This will ensure that farmers get compensated on the basis of the difference between farm harvest price and the price assured without any bar on minimum procurement. The other important recommendation is a national market for farm produce. The Union budget for 2015-16 had announced setting up of the unified national

agriculture market under the NITI Aayog. "We need to have alternatives to traditional mandis. The Aayog is on the verge of finalising the structure of the unified national agriculture market," said Chand. The Aayog, the Centre's premier think tank, in August 2015 set up an expert committee on land leasing under the chairmanship of T Haque to prepare a model agriculture land leasing law for much-needed agriculture efficiency, equity, occupational diversification and rapid rural transformation. This will set the rules for leasing out land, which will allow pooling of land for large-scale mechanised cultivation that can help increase yields. It will also allow farmers to exit agriculture without having to sell their land. Besides, it is urging states to give landowners indefeasible titles and digitise their land records, much on the lines of Karnataka. A majority of states are keen to go ahead with their own Land Acquisition Act to acquire land for infrastructure development, following the Centre's failure to arrive at consensus on the Land Acquisition Act, 2013.

### **Agri ministry launched pilot on crop insurance data collection**

To ensure faster crop insurance claimed by farmers, the agriculture ministry has launched a pilot programme called 'Kisan' where images from satellite, drone-based imaging and other geospatial technology would be used to get data on crop yields. Besides, the

ministry launched an Android-based app for collection of data on hailstorms and its impact on standing crops. "The crop insurance claim is calculated on the basis of crop cutting experiments. However, there has always been a problem in getting

timely and accurate data, due to which payment of claims to farmers were getting delayed," minister of state for agriculture Sanjeev Kumar Balyan said.

The programme envisages use of high resolution remote sensing data both from satellite and drone-based imaging, sophisticated modelling activity and other geospatial technology for improving the accuracy of crop yield estimation through more efficient crop cutting experiments. Initially, a pilot study will be carried out in rice and cotton fields in four districts during the ongoing kharif season in Karnataka (Shimoga district), Maharashtra (Yavatmal), Haryana (Kurukshestra)

and Madhya Pradesh (Seoni).

The pilot would also be carried out during the 2015-16 rabi or winter season in eight districts in same states to assess the crop yields of rice, wheat and sorghum. After getting reports from the pilot programme, it would be scaled up across the country. The Kisan project will be implemented by Mahalanobis National Crop Forecast Centre, under the agriculture ministry, in collaboration with ISRO's Space Applications Centre in Ahmedabad and National Remote Sensing Centre in Hyderabad, the India Meteorological Department, state agriculture departments and state remote sensing centres.

### **Farm insurance coverage is poor: Govt to House panel**

The government has painted a grim picture of the crop insurance scenario in the country. Making a presentation before the Finance Standing Committee of Parliament, government representatives said the penetration of crop insurance was just about 23% (369.94 lakh) of the total number of farmers. A little more than 22% of the gross crop area (455.63 lakh hectares) is covered under four insurance schemes – National Agricultural Insurance Scheme, Weather-Based Crop Insurance Scheme, Modified National Agricultural Insurance Scheme and Coconut Palm (Crop Specific) Insurance Scheme. Some of these schemes have been available for more than 15 years.

The government informed the

panel that it is considering introducing a composite agriculture insurance scheme that will provide coverage for life, accident, and agriculture machines/implements, besides crop losses. The government said it will design a portal for administrating crop insurance. The panel, headed by veteran Congress MP Veerappa Moily, was informed by the government that it is coming with new initiatives to widen the ambit of agricultural insurance schemes. The officials said it would review the ongoing schemes to make them simple and understandable to farmers and reduce their share of premium.

It has also plans to set up automatic weather stations for better implementation of the Weather-

Based Crop Insurance Scheme. The government told the MPs that publicity programmes will be launched to create awareness about the insurance schemes through different media. The government listed new initiatives that include a faster method for yield assessment

through remote sensing technology in collaboration with ISRO. Mahalanobis National Crop Forecast Centre has initiated studies on this in Haryana, Karnataka, Maharashtra and Madhya Pradesh to estimate the crop yield at taluka level for major crops.

### **RBI sets new rules for banks to fix lending rate**

The Reserve Bank of India (RBI) unveiled new guidelines on how banks can calculate their lending rates in a bid to make them more closely based on market rates and allow quicker transmission of the monetary policy. The new norms have come into effect from April 1, 2016. According to the RBI, banks will set their lending rates under the marginal cost of funds (deposits) every month, which will be based on the rate offered on new deposits, which would reflect the market rates. Many banks had sharply cut deposit rates recently but their lending rate reduction has failed to match deposit rates. Under the current system, banks set their lending rates based on the average rate of outstanding deposits, a system that had given them more freedom to determine how much to charge.

“Existing loans and credit limits linked to the Base Rate may continue till repayment or renewal, as the case may be. Existing borrowers will also have the option to move to the marginal cost of funds based on lending rate (MCLR) linked loan at mutually acceptable terms. Banks will continue to review and publish

Base Rate as hitherto,” the RBI said in the final guidelines. Apart from helping improve the transmission of policy rates into the lending rates of banks, the new RBI measures may also improve transparency in the methodology followed by banks for determining interest rates on advances. The guidelines are also expected to ensure availability of bank credit at rates which are fair to the borrowers as well as the banks. Further, marginal cost pricing of loans will help the banks become more competitive and enhance their long-run value and contribution to economic growth. Banks will review and publish their MCLR of different maturities every month on a pre-announced date. “Banks may specify interest reset dates on their floating rate loans. They will have the option to offer loans with reset dates linked either to the date of sanction of the loan/credit limits or to the date of review of MCLR. The periodicity of reset shall be one year or lower,” the RBI said. “MCLR will be a tenor-linked internal benchmark. Actual lending rates will be determined by adding the components of spread to the MCLR,” the RBI said. It was

observed that Base Rates based on marginal cost of funds are more

### **Sensitise loan recovery officers, HC tells State**

The Bombay High Court told the State government of Maharashtra that it should sensitise officers who visit families of farmers who have committed suicide for loan recovery. This statement was made after it was brought to the notice of the court that a 12-year-old girl in Kolhapur was expected to repay a loan of ₹4 lakhs that her father had taken before he committed suicide. The advocate appearing for NGO Janta Nagri Nivara Sangthana informed the court that the farmer had committed suicide along with his wife and son, when his daughter was at her uncle's house.

A division bench of Justice Naresh Patil and Justice S B Shukre told the State to see if something can be done so that ₹4 lakh is not recovered from the girl. The court went on to say that the State should start some sensitisation programme for banking agricultural officers who go to recover the money from the family after the farmer has committed suicide. The court said the officers

sensitive to changes in the policy rates, it added.

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should be made to live with the farmers for three months. Pointing out steps taken at Akola to curb the farmer suicides, a sub divisional officer from the district cited steps taken there including crop sharing and group farming activity undertaken by farmers in the region. He also said that an area of about 500 sqft has been allotted for farmers to exhibit their agro-products.

The Akola collector has also initiated a programme with the agenda that says, 'won't commit suicide and will not allow anyone to commit suicide.' The court then said that the report of measures taken in Akola should be circulated all over the State. The court said lessons can be learnt from here and emulated in districts infamous for farmer suicides. By expressing pleasure towards steps taken at Akola, the bench said, the court does not have funds to disburse to help farmers so the State should come forward to help them.

### **Jolt for politicos on corrupt co-op bank boards in Maharashtra**

State politicians from various parties, who have been heading state cooperative banks that have in the past faced corruption charges, suffered a major setback with the State cabinet deciding to amend the cooperative law prohibiting them from contesting bank polls for the next 10 years. The State cabinet

amended the Cooperatives Act, which would mean restriction on members of the board dissolved on charges of corruption from contesting polls in the future.

After the cabinet meet, cooperative minister Chadrakant Patil said: "It was imperative we ended wide-spread corruption in

these banks. A decision was always in the offing." The minister said cabinet decision effectively means that a sub section 3(a) will be added to the existing provision of section 73 (a)(c) of the Maharashtra Cooperative Societies Act. The State government will issue an ordinance announcing the change. Senior officials said the cabinet decision was based on recommendations by the Reserve

Bank of India and has nothing to do with allegations of political vendetta, as is being alleged by Opposition parties. Cooperative banks in the State have been in the red for a while now. Not notwithstanding the best efforts by successive governments to pump funds into them, corrupt practices by board members meant many went bankrupt.

### **Growth in acreage under horticulture crops outpaces foodgrains: A report**

Indicating a shift from foodgrain to horticulture in the past five years, the area under horticulture rose by 18%, against expansion of only 5% in area under foodgrains, according to horticulture statistics compiled and released by the Agriculture Ministry for the first time. The Horticulture Board brings out annual statistics every year. The shift from foodgrain to horticulture (fruits, vegetables, flowers, aromatic spices and plantation crops, such as tea and coffee) set in since 2012-13 when horticultural production at 268.9 million tonnes (mt) surpassed foodgrain output at 257.1 mt, according to the handbook.

For the third straight year in 2014-15, horticulture production has surpassed foodgrains output by over 10% at 283.47 million tonnes despite poor monsoon and unseasonal rains. Foodgrains output in 2014-15 crop year (July-June) fell by 3.2% to 257.07 million tonnes due to 12% deficit rains and unseasonal rains during February-

March. "Over the last decade, the area under horticulture grew by about 2.7% per annum and annual production increased by 7%," says the 435-page Horticultural Statistics at a Glance-2015, published by Oxford University Press, and released by Agriculture Minister Radha Mohan Singh.

Production of horticulture crops, according to the book, was 283.5 mt from an area of 24.2 million hectares in 2013-14, with the highest annual production growth of 9.5% recorded by fruits – especially citrus ones – at 10.48%. Maharashtra recorded the highest fruit output at 134.6 mt. The area under vegetables during 2013-14 was estimated at 9.4 million hectares with production of 162.9 mt. West Bengal recorded 23,045 thousand tonnes of output. With regard to flowers, the highest production of loose flowers was in Tamil Nadu at 343.65 thousand tonnes.

Stating that the statistics will help in formulating future policies,

Agriculture Secretary Siraj Hussain said in his remarks that “generation and dissemination of quality data can also help in averting frequent situation of excesses or shortages and exploitation of such situations by middlemen and speculators.” The Ministry said it had also started field

### **HC to find solution to complaints related to crop insurance**

The Madras High Court Bench has decided to find a solution to frequent complaints of several farmers not being able to receive insurance cover amount under the National Agricultural Insurance Scheme (NAIS) floated by Agricultural Insurance Company (AIC) formed at the behest of the Union Finance Ministry in 2002-03. During the hearing of one such case a Division Bench of Justices R. Sudhakar and V.M. Velumani directed D. Srinivasaraghavan, counsel for AIC, to provide a list of cases pending in the court against the company besides producing details of the insurance scheme and the reasons for rejecting the claims made by farmers. Earlier, petitioner's counsel S. Pugazhendhi claimed that the cooperative societies, which extend agricultural loan to farmers, deduct the insurance premium amount by default before disbursing the loan amount. Yet, the farmers, who suffer crop loss due to vagaries of nature, are denied the insured amount by citing one reason or the other, he alleged.

Assisting the court, advocate S.M. Ananthamurugan, pointed out that

work to assess area and production of various crops through remote sensing and sample surveys and had already completed data collection, field work and analysis for onion, potato, tomato and chilli for limited districts in major producing States.

### **HC to find solution to complaints related to crop insurance**

AIC was incorporated by the Centre as an exclusive corporation for agriculture insurance. As per the NAIS, farmers who grow notified crops such as paddy, maize, cotton, sugarcane, banana, chilly, ginger, potato, onion, tapioca, turmeric, horsegram and blackgram were eligible to get insured. The scheme covers on a compulsory basis, all the farmers who grow the notified crops and avail agricultural loans from financial institutions. Even those who do not obtain such loans could get covered by paying the necessary premium on a voluntary basis. On payment of premium, comprehensive risk insurance would be provided to cover losses due to unpreventable risks.

NAIS covered losses suffered by the insured farmers due to natural fire and lightning, storm, hailstorm, cyclone, typhoon, tempest, hurricane, tornado, floods, inundation, landslide, drought, dry spells, infestation of pests and affliction of diseases. “However, the stark reality, remains that the insurance amount does not reach the farmers properly,” the lawyer told the court.

## An app to help farmers source seed

As farmers in the delta districts eagerly await the opening of the Mettur dam, they are also thinking of other things they need – seeds and fertilizers. To ensure that farmers get their inputs on time, the agriculture department has recently introduced a system whereby they can check availability online. Using smart phones, it has linked 9,600 fertilizer dealers, 4,500 primary cooperative agriculture credit societies and 8,300 private seed dealers with an android app. These dealers and societies have been asked to update their stock position using the app, Agri Stock Monitoring System, which is updated on the website [www.tnagrisnet.tn.gov.in](http://www.tnagrisnet.tn.gov.in) that farmers can check.

The dealers have to update

## Farm loans: Interest subsidy scheme distorting the credit system

To alleviate agricultural distress, a Reserve Bank of India panel has recommended a slew of measures, including doing away with the current interest subsidy scheme, instituting a universal crop insurance scheme for small and marginal farmers, and digitisation of land records. The committee on medium-term path on financial inclusion, headed by Deepak Mohanty, Executive Director, RBI, suggested that the Centre should come up with universal crop insurance for small and marginal farmers at a heavily subsidised rate, the money for which can be funded by doing away with the current

availability of urea, super phosphate, potassium, SSP and complex fertilizers. “This will help prevent hoarding. We are also making arrangements for supply of enough seeds and fertilizers so that farmers can start sowing when the water from the dam reaches them,” an official said. Annually, farmers in the State use about 20 lakh metric tonnes of fertilizers. Kottakuppam farmer S. Sankaranarayanan, who has been using the website, said it is quite useful. “Even if I am unable to check online, the Vanur block agricultural officer sends details by text message. We get regular updates about various schemes and subsidy for implements, seeds and fertilizers. The Kisan call centre is also helpful,” he said.

## interest subsidy scheme.

It observed that the interest subsidy scheme has distorted the agricultural credit system and seems to have impeded long-term investment. Under the scheme, the Centre provides interest subvention at 2% for short-term crop loans of up to ₹3 lakh. Additionally, a 3% incentive is given for prompt repayment of loans. The committee said millions of small farmers live on the precipice, starved of credit. In the absence of bold structural reforms by way of digitisation of land records and giving tenancy certification to enable credit to the tiller, the problem is likely to persist.

It expressed concern that although agricultural credit has been rising every year, as reflected in an increase in the number of accounts, the extent of financial exclusion remains large, especially for tenant farmers, share-croppers and agriculture labourers who still have limited or no access to the formal credit system. Additionally, indirect credit has risen more impressively compared to direct credit, due mainly to more and more categories being brought within the ambit of priority sector lending for agriculture. “It therefore becomes exigent to find out ways to reach the small and marginal farmers for agri-credit, taking due care of risk factors. “One of the primary reasons is the reluctance of landowners to formally lease out their land for cultivation for fear of losing their rights over the land. As a result, banks are reluctant to grant credit for want of any evidence of cultivation,” the committee said.

The owner of the land is often not the cultivator even in the case of small and marginal holdings, it added. Hence, the Committee recommended that in order to increase formal credit supply to all agrarian segments, digitisation of land records should be taken up by

### **RBI prefers woman, girl-child route to financial inclusion**

In a bid to push financial inclusion, a RBI panel has recommended a slew of measures, including a special deposit scheme for the girl child, government-to-

states on a priority basis. In order to ensure actual credit supply to the agricultural sector, the committee recommended the introduction of an Aadhaar-linked mechanism for Credit Eligibility Certificates. For example, in Andhra Pradesh, the revenue authorities issue Credit Eligibility Certificates to tenant farmers (under the Andhra Pradesh Land Licensed Cultivators Act). Such tenancy/ lease certificates, while protecting the owner’s rights, enable landless cultivators to obtain loans.

The Reserve Bank of India may accordingly modify its regulatory guidelines to banks to directly lend to tenants/lessees against such credit eligibility certificates. The Centre, according to the panel, may phase out the agricultural input subsidy and replace it with an income transfer scheme, which could potentially transform the agriculture sector besides promoting financial inclusion. This would first require digitisation of land records for clear titles and credit linkages to establish evidence of cultivation. The Centre may restructure the Agriculture Insurance Company (AIC) to take up the role of a dedicated Crop Insurance Corporation, the committee suggested.

person social cash transfer, and opening interest-free windows (Islamic banking) by banks. To address the problem of a large number of women being left out of

the financial system, the committee on medium-term path on financial inclusion chaired by RBI Executive Director Deepak Mohanty said banks have to step up account opening for women. The committee suggested that the government consider a welfare scheme — Sukanya Shiksha — that can be jointly funded by the Central and State governments.

The scheme will link education with banking habits by crediting a nominal amount in the name of each girl child belonging to the lower income group who enrolls in middle school. This would make it incumbent on the school and the lead bank and its designated branch to open an account for social cash transfer. This scheme will also have the benefit of lowering school dropout rates and empowering the girl child. According to Brookings Institution's latest Financial and Digital Inclusion Project Report and Scorecard, India accounts for 21% of world's and 67% of South Asia's unbanked population. Though the Pradhan Mantri Jan Dhan Yojana has facilitated the opening of 185 million bank accounts as of September 2015, there is still a gap.

Given the low level of personal disposable income, particularly for the bottom quartile of the population, the RBI committee is of the view that meaningful financial inclusion will not happen without Government-to-Person (G2P) social cash transfers. The committee said there is a need for better use of the mobile banking facility for G2P

payments, and this would push government in its financial inclusion drive. The committee also recommended that a unique biometric identifier such as Aadhaar be linked to each individual credit account and the information shared with credit information companies. This will not only help in identifying multiple accounts, but will also help mitigate the overall indebtedness of individuals who are often lured into multiple borrowings without being aware of the consequences.

The committee recommended that commercial banks in India be enabled to open specialised interest-free windows with simple products. In an interest-free banking structure, the bank accepting deposits will not engage in lending as a purely financial activity but undertakes operations on the basis of profit and loss sharing by engaging in equity and/or trade financing. To increase formal credit to all agrarian segments, the committee said digitisation of land records is the way forward. This should be backed by an Aadhaar-linked mechanism for credit eligibility certificates to facilitate credit flow to actual cultivators. The panel suggested phasing out the agricultural interest subvention scheme and ploughing the subsidy amount into an affordable technology-aided universal crop insurance scheme with a monetary ceiling of ₹2 lakh to end agrarian distress. To encourage discipline in loan repayments, the panel recommended a scheme of

'Gold KCC' (Kisan Credit Card) with higher flexibility for borrowers with prompt repayment records. This move could be dovetailed with a

government-sponsored personal insurance, and digitisation of the KCC to track expenditure pattern.

### **RBI to review banks' loan quality**

In a bid to address concerns over growing bad loans, the Reserve Bank of India has initiated a review of banks' asset quality. The review is aimed at assessing how the various bad loans management schemes the RBI introduced in the past few years are working and, if required, fine-tuning them to help the banking system nurse stressed assets back to health. Public sector banks are the primary targets for this review. The stressed assets problem in the banking system is underscored by the fact that as on March-end 2015, gross non-performing assets (GNPAs) were 4.62% of the gross advances, against 2.36% as on March-end 2011. Public sector banks recorded the highest level of stressed assets (GNPAs plus restructured standard advances) at 13.5% of total advances as of March 2015, compared with 4.6% for private sector banks, as per RBI's June Financial Stability Report.

The central bank has now sought details of large stressed assets, including date of implementation of the bad loan management schemes. Under the schemes, banks take corrective action under the aegis of the joint lenders forum, strategic debt restructuring (entailing debt-for-equity swap by banks and management change in companies) and 5/25 scheme (where long-term project loans of up to 25 years tenure to infrastructure and core industries sectors are refinanced every five years). A senior public sector bank official said the RBI is examining inherent weaknesses in each of the large accounts. The official added that it is possible for the stressed assets to be put back on track provided the regulator, the government (Central as well as State), banks and company promoters come together on a common platform and sort out the hurdles facing the accounts.

### **A note: Poverty in rural India is still a concern**

A World Bank report has proposed a new way to measure poverty which suggests that India may have been overestimating the number of its poor. According to a separate set of figures and analysis endorsed by the Ministry of Rural Development, however, nearly 7% of the country's

rural population is still living in "extreme poverty". Both estimates are for 2011-12. According to the government-endorsed India Rural Development Report 2013-14, however, poverty in rural India fell much faster in the period 2004-12 as compared to the preceding decade.

The report, is the second edition of the India Rural Development Report series prepared by the IDFC Rural Development Network. In 2006, the Rural Development Ministry, had entered into an agreement for the publication of an annual rural development report. According to the India Rural Development Report 2013-14, 6.84% of the rural population was categorised as “very poor” in 2011-12, down from 16.3% in 2004-05. Chhattisgarh had the highest percentage of “very poor” across major states — 15.32% — followed by Madhya Pradesh (15.04%), Odisha (11.46%), Bihar (10.45%) and Jharkhand (9.23%).

In 2004-05, the bottom five states were Odisha (34.3%), Chhattisgarh (24.5%), Bihar (23.5%), Madhya Pradesh (23%), Maharashtra (22.5%). However, the report also finds that the rate of reduction of rural poverty per annum nationally accelerated to 2.3% points during 2004-11 as compared to 0.8% points in the decade spanning 1993-2004. Poverty declined at a faster pace in poorer states like Odisha, Bihar, Madhya Pradesh and Uttar Pradesh during 2004-11 as compared to the decade preceding it. In 2004-11, the highest rates of reduction of rural poverty per annum among states were in Tripura (4 percentage points), Odisha (3.6), Maharashtra and Uttarakhand at 3.4 percentage points, and Bihar, Sikkim and Tamil Nadu at 3.1 percentage points.

Poverty among marginalized groups continues to remain high. Significantly, even in 2011-12, nearly 45% of Scheduled Tribes and 31% of Scheduled Castes in rural areas remained poor, although down from 62.3% and 53.5% respectively in 2004-05. Between 1993-94 and 2004-05, non-SC/STs saw a faster rate of reduction of poverty, the report shows. Between 2004 and 2012, all social groups saw a significantly accelerated rate of poverty reduction — the rate among SCs and STs was, in fact, higher than the average rate of reduction of poverty in rural areas, says the report. And yet, more than half the SCs in the rural parts Bihar, were found to be poor — the highest among states at 51.67%. In Chhattisgarh, 48.19% of SCs were poor, while in Madhya Pradesh, Odisha and Uttar Pradesh, the figure was around 41%. The all-India figure was 31.52%.

The incidence of poverty among STs remained high in Chhattisgarh, Bihar, Madhya Pradesh, Maharashtra and Jharkhand. Over half the STs in these states are poor, as per the 2011-12 figures. Poverty among occupational groups in rural areas is the highest among agricultural labour (40%), followed by other labour at 33% and the self-employed in agriculture at 22%. However, poverty among the non-agricultural households is low.

## A bank to overcome farm labour shortage

A group of social entrepreneurs in Palghat district of Kerala have joined hands to establish a labour bank. This bank has a pool of over 30,000 rural womenfolk, who have gained some expertise in rice farming. "The effort is aimed at economic upliftment of rural women coupled with tackling shortage of farm hands," says Vinod Kumar, Chief Executive, Palakkad Coconut Producer Company Ltd (PCPCL) and member of Little Tree, a training centre established in partnership with Maithri, a Non-Governmental Organisation. Little Tree is located at a distance of about 30 km from Palghat at Urkulam, Muthalamada. "Basic training in rice cultivation is being imparted at this centre. It is a residential programme. Women from Palghat, Malappuram and Thrissur districts are being identified for the training. They are trained in batches of 60, and this includes field training/practical orientation," Padmanabhan Bhaskaran, Vice-President, PCPCL, said.

### Permission no longer needed to buy farm land in Maharashtra

In a major move to boost industrial growth, the Maharashtra government approved an amendment to the Rent Act, allowing non-farmers to buy agricultural land for industrial activities without government permission. As per the amendment, permission to buy agricultural land that is shown as 'not under farming' in plans can be

The women are empowered under the government-supported Mahila Kisan Sashaktikaran Pariyojana (MKSP) scheme in Kerala, he said, and pointed out that the trained women do not go as farm labourers but contractors. "These people do not work like daily labourers or coolie. They are contracted for a fee and this depends on the acreage of the field. The cost of transplanting an acre of paddy works out to ₹7,000-8,000 an acre when done manually. These women are trained in mechanised farming practices. This not only brings down labour cost but also in greater coverage of area. While they are assured of employment for at least 50 days in a season, the manpower requirement (for say transplantation) would just be 2-3 per acre and they can easily cover up to 3 acres in a day," Vinod Kumar explained. Little Tree is partnering with Green Army (said to be the first Labour Bank in India) is building labour bank to tide over paucity of farm labour.

removed. But the buyer will have to use the land for the pre-stated purpose in five years (which can be increased to 10 years by paying an annual fee); failing to do so will result in the land being deposited back with the government with the intent of returning it to the original farmer. Buyers wanting to resell the land for other purposes will have to pay a

25% transfer fee. It is no longer necessary to seek permission from the Industry Commissioner to buy

### **A note - India at Nairobi Ministerial**

The World Trade Organisation's Ministerial in Nairobi failed to deliver anything concrete for India and other developing countries in the areas of food security and farmer protection. Worse, it has saddled them with the burden of doing away with all export subsidies in the next eight years, and all but ended the development framework of the Doha Round within which negotiations have been taking place. "Without the Doha framework and an explicit reaffirmation of the Doha Development Agenda, developing countries will never be in a position again in the WTO to negotiate the agenda to their benefit," pointed out Biraj Patnaik from the Right to Food campaign.

No definite agreement was reached in the area of special safeguards mechanism (SSM) for protecting developing country farmers against import surges that India was pushing for. All that the Nairobi Declaration, adopted says is that the SSM negotiations will continue in the older format (Hong Kong Ministerial) where it is not linked to giving additional market access. There is no clarity on how, or by when, the 2008 deadlock with the US on the issue will be broken.

In 2008, the WTO talks in Geneva broke down as an irreconcilable position was reached between the US and India over what would be the trigger the use of SSMs by developing

agriculture land more than 10 hectares for industrial use.

### **A note - India at Nairobi Ministerial**

countries. "What is the guarantee at this point that talks will move forward from there," wondered trade expert Biswajit Dhar from Jawaharlal Nehru University. On public food stockholding, too, where India had demanded a permanent solution in Nairobi, the Declaration just talks about meetings to be held in an "accelerated time frame" to arrive at a permanent solution. Against just a mention of SSM and food stockholding in the Nairobi Declaration, India was made to agree to an export competition pact that will end as early as 2023 New Delhi's flexibility to offer export subsidies for transport and marketing purposes. This means India will not have the option of giving export subsidies for sugar or other items after eight years.

Moreover, the agreement on export competition gives the US the liberty to continue with its export credit programmes and food aid. "The threat of commercial disposal of international surpluses through food aid has been ignored," Dhar said. With the Nairobi Declaration explicitly stating that there is no consensus on continuation of the Doha Development Agenda, the stage seems set for the introduction of new issues, including investment, competition policy and government procurement, which means new battle fronts for India.

## **Skill gap is a big issue in poultry sector**

Intake-output trends and growth rates in trained veterinary manpower in India suggest that, the growth rate of the graduate manpower is not commensurate with growth rates of either livestock sector or poultry sector. A lead paper on 'Clean and Green Poultry production' presented by P. V. K. Sasidhar, Associate Professor, School of Extension and Development Studies, Indira Gandhi National Open University, New Delhi, at the Annual Conference of the Indian Poultry Science Association and National Symposium at College of Avian Sciences and Management of Kerala Veterinary and Animal Sciences, Thiruvazhamkunnu in Kerala, stressed the need for starting polytechnic colleges to cater to the technical manpower needs of the poultry sector at the lower level.

Poultry science education departments and research institutes have played an important role in the transformation and development of India's poultry sector. Veterinary graduates constitute major technical manpower to manage middle level technical and administrative positions in the poultry sector. There are about 2,530 million chickens as per recent poultry statistics. At the rate of one veterinarian / million birds, about 2,530 veterinarians are required for the poultry industry alone in India. It was estimated that about 2,050 veterinarians are working in the private poultry sector.

In the government and public sector undertakings almost 43,000

veterinarians are employed. Out of them at least 10% are working in poultry related fields. Therefore, the total numbers of veterinarians working in private and public poultry sectors are approximately 6,350 on full time basis. Currently, 200 veterinarians are joining the poultry sector every year. In the next decade as compared with the poultry production sector, the equipment, poultry pharmaceutical industries, poultry processing industries, egg powder plants, value addition, packaging, marketing and exports are likely to increase substantially, which would require more number of poultry veterinarians for quality control, certification etc. The poultry sector also needs technical, diploma and certificate holders to work as farm supervisors, hatchery and feed mill operators, processors, chick sexers, artificial inseminators, vaccinators, debeakers and the like.

With a minimum expected growth rate of 10% per annum in the sector, poultry sector alone needs 708 and 1,140 veterinary graduates in 2015 and 2020, respectively. Skill gap is a big issue in the poultry industry in the country, Dr. Sasidhar added. In order to fill this gap Directorate of Entrepreneurship of KVASU will formulate skill development programmes in association with Agriculture sector skill council of India, said Dr. T. P. Sethumadhavan, Director of Entrepreneurship , KVASU.

## Small units need assistance of professional advisors

To provide a leg-up to micro, small and medium enterprises (MSMEs), a Reserve Bank of India panel has made a series of recommendations, including establishing a system of professional credit intermediaries/advisors, to help both the sector and banks in credit assessment and encouraging multiple guarantee agencies to provide credit guarantee in niche areas. The RBI committee observed that for MSMEs, professionals who can evaluate the creditworthiness of these firms by acting as intermediaries with the bank, can help bridge the significant credit gap in this sector.

While varying estimates point to the potential and need for credit among underserved MSMEs, a study by International Finance Corporation estimated the overall finance gap in the MSME sector at ₹21 lakh crore in 2009-10. It comprises a debt gap of ₹19 lakh crore and an equity gap of ₹2 lakh crore. The potential demand for external finance was estimated at ₹28 lakh crore as against total finance of ₹7 lakh crore from formal sources. The committee recommended that any policy action for the MSME sector would need to consider several possibilities, be it new institutions or intermediaries that can help bridge the information gaps that plague these entities or even innovative ways of providing finance to this sector.

To achieve greater financial

inclusion and financial deepening in a manner that enhances systemic stability, the committee felt that there is a need to move away from a limited focus on any single model to an approach where multiple models and partnerships are encouraged to emerge. In the context of ensuring greater credit flow to MSMEs, this calls for the emergence and strengthening of specialised institutions, such as non-banking finance companies and microfinance institutions that focus on the provision of credit for different types of MSMEs. According to the panel, the regulatory system needs to ensure that such institutions expand and multiply. Keeping in view the extant overextension of guarantees by the Credit Guarantee Scheme Trust for Micro and Small Enterprises (CGTMSE), the committee recommended that multiple guarantee agencies, both public and private, that can provide credit guarantees in niche areas may be encouraged. This will not only reduce the burden on the CGTMSE but also make the extant insurance scheme economically viable. In order to deepen the credit guarantee market, the committee suggested that the role of counter guarantee and re-insurance companies should be explored. MSEs that can provide collateral should not be put under the guarantee scheme, thereby reducing the pressure on the CGTMSE. Accordingly, the

committee recommends a system of unique identification for all MSME

### **RBI revamps JLF mechanism to tackle bad loans**

The Reserve Bank of India has revamped the Joint Lenders' Forum (JLF) norms to ensure mandatory presence of representatives of two systematically important banks — SBI and ICICI Bank — in JLF Empowered Groups formed by bankers to tackle the rising non-performing assets (NPAs). "The JLF-EG should have a representative each of SBI and ICICI Bank as standing members," the RBI said in a notification. Besides, a representative each of the top three lenders to the borrower should also present, it said. If SBI or ICICI Bank is among the top three lenders to the borrower, then a representative of the fourth largest or a representative each of the fourth and the fifth largest lenders should be present, it said.

JLF-EG should have a representative each of the two largest banks in terms of advances which do not have any exposure to the borrower and the participation in the JLF-EG should not be less than the rank of an executive director in a public sector bank or equivalent, the RBI said. Bankers had complained that boards of the banks find it difficult to approve the decisions taken by JLF as the JLFs do not have senior level representations from the participating lenders. "Although RBI has not explicitly prescribed the level of representation in its guidelines,

borrowers and the sharing of such information with credit bureaus.

### **RBI revamps JLF mechanism to tackle bad loans**

banks are expected to depute sufficiently empowered senior level officials for deliberations and decisions in the meetings of JLF," the RBI said.

JLF will finalise the Corrective Action Plan (CAP) and the same will be placed before an empowered group (EG) of lenders, which will be tasked to approve the restructuring packages, it said. The bank will convene the JLF-EG and provide the secretarial support to it, it said. With regard to restructuring of loans, it said generally no account classified as doubtful should be considered by the JLF for restructuring. But in cases where a small portion of debt is doubtful, that is the account is standard/sub-standard in the books of at least 90% of creditors (by value), the account may then be considered under JLF for restructuring. In partial modification, it has been decided that a JLF may decide on restructuring of an account classified as 'doubtful' in the books of one or more lenders similar to sub-standard assets, if the account has been assessed as viable, it added.

On the exit option, the RBI said irrespective of whether they are within or outside the minimum 75% and 60%, can exercise the option for providing additional finance only by way of arranging their share of additional finance to be provided by a new or existing creditor. Dissenting

lenders who do not want to participate in the rectification or restructuring of the account as CAP, which may or may not involve additional financing, will have an option to exit their exposure completely by selling their exposure to a new or existing lender. The exit should be within the prescribed timeline for implementation of the agreed CAP, the RBI said.

### **Sebi tightens norms for agri commodities trading**

To curb speculative trades in agricultural commodities, markets regulator Sebi tightened norms for trading of such derivative contracts and suspended forward trading in all fresh contracts. The move assumes significance as a number of farm commodities are said to have taken a hit due to prevailing drought conditions for the second year in a row and production is expected to be lower. "It has been decided that participants in Forward Segment shall not be allowed to enter into fresh contracts till further orders. However, the existing contracts shall be allowed to be settled as per the terms of the contracts," Sebi said in a circular.

Sebi began regulating commodities derivatives market in September 2015. Announcing a number of measures to "curb the speculative participation and consequent volatility in prices of agricultural commodities derivatives", Sebi lowered the Daily Price Limits (DPL) for Barley, Chilli,

The exiting lender will not have the option to continue with their existing exposure and simultaneously not agreeing for rectification or restructuring as CAP. "Sometimes disagreement arises among lenders on deciding the CAP on rectification or restructuring, resulting in delay in initiating timely corrective action," it said.

### **Sebi tightens norms for agri commodities trading**

Jeera and Turmeric to 4% - including 2% in the initial slab and further 2% in the enhanced slab. For all other agricultural commodities, the initial slab limit has been revised to 3% and to a further 1% for the enhanced slab.

The revised DPL norms would be applicable with effect from February 1, 2016. Once the initial slab limit is reached in any contract, then after a period of 15 minutes this limit would be increased further by enhanced slab, only in that contract. The trading would be permitted during the 15 minutes period within the initial slab limit. After the DPL is enhanced, trades shall be permitted throughout the day within the enhanced total DPL of 4%. The slab-wise DPL norm would be applicable uniformly on all trading days.

In addition, Sebi also reduced the Near month Position Limits. Currently in case of agricultural commodity derivatives, client level (individual traders) and member level (brokers) near month

position limits in any commodity are 50% of their overall position limits for that commodity. This near-month

### **Banks can sell gold coins made by MMTC, says RBI**

The Reserve Bank of India (RBI) allowed banks to sell gold coins manufactured by public sector MMTC Ltd, through bank branches as the gold procured for making the coins are from the domestic market. MMTC has earlier been authorised by the Central Government to manufacture India Gold Coins (IGC) with Ashok Chakra and supply these coins to the domestic market. "MMTC has clarified to the Reserve Bank that the gold used for the IGC will be only that mobilised domestically under the existing Gold Deposit Scheme (GDS) and Gold Monetisation Scheme (GMS)," the RBI said.

"In view of this, it has been decided to allow the designated

position limit has now been revised from 50% to 25%.

### **Banks can sell gold coins made by MMTC, says RBI**

banks to sell the IGCs minted by MMTC. The terms and conditions will be as per the contract between the designated bank and MMTC," the RBI said.

India imports around 1,000 tonnes of gold every year, draining out foreign exchange and putting pressure on the fiscal deficit. An estimated 20,000 tonnes of gold worth over ₹52 lakh crore is lying with households and temples. Under the Gold Monetisation Scheme (GMS), 2015, banks will collect gold for up to 15 years to auction them off or lend to jewellers from time to time. Depositors will earn up to 2.50% interest per annum, a rate lower than bank deposits.

### **Norms relaxed for claiming personal accident cover under RuPay Cards**

The Finance Ministry has increased the usage period of RuPay Cards to 90 days from the earlier limit of 45 days for a claim under the inbuilt accident insurance cover of ₹1 lakh. "One stipulation for making the claim under accidental death or permanent disability was that the RuPay Card holder has to carry-out at least one successful transaction...up to 45 days prior to the date of incident resulting into claim," said a Finance Ministry, adding that it was creating problems

for some of the subscribers.

Account holders under the Pradhan Mantri Jan Dhan Yojana (PMJDY) with RuPay Cards have the ₹1 lakh accident insurance cover. The issue was also taken up with the National Payment Corporation of India (NPCI) that operates the RuPay debit Cards. "NPCI has extended 45 days usage condition to 90 days for RuPay Classic cardholders with effect from November 25, 2015," said the release.

## **Banks given enough powers to clean up Books by March'17: RBI**

The Reserve Bank of India (RBI) said it is closely monitoring the sticky assets of state run banks and it aims to complete the clean-up act by March 2017. RBI Governor Raghuram Rajan said large Indian promoters had the ability to use the system to their benefit while dealing with bank loans and RBI has given banks some powers to deal with sticky loans. "We have spent much of the last few quarters creating a variety of bank powers to deal with stressed assets. Having given those powers, we are now looking at how those powers are (being) implemented," the governor said in an interaction with the media in Kolkata after RBIs central board took stock of the economy and financial market. "By March 2017, the entire process of restoring health of banks should be over," Rajan Said.

It has introduced the 5:25

scheme, the strategic debt restructuring (SDR) option and allowed taking over of a distressed company by an external agency in order to help banks struggling with rising non-performing assets (NPAs). The 5:25 scheme allows lenders to refinance long term projects every five years. Under the SDR mechanism, banks can take over defaulting companies, exchanging debt for equity, and for 18 months, the account will not be classified as NPA. RBI does annual financial inspection of every banks'loan books and has found divergent practices employed by banks in recognising sticky loans. The central bank endeavours to wipe out the discrepancies as concerns have been expressed at various level for a that banks are using various methods to hide NPAs on their books.

## **Haryana law on Panchayat Elections gave priority to repayment of cooperative dues**

In a judgement that could change local governance in the country, the Supreme Court on Dec. 10, 2015 upheld a Haryana Law that requires a candidate to have studied up to a particular standard to be able to contest panchayat elections.

It set minimum educational qualifications having a functional toilet at home, not having defaulted

in cooperative loans or having outstanding dues on rural domestic electricity connections and not charged by a court for a grave criminal offence as criteria to be eligible to contest local body elections. These are in addition to insolvency and being of unsound mind, disqualifications that are specified in the Constitutions.

## **RBI pushes for bank branches in every Village with over 5,000 residents**

Reserve Bank said every village with a population over 5,000 should

have a bank branch by March 2017 and asked the SLBC's to identify

such villages without a bank branch in their state. Earlier in 2012, State Level Bankers' Committee (SLBC) Convenors were asked to prepare a roadmap to provide banking services in all unbanked villages with population less than 2,000.

For increasing bank penetration and financial inclusion, brick and mortar branches are an integral component, RBI said in a notification

today, and said it has decided to focus on villages with population above 5,000 without a bank branch of a scheduled commercial bank. "Accordingly, SLBC Convener banks are advised to identify villages with population above 5,000 without a bank branch of a scheduled commercial bank in their state," RBI said.

### **CBDT exempts TDS on deposit interest for coop bank**

The CBDT has issued "Explanatory Notes to the Provisions of the Finance Act, 2015" vide Circular No, 19 / 2015 Dated:27/11/2015. The Paragraphs 42.4 and 42.5 of this circular clarify the applicability of provisions of section 194A(3)(v) of the Income Tax Act w.e.f. 01.06.2015 on cooperative banks. These two paragraphs are reproduced here below:

42.4 As there is no difference in the functioning of the co-operative banks and other commercial banks, the Finance Act, 2006 and Finance Act, 2007 amended the provisions of the Income-tax Act to provide for co-operative banks a taxation regime which is similar to that for the other commercial banks. Therefore, there is no rationale for treating the co-operative banks differently from other commercial banks in the matter of deduction of tax and allowing them to avail the exemption meant for smaller credit co-operative societies formed for the benefit of small number of members. However,

as mentioned earlier, a doubt has been created regarding the applicability of the specific provisions mandating deduction of tax from the payment of interest on time deposits by the co-operative banks to its members by claiming that general exemption is also applicable for payment of interest to member depositors.

42.5 In view of this, the provisions of the section 194A(3)(v) of the Income-tax Act have been amended so as to expressly provide that the exemption provided from deduction of tax from payment of interest to members by a co-operative society under section 194A(3)(v) of the Income-tax Act shall not apply to the payment of interest on time deposits by the co-operative banks to its members. As this amendment is effective from the prospective date of 1<sup>st</sup> June, 2015, the co-operative bank shall be required to deduct tax from the payment of interest on time deposits of its members, on or after the 1<sup>st</sup> June, 2015. Hence, a cooperative bank was not required to

deduct tax from the payment of members paid or credited before 1<sup>st</sup> interest on time deposits of its June, 2015.

### **Changes in ARDBs**

Shri P.S. Nargesh, has assumed charge as Authorised Officer of the Madhya Pradesh State Coop. Agri. & Rural Dev. Bank Ltd., w.e.f.13.01.2016.

Shri Harinder Singh Sidhu has assumed charge as Managing Director of the Punjab State Coop. Agril. Dev. Bank Ltd.

Shri K. Shadakshari, MLA, has assumed charge as President of the Karnataka State Coop, Agri. & Rural Dev. Bank Ltd., w.e.f. 05.01.2016.

## AGRICULTURAL NEWS

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### **Management of Potato early blight**

Early blight, caused by *Alternaria solani*, is a very common disease of potato and is found in most potato growing areas. The disease occurs over a wide range of climatic conditions and depends in a large part on the frequency of foliage wetting from rainfall, fog, dew, or irrigation, on the nutritional status of foliage and cultivar susceptibility. Yield losses up to 79% from early blight damage have been reported from India. Foliar symptoms of early blight first appear as small, irregular to circular dark brown spots on the lower (older) leaves. As the spots enlarge, they become restricted by leaf veins and take on an angular shape. Early in the growing season, lesions on young, fully expanded succulent leaves may be larger up to half an inch in diameter and may, due to their size, be confused with late blight lesions.

Extensive chlorosis of infected foliage develops over time. By the end of the growing season, the upper leaves of infected potato plants may be peppered with numerous small

early blight lesions and subsequently lesions may coalesce to cover a large area of the leaf. Severely infected leaves eventually wither and die. Severe infection of foliage by the early to mid-bulking period can result in smaller tubers, yield loss and lower tuber dry matter content. Tuber symptoms of early blight include circular to irregular lesions that are slightly sunken and often surrounded by a raised purple to dark brown border. These lesions reduce the quality and marketability of fresh market tubers.

#### **Management:**

Diseased plant parts should be destroyed properly. Avoid irrigation in cool cloudy weather and time irrigation to allow plants time to dry before nightfall. *Trichoderma harzianum*, *T. viride*, and *Pseudomonas fluorescens* are effective against the disease. Protectant fungicides (e.g. maneb, mancozeb, chlorothalonil, and triphenyl tin hydroxide) are also effective.

### **Raise short-duration crops to counter poor rains**

To deal with the possibility of a deficit monsoon, the agriculture ministry has suggested sowing of short-duration varieties of paddy, pulses, oilseeds and other less water-intensive crops in the northern India regions for curbing possible crop losses. Indian Agricultural Research

Institute (IARI), a premier institute under the ministry of agriculture, has suggested transplanting of short duration paddy varieties of Pusa Basmati 1509 and Sugand 5 which could be sown in the later part of the July in the irrigated areas.

Besides the advisory has also

asked farmers to take up cultivation of corn, bajra, oilseeds and pulses such as mungbean (green gram) and arhar (pigeon pea) in areas with limited irrigation facilities in place of paddy so that the crop losses could be minimised. According to A K Singh, a rice breeder with IARI, the 1509 Pusa basmati variety which was introduced for cultivation in 2013, takes only about 120 days to mature against more than 140 days required for popular Pusa 1121 rice

### **A new concept called ecological engineering to reduce pests**

Erode district alone has 32,000 hectares under paddy cultivation. The district runs across the Cauvery and Bhavani river basin. Due to unfavourable climatic conditions pest infestation such as rice stem borer, leaf folder, ear head bug, gall midge, rice thrips — all common in paddy cultivation — create havoc every season leading to nearly 30% yield loss. Many farmers mostly rely on chemical pesticides (insecticide and fungicide) for managing both pests and infestations. If they are advocates of organic farming then they use bio pesticides to keep the menace under control.

Presently a new technology called Ecological engineering for pest management has been introduced by National Institute of Plant Health Management (NIPHM), Hyderabad to aid farmers maintain the biodiversity and keep pests under control while at the same time maintaining the paddy eco-system. The technology trial was adopted in Singiripalayam

variety. “The Pusa 1509 basmati variety is suitable in case of deficit rainfalls in the northern Indian regions,” Singh said. In case of rainfed areas also, the advisory suggests, growing of pulses and oilseeds. On the method of cultivation, the advisory recommended adoption of direct seeding in the case of paddy as it would cut down on water requirement for the crop.

village and Mr. Karthikeyan, a paddy farmer who adopted this technology in his field, says: “Due to excessive pesticide use farmers like me often encountered environmental problems. The soil health also got deteriorated. I find the new technology encouraging, since there is a 45 to 50% reduction in pest population. I have also observed natural predators on pests like damsel fly, praying mantises and spider population have increased in my field.

The specialist team conducted an analysis to study the pest defender ratio for plant health and found that the natural enemies are able to maintain the pest population which are infesting the paddy crop. “In normal situation we use to go for chemical spray, sometimes even three to four sprays to control pests and diseases. By adopting this technique no chemical spray is required. Natural enemies which prey on the pests are allowed to

flourish in the fields. By adopting this method I could save nearly ₹5,000 for a hectare towards the cost of purchase of chemical pesticides during one cropping season," says Mr. Haridas another farmer. The trial has been implemented for different crops such as blackgram, cowpea, green gram, mustard, sesame, marigold, tulsi, castor and sunflower and found effective.

The Kendra initiated a capacity building programme for farmers in the district and on farm training was given on production of bio-control agents and bio-pesticides to ensure the timely availability of bio-inputs at the farmer level. A collective approach by the farming community on adoption of this technology will not only suppress the pest population but also enhances the

soil health through organic bio-fertilizer utility. A three days field training was organized for the farmer club members, to get first hand information on this approach and an exposure visit was organized by National Institute of Plant Health Management (NIPHM), Hyderabad for a week. In both the villages, farmers are collectively involved in the production of bio-inputs, predators and parasites for managing the pest population. The community approach on this ecological engineering is expected to bring the region as pesticide free zone and enhance the soil microbial activity in the paddy eco system. Plans are on to introduce this method in other crops like cabbage, cotton and groundnut in the coming season.

### **Forage crops which are still popular among dairy farmers**

Among the forage varieties /hybrids released by the Tamil Nadu Agriculture University, Coimbatore varieties like Cumbu Napier hybrid CO (CN) 4, Guinea grass CO (GG) 3, Multicut fodder sorghum CO (FS) 29 and Lucerne CO 1 are still popular among the farmers of Tamil Nadu and neighbouring states. These varieties have heralded a new era in fodder research and development at the National level. The varieties are a boon for dairy farmers of Tamil Nadu, Kerala, Andhra Pradesh, Karnataka and Maharashtra.

The stem of Cumbu Napier Hybrid grass CO (CN) 4 is ultra soft, less fibrous with sugary juice, making it

more palatable. A white powdery coating on the stem is visible. The tillers are numerous and grow faster. It has large leaves, softer and less persistent hairs on leaf blades and sheaths and leaf edges are not very sharp. The leaf-stem ratio is higher. As the palatability is very high, milch animals such as cattle, sheep and goats relish the fodder with least rejection. The variety registered a yield of 382 tonnes per hectare a year which is 32.9% increased yield over the CO 3 variety. A total quantity of 1,07,03,873 stem cuttings has been distributed across India spreading over 15 states during 2008 to 2014.

The Guinea grass CO (GG) 3 is a

clonal selection from Mombasa. It has good seedling vigour with profuse tillering. It has large and long leaves with high leaf stem ratio. Sheep, goats and pigs relish the fodder without rejection. It had registered a yield of 320 tonnes per hectare which is 18.5% increased green fodder yield over the CO 2 variety. Sorghum, the foremost important forage crop in India followed by Berseem and Lucerne is cultivated mainly in western UP,

Haryana, Punjab, Rajasthan, Tamil Nadu and Delhi and fulfils over two-third of the fodder demand during Kharif season. This variety, first of its kind in India, was released more than a decade back from the department of forage crops. It was released during 1980 and yields 80-90 tonnes in a year from a hectare. A maximum of 12 harvests can be made annually at intervals of 30 days.

### **Tomato cultivation under fertigation method**

Tomato is one of the major crops cultivated in Chinnagottigallu mandal of Chittoor district, A.P. It is cultivated in an area of 267 hectares with average yield of 45-55 tonnes per hectare. The crop is cultivated throughout the year under drip irrigation system. Even though drip system is adopted, some farmers are using fertilizer doses indiscriminately through soil application for crop production. Some of them are applying excessive dose of water soluble fertilizers along with drip irrigation as recommended by local private companies.

As a consequence, cost of cultivation has been increasing indirectly with heavy doses of fertilizers since farmers are investing more either for daily application of water soluble fertilizers through drip irrigation or for soil application of complex fertilizers. In such conditions, tomato crop sometimes could not assure guaranteed profit to the farmers due to downfall of market

prices especially at the time of market glut. Frontline demonstrations on fertigation in tomato has been undertaken by RASS-Krishi vigyan Kendra in different villages of Chinnagottigallu mandal under NABARD lead crops project with an objective of enhancing crop productivity with lower doses of fertilizers. This technological intervention has brought about not only considerable reduction in cost of cultivation with lower doses of fertilizers but also led to higher crop yields.

As a latest technological intervention, fertigation schedule with 50% recommended doses of fertilizers was demonstrated in a large scale adoption. KVK has given water soluble fertilizers such as 50kg urea, 25kg multi-k and 25kg calcium nitrate free of cost for demonstration purpose. Technical knowhow was also provided on foliar application of micronutrients, IPM practices (yellow sticky traps, trap crop, border

crop). In result a 33.3% yield increase was obtained in the

demonstration plot saving about ₹1,37,500 on expense on inputs.

### **Eco-friendly technologies fetch better results in rice production**

Kuttanad, referred to as rice granary of Kerala, forms a unique ecologically fragile bio-geographical unit that is located mostly in Alappuzha district in Kerala. The vulnerability of the system is attributed to the problems of water logging and soil acidity along with climatic variations. Crop damage due to summer rains and flood during monsoon in the low lying fields called padasekharams are quite common. This uniqueness in bio-geography and associated social factors and institutions has earned it a Globally Important Agricultural Heritage System (GIAHS) status by FAO in 2013.

“The heritage status also strives for ecological restoration and sustainable development of the water-logged system which is under increasing stress due to environmental pollution caused by indiscriminate use of chemical fertilizers and chemicals,” says Dr. P. Muralidharan, senior scientist and programme coordinator at the institute. To address these problems, demonstrations were conducted in Alappuzha hosted by Central Plantation Crops Research Institute (CPCRI) in Muttar village of Veliyanad block under the National Innovations on Climate Resilient Agriculture (NICRA) project for four successive crops from 2011-2015. Farmers were encouraged to take up

demonstration packages on optimization of seed rate and plant population through the use of drum seeder, site specific acidity -nutrient management (SSNM) based on soil, testing, and eco-friendly pest and disease management and placement of trichocards for the control of major pests.

More than 100 farmers participated in these demonstrations which covered an area of 74.2 hectare over four years. Through regular field visits, farmer field schools, and interactions the crop situation from sowing to harvesting was monitored continuously. According to Dr. Muralidharan, by using paddy seeder (drum seeder) the seed requirement came down to 30 kg from 100-120 kg a hectare thus reducing the cost on seed purchase to almost 25%. Since the seeds were sown in uniform lines, plant population was optimum, the number of productive tillers was high and good aeration in the crop stand which resulted in reduced susceptibility of pests and diseases.

Further the plants had strong root anchorage in the soil which helped them survive lodging during harvesting stage due to summer showers and wind. “Another point is the time taken for harvest by the combined harvester was reduced by 40-50% due to the uniform population and non-lodging feature

achieved by drum seeding. All these factors put together reduced the cost of cultivation by about 10-20%," says Mr. M.S.Rajeev, specialist at the Kendra. Farmers were able to harvest the crop without using any chemicals. There were no pest or disease incidences in these plots and farmers were satisfied with the methods used. Usage of chemical pesticides and fungicides reduced by 90% and those who regularly used plant protection chemicals, the amount spent for pesticides and fungicides reduced to 50% compared

to the previous crop, according to him.

While the traditional broadcast crop yielded an average five to six tonnes per hectare, by adopting this package of technologies farmers could harvest six to seven tonnes per hectare with reduced inputs. The better yield and reduced cultivation cost led to an overall net profit of minimum ₹12,500 per hectare. Beneficiary farmers acted as master farmers to spread this package of technologies to others of the adjoining villages.

### **A new approach to rice cultivation**

A small group of farmers in Kuruvai village, near Vadakkencherry, in Kerala's Palakkad district has demonstrated that rice can be cultivated without chemical pesticides and see the yield and profit rise substantially. "Seeing is believing", says K. V. Usha, Director, Agricultural Technology Management Agency (ATMA), Department of Agriculture, about the Kuruvai experiment, which involved nearly a hundred families with holdings ranging between 0.4 and 1.5 acres.

They cultivated paddy as their survival crop for long, using traditional knowledge. But cultivation often failed. Some were forced to switch to cash crops and the others to tapioca and banana, which saw acreage under paddy shrink from 33 hectares to 18 hectares in a decade. A spell of hope came as paddy procurement price

was raised to ₹19 a kg by Kerala government. But labour cost rose. Pest attacks forced farmers to use heavy doses of chemical pesticides, which led to pest resurgence, a condition in which more and more pesticides are used with decreasing effect. But during the second crop season (Mundakan), starting October 2015, the farmers, under the guidance of ATMA, adopted pest surveillance and agro-ecology-based plant health management, a concept being promoted now by the National Institute of Plant Health Management, Hyderabad.

Decisions on crop management were taken after weekly evaluations of the presence of pests and defenders, health of plants, soil condition and climatic factors. The farmers, on weekly field visits, meticulously recorded everything from the weather condition to presence of live rodent burrows in

the fields. The average yield rose to 5,500 kgs per hectare, an increase of 30% over the previous level of 4,250 kgs. The farmers spent ₹47,785 per hectare from which the yields were 5,500 kgs of paddy and 3,000 kgs of straw. They earned a profit of ₹74,715 per hectare. Besides, Department of Agriculture pays a subsidy of ₹11,500 per ha. Added to the profits is the fact that the new pest management method helped avoid four to five rounds of pesticide sprays, which cost them between ₹4,000 to 5,000 per hectare. The farmers also overcame perennial shortage and high cost of labour by using a mechanised planter and harvester operated by a farm workforce called the “labour army” or thozhil sena.

The population of friendly insects is so high that there has been no incidence of pest outbreak so far, said an official associated with the programme. The farmers applied the same methodology to cultivation of vegetables and it was found that friendly insects and bio-controls were enough to protect the plants. They have spun their success with pesticide-free cultivation to a substantial business by opening a shop in Vadakkencherry, where produces from Kuruvai fields sold using the tag “safe-to-eat”. The farmers owe their success to the initiative by the Krishi Bhavan, Vadakkencherry, under Department of Agriculture, which adopted the rice paddy collective during 2013-14

for mechanisation and reduction of pesticide use under National Food Security Mission. During 2014-15, ATMA was roped in for a Farmer Field School for the second crop season 2015.

Dr. C. K. Peethambaran, former director of Research, Kerala Agricultural University, specialised in surveillance-based plant disease management, says that presence of friendly insects are overlooked in conventional cultivation. The Kuruvai experiment succeeded because friendly insects were used to fight pests, he said. Normally, pest attacks are countered with chemical pesticides, which first kill the friendly insects. It was noticed that the pest:defender ratio was always at an advantageous level throughout the first 45 days after transplanting, recalled an officer associated with the programme. Kuruvai farmers learnt the skill of reading the pest:defender ratio and realised that there was no need to apply pesticides if the defenders were enough to contain the pests. The farmers took a collective decision not to use chemical pesticides. Pheromone traps and inundative release of egg parasitoides were used to fight yellow stem borers. *Trichogramma chilonis* was used against leaf folders. Flame torches placed on bunds towards the dusks during the cultivation period helped fight rice bugs. Spraying of fish amino acid from sardine and jaggery distracted rice bugs.

## Coconut farming is spinning a success story

Ravaged by rampant pest attacks and violently fluctuating prices, Kerala's coconut farmers are parables on agrarian distress in the country. But their lot may be changing with a set of new initiatives by Coconut Development Board that include tapping and selling neera and value-added products from the unfermented, sweet sap from coconut flowers. The new initiative has been aided by a move by the State of Kerala to free neera from within the purview of the more than a hundred-years-old excise rules, which govern production and sale of intoxicating drinks, including toddy, the fermented sap from coconut flowers.

Beginning 2012, coconut farmers have been organised into Coconut Producers' Societies (CPSs). Each society consists of 40 to 100 farmers and each farmer contributing at least 10 palms for tapping neera as well as nuts. At the next level, the Societies, numbering between 25 and 40 have joined together to form Coconut Producers' Federations registered under the Charitable Societies Act. The Federations have joined hands to form Coconut Producer Companies in which shareholders are Coconut Producer Societies. A total of 38 coconut producer companies have been formed in the country, with Kerala accounting for 23, Tamil Nadu and Karnataka six each and Andhra Pradesh 3, said a Coconut Development Board official.

In Palakkad district, 458 CPSs

have together formed the Palakkad Coconut Producer Company, which has established high-tech coconut driers, a neera tapping unit and 30 Coconut Point , shops that sell its own brand Palm Fresh coconut oil, value-added products from coconuts, safe-to-eat vegetables and rice produced by the member farmers. The initial capital for the project accrued from individual farmers. Each farmer pays ₹100 per tree as his equity contribution. Of this, ₹20 is paid upfront while the rest of the amount is deducted from the collection of nuts and neera from the tree by the producer company.

The total capital mobilisation is ₹5 crore and the Palakkad company has mobilised ₹2.5 crore so far. The target will be achieved by the end of this year, says Vinod Kumar, CEO. Shahjahan Kanjiravilayil of Kaipuzha Coconut Producer Company in Kollam district says that farmers, numbering about 20,000 under the company, are paid between ₹9 and 10 lakh per month since operations began at the end of February 2015. Coconut farmers' income had nearly doubled after neera tapping was launched, he said pointing out that the company was turning out 15,000 bottles (200 ml each) per day at its plant. The demand is going up with the company tying up with institutions like the Sree Chithira Institute of Medical Sciences for large volume of supplies.

The Palakkad company ended its

first financial year between June 2013 and April 2014 with a profit of ₹4.5 lakh and declared 4% dividend. The dividend has been paid as redeemable coupons, which the farmer members can use for purchases at the sales outlets owned by the company. The member farmers also received a production bonus of ₹2 per kg of raw, husked nuts. The unaudited results for 2014-15 point to a profit of ₹4 lakh. The company exported, mostly to Europe, 10 tonnes of palm honey and two tonnes of sugar during 2014-15. However, weather variations and a 40% rain deficit is likely to hit neera

### **‘Aerobic’ rice cultivation reduces water usage**

Present day conventional method of rice cultivation utilises 5,000 litres of water for producing one kg of rice than its actual requirement of 3,000 litres. About 2,000 litres is lost due to flooding and seepage losses. Further, decline in water table necessitates the need for improved water-use efficiency and water productivity in agriculture, particularly in rice cultivation. Thus, the newly upcoming approach of rice cultivation called aerobic rice cultivation reduces water use in rice production and increases the water use efficiency. In simple words, growing rice plant as irrigated crop like cultivating maize and wheat in aerobic condition, where oxygen is plenty in soil.

The suitable areas for aerobic rice cultivation includes irrigated lowlands, where rainfall is

production during the current year. The company, which has availed loans to the tune of ₹7 crore from different institutions for setting up various facilities, will establish a neera bottling plant to boost sales. It will also establish 70 more Coconut Point sales outlets to cut out middlemen who charge up to 40% in commission. Chairman of Coconut Development Board T. K. Jose said that the major challenge before neera business was a shortage of tapping technicians. Money and technology are no longer limiting factors, he said.

insufficient to sustain rice production, delta regions where there is delay in water release from reservoir, irrigated system of rice cultivation, where pumping from deep bore well has become so expensive and favourable upland system has access to supplementary irrigation. Accordingly, Tamil Nadu, Jharkhand, Chhattisgarh, parts of Bihar, Odisha, Karnataka, and eastern Uttar Pradesh are the projected area where there is uneven distribution and frequent occurrence of soil moisture limitation. In aerobic rice cultivation, rice is cultivated as direct sown in non-puddle aerobic soil under supplementary irrigation and fertiliser with suitable high yielding rice varieties. Throughout the growing season, aerobic rice field is kept under unsaturated condition

and field is irrigated by surface or sprinkler system to keep soil wet. Therefore, water productivity is reported to be higher in aerobic rice by 64-88% (calculated as grams of grain produced per kg of water input) and utilises 3,000 to 3,500 litres of water to produce 1 kg of rice compared to rice raised under transplanted flooded system.

Further, aerobic rice cultivation system involves mechanised way of sowing with no puddling, transplanting and less need of frequent irrigation, which reduce labour usage more than 50%, compared to irrigated rice. However, aerobic rice cultivation needs suitable rice varieties having the characteristics of both upland and high yielding lowland varieties to get good yield under the new unconventional system of cultivation. Hence, these early-maturing varieties are with good seedling vigour, responsive to high input and tolerate flooding. International Rice Research Institute (IRRI) situated in Manila, Philippines identified several cultivars with high yield potential for this unconventional aerobic rice cultivation. A new improved upland rice variety, Apo developed by IRRI under aerobic rice cultivation system raised during dry season able to attain yield of 5.7 t/ha at IRRI farm.

In India, National Rice Research Institute (NRRI) (formerly Central Rice Research Institute (CRRI)), Cuttack, situated in Odisha, has developed rice varieties suitable for

aerobic rice cultivation and so far six varieties were released suitable for this system, — CR Dhan 200 (Pyari) (4.0 t/ha), CR Dhan 201 (3.8 t/ha), CR Dhan 202 (3.7 t/ha), CR Dhan 203 (Sachala) (4.0 t/ha), CR Dhan 205 (4.2 t/ha) and CR Dhan 206 (4.2 t/ha) — which gives higher average yield compared to upland high yielding varieties. Two aerobic rice varieties MAS 26 and MAS 946-1 were also released from the University of Agricultural Sciences (UAS), GKVK, Bangalore, for the State of Karnataka, which is also said to be performing well under this system. However, constraints in aerobic rice cultivation is increased weed growth, poor crop stand, crop lodging, high percentage of panicle sterility and root-knot nematode infestation. Importantly, high weed infestation is the major constraint for aerobic rice and cost involved in weed control is higher. Further, due to high infiltration rate of water and imbalanced availability of nitrogen makes the aerobic soil further ailing for micronutrients (iron and zinc) and rise in nematode population. Therefore, efficient nutrient management techniques along with integrated weed management are researchable areas for successful aerobic rice cultivation and research is in progress.

The yield of aerobic rice is comparable with transplanted rice. Thus, it is an alternative option to reduce labour drudgery and to increase water productivity. Further, in environmental point of view,

emission of methane is lower substantially in aerobic rice. Therefore, in recent days it is gaining momentum among rice researchers and farmers. However, extra care

should be taken, since poorly managed field may cause partial to complete failure of crop, which might happen due to weeds and micronutrient non-availability.

### **Pokkali rice gets a trademark**

The Krishi Vigyan Kendra – Ernakulam has registered a trade mark for the cereal at Chennai Trade Mark registry under the brand name Jaiva Pokkali. Pokkali is a unique saline-tolerant rice variety organically cultivated in the water-logged coastal regions of Alappuzha, Thrissur and Ernakulam districts of Kerala. The trade mark, presently the property of KVK, would be leased free of cost to farmer groups who are interested to market their pokkali products. However, such groups have to sign an agreement with KVK, said Shinoj Subramanian, Senior Scientist and Head, KVK. The objective is to bring back the glory of this traditional naturally organic farming system by ensuring good remuneration to pokkali farmers. He said that an assured remuneration will surely attract more farmers to this mode of farming. Earlier, Pokkali rice had received a geographical indication registration from the GI Registry Office, Chennai in 2008.

The area under pokkali has seen a decline over the years. From around 25,000 hectares 25 years ago, to around 1,000 hectares now. The decline in acreage is attributed to high labour costs, lack of suitable machinery available for farming due to heavy clay content, heavy reliance on manual labour, which is costly as well as climate dependent. Production of pokkali is estimated to be around 500 tonnes per annum and the market is mainly dependent on local consumption. As the marketing is in an unorganised manner, the pricing is in the range of ₹30/kg. There is an enormous potential once the marketing starts in an organised manner. Pokkali is synonymous with organic paddy. KVK has also plans to form a Pokkali Farmer Producer company with funding from Nabard for widespread pokkali farming and marketing of rice, rice products and fish. Nabard has already sanctioned funds to KVK-Ernakulam for formation of the company.

### **Cattle breeding centre towards robust native breed**

The village P. Chellandipalayam, near Pallapalayam in Karur district of Tamil Nadu, houses a unique cattle breeding centre, albeit on a

small scale. C. Ganesan runs this centre with a passion to replace hybrid cows with native breeds. One can see a variety of cows —

Tharparkar, Rajasthan, Sahiwal, Gyr, Kankrej and Rathi — rubbing shoulders, with the native Kangeyam enjoying a pride of place. “I am not running this farm for profit. I breed cattle in the interest of farmers. My intention is to raise pure native breeds that will be disease-resistant and yield milk as much as hybrids,” says Mr. Ganesan. About 20 years back, he bought cattle for ploughing and to provide manure for his farm. Slowly, his attention turned towards breeding and he started to buy bulls from government farms like the Central Cattle Breeding Farm, Avadi. A Jersey cow was procured from Udhagamandalam. From 1995, he cross-bred 70 to 80 animals, till the arrival of two Tharparkar cows. For two generations, Mr. Ganesan achieved good yield with each cow providing 10 litres of milk a day. Two Rajasthan bulls joined the flock in 2005 and simultaneously the farm got quality semen from BAIF Development Research Foundation, Pune, National Dairy Development Board and Dhoni farm of the Kerala

Livestock Development Board. By culling out cross breeds and weak animals, he wants to rear cent per cent native breeds. The culled out animals are sent to gosalas. Mr. Ganesan, who has by now become a mobile reference for cattle breeding, feels that cost of transportation of original breeds works out higher than the cost of actual breeding. At present, the farm has 65 cows, bulls and buffaloes, besides a few heads of Thalacherry goat. Two issues that hamper progress in cattle breeding in this part of the country, according to him, are the dearth of quality semen and absence of cattle shows as in north India. “The government should take steps to supply quality semen through veterinary hospitals as breeding happens mostly through artificial insemination,” he says. Cattle fairs will create better awareness of native breeds and current trends in animal husbandry. The absence of such fairs forces breeders to get cattle from other States by spending more on transportation.

### **Hydroponic fodder to revitalise dairy sector**

Hydroponic fodder promises to be the way to redeem dairy farmers faced with scarcity for quality cattle feed, especially for dairy farmers in urban areas who do not have enough land to cultivate the required quantity of green fodder. Such farmers are dependent mostly on packaged cattle feed. Of course hydroponic fodder cannot substitute green fodder and hay completely, as

it lacks in fibre content. But it is definitely a better substitute for packaged feeds.

The urban dairy farmers in Kerala are worried about the ever increasing price of cattle feed, and the lack of availability of green fodder. Shrinking land size in the state ensures lack of availability of green fodder and hay in sufficient quantities. The spiralling cost of

packaged cattle feed adds to the cost of dairy farming. Hydroponic fodder provides an effective solution for both problems. Kerala Dairy Development Department (KDDD), in Kannur and Thrissur districts, under its Integrated Dairy Development Project, has introduced a scheme to produce hydroponic green fodder. The department has already distributed 24 hydroponic fodder units to select dairy farmers-14 in Thrissur and 10 in Kannur. V.S. Harsha, the Dairy Extension Officer (DEO), Thalipparamba Block, Kannur, claims that hydroponic fodder is more nutritious than the conventional green fodder and cheaper and safer than the commercially available packaged feeds. A judicious management of feed mixture per cattle is 25 kg of hydroponic fodder, 10 kg of conventional green fodder and 5kg of straw per day per cow, which yields about 15 litre milk a day, suggests Ms. Harsha. Such a feeding programme can result in saving 20 to 25% of daily feeding and working

cost.

‘Hydroponics’ means the technique of growing plants without soil or solid growing medium, but using water or nutrient-rich solution only, for a short duration. The fodder production unit distributed by the KDDD has a greenhouse and a control unit. The greenhouse has tiered racks, each rack has rows of perforated trays for soaked seeds. Pipes fitted with micro-foggers above each tray ensures proper maintenance of required humidity and water fogging of the seed trays in the greenhouse. Tube lights provide optimal light requirement inside the greenhouse. The sensor-controlled unit regulates input of water and light automatically. Seeds like maize, barley and sorghum are used to grow fodder. The unit requires electricity round the clock. The seeds are sown in a batch of 12 trays on a daily basis. Water and soluble nutrients are sprayed at regular intervals. Within six days the plants reach a height of 22 cm; they are then peeled off from the trays, and the fodder is now ready to feed the cattle.

### **ICRISAT introduces finger millet as mandate crop**

Finger millet [Eleusine coracana (L.) Gaertn.], which figured among the six small millets in research portfolio of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), has now been formally made its mandate crop. “Finger millet has always been within our mandate crops but we want to provide greater visibility to this nutri-

cereal that offers so much to smallholders in the form of economic opportunity and to consumers [including farm families] in the form of improved nutrition,” said ICRISAT Director-General David Bergvinson.

The ICRISAT genebank holds nearly 6,000 finger millet germplasm accessions from 24 countries, conserved for use in research and

development. Among the ICRISAT projects that focus on finger millet, the Harnessing Opportunities for Productivity Enhancement of Sorghum and Millets in Sub-Saharan Africa and South Asia (HOPE) project funded by the Bill & Melinda Gates Foundation is showing encouraging results in improving productivity of finger millet and household incomes in East Africa. This was achieved by enabling farmers to adopt improved varieties and associated agronomic practices and linking producers to both input and product markets.

In Malawi, the introduction of three finger millet varieties highly valued by farmers is expected to resurrect a crop that had 'disappeared' from the southern region of the country. Farmers

wanted access to seeds of Gulu E, ACC 32 and KNE 1124 varieties, so that they can start growing the crop again, ICRISAT stated. According to ICRISAT, finger millet variety U15 is the most preferred for its early maturity and grain colour, while IE 3779 is preferred for its resistance to blast disease and tolerance to lodging. Through a multi-institutional collaboration, ICRISAT scientists in East and Southern African region have generated a whole genome sequence of finger millet. In Karnataka finger millet is among the 'climate smart' crops that figures high on the agenda of the government. The other mandate crops of ICRISAT are sorghum, pearl millet, chickpea, pigeonpea and groundnut.

### **A new variety of chicks for rural community**

Backyard poultry farming is an age old practice in rural India. It is a low cost enterprise which does not require much time and labour while ensuring high economic returns and nutritional security among rural poor. But, indigenous birds which are reared by the rural households are less productive. However, the Poultry Research Station (PRS) of Sri P.V. Narasimha Rao Telangana State University for Veterinary, Animal and Fishery Sciences, (SPVNRTSUVAS), Rajendranagar, Hyderabad, has developed a promising backyard poultry variety, 'Rajasri' for the rural farming community.

The new variety is quite suitable for backyard poultry farming as it is hardy, attractive with multi-coloured plumage, capable of self propagation, have good body conformation with capacity to escape from predators, a good scavenger and less susceptible to diseases, says M. Gnana Prakash, Professor, Department of Animal Genetics, College of Veterinary Science, SPVNRTSUVAS. The bird would produce nearly 150 eggs a year, attain a body weight of about 1.5 kg by 18 weeks of age, and start laying eggs in 5-6 months, Dr. Gnana Prakash, who is also the officer in charge of the PRS, adds.

Marketing of the variety would be rosy with the concept of organic farming. These birds are reared mostly in rural backyards where there is no stress to the birds, no much medication and these are reared in natural pollution free environs of rural settings. Moreover, their multi coloured plumage, resemble to desi birds, which fetch almost double the price when compared to broiler chicken. Eggs being brown shelled will also fetch more price when compared to commercial white shelled eggs, he says. Rajasri chicks can be produced by the farmer on his own. For this, the farmer has to maintain male and female birds to allow fertilisation. The fertile eggs produced by the hens can be put to native hen for incubation. Each hen will incubate 10-15 eggs and hatch 12-13 chicks. Alternatively, the chicks can be procured from the Station, which produces the chicks on a large scale by using machine incubation. Generally, elaborate housing is not required for backyard poultry farming. If they are grown on commercial scale under intensive system, then a conventional shed constructed with locally available

material will do.

Feeding charges alone constitute 70% of total expenditure in poultry production. But in backyard poultry, the feed cost is considered to be minimum as birds are grown on scavenging and they thrive on insects, leftover grains, and household wastes. However, if more number of birds are grown, scavenging will not be sufficient and things like broken rice, ground nut straw, wheat grain, and rice bran need to be given. If the rearing turns out to be on commercial lines, balanced ration may be formulated with locally available feed ingredients or commercial feed may be procured. Though 'Rajasri' birds are less susceptible to diseases by virtue of having desi fowl inheritance, it is recommended to follow routine vaccination against the common viral diseases. Besides, periodical deworming needs to be done to ward off parasitic infections. A farmer can earn an average additional income of ₹4,200 annually from a backyard small scale poultry unit of 20 birds. Whereas, if it is done on a commercial scale, a farmer can earn nearly ₹7,500 a month with a unit of 1,000 birds.

### **Punjab agri university develops disease-resistant cotton seed**

In a bid to deal with increasing incident of pest attacks on the cotton crop, especially in the bordering districts of Punjab and Rajasthan, Punjab Agricultural University (PAU) has developed a seed variety F-2288, which shows tolerance to sucking

insect-pests and other diseases. "It is expected to become popular in the bordering areas of Punjab and Rajasthan where good quality canal water is a limiting factor and Bt cotton is not performing as good as in other regions of the state," Baldev

Singh Dhillon, VC, PAU, told. Dhillon said the new cotton variety would be helpful to farmers specially in the Hanumangarh and Sri Ganganagar districts (Rajasthan) and Muktsar, Fazilka, Abohar and Ferozepur districts (Punjab) where irrigation facilities are not robust.

At present, farmers in Punjab mostly grow Bt cotton. Last kharif season, cotton has been sown more than 4.5 lakh hectare of agricultural land in the state. However more than 1.3 lakh hectare of cotton field had been attacked by whitefly, a common pest. Dhillon said the field trials of F-2288 non-Bt cotton variety has sown encouraging results in the large scale field trial and the yield has been quite similar to the Bt cotton variety. "While only a small group of farmers have sown this cotton variety after it was approved by Punjab state varietals approval committee and in 2016 it would be taken up for large scale commercial cultivation," R K Gumber, a senior scientist with crop improvement division of PAU said.

### **Farm prices panel for efficient water use**

The Commission for Agricultural Costs and Prices (CACP) has made a pitch for encouraging water use efficiency in agriculture. As part of its non-price policy recommendations for kharif 2015-16, the crop advisory body has suggested that States fix quantitative ceilings on per hectare use of both water and electricity. The farm sector accounts for about 83%

About the key benefit of the new cotton variety, Gumber said that the cost of seed would much lower than Bt cotton variety and the yield would be similar to Bt cotton variety. "However inputs costs like pesticides spray and irrigation for the growing F- 2288 variety would be much less than what it requires for the growing Bt cotton variety," he claimed. Besides the F- 2288 variety, PAU few months back also released another non-Bt cotton variety F- 2383 for high density cultivation. "The variety is suitable for sowing under high density plantation system. Due to its short and compact plant type, F- 2383 is also amenable to mechanical picking. Cultivation of this variety or variety(ies) derived from it may help in overcoming labour shortage," Dhillon of PAU added.

The use of Bt cotton in the country has grown exponentially since its introduction in 2002. In the last one decade, Bt cotton hybrids increased cotton yield from 4 – 5 quintals per hectare to 8-10 quintals per hectare in rainfed conditions.

of all water used in the country. Therefore judicious use of water in agriculture will have significant impact on the overall availability of water.

"However, most of the State governments have been content with subsidising electricity for pumping irrigation water, which leads to inefficiencies. The Commission

recommends economy in water use in agriculture by fixing quantitative ceilings on per hectare use of both water and electricity," CACP said in its latest report. Further, it also suggested incentivising the judicious water usage. "If some farmers are able to use water/electricity less than the ceilings fixed for them, they should be rewarded by cash incentive equivalent to unused units of water/power at the rates of their domestic resource costs. This would encourage farmers to use drip irrigation and would enhance production per drop of water," the advisory body said.

CACP's recommendation assumes significance as water is increasingly becoming scarce in India with high opportunity costs. "It is, therefore, imperative to augment the water productivity, that is, water intake per kg of production," it said. For example, West Bengal consumes 2,605 litres of water to produce a kg of rice compared to 5,337 litres being guzzled by Punjab. The efficiency gap with respect to consumption of water in Punjab (the most efficient in terms of land productivity) is over 51%. This shows that the most efficient State in terms of land productivity is not the most efficient if other factor of production viz. water is factored into, CACP added. Besides, the advisory body has also recommended strengthening procurement in eastern States and restructuring of National Agricultural Co-operative Marketing Federation of India (Nafed).

According to Situation Assessment Survey (NSS 70<sup>th</sup> Round), only 2.57 million households were benefitted directly from procurement of paddy during 2012. The procurement of oilseeds and pulses is far worse. Nafed, for instance, procured only 3.21% of Kharif oilseeds in the last season. This calls for giving wide publicity about MSP and procurement agencies on radios, television and vernacular languages in popular local dailies, at least 15 days before the start of procurement operations so as to reach farmers far and wide. "Furthermore, to instil confidence among farmers on procurement of their produce, a legislation conferring on farmers the right to sell their produce to the Government at MSP be brought out," CACP observed.

Further, the advisory body said that Eastern belt of the country gets neglected in so far as procurement is concerned. For instance, there was almost negligible procurement of rice in Assam during 2013-14, even though it contributed 4.6% in the total rice production. The situation in other eastern States such as Bihar, West Bengal is somewhat better than that of Assam but not good enough when these States are compared with Punjab. Low procurement and weak marketing infrastructure has affected the market prices in these States which have been lower than MSPs. The perpetual neglect in procurement needs to be corrected on priority.

The Commission recommends strengthening of market infrastructure and procurement

### **Enriched soil enhances productivity of crops**

An enriched soil has withstood the vagaries of monsoon and a depleting ground water table to provide an enviable sugarcane yield in a farm in Puliangudi of Tirunelveli district in Tamil Nadu. Sustained attention given to soil health using organic inputs has enabled V. Antonisamy reap 65 to 70 tonnes of sugarcane per acre in his farm. Explaining the methodology adopted to enhance soil quality, Mr. Antonisamy, who has been raising sugarcane in the same field for the past 23 years, says that trenches of 1.5 foot depth are created in the field soon after harvest and filled with organic waste. The sugarcane shoots are cut to uniform size and water is supplied to the compost through drips.

Legume seeds are planted along the margins of the trench at the rate of 30 kg per acre and watered for 45 days using drips. The legumes grow to a height of around four feet and prevent sunlight falling on the shoots, stunting their growth. Besides absorbing nitrogen in their roots, the legumes also bring down the temperature by 4 degree Celsius, says Mr. Antonisamy. "Low temperature and high humidity prevent the entry of maggots. This obviates the need to use pesticides." One-time weeding is adopted to remove the legumes, which are then mixed with soil and placed

system in the eastern belt to the level prevailing in Punjab and Haryana.

### **Enriched soil enhances productivity of crops**

supportive of the bunds along the row of sugarcane shoots. The mix of soil with legume creates an atmosphere conducive for the growth of micro nutrients. Water is again supplied through drips to strengthen the support provided by uprooted legumes. Now, sunlight falls on the sugarcane, facilitating its growth. After 120 days, the hanging leaves are removed from sugarcane and left to compost near the root. Besides retaining soil's moisture, this practice also enhances multiplication of micro organisms. The internode of the sugarcane has an average length of 15 cm and the sheath is not rough.

Mr. Antonisamy does not claim that no pest attacks his farm. "The good ones take care of the bad ones. For example, the Mealybug is eaten by another pest which is not harmful. But the robust nature of the crop has ensured that there is no migration of pests or insects from abutting farms." A normal sugarcane in the farm has over 20 internodes and weighs 3kg. It grows up to 10 feet in height. Ten shoots grow in a pit, separated by 2 feet from the other. The airy aisles enable a person to walk in between rows of sugarcane without any hindrance. The difference in temperature in the aisle and outside is tangible. The drippers ensure that the soil is always kept

wet. Mr. Antonisamy does not sell the cane to sugar mills but produces jaggery for sale through various outlets, including the ones dealing with organic products. Soil and jaggery samples are sent to laboratories in various places for testing annually. Results from the tests conducted at the Central Food Technological Research Institute, Mysuru, and Shri M. M. Murugappa Chettiar Research Centre, Chennai, show a higher content of soil organic carbon, against the desired level of 1 to 1.5%, and 80% of sucrose content in sugarcane. The results say that presence of metals and organochlorine pesticides are below detectable limit and coliform or yeast is zero.

### **Tips for viable, sustainable dairying**

Major part of milk is produced by landless, marginal and small landholders of rural India. It is also consumed by urban people. It is major source of income and employment of milk producers. To consolidate this income and supply of quality milk to urban population, viable and sustainable production in dairying is the need of the hour. A dairy farm unit is economically viable and feasible with 305 days of milk with high production and a calf crop in a year (12-14 months) and lactation from 70-75% cows and 60-65% buffaloes of a herd. Proper recording of body weight gain, milk production and physiological activities can be judged by the performance of individual animals.

Endorsing Mr. Antonisamy's claim of higher yield, the Joint Director of Agriculture, Tirunelveli, C. Chandrasekaran, says that it is possible by enhancing the soil's carbon-nitrogen ratio through use of the right agents. According to him, the maximum yield of sugarcane in the district reported elsewhere is 35 tonnes per acre. The Department of Agriculture rewards and recognises record yield in paddy, millets and oilseeds but that is not the case with sugarcane. P. Gomathinayagam, a recipient of Srishti Samman and an expert in natural farming, cautions that higher productivity and income could be achieved only through sustained hard work over a period.

This judging will certainly be helpful in identifying the poorly producing dairy animals. This will also provide future guidelines for increasing production (through productive remedial measures) well in time.

Records act as lifeline for economical and effective handling of a dairy farm. Records provide effective and accurate information for selection of dam and sire in efficient breed improvement and dairy development programme. Records are a reflection of productivity and profitability of a dairy farm and also of good management practices. Records provide history of an individual animal which is required to decide about its continuity in the herd.

Ultimately records help in future planning of a dairy farm. Nowadays the herd records can be maintained on computer for getting quick information and immediate decisions. Empowering women with technical power at village level for dairy farm management in day-to-day activities and managing dairy livestock farm activities scientifically can prove revolutionary. Providing comfortable shelter especially tail to tail system will be helpful in reducing labour cost and will provide better supervision.

Adopting proper selection of superior dam and sire in breeding with special emphasis on artificial insemination, heat detection, P.D. and control of endo-ecto parasites should be given due importance. Feeding balanced and economical ration fortified with minerals and special diet to counter seasonal stress and inclement weather is very

important for increasing quality and quantity of production along with reproduction. Following vaccination schedule on prevention is better than cure philosophy, by maintaining cleanliness and hygiene in the shed and milking place with grooming and washing of animals cannot be ignored. Netting is equally important for protecting the dairy animals from mosquitoes and flies. Adopting proper milking method especially full hand method, avoiding knuckling will certainly reduce the production losses. Culling of uneconomical, especially unproductive stock, by maintaining record of all activities mentioned above with effective and regular good managerial skills and management will surely provide sustainable production and will also help in conservation of environment making the dairy business economically feasible.

### **KUFOS harvested Vannamei shrimp first time**

The first of its kind harvest carried out by the Kerala University of Fisheries and Ocean Studies (KUFOS) has proved a success, achieving a better growth rate and 85% survival of the species. KUFOS had started the trial farming of Vannamei shrimp in four ponds at its regional station in Puthuvypen. As part of this model farming system, 40,000 specific pathogen free (SPF) seeds of Vannamei shrimp were released into one pond in an area of 1,000 sq m. After 94 days, a catch of 650 kg was harvested from one pond

itself. The trial farming also proved that 5.5-6 tonnes of Vannamei could be produced from one hectare, earning a profit of ₹14 lakh. This newly-developed farming model is particularly suitable to the conditions of Pokkali rice fields.

Kerala Fisheries Minister K Babu, who participated in the harvest festival, said that the trial farming proved that this white leg shrimp can be cultured successfully in the State's brackish water ecosystem and the pilot culture would make it easier to usher in a Vannamei

revolution' in the coming years. The newly-developed Vannamei shrimp farming model will be extended to other parts of the State, he said. According to fishery experts, States such as Andhra Pradesh, Odisha and Tamil Nadu took advantage of the introduction of Vannamei in their culture basket of shrimp more than six years ago. However, Kerala was

far behind even though the State emerged as a model in shrimp farming in the past. B Madhusoodana Kurup, Vice-Chancellor, KUFOS, said that the University would extend the farming into more ponds and has plans to develop diversified farming practices of Vannamei shrimp by transferring the technology to more farmers.

### **Bt Cotton responsible for suicides in rain-fed areas, says a study**

Annual suicide rates of farmers in rain-fed areas are directly related to increase in Bt cotton adoption, say the study's authors Andrew Paul Gutierrez, Luigi Ponti, Hans R. Herren, Johann Baumgärtner and Peter E. Kenmore, who are associated with the University of California, Berkeley, and the Centre for the Analysis of Sustainable Agricultural Systems, California. Revisiting the raw annual suicide data for Andhra Pradesh, Gujarat, Karnataka, and Maharashtra during the period 2001–2010, the authors found 86,607 of 549,414 suicides were by farmers, and 87% were males with the numbers peaking in the 30–44 age class. Total suicides per year per state were regressed singly on states averages of proportion of area seeded to rainfed cotton, average farm size, cotton growing area, area of Bt cotton, proportion of area with Bt cotton, and simulated average yield/ha that includes the effects of weather. Excluding the proportion of area seeded to rainfed cotton, linear multiple regression shows suicides

decrease with increasing farm size and yield but increase with the area under Bt cotton, the authors say. The study is significant for two reasons: first, most cotton cultivation in India is rain-fed. Second, between 2002 and 2010, the adoption of Bt cotton hybrid went up significantly to 86% of the total cultivated area of cotton in India, according to International Service for the Acquisition of Agri-biotech Applications.

Though cultivating the Bt cotton variety may be economic in irrigated areas, the costs of Bt seed and insecticide increase the risk of farmer bankruptcy in low-yield rain-fed settings. Further the inability to "use saved seed and inadequate agronomic information trap cotton farmers on biotechnology and insecticide treadmills," the authors say. The study also challenges the common assumption in economic analyses that cotton pests must be controlled to prevent monetary losses, thus encouraging Bt cotton adoption. The annual emergence of the key cotton pest pink bollworm in

spring is poorly timed to attack rain-fed cotton and large populations of the pest fail to develop in non-Bt rain-fed cotton, the authors say. This reduces and usually prevents the need for Bt cotton and disruptive insecticides. The authors recommend that high-density short-season cottons could increase yields and reduce input costs in irrigated and rain-fed cotton.

Bt cotton has been shown to improve cotton yields by past studies, such as the one conducted by the International Food Policy

### **Legumes increase soil fertility, yield of commercial crops**

At a time when decreasing soil fertility especially due to indiscriminate use of chemical fertilisers and prolonged cultivation of commercial crops has become a cause for concern among farmers, legume vegetables have turned out to be a boon for addressing this issue. Scientists feel that growing the legume vegetables at least once in a season will help in increasing soil fertility as they have the capacity to fix atmospheric nitrogen through their root nodules. This reduces the use of chemical fertilisers like urea and ammonium nitrate. Of course, growing legume crops for the natural fixation of atmospheric nitrogen was an age-old practice of traditional farmers. But the process has now been discontinued mostly by those growing commercial crops due to lack of awareness. Dr. T. S. Aghora, principal scientist at the Indian Institute of Horticultural Research

Research Institute in 2012. This study, examining the contribution of Bt cotton adoption to long-term average cotton yields in India in nine cotton-producing States from 1975 to 2009, showed that Bt cotton contributed 19% of total yield growth over time, since its introduction in 2002. Veteran Agricultural scientist M.S. Swaminathan said the merits of Bt cotton adoption remain debatable as some have approved it for giving better yield, while some question the claim.

### **Legumes increase soil fertility, yield of commercial crops**

located at Hessarghatta near Bengaluru who has been working on legume vegetables, says various studies have shown that growing legume vegetables can increase soil fertility that will in turn increase the yield of regular crops by a range of 10 to 15%.

A study by IIHR has showed that growing legume vegetables along with coconut plantation can help increase coconut yield by about 10%, he says. Similarly separate studies by various institutes and organisations too have indicated an increase in paddy yield by over 10% when legume vegetables are grown as a rotational crop and an increase of 10 to 12% in sugarcane yield when legume vegetables are grown as an intercrop. Cultivation of all the crops including cereals and regular vegetables will get benefitted if the legume vegetables are grown once a season, Dr. Aghora notes. Apart

from fixing atmospheric nitrogen, the legume vegetables also help in increasing the organic content of the soil as they produce huge quantum of foliage that gets added into the soil. In addition to this, they also enhance the water-holding capacity of soil, he points out. They have a positive impact on human health too as these protein-rich legume vegetables can help fight protein and energy-deficiency induced malnutrition. The advantage of legume vegetables is that they are all short-duration crops whose life cycle will get completed within 70 to 75 days. Hence they can be grown either as a rotational crop or as an inter-crop between the regular commercial crops depending upon the requirements.

In fact the legume vegetables start yielding within 45 to 50 days of sowing and fit into any cropping systems, the scientist points out. Of late the scientists are focussing on developing high-yielding and disease resistant varieties which can fetch good incomes to farmers. These short-duration varieties help enhance the incomes of farmers not just because of increase in their yield, but also due to the fact that they reduce the spending in terms of application of fungicides and pesticides. The IIHR itself has released 24 different improved

### **India's only double coconut tree artificially pollinated**

One of the rare and globally threatened species of palm, the double coconut (*Lodoicea maldivica*)

varieties of legume vegetables in the crops of French bean, garden pea, dolichos bean, and cow pea while various other research institutes and agricultural universities too have come out with their own varieties.

In fact some of the legume vegetable varieties go beyond the conventional concept that they are meant for the consumption of common people residing mostly in rural areas as they are gaining popularity in niche urban markets. Such popular varieties include the 'whole pod edible' variety of garden pea. Named as Arka Apoorva (Arka stands for river Arkavathi on whose banks the IIHR is located), the variety's entire pod is edible as the pod walls do not have fibrous layers. This reduces wastage. The pods of Arka Apoorva can be eaten either as fresh salad or after cooking and frying. The agricultural scientists feel that these whole pod edible peas present an opportunity for Indian farmers to explore their potential in the country's niche urban markets. Similarly there are garden pea varieties which have resistance to rust and powdery mildew diseases. Also, there are yard long beans varieties like Arka Mangala which is a climber that produces pods with a length of 75 to 80 cms that are extremely popular in niche market.

tree was planted at the botanical garden in 1894 and the artificial pollination is a result of decades of

work by scientists of the Botanical Survey of India (BSI). “The tree took almost a hundred years to mature and when it started flowering, we started looking for this particular palm species in this part of world. We collected some pollen from palms from Sri Lanka but could not successfully pollinate it. Finally, with the help of pollen from another tree in Thailand, the pollination process was successful,” BSI Director Paramjit Singh told.

The Double Coconut tree not only bears the largest seed known to science — weighing around 25 kg — but this unique species is also the longest surviving palm which can live

for as long as 1,000 years, he says. The palm tree also bears the largest leaf among palms and one leaf can thatch a small hut. “Successful pollination means that we can have another *Lodoicea maldivica* in the country. In fact we have two fruits and it might take them another couple of years to mature,” said S.S. Hameed, BSI scientist who has been working on the pollination project since 2006. This species of palm is diecious (where male and female flowers are borne on different plants). “Fortunately at the Botanical Garden, we had the female plant which can fruit and produce seeds,” Mr. Hameed said.

### **Moringa seedlings fetch better income**

Tamil Nadu is well known for Moringa cultivation in different districts. Though there are more than a dozen and odd varieties, many are area specific, which thrive well in that particular region alone. For example a variety called sugarcane moringa (named after sugarcane because of its sweetness and taste) is specific to Paramathy, near Karur.

“Commercially there are no machines available for the oil extraction. A tree which requires practically no expense for its care, yet gives back multifold returns in terms of leaves, pods, stem, bark etc needs to be popularised among farmers to make them take up its cultivation on a larger scale. The fact that from one acre this tree can generate more than ₹1 lakh during peak season a year is something which farmers need to

experience personally,” says Mr. N. Madhu Balan, agriculture extension adviser and administrator of Vivasayam karkalam on facebook. Madurai Valaiyapatti moringa is one such variety. Nearly a decade back not much information was available on it. Today thanks to farmers like Mr. K.P. M. Sadaiyandi of Pallipatti, Dindugal, this variety has become quite popular among farmers in the region.

What is so special about this Valaiyapatti variety? When cooking it, there is a pleasant mouth-watering odour. The quality and taste of leaves and pods are good. The trees are resistant to pest and diseases. Pod length is quite lengthy and the number of seeds per pod is also higher — up to 22-25 numbers than other varieties. It is a perennial

bearer and can be maintained for more than 25 years either as a monocrop or as intercrop in coconut gardens. The only problem is during monsoon or heavy winds the trees tend to break since their stem is not strong to withstand the heavy wind flow. For an acre as a monocrop, about 160 seedlings are required to be planted at 5 metre distance between individual seedlings. As an intercrop about 80 seedlings are sufficient.

The farmer has planted 80 trees as intercrop in his 10-acre coconut garden. The trees are watered through drip lines and grown organically. Vermicompost, sheep manure, panchagavya, practically any natural input is used as manure. Plant extracts like ginger paste diluted in turmeric solution are sprayed for controlling caterpillar menace common in this tree. Though small in size the variety is fast-

growing. The farmer has trained the variety in such a way it produces several branches from the bottom unlike other varieties where branches grow on the top. "Training the tree is important to get many branches. The trees are allowed to reach a height of 25 feet and bear 30-35 branches. They grow quickly even in poor soil. Like other varieties this also does not require sophisticated and expensive farming methods," says Mr. Sadaiyandi.

Farmers can opt for harvesting either the leaves or pods. If leaves are harvested, one cannot get pods and vice versa. The Madurai Valaiyapatti produces at least 100 kg of pods per tree during three seasons annually. The farmer sells each kg of pod from ₹10 to ₹150 at the local market depending upon the demand. He was able to get a net income of ₹1.6 lakhs from an acre during the 18 months of planting the trees.

### **Spices Board launched subsidy scheme to boost production**

The Spices Board has launched a raft of measures to support farmers by offering various subsidies and sensitise them on the need to enhance the quality of spices through post-harvest improvement techniques, as a part of boosting spices production in the country. The Board has also decided to provide financial assistance to farmers for irrigation, land development, mechanisation, replanting, soil conservation and organic farming of various spices, especially small cardamom.

It will also give financial aid to them for purchasing state-of-the-art irrigation and farming equipment and tools.

"The initiatives are part of the Board's 12<sup>th</sup> Plan to improve export-oriented production of small cardamom and post-harvest improvement of other spices across spice-growing regions in the country, said Spices Board Chairman A. Jayathilak. "The eligibility criteria for availing the benefits are based on land held by the grower and is different for each programme," he

added. Under the new schemes, cultivators of small cardamom in Kerala and Tamil Nadu would be provided with a sum of ₹70,000 a hectare for replanting, while farmers in Karnataka would get up to ₹50,000 a hectare. The cultivators would also be given aid for planting material production.

To help small scale cardamom farmers in the three southern states in irrigation and land development, the Board will provide financial assistance up to 25% of actual cost for acquiring irrigation pump sets, sprinkler sets, equipment for gravity-fed irrigation system, and up to 50% for water storage structure. The farmers would also get funding up to 25% for soil conservation. Besides, they would be given a subsidy of ₹1 lakh for purchasing improved cardamom curing devices and 50% subsidy for GAP (Good Agricultural Practices) kits and bee-keeping boxes. Under the Board's farm mechanisation programme, small cardamom growers in these states would be given 50% subsidy for purchasing equipment for plant protection and washing, grading and polishing cardamom.

The Board also provides

### **A pioneer farmers' producer company**

For farmers, by farmers. This is the slogan that drives Nachalur Farmers' Producer Company (NFPCL) in Nachalur village of Kulithalai taluk in Karur district of Tamil Nadu. With 650 farmers from 40 villages as members, this public

assistance for post-harvest improvement process of the spices in Gujarat, Rajasthan, Madhya Pradesh, Andhra Pradesh, Telangana, Uttar Pradesh, Bihar, Himachal Pradesh, Maharashtra, Karnataka, Tamil Nadu, Kerala, West Bengal and North-eastern states. The assistance includes funding up to 50% for seed spice thresher, pepper thresher, turmeric boilers and polishers, Integrated Pest Management kits for chilly growers and mint distillation units. As part of the farm mechanisation programme, spices growers would receive 50% subsidy for purchasing equipment for the post-harvest improvement process, including cleaners, graders, spice slicing machines, de-huller, driers, storage units and extractors/dehydration units. The Board also provides financial assistance to organic farmers for attaining organic certification, maintenance of internal control system and purchasing organic inputs and bio-agent production units. Apart from this, it would provide a maximum of ₹5 lakh as subsidy to Spices Producer's Societies in major spice-growing regions in the country.

limited company is a pioneer in ensuring the right farm input at the right time, at the right price. "It all began at a master farmers' training programme organised by the National Bank for Agriculture and Rural Development (NABARD) in

2011,” recalls G. Karikalan, Managing Director, who left a 15-year career in the IT industry to plunge into farming. The participant farmers mulled the idea of forming a company for themselves, primarily to address farm issues, instead of looking to the government for help. The only model available at that time was the Punjab Organic Farmers’ Producer Company.

After consultation with experts and auditors, the NFPCL was incorporated under the Companies Act in June 2012, with an investment of ₹25,000 each from 50 farmers. Later, it was split as shares with a face value of ₹ 5,000 each. It started business in August and registered a turnover of ₹ 37 lakh in 2012-13. The turnover for 2014-15 was ₹1.42 crore. Today, the company runs a seed, fertilizer and pesticide outlet; operates a seed processing unit and provides weather updates, technical solutions to farmers’ problems and farm machinery at reasonable rent, besides offering labour service for planting under System of Rice Intensification. It has a tie-up with m-KRISHI, a rural service delivery platform of Tata Consultancy Services, to offer information on weather, fertilizers, pesticides and soil and water conservation over mobile phone.

The company gets assistance and support from NABARD, the Tamil Nadu Agricultural University and

Krishi Vigyan Kendra, Karur, run by the Saraswathi Foundation for Rural Development and Training. The NFPCL has tied up with five leading fertilizer companies and four pesticide companies to sell quality inputs. It also has experts on-call to address issues raised by farmers. The seed processing unit, with a capacity to process two tonnes per hour, provides quality Bapatla 5204 paddy seeds to farmers in villages located in a radius of 20 km around Nachalur. Besides paddy seeds, the unit also processes black gram and maize seeds. It plans to construct a modern rice mill to eliminate middlemen in rice trade. The company’s warehouse stocks adequate chemical and organic fertilizers round-the-year. It stands as guarantor for loans taken by farmers.

“The objective of starting the company was to ensure that farmers should not feel cheated. It has considerably reduced unnecessary use of fertilizers and helped farmers to escape from tie-up sale of traders. Its impact is visible in Kulithalai taluk,” says Mr. Karikalan. C. Sivakumar, a farmer, says that the company, unlike traders, does not revise prices even when the demand is at its peak. The NFPCL is now involved in the process of starting a state-level producer company, Consortium of Farmer Producers’ Companies – Tamil Nadu.

STATEMENT OF OWNERSHIP AND OTHER PARTICULARS ABOUT LAND BANK JOURNAL AS REQUIRED UNDER RULE 8 OF THE REGISTRATION OF NEWSPAPERS (CENTRAL) RULES 1956

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**(K.K.Ravindran)**  
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