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EDITORIAL

Technology is the main driving force of business development and competition in the banking sector today. Application of Information Communication Technology (ICT) in banks resulted in significant improvement in customer service quality and ability of banks in product offerings according to the convenience and changing needs of clients, while bringing down their cost of operations substantially. Risk Management is another area, which has become efficient and reliable with the application of ICT. Adoption of ICT improves bank's image and leads to a wider, faster and more efficient market. Banking sector in India has been in the forefront of application of ICT in their operations. The focus of public policy in India with regard to ICT in banks has always been on private and public sector banks. Riding on technology wave, Indian banks today are front runners in the global banking arena.

However, when it comes to cooperative banking sector in India which still serves about 60% of rural population and about 15% of urban population, the story is different and one that does not make anybody proud. Several reasons can be attributed to this. The cooperative banking and credit system did not have any place in the plans of Govt and RBI in modernising the operations of banks in its initial stages. The intervention of regulators with guidelines and directives regarding technology adoption by cooperative banks happened only in recent years.Though there was considerable time lag, it is appreciable that technology adoption has been made mandatory for SCBs and CCBs with the liberal support under revival package for STCCS. Urban cooperative banks are also getting the patronage and support of RBI for introducing CBS.

While a good beginning has been made and significant progress has been achieved in ICT application in cooperative banks in the last couple of years Agriculture and Rural Development Banks in majority of States, which cater to the credit needs of 98 lakh rural households have not made much headway in technology adoption. Few States like Kerala and Punjab where the ARDB structure is strong have gone for computerisation of operations at all levels.

Kerala, which pioneered in computerisation about a decade back, however could not develop a common software for Primaries at that time. Presently, the bank is in the process of upgrading the system with common software for PCARDBs, centralised data centre and connectivity through Internet. Punjab has also developed CBS for all constituents including PCARDBs with data centre and online connectivity making use of the infrastructure of NIC. NABARD, through NABARD Consultancy Services (P) Ltd. (NABCONS), is in the process of developing CBS for Himachal Pradesh SCARDB, which has a mixed structural pattern. This will enable NABARD to develop a common software for ARDBs. NABARD is expected to issue common guidelines to SCARDBs for introducing CBS specifying broad features of the system that will be appropriate for the ARDBs. In fact many of the features of CBS for full-fledged banks are not required in the case of ARDBs.Similarly, networking of various constituent units through 24 hr online connectivity, which accounts for most part of the maintenance cost is also not required by ARDBs.

ARDBs generally are shy of technology adoption due to consideration of cost of implementation and maintenance, lack of software support in regional languages and issues of customisation of available solutions which cater to traditional banks. With the emergence of large number of providers who give technology support on turnkey basis at affordable cost, the above issues are no longer real constraints. ARDBs in fact, need to undergo a mind-set change by treating spending on IT as an essential part of its budget and viewing such spendings as investments for business growth, productivity enhancement and cost control apart from improving the quality of customer service and enhancing the image of the bank.

K. K. Ravindran
Managing Editor

Differentiated Banks: Design Challenges

Shri R. Gandhi*

In a dynamic growth-oriented economy, the financial sector needs to keep pace with the demands of the real sector. It is crucial that the financial system is flexible and competitive to cope with multiple objectives and demands made on it by various constituents of the economy. The financial sector comes of age when it has diverse institutions, catering to different segments, ranging from retail to wholesale, micro-finance to project finance, nurturing specific sectors and offering specialised services and tailor-made products to niche segments.

In India, banking industry is the most important channel which provides financial services. One of the key objectives of bank nationalization in 1969 and 1980 was to spread the banking habit through opening branches in hitherto un-banked areas. The post nationalisation decades witnessed rapid spread of bank branches in hitherto un-banked areas and banking has since increased in scale and complexity.

Over the years Reserve Bank has completely liberalised and has put it at the banks' end the decision about their geographical expansion and coverage; banks are effectively free to decide how many branches and other channel outlets they should open, when and where these touch points should be located, etc. Consequently, as on 31st March 2014, there were 1,16,415 branches of scheduled commercial banks, 19,082 branches of the RRBs, and 9,526 branches of UCBs. As on 31st March 2013, there were also 93,488 PACS in the country. Further, there were 3,98,408 Banking Correspondent touch-points as on 31st March 2014.

Financial Inclusion

Though the reach and scope of banking has thus increased, the huge demand for financial services remains unsatiated. It is a matter of concern that even with 150 domestic commercial banks [comprising 26 Public Sector Banks, 20 Private Sector Banks, 44 Foreign Banks, 4 Local Area Banks (LABs), 56 RRBs] and over 2,700 co-operative sector banks operating in the country, just about 40 per cent of the adults have formal bank accounts. Reserve Bank is aware of this aspect and is committed to financial inclusion and is exploring various possibilities to foster inclusion of the unserved and under-served population and areas and facilitate

*Sri V Narayanan Memorial Lecture" delivered by Shri R. Gandhi, Deputy Governor at Sastra University, Campus Kumbakonam on April 18, 2015 provision of affordable financial services by increasing competition among the banks and encourage innovative approaches (including channels, products, interface, etc.).

The Government of India and the Reserve Bank are clear that financial inclusion is a massive requirement and therefore all financial sector participants will have to put in consistent efforts in that direction. The Reserve Bank created a conducive and enabling environment for access to financial services to extend door step banking facilities in all the unbanked villages in a phase-wise manner. During Phase I, 74,414 unbanked villages with population more than 2,000 were identified and allotted to various banks through SLBCs for coverage through various modes, that is, branches, BCs or other modes such as ATMs and satellite branches, etc. All these unbanked villages have been covered by opening banking outlets comprising 2,493 branches, 69,589 BCs and 2,332 through other modes.

In Phase II, under the roadmap for provision of banking outlets in unbanked villages with population less than 2,000, about 4,90,000 unbanked villages have been identified and allotted to banks for coverage in a time bound manner by March 31, 2016. As per the progress reports received from SLBCs, banks had opened banking outlets in 1,83,993 unbanked villages by March 2014, comprising 7,761 branches, 163,187 BCs and 13,045 through other modes. The Reserve Bank is closely monitoring the progress made by the banks under the roadmap.

The Reserve Bank has encouraged banks to adopt a structured and planned approach to financial inclusion (FI) with commitment at the highest levels through preparation of board approved financial inclusion plans (FIPs). The first phase of FIPs was implemented over 2010-13. The Reserve Bank has used FIPs to gauge the performance of banks under their FI initiatives. With the completion of the first phase, a large banking network has been created and a large number of bank accounts have also been opened. However, it has been observed that the accounts opened and the banking infrastructure created has not seen substantial operations in terms of transactions. In order to continue with the process of ensuring meaningful access to banking services to the excluded, banks were advised to draw up fresh three-year FIPs for 2013-16. Banks were also advised that the FIPs prepared by them are disaggregated and percolate down to the branch level so as to ensure the involvement of all the stakeholders in FI efforts and also to ensure uniformity in the reporting structure under FIPs. The focus under the new plan is now more on the volume of transactions in the large number of accounts opened. A brief of the performance of banks under FIP up to March 31, 2014 is:

i. The number of banking outlets has gone up to nearly 3,84,000. Out of these, 1,15,350 banking outlets were opened during 2013-14.
ii. Nearly 5,300 rural branches were opened during 2013-14. Out of these, nearly 4,600 branches were opened in unbanked rural centres (Tier V and Tier VI centres).
iii. Nearly 33,500 BC outlets were opened in urban locations during 2013-14 taking the total number of BC outlets in urban locations to 60,730 as at the end of March 2014.
iv. More than 60 million basic savings bank deposit accounts (BSBDAs) were added during the 2013-14 taking the total number of BSBDAs to 243 million.
v. With the addition of 6.2 million small farm sector credits during 2013-14, there are 40 million such accounts as on March 31, 2014.
vi. With the addition of 3.8 million small non-farm sector credits during 2013-14, there are 7.4 million such accounts as on March 31, 2014.
vii. Nearly 328 million transactions were carried out in BC-ICT accounts during 2013-14 as compared to 250 million transactions during 2012-13.

As you all know, greater impetus to the Financial Inclusion plans has since been received through the Prime Minister's Jan DhanYojana. Under this programme, in a short span of seven and a half months, a world record breaking achievement in the form of opening JDY Accounts for 14.71 crore persons as at end March 2015 has been accomplished.

Need for more Banks & Differentiated Banks

While thus the Financial Inclusion efforts through the existing set of banks have been continued, the Reserve Bank is conscious of the position that these may not be adequate to speed up the process and achieve the goals early. A Govt of India's High Level Committee on Financial Sector Reforms headed by Dr RaghuramRajan submitted in 2008 its Report titled “A Hundred Small Steps”. Among its various recommendations, the Committee recommended that there is a need for paradigm shift in the strategy for financial inclusion. It said the emphasis should be shifted from large-bank-led, public-sector-dominated, mandate-ridden, branch-expansion-focussed strategy. It said the poor need efficiency, innovation, and value for money which can come from motivated financiers who have low cost structure and thus see poor as profitable, but who also have the capacity to make decisions quickly, and with minimum paperwork. It therefore recommended that entry to private, well-governed, deposit-taking small finance banks be allowed.

The available options for the Reserve Bank to facilitate expansion of banking in the country are through private sector banks and foreign banks. The policy for approving foreign bank applications to open maiden branch and further expand their branch presence has been liberalized in 2005. However, for well documented reasons, we have been very cautious of allowing unrestricted and unbridled growth of foreign banks in India through their branch banking mode. Hence, after a long process of consultation since 2005, finally in November 2013, we came out with our policy for allowing the foreign banks through Wholly Owned Subsidiary (WOS) model. The scheme is yet to take off, though two foreign banks have since approached us formally in this regard.

The licensing policy for the private sector banks has been to grant universal bank licences as a "stop and go" licensing system. In the above background, in 2010, Reserve Bank brought out a Discussion Paper for licensing of new banks in the private sector, which was followed by draft guidelines and the issue of final guidelines in February 2013 and culminated in issuing of banking licences to two applicants. It may be recalled that the last two rounds of licensing took place way back in 1993 and 2004. We have since granted in principle approval for two new private sector universal banks. We have also expressed our intention to make the universal bank licences available "on tap".

The concept of differentiated banks was first discussed in 2007 when it was felt that the time was not yet opportune for such banks. Thereafter, the concept was once again discussed in a Paper "Banking Structure in India - The Way Forward", brought out by the Reserve Bank in August 2013. The Paper looked into various aspects of the banking structure, licensing of banks, banking models and suggested a transition path for some banks.

Another initiative taken by the Reserve Bank was setting up of a Committee headed by Shri NachiketMor, on Comprehensive Financial Services for Small Businesses and Low-Income Households to look into the issues relating to financial inclusion. The committee came up with two broad designs for the banking system in the country - the Horizontally Differentiated Banking System (HDBS) and the Vertically Differentiated Banking System (VDBS) based on the functional building blocks of payments, deposits and credit.

In a HDBS design, the basic design element remains a full-service bank that combines all three building blocks of payments, deposits, and credit but is differentiated primarily on the dimension of size or geography or sectoral focus. In a VDBS design, the full-service bank is replaced by banks that specialise in one or more of the building blocks of payments, deposits, and credit. Among others, the Committee suggested licensing of Payments Bank and wholesale banks as differentiated banks.

The Nachiket Mor committee opined that in the Indian context it would be important to have the regulatory flexibility to approach payments, savings, and credit independently (the Vertically Differentiated Banking Design) and to bring them together when the efficiency gains are high and the other costs are low. Some of the examples of such niche and specialised institutions are the South Korean Post Office Bank (only payments and deposits), GE Capital (credit and payments), MasterCard and Visa (only payments).

What are differentiated banks

Differentiated banks are distinct from universal banks as they function in a niche segment. The differentiation could be on account of capital requirement, scope of activities or area of operations. As such, they offer a limited range of services / products or function under a different regulatory dispensation. The concept is not entirely new. In fact, and in a sense, the UCBs, the PACS, the RRBs and LABs could be considered as differentiated banks as they operate in localized areas.

Some countries, for example, USA, Australia, Singapore, Hong Kong, Brazil, and Indonesia, have a differentiated bank licensing regime where differentiated licenses are issued specifically outlining the activities that the licensed entity can undertake. It is observed that the criterion for differentiation for the purposes of issuing differentiated licenses could be anchored either to capital conditions, as is practiced in Indonesia or to the activity as is the case in Australia, Singapore and Hong Kong.

In our country too, diverse opportunities in the banking sector reflecting significant macro-economic growth potential could be utilized by niche banking by facilitating specialization thereby enhancing optimal use of resources. Each of the niches has the potential to be individually large to sustain significant balance sheets and specialized entities can play a major role in all of them. Currently, while the banking sector is evolving depending on the needs of the economy, it is felt that given a choice, some banks and non-bank financial companies may choose to operate as a specialized niche bank to derive the obvious advantages of lower absolute capital requirements, lower cost of funds and specialization. As a regulator, the Reserve Bank felt that an enabling environment should be provided for niche banks also to operate and leverage upon them to contribute to the objective of financial inclusion.

The advantages of differentiated banks

There are several advantages of having differentiated banks. They are as follows:

- There are diverse opportunities in the banking and financial landscape reflecting significant macro-economic growth potential in India and differentiated licensing could enable unlocking potential of these opportunities as it encourages niche banking by facilitating specialisation thereby reducing potential non-optimal use of resources.
- Very large ticket, long term infrastructure lending requires risk management expertise that goes beyond traditional credit appraisals at banks. There is significant space for specialized entities in risk assessment and structuring of infrastructure finance.
- Very low ticket unsecured credit requires risk management methodology and cost control that is not easy in the business model of conventional banks.
- Increase in competition among banks could lower costs of transactions.
- Gaps in SME finance can be filled with asset and cash flow based lending, operating leases, and factoring.
- Issues of conflict of interest when a bank performs multiple functions would not arise, where differentiated licenses are issued.
- Risk management systems and structure for regulatory compliance could be customized according to the banking type.
- Customized application of supervisory resources according to the banking type could result in greater optimization of such scarce resources.
- Core competency could be better harnessed leading to enhanced productivity in terms of reduced intermediation cost, better price discovery and improved allocative efficiency.

The Policy on Differentiated Banks

After a careful analysis of the advantages of and the challenges from licensing differentiated banks, we came to the conclusion that in balance, the advantages outweigh the challenges, and the challenges can be effectively met with appropriate arrangements. As mentioned by the HLCFSR, the environment is conducive for experimentation with small banks. The Reserve Bank has, accordingly, decided to licence differentiated banks and guidelines on licensing of small banks and payments banks have been issued in November 2014.

Objectives

The objectives of licensing small finance banks are furthering financial inclusion by (a) provision of savings vehicles, and (b) supply of credit to small business units; small and marginal farmers; micro and small industries; and other unorganised sector entities, through high technology-low cost operations. We hope to achieve the stated objectives by stipulating target segments where the credit should be directed and by indicating the ticket size of the advances to ensure that the target segment is serviced.

The objectives of setting up of payments banks are to further financial inclusion by providing (i) small savings accounts and (ii) payments / remittance services to migrant labour workforce, low income households, small businesses, other unorganised sector entities and other users. We hope to achieve the stated objectives by specifying the services that the payments bank could undertake and by indicating the manner in which the funds need to be deployed.

Promoters

The Small Finance Banks can be promoted by individuals who have at least 10 years of experience / expertise in financial or banking field or by private sector companies or societies with good track record. Existing MFIs, NBFCs or LABs can opt for conversion. The promoters will have to be resident Indians or owned and controlled by resident Indians. They will have to conform to stringent 'fit and proper' criteria. The promoter's minimum initial contribution to the paid-up equity capital of such small finance bank shall at least be 40 per cent and gradually brought down to 26 per cent within 12 years from the date of commencement of business of the bank.

The promoters of Payments Banks can be individuals who have at least 10 years of experience / expertise in financial or banking field or by telecom companies, PPI issuers, private sector companies or societies, super-market chains with good track record. Existing PPIs can opt for conversion. The promoters will have to be resident Indians or owned and controlled by resident Indians. They will have to conform to stringent 'fit and proper' criteria. There can be strategic partnership with other banks. The promoters can retain 100% ownership.

Responsibilities and permissible activities

The Small Finance Banks will be small sized universal banks. They have to finance priority sector to the extent of 75% of their NDTL; while 40% should be as per standard priority sector norms, the other 35% can be in any of the priority sector. 50% of their credit portfolio will have to be of ticket size of less than ₹25 lakh.

The Payments Banks can undertake payment and deposit services only. They can accept deposits from a customer upto ₹1 lakh only. They will have no credit portfolio. They should invest 75% of their NDTL only in Government securities. They will not be subject to priority sector norms. They can perform Banking Correspondent functions to other banks.

Area of operation

Both the Small Finance Banks and the Payments Banks can operate all over India.

Challenges of designing the differentiated banking structure

Given our objective of furthering financial inclusion, it was relatively easy to determine what type of differentiated banks that can subserve this objective. It was amply clear that the Small Finance Banks and Payments Banks are such entities. However, designing their structures was not that easy. We encountered several competing options, dilemmas and confusion. We resolved these through internal deliberations and external consultations. The feedback to our draft guidelines were also valuable in resolving some of these issues. Let me explain certain key challenges and how did we resolve them.

Safety of the banking system

The real challenge before the regulator would be maintaining systemic stability and protecting the interests of the depositors. Many niche-banking models typically depend on inter-bank liquidity, and wholesale funding which is a potential source of risk and vulnerability. Therefore, we decided that at least to begin with, the niche-banking should not be exposed to such liquidity risk. That is why we decided to design Small Finance Bank and Payments Bank which will not have such liquidity risk.

While encouraging the presence of different kinds of banks, the regulator has to ensure that risk management is robust as niche banks are susceptible to risks such as concentration risk which needs to be mitigated through adequate capital requirements and other suitable regulatory measures such as appropriate exposure norms and limits on leverage. This approach guided us in letting Small Finance Banks operate across the country, rather than limited to a narrow geography; in prescribing ₹ 100 crore as capital to ensure a decent size of balance sheet; in limiting exposures to single and group borrowers of Small Finance Banks to 10% and 15% of their net worth respectively; and in prescribing CRAR at 15% for the Small Finance Banks. Likewise, these risk management considerations determined in prescribing that

Payments Banks cannot extend loans and advances and not less than 75% of their assets to be in Government securities only.

Managing public perception

Another challenge is to build trust in the minds of depositors and public in general. Considering that in India we have been only licensing universal banks which engage in all types of financial activities, it may be a challenge to manage the public perception and provide enough confidence to the public to enable them to place deposits in differentiated banks. There will be a need for creation of awareness through proper communication strategy and depositor education. We are conscious of this need.

Legal provisions for licensing of differentiated banks

Section 22 of the Banking Regulation Act, 1949 provides that a company intending to carry on banking business must obtain a licence from RBI except such of the banks (public sector banks and RRBs), which are established under specific enactments. Every bank in India, i.e., domestic and foreign, apart from banking business, can carry out all the activities permitted under Section 6 of the Banking Regulation Act. However, the Act also provides for Reserve Bank specifying the terms and conditions and other requirements, along with the licences. We have to employ these provisions for licensing of differentiated banks.

Viability of the models

Concentration risk: The differentiated banks will be fraught with concentration risk and a downturn in a particular sector or region can jeopardize the operations of a bank.

Asset Liability mismatches: Sector-specific banks run the risk of asset-liability mismatches. Asset liability mismatches will be posing a challenge to liquidity management by differentiated banks. It is therefore, imperative to have specific asset-liability management (ALM) tools for such banks.

Absence of cross subsidization: Universal banks function by engaging in cross-subsidizing loss making business in one segment with earnings from another which will not be possible for specialized banks thereby, impacting their revenues. The localized operations or restriction on the banks to engage in a particular activity could lead to non-availability of cross-subsidization impacting the viability of such models.

Avenues for income generation: Providing avenues for income generation for the differentiated banks is a challenge. To begin with, other fee-based business like distribution of insurance and mutual fund products, credit card business, remittances, payment and settlement business, etc. could be permitted to augment the revenue streams.

These model related issues we

have addressed through prescribing single and group borrower limits and higher CRAR for Small Finance Banks, high quality liquid assets for the Payments Banks, cost minimization through technology and letting them undertake agency functions to augment revenue.

Ownership of differentiated banks and corporate governance issues

The question of what kind of promoters should be allowed access to banking system is also relevant in the context of the high standards of corporate governance needed for the banking industry. There are existing non-bank financial sector entities, micro finance entities, Local Area Banks and Urban Cooperative Banks who would like to convert themselves into Small Finance Banks; telecom companies who would like to set up and Pre-Paid Instrument Issuers (PPI) who would like to convert themselves into Payments Banks. Real sector companies, societies, partnership firms, industrial and business houses, and even individuals would be interested in obtaining a banking license. Thus the choice is innumerous.

Critical factors to the selection are the promoters' credentials, experience and track record. We recognized that the aspirations of NBFCs, MFIs, LABs and UCBs are genuine and hence provided for their conversion, except that of UCBs. UCBs we are awaiting enabling statutory amendments. As regards individuals, we prescribed 10 years of experience in banking and finance as a precondition. In the case of real sector companies and societies, we prescribed track record of five years.

Since there are separate guidelines for foreign ownership of banks, we prescribed that the promoters of these Small Finance Banks and Payments Banks will have to be resident individuals or resident owned and controlled entities.

Further, in India we have pursued a policy of diversified ownership in private sector banks to prevent self-dealing by promoters and to enable the management to run the banks professionally. However, for a new bank to take sound roots, a determined and well-endowed promoter is an absolute requirement. We balanced these two conflicting ideas, in the case of Small Finance Banks by prescribing higher minimum locked in promoter's stake in the initial five years and a gradual divestment thereof over a period of 12 years. Since in the Payments Banks case there is no conflict of interest as they are prohibited from lending activities, there are no such limitations on higher promoter's holdings.

Challenges to regulation and supervision

Providing a level playing field in development obligations: Introducing differentiated banks would take away the level playing field which is now available to all banks uniformly where the banks are required to contribute to the priority sector obligations and other welfare measures of the Government. Implementing such obligations would become difficult through differentiated banks. Therefore, to ensure participation of these banks in the developmental needs of the economy, appropriate modifications may have to be set keeping in view the nature of the business model.

Accordingly, for Small Finance Banks we prescribed a higher level of Priority Sector Lending requirement at 75%, as the very purpose is financial inclusion. For Payments Banks, as they will not have lending activities, we have ensured their participation in development by prescribing 75% investment in Government securities.

Elimination of regulatory arbitrage

As universal banks are permitted to do all or any of the activities mentioned in Section 6 of Banking Regulation Act, 1949, regulating the universal banks is easier for the regulator as the regulations could be principle based and common to these banks. However, once the differentiated banks are licenced, there would be a need for having a different regulatory and supervisory approach specific for such banks depending on the specialization. It also needs to be ensured that there is no scope for regulatory arbitrage across different types of banks.

Multiple regulations and complexity in regulations

Also, there may be a need for more types of regulations for differentiated banks because of the different products lines, service offerings, clientele, areas and modus operandi of doing business. Multiple regulations need to work in tandem to ensure effective regulation. Further, there would be increase in complexity due to various types of banks and the different regulations applicable to each type of specialized category of banks. The regulatory and supervisory resources would have to be reoriented to ensure that effective regulatory and supervisory oversight is put in place.

Resolution regime for banks

More number of banks may mean more number of failures. It is a big risk in licensing of differentiated banks. However, as noted by the HLCFSR, failure of a few small banks may not have systemic consequence. Further, the Resolution regime is being strengthened.

Conclusion

There is enormous unmet potential demand lying in the rural areas and other unbanked centres which needs to be tapped. To tap this unmet demand for financial services, it is felt that it is worth experimenting on new types of institutions for financial inclusion. However, in a country like India where there exists differentiated markets and consumer groups, the concept may have to be contextualized according to the needs of the customers. As regards the health of the differentiated banks, there is a need for creating a balance between long term sustainability and the financial inclusion goals. We in the Reserve Bank believe we have carefully crafted suitable policy guidelines for the Small Finance Banks and Payments Banks keeping this balance in perspective. We have received 72 applications for the Small Finance Banks and 41 applications for the Payments Banks. We are processing them and hope to issue licences to the fit and proper applicants in a few months' time. We hope that these new entities will speed up our financial inclusion efforts in a big way.

Impact of amended APMC act on apple marketing in Himachal Pradesh

Dr. Mustfa Hussain*
Dr. Ashutosh Singh*

ABSTRACT

The major bottleneck of Agricultural Produce Marketing Committees (APMCs) is that agri-transactions are confined to only regulated market yards. However amended APMC act prevents anti-competitive practices. There is no compulsion on the producer to sell their produce in APMC market yards, producer are quite free to sell directly to private companies or private market yards or farmers-consumer market. An endeavor was made to analyse the impact of amended APMC act on apple business in Himachal Pradesh. Study has covered two districts of Himachal Pradesh viz. Shimla and Kullu. Purposive, random and snow ball sampling were adopted to arrive at various units of analysis. Many aspects of marketing have been analysed in a very proper way. Total 88 apple growers were selected. These apple growers were further categorized in to two Groups viz. Group 1 (58 growers who follow traditional supply chain) and Group 2 (30 growers who follow traditional and modern/ modern supply chain both). It was found that marketing efficiency of Adani and Apni Mandi (Channel E) is highest by Shepherd's formula and Acharya's formula respectively.

Key Words- Amended APMC Act, Modern Supply chain, Marketing Efficiency, Traditional APMC Act, temperate fruits and post harvest management.

INTRODUCTION

It has been experienced through many studies that traders and wholesalers are involved in malpractices and exploit the primary producers at great extent in agri-supply chain. Being the long supply chain, producers obtain only about 53 percent of final prices of agricultural commodities with 31 percent being the share of middlemen and the remaining 16 percent being market cost. In case of vegetables and fruits the share of the farmer in consumer rupee is less than 39 percent and 34 percent respectively. Apart from this, APMCs are preventing direct access of framers to retailers and to end-consumers. Thus to have 'barrier-

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free' agricultural marketing system in country, choice of multiple and competitive market channel to farmers, independent regulatory authority to encourage private investors and smooth license & registration of traders in regulated market yards were advised by many researchers and scholars. Consequently, amended APMC Act was implemented in 2003 titled as the "State Agricultural Produce Marketing (Development and Regulation) Act, 2003" (Farmer's Forum, 2011).

The present study is focusing on marketing practices of apple growers of major apple producing state where APMC Act has been amended. There are three apple producing states viz. Jammu & Kashmir, Himachal Pradesh and Uttarakhand, later two have the amended APMC Act but Himachal Pradesh has higher (8.92 Lakh MT) apple production than Uttarakhand (1.35 Lakh MT) in 2011 (NHB). Private players viz. Adani Agri fresh, Mother Dairy, Concor, Reliance, Godrej etc. are procuring apple directly from primary producers and comparatively paying better price to them. Thus HP state was purposively selected for present study.

- To identify marketing channels followed by apple growers in HP.
- To analyse the impact of amended APMC Act on marketing practices.
- To evaluate the efficiency of traditional and modern apple supply chain.

MATERIALS AND METHODS

Descriptive research design was adopted for accumulating the information about different aspects of respondents viz. apple growers, wholesalers and retailers etc. Secondary data was collected from concerned web sites, books, journals, concerned departments etc. while primary data was collected from apple growers and different marketing intermediaries involved in apple marketing. Districts Shimla and Kullu have highest apple production in the state, which are together contributing 88.99 percent of the entire apple production of the state. Thus districts Shimla and Kullu were purposively selected. Same methodology was adopted to select blocks Jubbal-Kotkhai and Rohru from district Shimla and blocks Kullu and Nagar from district Kullu. In next step, eight villages were selected randomly. Further apple growers were categorized in to two groups:

Group1- Growers who follow traditional supply chain and

Group2 -Growers who follow the traditional as well as modern supply chain.

Fifteen percent growers from both the groups were selected by adopting simple random sampling and survey was conducted. Therefore 58 apple growers were

Table1. Distribution of Apple Growers

Districts	Blocks	Name of Villages	Growers who follow traditional supply chain (Group1)	Growers who follow traditional as well as modern supply chain (Group2)	Block wise Apple Growers
Shimla	Jubbal-Kotkhai	Kiari	3	1	**19**
		Jashla	5	2	
	Rohru	Bhalara	5	4	**23**
		Bijory	4	2	
Kullu	Kullu	Nagabag	7	6	**22**
		Bandrol	4	0	
	Nagar	Puid	6	2	**24**
		Raison	6	2	
Category wise Apple Grower			40	19	**88**

belonging to Group-1 while 30 apple growers have formed Group-2. One APMC market yard from each district yard having highest arrivals (i.e. Bhattakoofer from Shimla and Bandrol from Kullu) was purposively chosen for study. 10 wholesalers from APMC market yard Bhattakoofer (Shimla) and 10 wholesalers from APMC market yard Bandrol (Kullu) were selected. 10 apple retailers from Bada Shimla city and 10 apple retailers from Kullu city were randomly selected. Apart from this, 10 retailers who follow modern supply chain and channelizing apple of concerned companies were selected by adopting snow ball sampling technique. Three companies viz. Adani Agri Fresh, Mother Dairy and Fresh and Healthy (Concor) were identified which procure apple directly from respondents. The well structured undisguised questionnaires were designed for taking in-depth interviews of respondents.

➤ *Formula used*

Following formulas were adopted for analyzing the traditional and modern supply chain of apple in study area.

a) Marketing Margins

Following formula was adopted to analyse the marketing margins.

$$A_{mi} = P_{mi} - (P_p + M_{ci})$$

Where,

A_{mi} : The Absolute Margins of the i^{th} Middleman

P_{mi} : The Selling Price of the i^{th} Middleman

P_p : Purchasing Price

M_{ci} : Marketing Cost of the i^{th} Middleman

ii) Marketing Cost

This cost limits the income of

producer and affect the cost of living of consumers. Following formula was adopted to determine the marketing cost.

$$T_c = C_p + Mci$$

Where,

T_c : Total Cost of Apple Marketing

C_p : Cost Borne by Producer

M_{ci} : Marketing cost increased by i^{th} middleman

iii) Marketing Efficiency

Shepherd's formula and Acharya's formula was used for measuring the marketing efficiency of traditional as well as modern supply chain.

Shepherd's Formula

$$ME = \frac{V}{I} - 1$$

Where,
ME = Marketing Efficiency
V = Value of Goods (Consumer Price)
I = Total Marketing Cost

Acharya's Formula

$$MME = \frac{GP}{MC + MM}$$

MME = Modified Measure of Marketing Efficiency
GP = Net Price received by Grower
MC = Total Marketing Cost
MM = Net Marketing Margins

RESULT AND DISCUSSIONS

Following heads are presenting the results and discussions of study.

i. Identification of Marketing Channels

Following channels were identified in the study area, which have been adopted by respondents in both groups.

Channel A. Grower → Forwarding → Agent Commission Agent→ Wholesaler→Retailer →Consumer

Channel B. Grower→Commission Agent→Wholesaler Retailer→Consumer

Channel C. Grower→Pre Harvest Contractor→Wholesaler Retailer→Consumer

Channel D. Grower→Processing unit→Consumer

Channel E. Grower→Consumer

Channel F. Grower→Company ↗ Wholesaler →Retailer →Consumer
↘ Consumer

Above six channels were identified which were adopted by respondents in Group-1 and Group-2. It was analysed that channel A, B, C and D were adopted by respondents in Group-1 while all marketing channels (except channel C) were adopted by respondents in Group- 2.

ii (a) Marketing cost and net return for respondents in Group-1

Channel A

Table 2 depicts that respondents have received ₹31.32 in Delhi market followed by ₹30.10 in Chandigarh market and ₹25.43 in HP for 1 kg apple. Though grower's net return is highest in Chandigarh market which is qualified to ₹22.50 followed by ₹21.01 in Delhi Market and ₹18.56 in HP. Grower have to face extra cost as commission of commission agent and market fee

Table 2: Marketing Cost and Net Return under Different Marketing Channels for Group-1 N=58

Particulars	Channels Followed by Sampled Apple Growers (Group 1)							
	Ch. A (Through F. Agents)			Ch. B (Directly to Commission Agent of APMC)			Ch. C (Pre Harvest Contractors)	Ch. D (HPMC)
	Delhi	Chandigarh	HP	Delhi	Chandigarh	HP		
	₹/kg	₹/kg	₹/kg	₹/kg	₹/kg	₹/kg	₹/kg	₹/kg
A. Price received by Growers at APMC	**31.32**	**30.10**	**25.43**	**32.88**	**29.58**	**24.75**	**22.65**	**5.25**
B. Labor Cost								
1. Picking, Assembling,	0.28	0.24	0.30	0.33	0.22	0.35	-	0.28
2. Grading	0.48	0.47	0.34	0.46	0.46	0.45	-	0.45
3. Packing	0.14	0.14	0.17	0.11	0.13	0.14	-	0.11
4.(i) Loading	0.14	0.11	0.12	0.08	0.09	0.11	-	0.17
4.(ii) Unloading	0.15	0.13	0.14	0.16	0.18	0.14	-	0.19
5. Carriage to Road Head	0.20	0.29	0.31	0.30	0.35	0.25	-	0.25
C. Market Costs								
1.Packaging Material Cost	3.00	2.86	2.80	3.00	2.90	2.95	-	0.46
2. Labeling , Stenciling etc.	0.07	0.07	0.07	0.07	0.07	0.07	-	-
D. Transportation Cost	2.50	2.82	2.33	1.75	2.95	0.90	-	0.29
E. Commission of Forwarding Agents	0.14	0.15	0.14	-	-	-	-	-
F. Commission and Market Fee	2.81	-	-	2.71	-	-	-	-
G. Other Charges								
1. State Tax	0.15	0.14	-	0.15	0.15	-	-	-
2. Miscellaneous Charges	0.25	0.18	0.15	0.17	0.17	0.21	-	0.04
H. Total Marketing Cost (B to G)	**10.31**	**7.60**	**6.87**	**9.29**	**7.67**	**5.57**	**-**	**2.24**
Grower's Net Return (A-H)	**21.01**	**22.5**	**18.56**	**23.59**	**21.91**	**19.18**	**22.65**	**2.95**

in Delhi market, but this cost is faced only by wholesalers in HP and Chandigarh market yards. Table further shows that total marketing cost for 1 kg apple is highest for Delhi (₹10.31) and lowest (₹6.87) for APMC yards of HP.

Channel B

Table 2 shows that grower received ₹32.88 in Delhi market followed by ₹29.58 in Chandigarh market and ₹24.75 in HP for 1kg apple. It was analysed that grower's net return is ₹23.59 in Delhi followed by ₹21.91 in Chandigarh and ₹19.18 in HP. Growers who sold apple to Delhi have faced ₹ 2.75 as extra cost because commission of commission agent and market fee is paid by growers while this cost is faced by wholesalers in Chandigarh and APMC yards of HP. Table further shows that total marketing cost for 1 kg apple is highest for Delhi (₹9.29) and lowest (₹5.57) for APMC yards of HP.

Channel C

Table 2 reveals that apple growers do not incur any marketing cost under channel C, as produce is sold to pre harvest contractors who bear all marketing cost themselves. The average price growers receive under this channel is ₹22.65.

Channel D

Data pertaining to cost and margin under Channel D elicits that growers receive ₹5.25 for 1 kg apple. It is minimum support price at which C grade apple is procured by HPMC. It was analysed that ₹1.45 has been incurred on labour followed by ₹0.46 on packing material, ₹0.29 on transportation cost and ₹0.04 for miscellaneous charges. The total marketing cost under this channel is qualifying to ₹2.24. Therefore grower's net return is ₹2.95 under channel D.

ii (b) Marketing cost and net return for respondents of Group-2.

Channel A

Table 3 shows that average price received by respondents is ₹30.25 in Delhi market followed by ₹29.75 Chandigarh and ₹26.66 in HP under channel A. It was analysed that grower's net return is ₹22.50 in Chandigarh market followed by ₹19.97 in Delhi market and ₹19.79 in APMC market yards of HP. The perusal of table shows that total marketing cost borne by growers is highest i.e. ₹10.31 in Delhi market followed by ₹7.60 in Chandigarh and ₹6.87 in HP. Growers who approach Delhi market have to face market fee and commission of commission agent as extra cost which decrease the net return of growers while these cost are faced by buyers in Chandigarh and Himachal Pradesh.

Channel B

Table 3 clearly reveals that grower's net price is ₹31.55 in Delhi market followed by ₹31.44 in Chandigarh market and ₹ 26.60 in Himachal Pradesh via B channel. The table further indicates that

Table 3: Marketing Cost and Net Return under Different Marketing Channels for Group-2

N= 30

Particulars	Channels Followed by Sampled Apple Growers (Group-2)										
	Ch. A (Through F. Agents)			Ch. B (Directly to Commission Agent of APMC)			Ch. D (HPMC)	Ch. E (Apni Mandi)	Ch. F Directly to Company		
	Delhi	Chandigarh	HP	Delhi	Chandigarh	HP			Adani	Mother Dairy	Fresh and Healthy
	₹/kg	₹/kg	₹/kg	₹/kg	₹/kg	₹/kg	₹/kg	₹/kg	₹/kg	₹/kg	₹/kg
A. Price received By Growers	30.25	29.75	26.66	31.55	31.44	26.60	5.25	23.44	53.45	50.00	51.6
B. Labour cost											
1. Picking, Assembling,	0.39	0.37	0.45	0.38	0.25	0.50	0.41	0.35	0.47	0.54	0.31
2. Grading	0.28	0.39	0.47	0.25	0.28	0.48	0.45	0.33	0.58	0.53	0.50
3. Packing	0.18	0.15	0.15	0.17	0.19	0.19	0.14	0.17	0.18	0.19	0.15
4.(i) Loading	0.16	0.15	0.14	0.13	0.10	0.15	0.18	0.83	0.28	0.17	0.75
4.(ii) Unloading	0.20	0.16	0.12	0.18	0.13	0.13	0.18	0.53			
5. Carriage to Road Head	0.21	0.25	0.21	0.25	0.22	0.24	0.26	0.23	0.10	0.24	0.24
C. Market Costs											
1.Packaging Material cost	3.00	3.01	3.18	3.00	3.05	2.92	1.17	1.33	-	2.40	2.50
2. Labeling , Stenciling etc.	0.09	0.07	0.09	0.07	0.08	0.07	-	0.05	-	0.10	0.15
D. Transportation Cost	2.50	2.19	1.91	2.00	2.48	0.89	0.57	0.91	1.14	-	-
E. Commission of Forwarding Agents	0.13	0.13	0.11	-	-	-	-	-	0.20	-	-
F. Commission and Market Fee	2.81	-	-	2.91	-	-	-	-	-	-	-
G. Other Charges											
1. State Tax	0.16	0.16	-	0.14	0.15	-	-	-	-	-	-
2. Miscellaneous Charges	0.17	0.15	0.04	0.16	0.12	0.34	-	0.01	-	-	-
H. Total Marketing Cost (B to G)	10.28	7.18	6.87	9.64	7.05	5.91	3.36	4.74	2.95	4.17	4.60
Grower's Net Return (A-H)	19.97	22.57	19.79	21.91	24.39	20.69	1.89	18.70	50.50	45.83	47.00

total marketing cost borne by growers are ₹ 9.64, ₹ 7.05 and ₹5.91 for Delhi, Chandigarh market and Himachal Pradesh respectively. As the growers have to pay ₹2.91 as commission of commission agent and market fee in Delhi market, it reduces the net return of growers. Thus grower's net return is ₹24.39 in Chandigarh followed by ₹24.91 Delhi and ₹20.69 in Himachal Pradesh via channel B.

Channel D

Respondents sold their C grade apple at MSP (₹5.25) via channel D. Table 3 show that total marketing cost is qualifying to ₹3.36. It was observed that up to depot total marketing cost is faced by growers. It was also analysed that grower's net return is ₹1.89 for 1 kg apple under channel D.

Channel E

This marketing channel is known as modern marketing channel came in to existence after implementation of amended APMC Act. Table 3 shows that net price received by apple growers is ₹23.44 and total marketing cost is ₹4.77. Table also elicits that grower's net return is qualified to ₹18.70 under this channel.

Channel F

Table 3 is depicting that growers have received ₹53.45 from Adani followed by ₹51.60 from Fresh and Healthy and ₹50.00 from Mother Dairy. Table further reveals that growers have to face transportation cost under the supply chain of Adani which is qualified to ₹1.14 while this cost is incurred by Mother Dairy and Fresh and Healthy under channel F.

It was also analysed that growers have to incur ₹2.40 and ₹2.50 on packaging for Mother Dairy and Fresh and Healthy but this cost is nil under Adani supply chain because Adani supplies plastic crates to its member growers. The total marketing cost borne by growers is ₹2.95, ₹4.17 and ₹4.6 under supply chain of Adani, Mother Dairy and Fresh & Healthy respectively. Therefore grower's net return is ₹50.5 from Adani followed by ₹47.00 from Fresh and Healthy and ₹45.83 from Mother Dairy respectively.

iii. Marketing cost and margins for wholesalers under traditional marketing channels

The perusal of table 4 has elicited that wholesalers have sold the apple of Group-1 at ₹34.70 and ₹33.22 and secured the margins to ₹6.35 and ₹4.95 via channel A and channel B respectively. Total marketing cost incurred by wholesaler is ₹2.92 and ₹2.52 via channel A and channel B respectively. Table has further elicited that wholesalers have sold the apple of Group-2 at ₹33.12 and ₹33.63 and secured margins to ₹3.93 and ₹3.99 via channel A and channel B respectively. Total marketing cost incurred by wholesalers is ₹2.93 and ₹3.04 via

Table 4: Marketing Cost and Margins (in ₹) at Wholesalers' Level

Particulars	APMC Market Yards of HP			
	Group 1		Group 2	
	Channel A	Channel B	Channel A	Channel B
A. Price Paid By Wholesalers	**25.43**	**24.75**	**26.26**	**26.60**
B. Marketing Cost incurred by Wholesalers				
1 Labour Charges	0.17	0.15	0.12	0.12
2 Loading/ Unloading	0.30	0.30	0.30	0.30
3 Spoilage @ 2.5%	0.63	0.61	0.65	0.66
4 Post & Telegraph	0.07	0.03	0.05	0.03
5 Market Fee @5 %	1.25	1.23	1.31	1.33
6 Transportation Cost	0.50	0.20	0.50	0.60
Sub Total (1 to 6)	**2.92**	**2.52**	**2.93**	**3.04**
C. Wholesalers' Margins	**6.35**	**4.95**	**3.93**	**3.99**
D. Selling Price (A+B+C)	**34.70**	**32.22**	**33.12**	**33.63**

Table 5: Marketing Cost and Margins (in ₹) at Retailers' Level

Particulars	Group 1		Group 2	
	Channel A	Channel B	Channel A	Channel B
A. Gross Price Paid By Retailers	**34.70**	**32.22**	**33.12**	**33.63**
B. Marketing Cost incurred by Retailers				
1 Loading/ Unloading	0.15	0.15	0.15	0.15
2 Spoilage @ 4 %	1.38	1.22	1.32	1.34
3 Market Charges (Rent, Electricity etc.)	1.45	1.50	1.50	1.00
4 Local Transportation Cost	0.14	0.16	0.15	0.16
5 Miscellaneous	0.50	0.50	0.50	0.50
Sub Total (1 to 5)	**3.62**	**3.63**	**3.62**	**3.15**
C. Retailer's Margins	**3.47**	**5.30**	**5.96**	**5.04**
D. Selling Price (A+B+C)	**41.79**	**41.15**	**42.70**	**41.82**

channel A and channel B respectively.

iv (a) Marketing cost and margins for retailers under traditional marketing channels

It is evident from the table 5 that retailers have sold apple of Group-1 at ₹41.79 and ₹41.15, incurred ₹3.62 and ₹3.63 as total marketing cost and secured their margins to ₹3.47 and ₹3.53 via channel A and channel B respectively. On the other hand, retailers have sold apple of Group-2 at ₹42.70 and ₹41.82, incurred ₹3.62 and ₹3.15 as total marketing cost and secured their margins to ₹5.96 and ₹5.04 via channel A and channel B respectively.

Table 6: Marketing Cost and Margin (in ₹) under Modern Marketing Channels

Particulars	Private Players		
	Adani's Supply Chain	Mother Dairy's Supply Chain	Fresh and Healthy's Supply Chain
A. Price Paid to Growers	**53.45**	**50.00**	**51.60**
B. Marketing Cost incurred by P. Players			
1.Transportation Cost	1.25	2.50	2.50
2. Unloading	0.18	0.13	0.15
3. Cleaning, Grading, Sorting	0.40	0.25	0.30
4. Storage	1.30	1.25	1.50
5. Packing Material and Packaging)	1.52	1.95	1.25
6. Market Fee @ 1 %	0.59	0.54	0.57
7. Spoilage	0.02	0.05	0.01
8. Miscellaneous	-	-	-
Sub Total (1 to 8)	**5.26**	**6.67**	**6.28**
C. Company's Margins	4.69	5.66	3.47
D. Selling Price (A+B+C)	**63.40**	**62.33 (Consumer price)**	**61.40**
Retailers total cost	**2.50**		**2.00**
Retailers Margin	**5.00**		**4.00**
Selling price of retailers	**70. 90 (Consumer price)**		**67.40 (Consumer price)**

iv (b) Marketing costs and margins for private players under modern marketing channels

The essence of table 6 reveals that total marketing cost is highest (₹ 6.67) for Mother Dairy followed by Fresh and Healthy (₹6.28) and Adani (₹5.26). Table elicits that Mother Dairy has secured highest margins (₹5.66) followed by Adani (₹4.69) and Fresh and Healthy (₹3.47). It was experienced that selling price of Adani is highest qualifying to ₹63.40 followed by Mother Dairy (₹62.33) and Fresh and Healthy (₹61.40).

It was found that supply chain of Mother Dairy is shortest than both companies. Mother Dairy procures apple directly from growers and sells directly to ultimate consumers through its retail outlets (SAFAL) in Delhi region. On the other hand Adani and Fresh and Healthy sell apple to big retailers of metro cities of country instead of selling directly to consumers. It is evident from table 6 that retailer has sold apple of Adani and Fresh and Healthy at ₹70.90 and ₹67.40 respectively. Therefore retailers has fetched higher price from Adani's apple than Fresh and Healthy. It was

Table 7: Marketing Efficiency of Traditional Marketing Channels

Particulars	Group 1		Group 2	
	Channel A	Channel B	Channel A	Channel B
A Total Marketing Cost	13.41	11.71	13.22	12.10
B. Consumer Price	41.79	41.15	42.27	41.28
C. Net Margin	9.82	10.30	9.89	9.03
D.Net Price Received by Grower	18.56	19.18	19.79	20.69
E. Index of Marketing Efficiency				
1. Shepherd's Formula (B/A-1)	**2.11**	**2.51**	**2.19**	**2.41**
2. Acharya's Formula (D/A+C)	**0.79**	**0.87**	**0.85**	**0.97**

Table 8: Marketing Efficiency of Modern Marketing Channels

Particulars	Channel E	Channel F		
	Apni Mandi	Adani's Supply Chain	Mother Dairy's Supply Chain	Fresh and Healthy's Supply Chain
A. Total Marketing Cost	4.74	10.71	10.84	12.88
B. Consumer Price	23.44	70.90	62.33	67.40
C. Net Margin	-	9.69	5.66	7.47
D. Net Price Received by Growers (in₹)	18.70	53.45	50.00	51.60
E. Index of Marketing Efficiency				
1. Shepherd's Formula (B/A-1)	**3.94**	**5.61**	**4.75**	**4.23**
2. Acharya's Formula (D/A+C)	**3.94**	**2.62**	**3.03**	**2.53**

analysed that retailers have incurred ₹2.50 and ₹2 on marketing and secured net margins to ₹5 and ₹4 under the supply chain of Adani and Fresh and Healthy respectively.

V (a) Marketing efficiency of traditional marketing channels

It is evident from the Table 7 that marketing efficiency of Channel A and Channel B is 2.11 and 2.51 respectively by using Shepherd's formula in Group-1. Table further shows that marketing efficiency is 2.19 and 2.41 for Channel A and Channel B respectively by Shepherd's formula in Group-2. Marketing efficiency was also calculated by employing Acharya's formula and it was found that marketing efficiency of Channel A and channel B is 0.79 and 0.87 respectively in Group-1. Table further shows that marketing efficiency of Channel-A and Channel B is 0.85 and 0.97 respectively in Group-2. Thus Channel B has been proved to the most efficient marketing channel by Shepherd's formula and Acharya's formula in Group-1 and in Group-2.

V (b) Marketing Efficiency of Modern marketing Channels

It is evident from the Table 8 that marketing efficiency of Apni Mandi (channel E) is 3.94 by using Shepherd's formula and Acharya's formula. Table 8 further reveals marketing efficiency of channel F. It was found that marketing efficiency of Adani (5.61) is highest followed by Mother Dairy (4.75) and Fresh and Healthy (4.23) by employing Shepherd's formula. Thus Shepherd's formula suggests that supply chain of Adani is the most efficient under channel F. On the other hand marketing efficiency of Mother Dairy (3.03) is highest followed by Adani (2.62) and Fresh and Healthy (2.53) by using Acharya's formula. Thus Acharya's formula has suggested that supply chain of Mother Dairy is the most efficient under channel F.

CONCLUSION

Discrimination in the returns/ margin and cost of channels is clearly revealing that modern marketing channels are good alternatives for apple growers/ entrepreneurs in Himachal Pradesh. It was experienced during the survey that with modern marketing channels, respondents are quite free to sell their produce and able to take decision before making the sale. However it was also seen that few of them are engaged with modern supply chain.

As compare to traditional supply chain, modern supply chains are much shorter and growers are able to fetch better price. Analysis of channels reveals that return is highest for Delhi market via and B and respondents faced highest marketing cost for Delhi market via channel A in Group-1. However respondents' return was highest for Chandigarh via channel B and Adani under traditional channels and modern channels respectively. Wholesalers' margin and total marketing was highest under channel A while supplying apple of Group-1. However wholesalers' margin and total marketing was highest under channel B while supplying apple of Group-2. Apple of Group-2 is sold by retailers at highest price and retailers are entertaining handsome margin via channel A. supply chain of Mother Dairy is shorter than Adani and Fresh and Healthy, due to this reason apple is sold at lower price in supply chain of Mother Dairy. However company entertains the highest margin than both the companies. Through Shepherd's Formula, marketing efficiency of channel B was registered for the highest in Group-1 while Acharya's Formula told that marketing efficiency of channel B was highest in Group-2. It was also found that marketing efficiency of Adani Supply Chain and Apni Mandi under modern channels was highest by adopting Shepherd's Formula and Acharya's Formula.

REFERENCES

Singh Surendra P., Sikka B.K. and Singh Ashutosh. (2009). Supply Chain Management and Indian Fresh Produce Supply Chain: Opportunities and Challenges- A paper prepared for presentation in International food & agribusiness management association, 19th annual world symposium.

Rauf Abdul, Saraf S.A. and Wani S.A. (2011). Economics of Production and Marketing of Apple in Himachal Pradesh and Jammu and Kashmir. Indian Journal of Agricultural Marketing, 25 (1) pp. 97-119.

Pandey Mukesh, Sikka B.K. and Sunil Panthari (2011). ICT System for Increasing Efficiency of Apple-Value in ICT for Agriculture & Rural Development in National Conference on Managing Agri-Food Supply Chain, Arunachal Pradesh, 9-11 April.

Economic Survey 2011. HP. Directorate of Economics and Statistics: pp. 2-25.

Economic Survey 2010. HP. Directorate of Economics and Statistics: pp. 2-25.

http://nhb.gov.in. National Horticulture Database. 4.12.2012.

http://nhb.gov.in/model-project-reports/Horticulture%20Crops%5Capple%5Capple1.htm. 28.02.2013.

www.wikipedia.org/wiki/indian_agriculture. 26.02.2013.

www.agriexchange.apeda.gov.in/India%20Production/India_Productions.aspx?hscode=08081000. 17.02.2013

www.agmarknet.nic.in. commodity list. 07.02.2013.

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 Husbandary	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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Chairman

Use of technology for business diversification in cooperative banks

Dr. I. A. Khan*

Diversification & cooperative banking

Diversification occurs for a business when it develops a new product or expands into a new market with keeping in mind for arrival of new customers. A business may diversify to manage risk by minimizing the harm to the business during economic downturns. The basic idea is to expand into a business activity that doesn't negatively react to the same economic downturns as your current business activity. If one of your business enterprises is taking a hit in the market, one of your other business enterprises will help offset the losses and keep the company viable.

A business may also use diversification as a growth strategy. Diversification in Banking means Spreading Bank's assets (Loans) over a wider assortment of quality borrowers, to maintain or improve earning levels while maintaining the same level of exposure. Cooperative Banking has a crucial role to play in the Indian Financial System. The cooperative principles of managing finance in India serve via media between the sophisticated institution like commercial banks on one hand and the unscrupulous moneylenders on the other. Despite the fact that the nationalized banks are spreading their operations in the rural areas, cooperative banking remains the best answer for catering to the needs of the small borrowers.

In economic terms co-operative banks were established to address market failures, the members were owning and financing the institutions, taking part in decision making. The community monitoring and relationships offered the necessary incentives to ensure timely repayments of loans and allowed co-operative banks to flourish and become the banks of today.

The rural cooperative credit institutions are divided into short term credit cooperatives and long term credit cooperatives. At the central level (District level) District Central Cooperative Banks (DCCB) function as a link between Primary Societies and State Cooperative Banks (SCB). As against three tier structure of short term credit cooperatives, the long term cooperative credit structure has two tiers, in many states with Primary Cooperative Agricultural and Rural Development Banks (PCARDB) at the primary level and State

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Cooperative Agricultural and Rural Development Bank at the state level. Challenges before the cooperative banks are two folds, on the one hand they are supposed to provide cheap and timely credit to rural masses and on the other hand they have to ensure their profitability and viability in turbulent interest regime. Financial sector reforms, globalization of financial services and technology revolution have strengthened the commercial banking system to a great extent and have improved their internal working systems.

Diversification in cooperative banks

As co-operative banks networks are established at local level, they are fully integrated in their immediate environments. This feature of proximity means that the credits collected are reinvested at the local and regional level and as a result the co-operative banks play a key role in development of areas in which they are based. In other words the decisions in co-operative banks are taken at local level and granted to local projects from the member/owners. In this respect co-operative banks have continuously promoted entrepreneurship through fostering self-help, responsibility, co-operation and solidarity while emphasizing the common good of the communities they belong to. But all these changes have created problems for cooperative banking system. To be able to create a balance between their social objectives and economic compulsions, these banks were needed to change working strategy. So as a result, cooperative banks have diversified their areas of operation. Business diversification process in cooperative banks started in the year 1992.

Business diversification was measured as an index of diversification; the loans advanced to other than agricultural sector were taken as the parameter of business diversification in cooperative sector. The proportion of loans & advances to other than agricultural sector was started as home loan, consumer loan, horticulture loan and SHG's activity loan etc.

Business Diversification

Importance of local share holders in diversification

Cooperative banks with knowledge of the local community are more suitable for providing funding for locally based businesses, than large financial institutions owned by a vast number of shareholders. On account of their proximity to the members and their local establishment, cooperative banks are well placed to gather more comprehensive information that allows for better evaluation of the needs of customers and their solvency. The member-customers are fully involved in the decision-making process of co-operative banks. Apart from allowing for risk minimization, credit-worthiness and customer need identification, member control is key to a long-term vision. Their primary aim is the long-term relationship with customers/members and members value maximization.

The continuous increase of profits is not a goal. Stable incomes from retail business, a diversified credit portfolio and prudent risk management, co-operative banks demonstrated their resilience during the recent financial crisis and weathered the storm relatively well. Several researchers have recently stated the powerful systemic benefits to be derived from diversity of business models and ownership structures in the banking sector. In short a pluralistic approach is likely to ensure greater financial stability and growth, as it responds to different objectives and business purposes. Despite these recognitions, the recent banking reforms and the post-crisis financial regulation show that the mainstream shareholders banks model does not take properly into account the diversity and characteristics of the other models.

Role of CEO in existing business of cooperative banks

Generally Cooperative banks' loan portfolio consists of more than 80% lending to crop loans and remaining to small, petty business and CC lending. Some of the banks have the following loan products in their portfolio.

- o Crops loans to PACS through Kisan Credit Card (KCC) System
- o Advances against fixed deposits
- o Consortium financing along with State Cooperative Bank for loans & advances to cooperative sugar mills
- o Cash Credit to PACS for dealing in agricultural inputs, PDS items, consumer goods etc.
- o Cash Credit to Cooperative Sugar Mills for working capital requirements
- o Cash Credit to Cooperative Marketing Societies for working capital requirements
- o Advance against pledge of sugar to Cooperative Sugar Mills
- o Cash Credit to Cooperative Processing Societies for work-

ing capital requirements

- o Cash Credit to Cooperative Consumer Stores for working capital requirements
- o Cash Credit to Primary Weaver Cooperative Societies for working capital requirements
- o Cash Credit to Industrial Cooperative Societies for their working capital requirements
- o Medium Term Loans to Salary Earners' Societies
- o Medium Term (Conversion) Loans to PACS
- o Medium Term Investment Credit to individual farmers for taking agriculture and allied activities.

It may be seen from the above that the cooperative banks are mostly financing units within the cooperative fold. With the implementation of Prof. Vaidynathan Committee recommendations and Agricultural Debt Waiver & Debt Relief Scheme and the cleansing of the balance sheet of the PACS, most of the PACS would be eligible to borrow a higher quantum of credit from DCBs. The cooperative banks would also have substantial funds which could be profitably deployed.

CEO's functions in diversification through retail banking

One of the important covenants of the Prof. Vaidynathan Committee recommendations was to effect suitable amendments in the Cooperative Societies Act in each State, and with such amendments, freedom has been given to Cooperative Banks regarding loan policies including loan decision to its members keeping in view the interests of the society and its members. Further, they need not take the approval of the RCS for all loan advanced under short term, medium term and long term duration for which RBI / NABARD formulated the loan scheme. Hence, the banks have to design new products to suit the customers in the area of operation.

Thus, the time has come for cooperative banks to take up retail banking. If banks have already commenced such line(s) of credit(s), they should review their loan policies and safeguards being followed and upscale their activities. Retail banking refers to provision of banking services to individual customers, small account holders such as savings products, personal loans etc. to suit the individual requirements. Unlike wholesale banking, the focus of retail banking is to provide a wide range of personal banking services, including offering savings and checking accounts, bill paying services, mortgages and personal loans. Although retail banking is, for the most part, mass-market driven, many retail banking products may also extend to small and medium sized businesses. CCBs, besides financing for agriculture and allied activities, could also finance individuals, proprietary / partnership firms directly against fixed deposits, life insurance policies, pledge of gold / silver orna-

Role of I.T. in Business Diversification

ments, etc. for purchase of consumer durables and for other purposes. It may also provide cash credit facility to businessmen / traders against collateral, pledge or hypothecation, temporary overdraft facility to individuals, loans for purchasing auto rickshaw, taxi, other motor vehicles, etc., and non commercial vehicles like cars and two wheelers. The restrictions imposed by the RBI in regard to financing of certain sectors as well as exposure norms prescribed by RBI should also be adhered to. The salient features of the different types of retail loan products and also the precaution to be taken while financing are furnished below:

Use of Information Technology in business diversification

In the current era, the use of Information Technology in Business Diversification has very important role. In networking of the bank, bank and their all braches can work together as a one bank. It is LAN (Local Area Network) based application and then WAN (Wide Area Network) based application can work together simultaneously. CBS on the other hand is a centralized application with browser based interface.

There is no need for separate servers at the each branch level of the bank for running CBS. CBS will have the following features which are real-time 24x7 processing capability, centralized database, availability of alternate channels, capture of KYC (Know Your Customer) details, Anytime Banking, Anywhere Banking, adequate audit & inspection features etc.

Cooperative Banking has a vision to be one of the leaders in providing banking and money remittance services to the citizens of the country with a focus on the rural population. This vision translates into the following strategy:

- Be the first choice in savings

bank deposits schemes with innovative customer-centric services.

- Provide access to diverse financial services products thereby becoming the engine of economic and social growth and,
- Increase operational efficiency through the induction of state of art technology.

Core Banking Solution (CBS) is networking of branches, which enables customers to operate their accounts, and avail banking services from any branch on CBS network, regardless of where they maintain their account. The customer is no more the customer of a particular bank branch. Thus, CBS is a step towards enhancing customer convenience through "Anywhere and Anytime Banking .

CBS help customers as well as in business diversification

Core banking is normally defined as the business conducted by a banking institution with its retail and small business customers. Many banks treat the retail customers as their core banking customers and have a separate line of business to manage small businesses. Larger businesses are managed via the corporate banking division of the institution. All CBS branches are inter-connected with each other.

Therefore, Customers of CBS branches can avail various banking facilities and advantages from any other CBS branch located anywhere in the world. These services are:

- To make enquiries about the balance; debit or credit entries in the account.
- To obtain cash payment out of his account by tendering a cheque.
- To deposit a cheque for credit into his account.
- To deposit cash into the account.
- To deposit cheques / cash into account of some other person who has account in a CBS branch.
- To get statement of account.
- To transfer funds from his account to some other account his own or of third party, provided both accounts are in CBS branches.

- To obtain Demand Drafts or Banker's Cheques from any branch on CBS amount shall be online debited to his account.
- Customers can continue to use ATMs and other Delivery Channels, which are also interfaced with CBS platform. Similarly, facilities like Bill Payment, I-Bob, M-bob etc. shall also continue to be available. Bank is in the process of launching Internet-banking facility.

All these aim to provide convenient, efficient, and high quality banking experience to the customers, comparable to world class standards.

Current scenario for core banking solution (CBS)

Core Banking is also a tool for Business Diversification in Cooperative Banks, it has been initiated to implement core banking solution in cooperative banks by the Govt. of India, Ministry of Agriculture and Department of Cooperation with the help of Reserve Bank of India (RBI), NABARD and State Government. In step with the policies of GoI, RBI and State Governments to make the co-operatives competitive in the changing banking scenario, NABARD played the role of advisor and facilitator in implementation of Core Banking Solution (CBS) in co-operative banks. The entire gamut of work including aggregation of demand across the banks, identification of IT vendors, governance mechanism and follow up was taken up by NABARD.

The programme made rapid strides with 5,543 branches of 163 banks across 10 States joining the platform in the first phase. With 42 banks joining in the second phase, a total of 7,088 branches of 205 Co-operative banks (191 CCBs and 14 StCBs) across 16 States and three UTs came into the umbrella of “NABARD initiated Project on CBS in Co-operatives” as on 31 March 2013. In all, 3,494 branches have switched to CBS platform. The migration to CBS would enable the co-operatives to participate in the payment system through RTGS / NEFT and also provide the facility of Anytime Anywhere Banking to their customers. Customers can continue to use ATMs and other Delivery Channels, which are also interfaced with CBS platform.

Conclusion

Need of Business Diversification in Cooperative Banks is demand of the hour and compelled by environment to provide diverse financial services and products, there by becoming the engine of economic and social growth. Cooperative Banks can diversify business through increase of share capital of the bank through rural account holders and be the first choice in banking through latest deposit schemes with innovative customer-centric services. It is important to

Increase operational efficiency and diversify business through the induction of state of art technology & increase in quality of the service provided to the customers. CBS will improve service delivery since facilities like Anytime and Anywhere banking would be provided besides standardized and automated processes. The time taken for transactions will be reduced by providing services through alternate channels on 24 x 7 basis ATM, Internet, Phone, SMS and Mobile Banking by facilitating transfer of money through NEFT (National Electronic Fund Transfer) or RTGS (Real time Gross Settlement System).

Core banking strategy for Business Diversification by increasing number of customers & their needs of banking and provide multiple delivery channels like internet, mobile banking, ATMs, thereby bringing access to financial services to the doorsteps of the customers. Core Banking gives Timely and accurate information for management decision making with Strong audit and internal controls. It also brings down the cost of transaction and thereby improving operational efficiency. It is necessary to build strong Customer Relationship Management (CRM) with customers and account holders of the bank. Because, in business diversification customer relationship management pays as much more to the bank inform of internal strength, growth of the bank and credit among the shareholders as well as account holders.

References

1. Training for Development Rolf P. Lynton and Udai Pareek.
2. Fundamentals of Training and Development- Dinesh Kumar & Mansoor Ali.
3. Training and Development for Cooperative Management-Dr. Khan
4. CTFC-Module I, C-PEC-BIRD, Lucknow
5. file:///C:/Users/ IGCM/ Downloads/Goel%20Priya%20 03062012.pdf
6. http://www.policy-network.net/pno_detail.aspx?ID=4189&title=Co-operative-banks-as-key-players
7. https://www.nabard.org/English/capa_build_co_banks.aspx

Competitiveness a challenge for agricultural cooperatives

Dr Daman Prakash*

The cooperative scenario

The spread of the cooperative network is broad and wide. Nearly 110 countries are in the membership of the International Cooperative Alliance [ICA], a world voluntary association of Cooperative Movement, with an individual membership of nearly 850 million. A large chunk of cooperative institutions and cooperative population lives in the Asia-Pacific Region. There are over 550,000 cooperatives of all types in India alone with a membership of nearly 300 million. All villages in the country are covered by cooperatives. The first cooperative legislation was enacted in 1904.

A majority of cooperatives cover segments like: agriculture, consumer, housing, thrift and credit, transport, banking, fisheries, workers, industrial and general services. Again, almost half of the cooperatives operate in the agricultural sector and a large number of them are engaged in horticulture and food production [including fishery, dairy, processing] and its distribution through consumer cooperatives [super markets and small retail stores].

Cooperatives are democratic and autonomous organisations which are formed by the members, and managed by them through a democratic structure and in accordance with the Principles of Cooperation. Members adopt their own byelaws and frame their own rules and regulations which are registered with a regulating authority. The general body of members constitutes a legal organ, which is supreme in taking decisions. For the implementation of policies and decisions, cooperatives elect a Managing Committee, which is answerable to the General Body.

To undertake business, cooperatives appoint managers and other support personnel. Cooperatives are free to develop their own linkages with concerned institutions e.g., financing institutions, government technical agencies and non-governmental institutions. Members are free to enter or leave the cooperative. Members are free to amend their own byelaws and liquidate their cooperatives.

In a large number of countries of different shades of economy, governments have given them a recognition and legal identity through pronouncement of cooper-

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ative development policies and enactment of cooperative laws. They have taken due note of the universally-accepted seven Principles of Cooperation and in many cases these Principles are mentioned therein.

The definition of a cooperative given in the ICA Statement on the Cooperative Identity is: "A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise."

Primary cooperatives and their Federations

Surveys and studies conducted by various national and international agencies have found that cooperatives in Asia-Pacific Region are small, economically unviable, inadequately supported by qualified and professional personnel, patronized by poor people and undertake small and traditional type of business. Though there are federal structures yet cooperatives lack a concerted, well-managed business structure as, in many cases, the federal organisations often compete with their own affiliates. They are not able to develop proper and sound business strategies and the required bargaining power. In practice the federations and their affiliates operate on their own without any serious business considerations for each other. There are, however, certain sectors in which cooperatives have been able to demonstrate economic strength e.g., milk, sugar and fertiliser production and distribution sectors, especially in India.

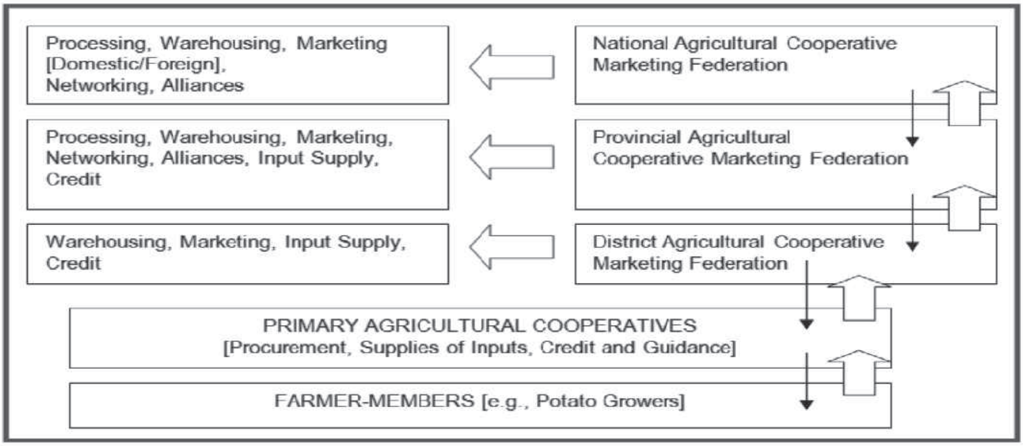
To be effective and successful, a cooperative federation must continuously achieve two inter-related goals: strengthen the autonomy of its affiliates, enhance viability and improve ability to service its members; and, remain an economically viable, innovative and competitive enterprise. A healthy relationship between the two can emerge and remain sustainable if federal cooperatives can accumulate capital, help reduce costs and increase efficiency of the primaries and enjoy the trust of their members; and the primaries are individually strong, viable and autonomous and enjoy the confidence and trust of their members.

Logical business relationship

Logically, farmer-members should have the benefit of advice, economic and technological support from their cooperatives at the primary, district, state and national level federations.

However, in actual practice, the farmer-members are unable to secure input supplies in sufficient quantities and in time. Since the economic condition of primary cooperatives is week, the financing institutions, the district cooperative banks, which provide most of the

Logical Relationship between Members and their Federations



funds needed by the farmers, are also financially weak and consequently are unable to service the farmers. There are several other reasons that also contribute to the weakness of primary cooperatives and their members.

Local leaders who are associated with some political parties and who have their own private business interests control the federations and cooperative financing institutions. They tend to influence their boards in taking decisions which do not strengthen cooperatives, rather develop and strengthen their own enterprises. They tend to pump inferior farm inputs into primary cooperative network and even get it legalised through the regulating authorities by using their influence and authority. As a consequence, the farmer-members are left with no choice but using the sub-standard seed, out-dated and inferior quality of fertiliser, and spurious farm chemicals.

If the logical relationship was to be honoured and followed, the members at the basic level would feel more confident and they would have a greater trust in their primary cooperative and the upper rungs of the structure and in their leaders. In this case, the farmers would be able to deliver better products and in larger quantities. The national federation could support their affiliates and their members by developing marketing and technological linkages with known and well-established private enterprises instead of reinventing the wheel and by undertaking all the processes by itself which tends to be expensive and difficult. The national federation or the state level federation could undertake 'contract farming' on behalf of large-scale processors.

The economic returns to the basic farmer-members and their primary cooperative would be higher if the national federation undertakes promotional, developmental and supervisory roles. A cooperative federation being directly accountable to its member-cooperatives and amenable to direction and control of a board of directors elected by the primaries is ideally placed to support, strengthen and promote primary cooperatives.

During the last 150 years it has been found that the ideas, which were practiced by cooperatives, are: self-help, mutual assistance, liberty and voluntarism, equity, honesty and transparency, democratic control of economic activities, and social responsibility. [Hans-H Munkner]. While the spirit of practices remain intact, there is a strong need to re-engineer the working methods of cooperatives by aligning with the demands of the present-day market. It will then be possible for the cooperatives to stand up firm and sustain themselves through a process of competition.

Islands of success in cooperative sector

There are, however, several islands of success in the cooperative sector in the Region. Dairy and sugar cooperatives in India are strong. Producer-members feel deeply attached to their primary cooperatives and respective federations because the members never feel disappointed in marketing of their products. The federations have also developed strong marketing strategies by ensuring linkages with wholesalers and retailers and also by incorporating latest technologies in processing, accounting and management.

The Japanese Agricultural Cooperative Movement is considered as world's strongest farmer-friendly movement. All farmers are in the membership of primary agricultural cooperatives [JAs]. The JAs have vertical federal structures - promotional/ representatives, and economic. The Movement has created specialised business institutions which are wholly-owned by cooperatives and which run on the lines of private enterprises undertaking domestic and international businesses e.g., Zen-Noh [marketing federation of agricultural cooperatives], Zenkyoren [life and general insurance company of JAs], Ie-No-Hikari Association [publishing company of JAs], the Norin-Chukin Bank [a commercial bank owned by JAs] etc. The JAs themselves have developed a strong service network for the members and have developed linkages and alliances with major industrial companies. The JAs have established large-size country elevators, warehouses, packaging and grading centres. JAs also offer their equipment and industrial facilities to private companies e.g., bottling, food processing etc.

Success factors for cooperatives

It is not absolutely essential that cooperatives deal with cooperatives and their members. Cooperatives are business entities and they need to operate and behave like business houses. They are business and legal entities and their main task is to provide services to the members and general public like any other business enterprise with some minor exceptions. Some of the steps to success leading to their sustainability and survival are:

- Harmonious, sound, strong and ethical business linkages between the members and their federations;
- Professionalisation in management;
- Transparency in management;
- Objective and dedicated leadership in federations and cooperative financing institutions;
- Capacity building of members and employees at all levels;
- Diversification of business including business development planning;
- Business linkages with market operators and processors whether they are in the cooperative fold or outside;
- Pro-active role of national federations;
- Strengthening linkages with basic producers;
- Entering into 'joint use of facilities' and 'contract farming' type of activities;
- Adoption of technology in production, processing and management;
- Improving goodwill among the consumers etc.

They must incorporate in their styles and systems the methods and means used by private enterprises. They also should shed the notion that cooperatives are of poor people and for poor people. A majority of successful cooperative ventures are in the capitalistic world.

Though the cooperatives are free, autonomous and democratic yet they are not fully free from some of the known obstacles which hamper the growth of these institutions as truly business institutions. Some of the problems are: Deep involvement of politicians in their management and business operations; Unnecessary interference in their operations by government officials [since they are regulated by a government agency]; Lack of professionalisation; Inadequate member education and employees' training facilities; Lack of business support from their federations, among others.

Challenges ahead

To overcome such problems cooperative leaders have been searching for some more reasonable alternatives. Some of these have been: Enactment of an autonomous cooperative law under which the interference from the government agency is minimal; Establishment of cooperative-owned companies; Establishment of subsidiaries etc. The entire exercise is aimed at: [i] Mobilisation of capital from the capital market and from among the members and non-members; [ii] Improving efficiency; and [iii] Building a comparative [competitive] advantage with the objective of creating a level-playing field for cooperatives in relation to their competitors. This ambition is likely to be achieved when the markets are being increasingly deregulated and the concept of 'open market' being implemented. In such an environment government do not continue to be the regulators but should become partners and promoters of cooperatives.

The challenge of building comparative advantage of cooperative in the marketplace is formidable. The primary responsibility for meeting this challenge and increasing capabilities rests solely with the cooperatives themselves.

The most cherished expectation of members from their cooperative is NOT cash, but timely and advantageous marketing of their products, timely supply of credit, quality seeds, farm chemicals, fertiliser and extension services. Those cooperative institutions which have responded to open market demands have gathered momentum and increased productivity because:

- Cooperatives became more productive by increasingly making use of sophisticated technology and management methods;
- They have invested in high value-added products, product differentiation and market branding;
- Deregulation led to a more flexible business operating environment and cooperatives made use of this flexibility;
- Cooperatives looked for new markets thus gave a more geographical spread for their exports [often through well-known linkages];
- They refined and enlarged their agri-business operations;
- They amalgamated [through strategic alliances] the marketing and processing sides of their business.

This trend is on the rise.

Members look towards their agricultural cooperatives for services these services are needed to produce and market it with some advantage. An agricultural cooperative is not the boss it is the members who create and manage the cooperatives. The institution has therefore to be responsive to the needs and aspirations of members. Cooperative should be able to establish vibrant networking not only with its members but also with the open market and bulk consumers. The strategies which are adopted by the private operators need to be studied so that management and infrastructure within the cooperatives are established. Competition has to be met to keep the members' interest in their cooperative alive and active.

Cloud computing and banking

Dr. Ganesan. N*

Introduction

One of the fastest growing technologies in Information Technology with business applications is Cloud computing. It allows you to set up what is essentially a virtual office to give you the flexibility of connecting to your banking anywhere, any time. With the growing number of web-enabled devices used in today's banking environment (e.g. smart phones, tablets etc), access to your data is even easier.

Business applications will be the largest market for cloud services spending, with a gradual transition from on-premise to cloud-based services especially for general business applications like customer relationship management (CRM) and enterprise resource planning (ERP). Banks need to react to the new customer-driven environment with innovation in business models, operations and IT. For banks, the value propositions for cloud computing affects the entire business. Cloud computing holds the potential to redefine the relationship between corporate tech departments and financial institution business units. More important, the change is coming at a time when costs and regulatory compliance are high priorities. Banking has become more resilient in the wake of the recent economic downturn and there is a significant shift in the way IT investments are planned and implemented today.

As we embarked into 2014, financial institutions and banking sector are possibly the most advanced in terms of technology adoption and can use cloud as a key differentiator Sudhir Sriram (2013). For banks, today's changing business realities and expanding markets represent tremendous growth potential. By 2018, India could become the world's seventh-biggest nation in terms of private wealth, with a 150 per cent jump in total from $2.5 trillion in 2014 to $5 trillion, suggests a recent study by The Boston Consulting Group (BCG). With the introduction new policy and plan for financial inclusion in India, the financial transactions in banking is expected to multiply by 2018. Given the current economic climate in India and the cloud's cost-saving potential as a whole, cloud computing is expected to transform the banking industry in India.

To drive growth and innovation in banking, it is increasingly necessary to dramatically leapfrog the competition using IT and business model transformation. By taking into account the benefits of cloud

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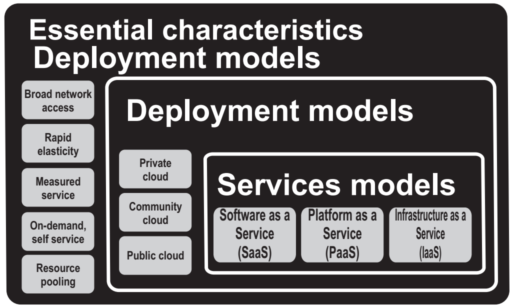
computing, an attempt has been made to provide a beneficial insight into cloud computing and its applications in the banking industry in India, various business models associated with it and the problems faced by the Indian banking industry in adopting this technology.

A bird view on cloud computing

Cloud computing is considered the evolution of a variety of technologies that have come together to change an organizations' approach for building their IT infrastructure. Cloud computing is a model for enabling ubiquitous, convenient and on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort from the user side and minimal service provider interaction. It is hiring of IT services through internet. The cloud can be both software and infrastructure. It can be an application accessed through the Web or a server and it can be also an IT infrastructure that can be used as per user's request.

Cloud Computing/Services consists of the services which are accessible via a web browser or web services API with investment of zero capital expenditure to get start and we pay only for what we use. The characteristics of cloud computing include on-demand self-service, broad network access, resource pooling, rapid elasticity and measured service. Figure-1 gives the dimensions of cloud computing. (Source: Celent)

Figure 1: Dimensions of Cloud Computing



Cloud computing services operate at several levels: infrastructure as a service, software as a service, platform as a service and business process as a service. The cloud computing service models are Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS). In Software as a Service model, a pre-made application, along with any required software, operating system, hardware, and network are provided. In PaaS, an operating system, hardware, and network are provided, and the customer installs or develops its own software and applications. The IaaS model provides just the hardware and network; the customer installs or develops its own operating systems, software and applications.

Cloud services are typically made available via a private cloud, community cloud, public cloud or hybrid cloud. In a private cloud, the cloud infrastructure is operated solely for a specific organization, and is managed by the organization or a third party. In a community cloud, the service is shared by several organizations and made available only to those groups. The infrastructure may be owned and operated by the organizations or by a cloud service provider. A hybrid cloud is a combination of different methods of resource pooling (for example, combining public and community clouds).

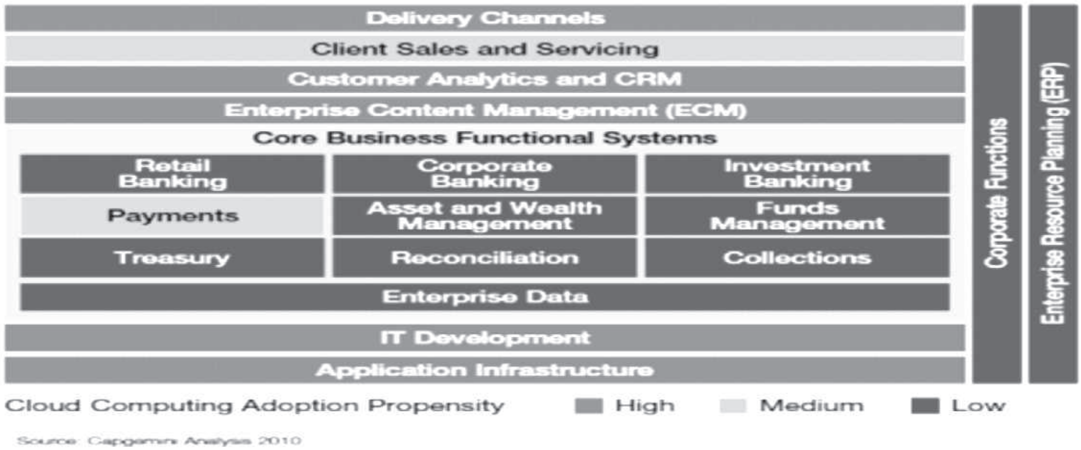
As per Working Group report on Cloud computing of Reserve Bank of India (2012), the parties involved in cloud computing consists of

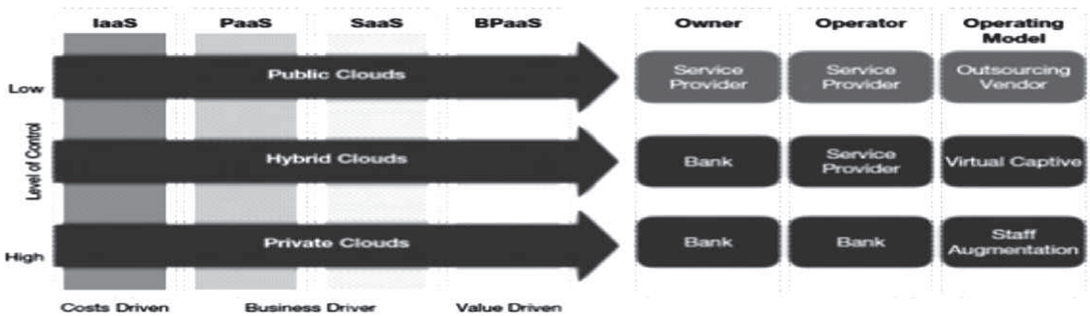
1. Cloud consumer: A cloud consumer is an organization (or a human) that has a formal contract or arrangement with a cloud provider to use IT resources made available by the cloud provider. Specifically, the cloud consumer uses a cloud service consumer to access a cloud service
2. Cloud provider: A cloud provider is a company that offers some component of cloud computing typically (a) Data center and hardware provider (b) Infrastructure (software) providers (c) Virtualization (software) providers (d) Application providers and optionally (e) Network provider.
3. Cloud carrier: Cloud Carriers provide access to connect various bank branches to the data center and to the consumers through network, telecommunication and other access devices.
4. Cloud Auditor: A party that can conduct independent assessment of Cloud Services, information system operations, performance and security of the cloud implementation. A Cloud Auditor can evaluate the services provided by a cloud provider in terms of security controls, privacy impact, performance, etc.
5. Cloud Broker: A cloud broker is a third-party individual or business that acts as an intermediary between the purchaser of a cloud computing service and the sellers of that service.

Cloud in banking

The banking sector institutions will likely move non-core business applications to the cloud. Cloud banking, or running banking applications using cloud services, allows financial organizations to offer the banking solutions they choose and scale as necessary, without the need to install and manage the technology themselves. Many software providers have cloud solutions available for their leading financial services applications. Areas that can profit from cloud computing include Customer analytics and customer relationship management, browser-based technologies such as enterprise content management and IT development and application infrastructure. Figure-2 depicts the adoptability for cloud computing in banking.

Figure 2: Adoption of Cloud Computing





There have been many successful cloud deployments in the banking and financial services industry which include Cloud Desktop (IaaS), Cloud Collaboration (SaaS), Cloud Analytics (SaaS), Cloud Development (IaaS) and Test and Cloud Storage (IaaS). The cloud service delivery in banking is shown in Figure-3.

Benefits of cloud in banking

Cost Reduction

It is much easier for banks to update their IT infrastructure and the cloud's modular, through pay-on-demand model which means they pay only for the hardware and software they need.

Collaboration

Enabling employees across distributed branches to access trading and banking systems through a security-rich cloud infrastructure

Development and testing

Cloud is enabling a bank's development teams to quickly and easily create virtual environments thus increasing the agility of development and testing.

Flexibility and Scalability

The ability to respond quickly

will be an important competitive edge. Cloud Computing can scale up and scale down technology according to requirement.

Increase efficiency

The standardization inherent in the cloud could make it easier to integrate new technologies and applications in the future. Because technology and business operations can be much more closely aligned, the cloud gives banks a golden opportunity to drive out complexity.

Faster coordination between server and client

Banks will be able to boost computing power to meet demand peaks and provide the latest treasury solutions without needing to worry about whether the technology is up to date. Corporates will be able to access bank systems using web browsers from anywhere at any time

Improved Client Relationship

The combination of big data and potentially unlimited computing power will allow banks to develop systems capable of providing better insight into clients and make better decisions on their behalf. Services could become more customized. Transaction banking eases payments between buyers and sellers. Buyers and sellers could be brought together on shared applications in the cloud.

Green IT

Organizations can use cloud computing to transfer their services to a virtual environment that reduces the energy consumption and carbon footprint that comes from setting up a physical infrastructure. It also leads to more efficient utilization of computing power and less idle time.

Security

Enforcing active security and endpoint management to ensure corporate governance and banking IT policies are maintained

Security aspect in cloud banking

The cloud, especially the public cloud, is wide open for use by various entities, which can pose a threat to security. The banks should ensure that services provided to consumer through cloud is completely foolproof. From the cloud consumers' perspective, security is the major concern that hampers the adoption of the cloud computing model (IDC 2010) because:

- Enterprises outsource security management to a third party that hosts their IT assets (loss of control).
- Co-existence of assets of different tenants in the same location and using the same instance of the service while being unaware of the strength of security controls used.
- The lack of security guarantees in the SLAs between the cloud consumers and the cloud providers.
- Hosting this set of valuable assets on publicly available infrastructure increases the

probability of attacks.

Balachandra Reddy Kandukuri, Ramakrishna Paturi and Atanu Rakshit, (2010) made a detailed specification of the cloud security problem and key features that should be covered by any proposed security solution. As per earlier literatures, the cloud security problem can be summarized as follows:

- Some of the security problems are inherited from the used technologies such as virtualization and Service Oriented Architecture (SOA).
- Multi-tenancy and isolation is a major dimension in the cloud security problem that requires a vertical solution from the SaaS layer down to physical infrastructure (to develop physical alike boundaries among tenants instead of virtual boundaries currently applied).
- Security management is very critical to control and manage this number of requirements and controls.
- The cloud model should have a holistic security wrapper, in terms of cloud management consisting of Cloud physical infrastructure, Virtualization Technology, Virtualized Resources, Platforms, Services and Application Program Interfaces (API) and Applications such that any access to any object of the cloud platform should pass through security components first.

The security standards / initiatives being developed by several consortia / organizations for Cloud computing. They are National Institute of Standards and Technology (NIST), Cloud Security Alliance (CSA) and Distributed Management Task Force (DMTF), Storage Networking Industry Association (SNIA), Open Grid Forum (OGF), Association for Retail Technology Standards (ARTS), Cloud Standards Customer Council (CSCC) and Organization for the Advancement of Structured Information Standards (OASIS). On the basis of above standards, cloud computing security solutions should:

- Focus on the problem abstraction, using model-based approaches to capture different security views and link such views in a holistic cloud security model.
- Inherent in the cloud architecture. Where delivered mechanisms (such as elasticity engines) and APIs should provide flexible security interfaces.
- Support for: multi-tenancy where each user can see only his security configurations, elasticity, to scale up and down based on the current context.
- Support integration and coordination with other security controls at different layers to deliver integrated security.
- Be adaptive to meet continuous environment changes and

stakeholders needs.

- Adopting common standards that make data sharing and movement easier. The conditions under which the provider may for his part pass on the data to subcontractors have to be defined. Data deletion is also of prime importance when terminating the contract with the provider.
- To enable fulfillment of the requirements in connection with the export of data, the customer must know in which countries the servers are deployed on which the data is processed and stored and the provider is to be under an obligation not to transfer the data to any other countries without prior consultation with the user.

Conclusion

Cloud computing may soon prove indispensable as an answer to the daunting new demands for agility, transparency, and efficiency. Cloud computing also provides a high level of redundancy and back-up at lower price than traditional managed solutions. The Cloud vendor provided infrastructure services are used to address scalability, performance, security, availability, disaster recovery, monitoring requirements of the systems. When planning cloud computing initiatives in the near future, financial institutions should choose service and delivery models that best match requirements for operational flexibility, cost savings, and pay-as-you-use models. Banks should adopt a gradual evolutionary approach towards cloud computing services, evaluating each project based on the type of applications and nature of the data.

References

Balachandra Reddy Kandukuri, Ramakrishna Paturi and Atanu Rakshit. (2010). "Cloud Security Issues," in Proceedings of the 2009 IEEE International Conference on Services Computing, 2009, pp. 517-520.

Cloud computing for banking driving business model transformation. IBM Corporation Report (2013).

IDC, "IDC Ranking of issues of Cloud Computing model," ed, 2009, http://blogs.idc.com/ie/?p=210,

Sahil Patani , Sumesh Kadam , Prateek V. Jain (2014). Cloud Computing in the Banking Sector : A survey. International Journal of Advanced Research in Computer and Communication Engineering Vol. 3, Issue 2.

Sheel Ghule, Ms. Rupali Chikhale and Kalpesh Parmar (2014). Cloud Computing in Banking Services. International Journal of Scientific and Research Publications, Volume 4, Issue 6.

Sudhir Sriram (2013). Cloud Computing in Banking, Capgemini Financial services, Copyright © 2013 Capgemini.

मृदा जनित बीमारियों का जैव नियंत्रण – ट्राइकोडर्मा का महत्त्व व उपयोग

ट्राइकोडर्मा पादप रोग प्रबंधन विशेष तौर पर मृदा जनित बीमारियों के नियंत्रण के लिए बहुत की प्रभावशाली जैविक विधि है। ट्राइकोडर्मा एक कवक (फफूंद) है। यह लगभग सभी प्रकार की कृषि योग्य भूमि में पाया जाता है। ट्राइकोडर्मा का उपयोग मृदा – जनित पादप रोगों के नियंत्रण के लिए सफलतापूर्वक किया जा सकता है।

हमारे देश में फसलों को बीमारियों से होने वाले कुल नुकसान का ५० प्रतिशत से भी अधिक मृदा–जनित पादप रोग कारकों से होता हैं, जिसका नियंत्रण अन्य विधियों द्वारा सफलतापूर्वक नहीं हो पा रहा है। इसलिए ट्राइकोडर्मा की विभिन्न प्रजातियों से रोगों का नियंत्रण प्रभावशाली रूप से किया जाता है। इनमें से ट्राइकोडर्मा हरजीनियम एवं विरिडीका प्रयोग होता है। ये मृदा जनित रोग कारकों जैसे राजोक्टोनिया, स्केलेरोशियम, स्केलेरोटीनिया, मैक्रोफोमिना, पीथियम, फाइटोफथेरा एवं फ्यूजेरियम आदि का पूर्णरूपेण अथवा आंशिक रूप से विनाश करके उनके द्वारा होने वाली विभिन्न बीमारियों जैसे बीज सड़न, आर्द्रगलन, मूल विगलन, अंगमारी एवं म्लानि रोग के नियंत्रण में सहायक सिद्ध हुई है। फसलों में लगने वाले जड़ गलन, उखटा, तना गलन आदि मृदा जनित फफूंद रोगों की रोकथाम के लिए ट्राइकोडर्मा नामक मित्र फफूंद बहुत उपयोगी है। बीजोपचार, जड़ोपचार एवं मृदा उपचार में इसका प्रयोग करते हैं, जिससे फसलों की जड़ो के आस –पास इस मित्र फफूंद की भारी संख्या कृत्रिम रुप से निर्मित हो जाती है। ट्राइकोडर्मा मृदा में स्थित रोग उत्पन्न करने वाली हानिकारक फफूंद की वृद्धि रोककर उन्हें धीरे धीरे नष्ट कर देता है। जिससे ये हानिकारक फफूंद फसल की जड़ों को संक्रमित कर रोग उत्पन्न करने में असमर्थ हो जाती है।

ट्राइकोडर्मा उत्पादन विधि

ट्राइकोडर्मा के उत्पादन की ग्रामीण घरेलू विधि में कण्डों (गोबर के उपलों) का प्रयोग करते हैं। खेत में छायादार स्थान पर उपलों को कूट कूट कर बारीक कर देते हैं। इसमें २८ किलो ग्राम या लगभग ८५ सूखे कण्डे रहते हैं। इनमें पानी मिला कर हाथों से भली भांति मिलाया जाता है। जिससे के कण्डे का ढेर गाढ़ा भूरा दिखाई पड़ने लगे। अब उच्च कोटी का ट्राइकोडर्मा शुद्ध कल्चर ६० ग्राम इस ढेर में मिला देते हैं। इस ढेर को पुराने जूट के बोरे से अच्छी तरह ढक देते हैं और फिर बोरे को ऊपर से पानी में भिगो देते हैं। समय समय पर पानी का छिड़काब बोरे के ऊपर करने से उचित नमी बनी रहती है। १२–१६ दिनों के बाद ढ़ेर को फावड़े से नीचे तक अच्छी तरह से मिलाते हैं। और पुनः बोरे से ढ़क देते है। फिर पानी का छिड़काव समय समय पर करते रहते हैं। लगभग १८–२० दिनों के बाद हरे रंग की फफूंद ढ़ेर पर दिखाई

सौजन्यः- वेब द्वारा

देने लगती है। इस प्रकार लगभग २८ से ३० दिनों में ढेंर पूर्णतया हरा दिखाई देने लगता है। अब इस ढेर का उपयोग मृदा उपचार के लिए करें । इस प्रकार अपने घर पर सरल, सस्ते व उच्च्य गुणवत्ता युक्त ट्राइकोडर्मा का उत्पादन कर सकते हैं। नया ढेर पुनः तैयार करने के लिए पहले से तैयार ट्राइकोडर्मा का कुछ भाग बचा कर सुरक्षित रख सकते हैं और इस प्रकार इसका प्रयोग नये ढेर के लिए मदर कल्चर के रूप में कर सकते हैं। जिससे बार बार हमें मदर कल्चर बाहर से नहीं लेना पडेगा।

उत्पादन हेतु ध्यान में रखने योग्य बातें

१. उत्पादन हेतु छायादार स्थान का होना जरूरी है। जिससे कि सूर्य की किरणें ढेर पर सीधी नहीं पड़ें। ढेर में उचित नमी बनाए रखें।
२. २५ – ३० डिग्री सेन्टीग्रेड तापमान का होना जरूरी है।
३. समय–समय पर ढेर को पलटते रहना चाहिए।

खेत में प्रयोग करने की विधि

उपरोक्त विधि से तैयार ट्राइकोडर्मा को बुवाई से पूर्व २० किलो ग्राम प्रति एकड़ की दर से मृदा में मिला देते है। बुवाई के पश्चात भी पहली निराई गुड़ाई के समय पर भूमि में इसे मिलाया जा सकता है । ताकि यह पौधों की जड़ों तक पहुँच जाए।

ट्राइकोडर्मा के उपयोग हेतु फसलों की संस्तुति

ट्राइकोडर्मा सभी पौधे व सब्जियों जैसे फूलगोभी, कपास, तम्बाकू, सोयाबीन, राजमा, चुकन्दर, बैंगन, केला, टमाटर, मिर्च, आलू, प्याज, मूंगफली, मटर, सूरजमुखी, हल्दी आदि के लिये उपयोगी है।

ट्राइकोडर्मा के लाभ

- रोग नियंत्रण
- पादप वृद्धिकारक
- रोगों का जैव– रासायनिक नियन्त्रण
- बायोरेमिडिएशन

सावधानियां

१. मृदा में ट्राइकोडर्मा का उपयोग करने के ४–५ दिन बाद तक रासायनिक फफूंदीनाशक का उपयोग न करें।
२. सूखी मिट्टी में ट्राइकोडर्मा का उपयोग न करें।
३. ट्राइकोडर्मा के विकास एवं अस्तित्व के लिए उपयुक्त नमी बहुत आवश्यक है।
४. ट्राइकोडर्मा उपचारित बीज को सीधा धूप की किरणों में न रखें
५. ट्राइकोडर्मा द्वारा उपचारित गोबर की खाद (फार्म यार्ड मैन्योर) को लंबे समय तक न रखें।

ट्राइकोडर्मा उपयोग के तरीकों की अनुशंसा

- ट्राइकोडर्मा कार्बनिक खाद के साथ उपयोग कर सकते हैं। कार्बनिक खाद का ट्राइकोडमा राइजोबियम एजो स्पाईरिलियम, बेसीलस, सबटीलिस फास्फोबैक्टिरिया के साथ उपयोग कर सकते हैं।
- ट्राइकोडर्मा बीज या मेटाक्सिल या थाइरम के साथ उपयोग कर सकते है ।
- टैंक मिश्रण के रुप में रासायनिक फफूंदीनाशक के साथ मिलाया जा सकता है।

NEWS & NOTES

Farm credit target increased to ₹8.5 lakh crore for 2015-16

The target for agriculture credit for 2015-16 has been set at ₹8.5 lakh crore compared to ₹8 lakh crore during 2014-15. "Farm credit underpins the efforts of our hard-working farmers. I have, therefore, set up an ambitious target of ₹8.5 lakh crore of credit during the year 2015-16 which, I am sure, the banks will surpass," said Finance Minister Arun Jaitley.

At present, farmers are availing themselves crop loans up to ₹3 lakh at 7% interest rate with an additional subvention of 3%. So, the effective rate of interest for farmers who repay on time is 4%. With a special focus on small and marginal farmers, the Finance Minister proposed to allocate ₹25,000 crore in 2015-16 to the corpus of Rural Infrastructure Development Fund (RIDF) set up in Nabard; ₹15,000 crore for Long Term Rural Credit Fund; ₹45,000 crore for Short Term Cooperative Rural Credit Refinance Fund; and ₹15,000 crore for Short Term RRB Refinance Fund. Jaitley also proposed an allocation of ₹5,300 crore to support micro-irrigation watershed development and the Pradhan Mantri Krishi Sinchai Yojana.

Jaitley said, "I urge the States to chip in substantially in this vital sector while the farmer is no longer in the clutches of the local trader, his produce still does not command the best national price. To increase the income of farmers, it is imperative that we create a national agricultural market, which will have the incidental benefit of moderating price rises. I intend this year to work with the States, in NITI, for the creation of a Unified National Agriculture Market."

A new Pradhan Mantri flagship for micro-irrigation

There is little in the Budget for agriculture apart from allocations to a new Pradhan Mantri Krishi Sinchai Yojana (PMKSY) aimed at ensuring access to water to every farm ("Har Khet Ko Pani") and improving water use efficiency ("Per Drop More Crop").

The total allocation to PMKSY for 2015-16 has been budgeted at ₹5,300 crore, which includes ₹1,800 crore towards micro-irrigation. The remaining sums have been drawn mainly from old schemes such as the erstwhile Integrated Watershed Management Programme and the Acceleration Irrigation Benefit and Flood Management Programme. "PMKSY will be on the lines of the Pradhan Mantri Gram Sadak Yojana for building rural roads launched during the time of the last NDA government under Atal Bihari Vajpayee. The new scheme will provide end-to-end solutions in the irrigation supply chain, including the water source, the distribution network and farm-level application," said officials. Besides, another new scheme to support organic farming the Paramparagat Krishi Vikas Yojana has been launched with an allocation of ₹300 crore.

On the other hand, the agriculture ministry's flagship programmes under the UPA like the Rashtriya Krishi Vikas Yojana will see a huge cutback. The Budget has provided only ₹4,500 crore towards this programme in 2015-16, as against ₹8,444 crore in the revised estimates for the current fiscal and ₹9,954 crore in the original Budget Estimates.

In fact, the total Plan outlay for the department for agriculture and cooperation has been reduced during the coming fiscal from ₹22,260.55 crore for 2014-15 (BE). "The main reason for this is the higher central tax devolutions to states from the 14th Finance Commission award. As a result, in many centrally-sponsored schemes, the state's share in revenue expenditures has gone up. The overall spending is unlikely to fall," said sources. The department of agricultural research and education has also seen a marginal reduction in budgeted Plan allocation from ₹3,715 crore in 2014-15 to ₹3,691 crore in the ensuing fiscal.

Coop bank deposits in TDS loop

The Union Budget removes the TDS exemption given to shareholders for their deposits in a cooperative bank. Membership of a cooperative bank is relatively easy. A depositor can become a member by purchasing even one share of the bank. In regular commercial banks, any interest payment above ₹10,000/- attracts TDS. If a customer is not liable for tax by virtue of being a senior citizen he has to submit Form 15H. The government proposes to amend Section 194A of the IT Act, which exempts members of cooperative societies from TDS by specifying that the dispensation will apply only to cooperative societies other than bank.

RBI proposes norms to make banks advance loans to small farmers, micro enterprises

Multinational and private banks will have to stretch their rural reach and lend to small farmers and micro enterprises to meet the new priority sector norms proposed by Reserve Bank of India. The new norms also give a boost to medium enterprises, renewable energy, healthcare and sanitation which, are included in priority sector under the proposed norms.

The positive news for private and foreign banks is that the RBI proposes to implement the norms in a phased manner, which means the banks will have two to three years to develop a strategy to lend to this segment. A panel headed by RBI chief general manager Lily Vadera, which has recommended this norms, has also introduced some innovations such as the priority sector lending certificates, which will enable banks to meet their targets even when they stick to their core competency.

The panel has recommended that the agri-lending target be retained at 18% of net bank credit. But it has also recommended a sub-target of 8% of net bank credit for small and marginal farmers to be achieved in a phased manner. At the same time, more flexibility has been recommended for banks to lend the remaining 10%. Those who do not meet the norms will be subject to the same penal provisions that are applicable now, which include subscribing to government-sponsored funds where the rate of return is much lower than the cost of funds for banks.

"The Indian economy has changed since priority sector lending guidelines were conceived. There is a need to reorient guidelines towards today's growth and inclusion agenda," RBI said in a statement. While the norms now extends lending to medium-scale industries in addition to small scale, it has included a sub-limit of 7.5% for lending to micro-enterprises, which is to be achieved in a phased manner. On education loans, the committee has recommended a limit of ₹10 lakh for domestic as well as overseas studies. At present, the limit is ₹10 lakh for domestic and ₹ 20 lakh for overseas.

Setting up national agriculture market, a clear warning for APMCs

The Budget has proposed the setting up of a national agriculture market. Agriculture in the country is a State subject and thus all the States have set up Agricultural Produce Marketing Committees (APMC) to regulate the marketing of agricultural commodities. Thus, APMCs have been considered an inhibiting factor for establishment of a national agriculture market.

The Economic Survey said that the Centre will make attempts to persuade State governments to introduce required amendments, it also clearly mentions: "If persuasion fails (and it has been tried for a long time since 2003), it may be necessary to see what the Centre can do, taking account of the allocation of subjects under the Constitution of India".

The Survey acknowledges that the Constitution empowers the states to enact APMC Acts, but also says that if the States will not be co-operating then the Centre may take action in lieu of List III of the Seventh Schedule (Concurrent List) in the Constitution which empowers the Union to enact legislation for setting up a national common market for specified agricultural commodities, viz., Entry 33 which covers trade and commerce and production, supply and distribution of foodstuffs, including edible oilseeds and oils raw cotton, raw jute, etc. The other major hurdle in the form of legislative barriers to interstate trade has also been touched in the Survey. It states that “Entry 42 in the Union List, viz., 'Interstate Trade and Commerce' also allows a role for the union”.

Though Centre wants to establish national market in coordination with states, a harsh warning is clear with the closing paragraph of the chapter on national market. “Once a law is passed by Parliament to regulate trading in the specified agricultural commodities, it will override the state APMC laws, paving the way for creating a national common market. But this approach could be seen as heavy-handed on the part of the Centre and contrary to the new spirit of cooperative federalism”.So far, States where APMCs have been performing poorly took taking refuge under Model APMC Act and were introducing reform measures according to suggestions in a phased manner.

Not many States have been successful to demonstrate a better result even after introducing such reforms. The report has also targeted Model APMC Act. The provision for empowering APMCs in imposing the mandi fee on buyers even if the trade is done outside of market without utilising any infrastructure of the committee is heavily criticised. It would be, in fact, difficult for the owner of a private market to collect the market fee and pay to APMCs and that is why attracting private investment under such existing framework would be difficult. Having a Model APMC Act developed a decade ago and not revising seems to be deterministic approach. Even model frameworks should also be of evolving in nature so that there is no instance of under exploitation of opportunities due to over protectionism.

Though APMCs are criticised for their restrictive approach, the entrepreneurial approach and the system of agricultural marketing adopted in Karnataka has been praised in the report. Like many other States, Karnataka has also introduced agricultural marketing reforms, but not directly from the Model APMC Act. The State constituted a separate reform committee to recommend reform measures according to the need of the state and established Rashtriya e-market Services Ltd. (ReMS), a joint venture created by the State government and NCDEX Spot Exchange under the leadership of Manoj Rajan.

With the intention expressed in Economic Survey 2014-15, the Centre has expressed its strong desire to establish a national market for which it may go to extreme ends as well. Under such circumstances, APMCs will have to face a do or die situation where either they have to develop themselves as modern markets or they may have to vanish. If the alternatives to the APMCs are created by the Centre, the monopoly of APMCs in many states will be compromised and if that attracts the private investment in infrastructure then it may slowly and gradually takeover the business of APMCs. However, looking over the already existing physical infrastructure, development of APMCs into modern markets is quite natural.

Either way, option remains with the APMCs only if they modernise their existing infrastructure as well as modernise their marketing system with latest development, and if it happens, the APMCs can play a leader's role in a highly competitive marketing environment.

Govt launches ₹200-cr scheme to promote start-ups in agro industry

The centre launched a scheme with a corpus of ₹200 crore to promote start-ups in the agro-industry. Under the scheme, a framework for start-up promotion will be created through the Small Industries Development Bank of India (SIDBI) by using means of finance, such as equity, quasi-equity, angel funds, venture capital funds, impact funds, among others.

A fund of funds will be created under SIDBI for the purpose and ₹60 crore has been earmarked for the same, the Ministry of Medium, Small and Micro Enterprises (MSME) said. The Ministry also announced the setting up of 500 new incubation centres across India by next year. Launching the scheme, MSME Minister Kalraj Mishra said the scheme was formulated to set up a network of technology and incubation centres to accelerate entrepreneurship and promote start-ups for innovation and entrepreneurship in agro-industry.

As a first step, the scheme will create a database of technologies available with various Government/private agencies and set up a Network of Technology Centres for handholding of prospective entrepreneurs of MSME sector, Mishra said. The second component is to develop the required skilled human resources necessary for mentoring and handholding incubatees. Under this, special efforts will be made to identify, support and expand the role of competitive Indian MSMEs in a global economy. The third component is to set up Livelihood Business Incubators (LBI) under the National Small Industries

Corporation (NSIC), KVIC or Coir Board among others to replicate the NSIC's model of "Rapid Incubation Centres", which is a mix of "promotion of entrepreneurship and skill development" and involves setting up of live "demo projects".

Natural calamity: RBI revises norms for loan rescheduling

The Reserve Bank of India has said a crop loss of 50% or more in a taluka or block following a natural calamity will trigger reschedulement of loans from banks. “The loss should be assessed through crop cutting experiments clearly indicating that the crop loss in the particular taluka or block. In the case of extreme situations such as wide-spread floods, when it is largely clear that most of the standing crops have been damaged, the concerned government functionary or district collector may explain the reasons for not estimating the crop loss through crop cutting experiments and the affected populace needs to be taken based on the eye estimate or visual impressions,” the RBI said in its revised guidelines for loan reschedulement in areas affected by natural calamities.

According to the RBI, the restructured period for repayment may be 3 to 5 years in the case of short-term crop loans. However, if the damage arising out of the calamity is very severe, banks may, at their discretion, extend the period of repayment ranging up to 7 years and in extreme cases of hardship, the repayment period may be prolonged up to a maximum period of 10 years in consultation with the State level Bankers Committee (SLBC). “In all cases of restructuring, moratorium period of at least one year should be considered. Further, the banks should not insist for additional collateral security for such restructured loans,” it said.

The RBI said the restructured portion of the short term as well as long-term loans should be treated as current dues and need not be classified as NPA. Nevertheless, banks are required to make higher provisions for such restructured standard advances as prescribed by department of banking regulation from time to time, it said. The bank assistance in relation to agriculture and allied activities (poultry, fishery, etc.) would also be needed for long-term loans for a variety of purposes such as repair of existing economic assets.

RBI eases bad loans provisioning norms

The Reserve Bank of India relaxed provisioning rules against bad loans by allowing banks to use up to 50% of floating provisions, up from 33% earlier. Countercyclical provisioning buffers and floating provisions broadly refer to the specific amount that banks need to set aside in good times above the mandatory provisioning requirement as prescribed by RBI; these are used only in contingencies or extraordinary times of economic or system-wide downturns. Banks have started building such reserves since 2010. The new relaxation will be applicable for floating provisions held by them as of the end of December 2014.

"It has now been decided, as a counter cyclical measure, to allow banks to utilise up to 50% of countercyclical provisioning buffer/floating provisions held by them as at the end of December 31, 2014, for making specific provisions for non-performing assets, as per the policy approved by their Board of Directors," RBI said in a statement. In February 2014, RBI had allowed to utilise up to 33% of countercyclical provisioning buffer/floating provisions held by them as on March 31, 2013. Mounting bad loans have been a concern for the RBI and this relaxation may help banks provide for such loans thereby reducing the hit banks may face on their profitability due to the bad loans.

"The utilisation of countercyclical provisioning buffer/floating provisions under this measure would be over and above the utilisation of countercyclical provisioning buffer / floating provisions as permitted," the statement by RBI added.

Relief for Haryana farmers as banks agree to reschedule loans

In order to provide relief to affected farmers, bankers held a special meeting of State Level Bankers Committee (SLBC) on 'Natural Calamities-Relief Measures' on the request of Haryana government. The matter assumes significance as rain and hailstorm caused massive damage to rabi crops, including wheat, in Haryana.

Haryana government had even sought total relief of ₹1,135.91 crore from the central delegation led by Union Minister Ram Vilas Paswan on account of crop damaged, assistance for interest loss on loans, funds under MNREGA scheme. "As per preliminary reports, heavy damage has been caused to agricultural crops because of rains and hailstorm. A meeting was held with bankers to discuss how to provide relief to growers," Haryana Finance Secretary P K Das told.

Sharing details with regard to decision taken regarding relief measures, Das said that it was decided that crop loans of farmers would be converted into term loan for repayment in 3-5 years. He said that cooperative banks and commercial banks provide crop loan to the tune of ₹4,000 crore and ₹8,000 crore, respectively, per annum to farmers in the state. Das said the relief will be provided by bankers to those farmers who have suffered more than 50% damage in their crops because of rains and hailstorm which will be as per RBI guidelines.

In case of crop loans, bankers will convert short term crop loan to the extent of damage as assessed by the state government with interest due up to March 31, 2015, into term loan. In addition to it, a moratorium of 12 months will be given in respect of repayment of principal and interest including interest of moratorium period with effect from April 1, 2015, bank officials said.

As on March 31, 2015, the total outstanding crop loan in Haryana was pegged at ₹28,558 crore with more than ₹22 lakh KCC cards. In case of term loan, moratorium will be given for one year period with repayment of loan be dependent on the capacity of borrower and life of asset, said Das.

Bring Farm Land under Special Zones, says MS Swaminathan

Agricultural scientist MS Swaminathan wants the land acquisition law to strictly classify all good farm land as special agricultural zone, especially in the nation's grain bowl of Punjab and Haryana. “For the Land Acquisition Bill to represent a win-win situation for both farm families and for land acquiring agencies, it should not erode national food security,“ said the scientist who is known as the father of green revolution in India. Public good should be clearly defined in the law and “land should only be acquired for public good and not for private profit“, he told.

An important point that he raised was about consultation, one of the major sticking points on the ordinance that the government repromulgated after it failed to pass the Bill to amend the land acquisition law in the Rajya Sabha, where the ruling coalition is in minority. Opposition parties say the amendments that aim to make acquisition of land for industries and infrastructure easier would hurt farmers' interests. The government denies the allegation. “Land Acquisition should be carried out in full consultation with farm men and women. Consultation with women is particularly important since they are the custodians of household food security,“ he said.

He also wrote to Agriculture Minister Radha Mohan Singh about crop loss due to unseasonal rains. While pointing out that agricultural was turning out to be a very low income activity, he said there was need for short and long term measures to rescue the rural countryside from economic distress. As much as 37% of farmers don't want their children to take up farming, while a study shows that 62% of farmers would like to leave farming for jobs in cities, he said.

PM announces easier norms for crop-loss dues to farmers

Prime Minister Narendra Modi Speaking at the launch of the Pradhan Mantri Mudra (Micro Units Development Refinance Agency) Yojana, he said both the eligibility criteria and quantum of relief to farmers under the state disaster relief fund (SDRF) have been made more generous. The 14th Finance Commission granted ₹55,097 crore to states for disaster management.

Unseasonal rains have led to destruction of crops, such as wheat, mustard and barley, in more than 10 million hectare across 14 states, including Haryana, Punjab, Rajasthan, Madhya Pradesh, UP and Maharashtra. "Until now, farmers made it to the list of beneficiaries (of disaster relief) only if more than 50% of their crops had been destroyed. State chief ministers have also demanded that this norm be revised. As per the new norms, even if only 33% of the crop is lost, the farmer will get benefit. It is, however, going to be a burden (on the exchequer)," said Prime Minister. The compensation is given in the form of input subsidy.

RBI governor Raghuram Rajan, who was present on the occasion, told that banks have been directed to restructure loans of the farmers in distress. Agriculture ministry officials told that all state governments have been asked to render immediate assistance to farmers from the SDRF, a fund in which three-fourth of the contribution comes from the Centre and the rest from states. The Centre released ₹5,270 crore to states in 2014-15 as its contribution.

As per the latest data released by agriculture ministry, the area damaged due to untimely rains and hailstorm has been reduced to 8.5 million hectare. This is a substantial drop in contrast to an earlier report of crop loss in 11.3 million hectare. The SDRF assistance is given as input subsidy at the rate of ₹4,500 per hectare for rain-fed areas, ₹9,000 per hectare for irrigated areas and ₹12,000 per hectare for perennial crops. Some states give higher assistance from their own resources. "In case there is any short fall of funds in the states' kitty under the SDRF, the Centre will chip in with extra funds from the National Disaster Response Fund," said an official. Due to unseasonal rains, wheat crop of around 6.2 million hectare, out of a total sown area of 30.6 million hectare, has been damaged.According to agriculture minister Radha Mohan Singh, the wheat output is likely to decline by 4-5% in the ongoing rabi season. India had produced 95.85 mt of wheat in 2013-14.

Only 19% of farmers have crop insurance, says Assocham study

According to an industry chamber Assocham-Skymet Weather study, at the all-India level, only 19% farmers reported ever having insured their crops. The rest of them were found to be either unaware of crop insurance or not interested in it, while 24% said that the facility was not available to them. Only 11% felt that they could not afford to pay the insurance premium, the study said. According to the report, there are about 32 million farmers who have been enrolled in various crop insurance schemes.

However, delay in claim settlements is one big reason for farmers not being covered, despite significant government subsidy. The government is piloting a modified National Agricultural Insurance Scheme, a market-based scheme with involvement from the private sector, to ensure timely claim settlement, among other things. Favouring weather-based insurance products against yield-based ones, the chamber's general secretary DS Rawat said the government's shift from a social crop insurance programme to a market- based one, with active private sector involvement, will offer significant benefits to farmers.

Interest subvention scheme to continue till June 30, 2015

A new scheme for interest subvention for farmers is being worked out though it may take some time, the RBI said in a notification. Meanwhile, the earlier interest subvention scheme will continue till June 30 “as an interim measure” on the terms and conditions approved for the scheme for 2014-15, it added.

The apex bank further said, as regards the scheme for 2015-16,the government has advised that various alternative approaches for improving the efficacy of the scheme are being examined, the finalisation of which may take some time. This comes a week after Prime Minister Narendra Modi announced higher compensation to farmers for damaged crops.

Under 2014-15 scheme, interest subvention of 2% per annum is available to all commercial banks on their own funds used for short-term crop loans up to ₹3 lakh per farmer provided the lending institutions made available short-term credit at 7% to farmers. The 2% subvention will be calculated on the crop loan amount from the date of its disbursement/drawal up to the date of actual repayment of the crop loan by the farmer or up to the due date of the loan fixed by the banks, whichever is earlier, subject to a maximum period of one year.

Reserve Bank revises norms for priority sector lending

The Reserve Bank of India (RBI), said that medium enterprises, social infrastructure and renewable energy would form part of priority sector in addition to the existing categories. "The distinction between direct and indirect agriculture is dispensed with," the RBI said.

The revised guidelines are operational with immediate effect. However, it said the priority sector loans sanctioned under the earlier guidelines would continue to be classified under priority sector till repayment/maturity/ renewal. It prescribed a target of 8% for the small and marginal farmers within agriculture. RBI asked banks to achieve this in a phased manner, that is, 7% by March 2016 and 8% by March 2017.

A target of 7.5% has been prescribed for micro enterprises, which also has to be achieved in a phased manner, that is, 7% by March 2016 and 7.5% by March 2017. There is no change in the target of 10% for weaker sections, it added foreign banks, with 20 branches and above, already have priority sector targets and sub-targets for agriculture and weaker sections, which are to be achieved by March 31, 2018, as per the action plans submitted by them and approved by RBI. The sub-targets for small and marginal farmers and micro enterprises would be made applicable post 2018 after a review in 2017, the RBI said.

"Foreign banks with less than 20 branches will move to total priority sector target of 40% on par with other banks by 2019-20, and the sub-targets for these banks, if to be made applicable post 2020, would be decided in due course," it added. Bank loans to food and agro processing units will form part of agriculture. Export credit up to 32% will be eligible as part of priority sector for foreign banks with less than 20 branches.

For other banks, the incremental export credit over corresponding date of the preceding year will be reckoned up to 2%. The loan limits for housing loans and MFI loans qualifying under priority sector have been revised. RBI said the priority sector non-achievement would be assessed on a quarterly average basis at the end of the respective year from 2016-17 onwards, instead of annual basis as at present.

RBI issues new norms for sale of bad loans

In a boost to banks, which are facing rising asset quality issues, the Reserve Bank of India, allowed such lenders to reverse the excess provision on sale of bad loans to their profit and loss account, provided the transaction took place before February 26, 2014. The central bank had on the February 3 monetary policy day had said that it would issue the final guidelines on this front after banks requested it to include the provision to those sales took place before February 26, 2014, as well.

The move is aimed at incentivising banks to recover appropriate value in respect of NPAs (non-performing assets). Almost all banks, including private sector players, have been reporting higher NPAs and lower profits as they have to make more provisions for bad loans, which crossed 5.5% as at the end of December 2014. Together with restructured loans, the total pain on the system is close to 12%.

The new guidelines extending the sale period prior to February, 2014, will help banks report better numbers and, thus, take a little pain off their back. From April 1, 2015 banks will have to make full provision 5% of the bad asset if they have restructured the loan, and the entire amount if the asset in corporate debt restructuring (CDR) turns bad. The apex bank said the new guidelines will be applicable if only the excess is for a value higher than the bank's net book value (NBV).

"We reiterate that banks can reverse excess provision arising out of sale of NPAs only when the cash received by way of initial consideration and/or redemption of security receipts/pass through certificates is higher than the NBV of the NPAs sold to a securitisation company or an asset reconstruction company (ARC)," the RBI said in a notification. Further, the notification said, "The quantum of excess provision reversed to profit and loss account will be limited to the extent to which cash received exceeds the NBV of the NPAs sold."It also made it mandatory for banks to report the quantum of such excess provision reversed to the profit and loss account in the financial statements of the bank under 'notes to accounts.' Bad loans in public sector banks more than tripled to about ₹2.17 lakh crore in three years to March, 2014.

Nabard slashes refinance rate by 10-20 basis points

Nabard has reduced its long-term refinance rate by 10-20 basis points (bps) on their long term refinance facility depending on the repayment period. This will facilitate the banks to borrow at concessional rates to enhance their investment credit to the agriculture and rural development portfolio which contributes to the capital formation. In addition, Nabard has also reduced prime lending rate from 9.25% to 9.00% on loan to private sector.

RBI issues final guidelines on capital buffer for banks

The RBI released the final guidelines for enabling banks to have unhindered credit flow to sectors such as infrastructure, power and ports during difficult times. Technically called

Countercyclical Capital Conservation Buffer (CCCB), it is a system where banks save up on good days for tough times.

It also aims to reduce the overexposure of the banking system during good times, as banks have been found to lend excessively and often carelessly when the going is good. "The CCCB may be maintained in the form of Common Equity Tier 1 (CET 1) capital or other fully loss-absorbing capital only, and the amount of the CCCB may vary from 0 to 2.5% of total risk weighted assets (RWA) of the banks," the RBI said in a statement.

The central bank said that it will, for most parts, announce the percentage of money that banks need to set aside as CCCB at least four quarters in advance. This will be mainly based on the credit-GDP ratio in the economy at various points in time. The central bank clarified that banks will have to start setting aside money as soon as the credit-GDP ratio falls to 3%.This will increase progressively till the credit-GDP ratio reaches 15%. At this level, banks will have to set aside a full 2.5% of the total risk weighted assets towards CCCB.

The RBI also made no exception to foreign banks having their operations in India and so they will also have to maintain the CCCB as prescribed from time to time."All banks operating in India (both foreign and domestic) should maintain capital for Indian operations under CCCB framework based on their exposures in India," the RBI said. Banks not meeting the mandated CCCB will be ordered by the RBI to operate with several restrictions. "Banks will be subject to restrictions on discretionary distributions (may include dividend payments, share buybacks and staff bonus payments) if they do not meet the requirement on countercyclical capital buffer," the RBI said. The Internal Working Group of the RBI under the Chairmanship of B Mahapatra had submitted the final report on the implementation of Countercyclical Capital Buffer (CCCB) in July, 2014.

India world's 4th in GM crop acreage, well ahead of China

India has the fourth largest area planted under genetically modified (GM) crops, according to the International Service for the Acquisition of Agri-Biotech Applications (ISAAA). Farmers in India planted a total 11.6 million hectares (mh) under transgenics in 2014, behind the corresponding areas for Argentina (24.3 mh), Brazil (42.2 mh) and the US (73.1 mh). The GM crop acreage in India far surpassed China's 3.9 mh, while equalling that of Canada's 11.6 mh.

ISAAA, a New York-based crop biotech advocacy group, has estimated the total global area under GM crops to have touched 181.5 mh last year, up from 175.2 mh in 2013. Since 1996, when farmers first commercially planted transgenics, the area under these crops has risen more than hundredfold from 1.7 mh to 181.5 mh. It represents the fastest ever adoption of any technology in agriculture, said Bhagirath Choudhary, Director at ISAAA's South Asia Office.

Significantly, the entire 11.57 mh GM crop area in India last year consisted of Bt cotton. Nearly 96 % of the country's cotton area is now covered by Bt hybrids. Bt technology has helped India to treble its cotton output from 13 million bales in 2002 (when it was introduced) to 40 million bales in 2014.

While India's GM crop acreage is wholly dominated by Bt cotton much of it based on the US life sciences giant Monsanto's proprietary “Bollgard” technology this is not the case with other major countries. For example, the US's 73.1 mh GM crop area covered by maize (34.5 mh), soyabean (32.3 mh), cotton (4.3 mh), canola (685,000 hectares), sugar beet (479,000 hectares), and the rest by alfalfa, squash and papaya. Brazil's 42.2 mh included 29.1 mh, 12.5 mh and 0.6 mh under soyabean, maize and cotton respectively. China had only 3.9 mh of GM planted area last year almost fully under Bt cotton. But its government has allowed commercial cultivation of seven other crops papaya, maize, rice, poplar, tomato, sweet pepper and petunia.

Unlike India, where Monsanto enjoys a near monopoly, China's GM crops have been developed largely by public sector research bodies such as the Chinese Academy of Agricultural Sciences (Bt cotton), Huazhong Agricultural University (rice and tomato), Beijing University (tomato and sweet pepper) and Research Institute of Forestry (poplar). “We need to extend GM technology to more crops, and also encourage PPPs, so that our farmers benefit from competition and faster commercialisation,” Choudhary said. He pointed to the granting of the rights for commercialisation of a Bt chickpea developed by the Assam Agriculture University to Sungro Seeds and that of the Indian Agricultural Research Institute's Bt brinjal to BejoSheetal and Ankur Seeds as models for the future.

Food grain output to fall to four-year low on weak monsoon

The agriculture ministry has estimated total food grain output for 2014-15 to plunge to a four-year-low of 257.07 million tonnes (MT), following the record 265.57 MT level of 2013-14. All crops, barring sugarcane, are expected to post production declines, as rainfall has been deficit in both the south-west (12.3% below long period average) as well as North-East (33% below normal) monsoon seasons.

The lower production is, however, unlikely to have any inflationary impact for two reasons. The first is food grain stocks with government agencies. These, at 48.50 MT (which includes un-milled paddy in terms of rice) as on January 1, are almost twice the required minimum buffer norm of 21.41 MT for this date. The second reason is global prices. These are currently lower for most agri-commodities, undermining the prospects for exports even while rendering imports cheaper. The possibility of domestic prices going up is more in pulses (where import options are limited) or indigenous edible oils like mustard and groundnut (as opposed to globally-traded and mass-consumed oils such as palm and soyabean).

Lower production, on the other hand, would be a double whammy for farmers who are already facing price declines in cotton, sugar, rice and many other crops. That, to an extent, may also adversely affect rural incomes and consumption. The CSO has pegged the overall growth rate for “agriculture, forestry and fishing” at 1.1% this year, against the 3.7% in 2013-14. According to its assessment, the negative growth in agricultural crops will be more than offset through high output of horticultural produce (fruits and vegetables) and livestock products (milk, eggs and meat).

GDP on a new base year

New method to calculate the Gross Domestic Product (GDP) has two key elements: new base year and market price. It is a normal practice to change the base year once in five years.

The new base year will be 2011-12 against the previous base year of 2004-05. Earlier, calculation was based on the factor cost or costs of production. Now, keeping in line with international practices, tabulation will be done on the basis of market price or the price which consumer pays. This is also called Gross Value Addition (GVA).

New method also includes more detailed data on corporate activity, newer surveys of spending by households and informal businesses and taxes paid (after deducting subsidy). This changes growth estimate for 2013-14 to 6.9% from 4.7%. Similarly, the number for 2014-15 is likely to be 7.4% against 5.5-6%. Growth estimate for 2015-16 has also been made on new series and it is likely to be 8.1 to 8.5%.

PM launches soil health card scheme

Prime Minister Narendra Modi launched a soil health card scheme, under which the Centre plans to target over 14 crore farmers in the next three years to check the excess use of fertilisers. Pointing out that soil health has deteriorated due to high usage of fertilisers, PM asked farmers to take care of soil. The card to be issued after testing soil, would help them save up to ₹50,000 in 3 acres of land, he added.

"We used more urea, more water and more fertilizers to get more benefits but as a result of it, the soil health deteriorated. Now, it is high time we pay attention towards it." PM said after launching the central scheme. The card, which will carry crop-wise recommendation of fertilisers required for farm lands, will help farmers identify health of soil and judiciously use soil nutrients. Farmers need to do away with traditional farming techniques and adopt scientific methods of agriculture to raise crop yields, PM said, adding that the farming strategy should depend upon the quality of soil.

PM asked farmers to be more concerned about soil health and said that "like we care for our health and body, we also need to pay attention towards the soil and land which is our 'Dharti Mata' (motherland). If we care for the soil, it will care for us and will give more benefits". Referring to the song "Vande Mataram," PM said that in order to achieve land that is truly "Sujalam, Sufalam," (well-irrigated and fertile), it is necessary to nurture soil and the soil health card scheme is a step towards fulfilling this dream.

Calling for soil testing to be made a regular feature, the Prime Minister said a new class of entrepreneurs could set up soil testing labs even in small towns. Besides soil health, the Prime Minister asked farmers to use drip irrigation to get more crop from each drop of water and to keep the land and soil away from the hazards of using water more than required.

₹171-cr loan waiver for Maharashtra farmers

The Maharashtra government waived ₹171 crore in loans granted to 2.23 lakh farmers in Marathwada and Vidarbha. The decision, announced by Chief Minister Devendra Fadnavis in the Assembly, applies to only those who have taken loans from legal lenders. “Taking loan from private moneylenders is seen as the main reason for suicide among farmers, especially in Marathwada and Vidarbha, a point underscored by the Adarsh Mishra Committee, set up by the Union government,” he said.

Mr. Fadnavis said the waiver announced in 2008 and 2009 had benefited only those who had taken bank loans. Hence, “...we have decided to waive loans taken from private lenders who hold permit to lend.” The government gives ₹1 lakh to the family of a farmer which commits suicide. According to the figures submitted in the Assembly, in January 2015 alone, 28 farmers committed suicide in the Nagpur division and 78 in the Amaravati division, both in the Vidarbha region. Around 56 farmers ended their lives in the Aurangabad division in Marathwada.

To 'fund the unfunded' PM launches MUDRA Bank

Prime Minister Narendra Modi stressed on the need to provide finance to micro and small businesses, which have the potential to create 25 crore jobs. "While there are a number of facilities provided for the large industries in India, there is a need to focus on these 5 crore 75 lakh self-employed people who use funds of ₹11 lakh crore, with an average per unit debt of merely ₹17,000 to employ 12 crore Indians," the Prime Minister said, explaining the reason behind the MUDRA Bank. Announced as part of the Union Budget 2015-16, the bank will have a corpus of ₹20,000 crore and a credit guarantee corpus of ₹3,000 crore. The Prime Minister said the MUDRA Bank would provide "funding to the unfunded" and would promote entrepreneurship and self-employment in the country.

Pointing out that the biggest asset of the poor is their integrity, he said that by combining their integrity with capital (MUDRA), it would become the key to their success. Indicating that the new bank would be commercially viable, the Prime Minister said that within a year, banks would queue up to give loans to MUDRA applicants. He also urged banks to study successful models of micro finance, tailored to the local requirements and cultural contexts, which would help the poorest of the poor in a big way.

Drought to hit'14-15 foodgrain production in Maharashtra

The Maharashtra government has been warned of a decline in food grain production for the year 2014-15 because of the prolonged drought situation in some parts of the state. The state focus paper (2015-16) of the National Bank for Agriculture and Rural Development, which was discussed with Chief Minister Devendra Fadnavis, said: "there will be a decline in foodgrain production in state (2014-15) due to low rainfall in some parts of state, particularly in Marathwada region."

The total foodgrain production in 2013-14 was 154.6 lakh metric tonnes. Some of the serious aspects that were discussed at the meeting with NABARD includes making available bank loans to farmers in the drought-hit-districts and prioritising the budget for irrigation projects that would benefit farmers in the drought-prone areas.

"The shortfall in food production was expected on account of recurring drought situation in parts of Maharashtra. Currently, we have almost 24,700 villages reeling under drought across the state. The worst hit is the region of Marathwada," said a senior officer. While Fadnavis has declared a ₹7000-crore long term and ₹34000 crore long term (spread over five years) package to tackle recurring droughts.

The crop damage due to hailstorm in Vidarbha and North Maharashtra has only compounded the problems. There is a concern about the decline in agriculture term loan (ATL) during the last three years. The report stressed: "The performance under agriculture term loans during the last three years was not satisfactory and needs to be improved." According to the statistics available, the share of agriculture term loan in total agriculture loan has come down from 21.5% in 2011-12 to 20.08% in 2013-14.

ATL is available to farmers for activities other than seasonal agriculture operations, such as horticulture, minor irrigation, plantation, sericulture, dairy development, and poultry farming etc. farmers are given more than 18 months' repayment period. While pegging the production credit requirement for the year 2015-16 at ₹46,631.10 crore, NABARD recommended some course corrections to ensure smooth flow of the credit. It pointed out wide variation in the scale of finances approved for sugarcane, paddy and cotton.

The government has been asked to establish a strong integrated marketing system to avoid exploitation by middlemen. The system should consist of farmers' produce at all collection centres, scientific grading and standardisation, improved and innovative package, appropriate storage and transport, marketing, finances, etc. The irrigation department admits that irrigation potential of the state is mere 18%, which is much lower compared to the national average of 44.3%.

Some of the critical points that are under consideration include bringing 50% of the sugarcane crop under micro irrigation. The government has agreed that the water policy should shift from water consumption to water preservation through devises like drip irrigation and water sprinkler systems.

AP loan-waiver scheme hits banks, self-help groups

The much-hyped debt-waiver scheme of the Andhra Pradesh Government is adversely impacting self-help groups (SHGs) as well as banks. According to CVR Rajendran, President of the State Level Bankers' Committee (SLBC) and Chairman and Managing Director of Andhra Bank, the SHGs, which had an excellent track record in the State before the debt redemption scheme was put in place, are now totally 'distraught' and 'huge' non-performing assets (NPAs) have been added in the last nine months.

One of the reasons for this problem could be the adverse repayment climate generated on account of the mass loan waiver euphoria that led to borrowers becoming complacent and feeling they did not have to repay their loans. Another reason has been the inordinate delay in capital infusion to SHGs as assured by the Government. Though the Government announced relief to SHGs by way of capital infusion of up to ₹1 lakh per group, the modalities are yet to be finalised. It would be extremely difficult for the women's groups to service entire dues to banks at one time. “This has totally vitiated the repayment culture of these groups resulting in NPAs mounting under this sector,” Rajendran said.

The total outstanding loans to SHGs in Andhra Pradesh stood at ₹13,844 crore as on December 31, 2014. The total balance in overdue accounts, however, is ₹2,174 crore, of which ₹888 crore has been declared as NPAs, as per SLBC data. The percentages of total balance in overdue accounts and NPAs to outstanding loans are 15.70 and 6.41% respectively. In view of these alarming numbers, banks have appraised the Reserve Bank of India of the situation and requested for a special dispensation to the State to tide over the peculiar situation being faced by banks. The RBI's decision is awaited.

On its part, the State Government should release the “long assured capital before it is too late; this would go a long way in shoring up the asset quality in all banks,” said a circular of the SLBC. After the microfinance crisis in 2010, MFIs have almost exited from lending in Andhra Pradesh and Telangana and banks are the only source of credit to the under-privileged sections, particularly women. Unless the loan-waiver issue is addressed, it will be difficult for SHGs to get fresh credit.

Print notes on Indian paper: Prime Minister

Addressing the top brass of the central bank in an event to mark RBI's 80th anniversary, PM raised the topic of 'Make in India'. He said, "Mahatma Gandhi fought for Swadeshi. Does it behove us to print his photograph on imported paper? Does India not have the entrepreneurs to make the paper in India?"

The PM urged the central bank to make a resolution that from a particular date all notes in India would be printed on Indian-made paper with Indian ink. Central bank officials said that work was already in progress to source materials within India. They said that while most of the ink was available in India, the central bank at present continued to import two-color ink. Having self-sufficiency in printing of currency notes would ensure that no enemy state can purchase similar paper from international suppliers. According to RBI, during 2013-14 (July-June), an expenditure of ₹ 3,210 crore was incurred on security printing compared to ₹ 2,870 crore during 2012-13.

RBI mandates 100% provisioning for frauds

Banks now have to set aside funds for loan related frauds committed by borrowers with limited recovery chances. "It has been decided to prescribe a uniform provisioning norm in respect of all cases of frauds." RBI said in notification. The entire amount due to the bank (irrespective of security quantum), or for which the bank is liable, is to over a period not exceeding four quarters commencing with the quarter in which the frauds has been detected. This means, banks are mandated to make 100% provisions for such wrongdoing.

Banks can draw more from buffer to cover bad loans

The Reserve Bank of India (RBI) allowed lenders to use up to 50% of their provisioning buffer at the end of December 2014 for making specific provisions for bad debt or non-performing assets (NPAs), as against the earlier norm of 33%. This means banks can use more funds from their emergency reserves to provide for NPAs.

The move will come as a relief for several banks, especially those which had increased the provision coverage ratio in response to RBI's calls a few years ago. "Utilization of countercyclical provisioning buffer/floating provisions under this measure would be over and above the utilization of countercyclical provisioning buffer/floating provisions as permitted on Framework for Revitalising Distressed Assets in the Economy (FRDAE) Refinancing of Project Loans, Sale of NPA and Other Regulatory Measures," RBI said in a notification.

From April, 2015 RBI has decided to withdraw a special dispensation it had provided some years ago under which the provisioning requirement on restructured loan accounts was pegged at 5%. The provisioning requirement will rise to 15-20%, depending on whether it's a secured or an unsecured loan. Higher provisioning means that banks will have to set aside more capital to meet potential default risk, which will weigh on their profitability from the next quarter. Although banks had argued that the relaxation should be extended for some more time in the wake of continued distress in the industry, the proposal did not find favour with RBI. Instead, it has offered easier norms to lenders elsewhere.

For provisioning under FRDAE, banks are allowed to sell their NPAs to other banks or NBFCs other than asset reconstruction companies without any initial holding period. But, banks have to use their buffer for provisions towards bad loans with prior approval from the regulator. Banks are allowed to utilize this buffer for additional provisions for financial distress, prompt steps to resolve it, and fair recovery for lenders and investors.

Coop banks grapple with TDS burden of ₹ 1,600 cr

The income-tax department has served notices on scores of urban cooperative banks as a new provision places an additional tax burden on the 1,600-odd UCBs in the country. Under the new Finance Bill, 2015, an amendment to Section 194 (A) makes it mandatory for cooperative banks to deduct tax at source on deposits made by members and shareholders.

Earlier, no TDS was required to be deducted for members /borrowers and shareholders on deposits with interest below ₹10,000 annually. These members could file returns and, then, claim TDS separately, said Mukund Abhyankar, president, National Federation of Urban Cooperative Banks and Credit Societies (NAFCUB). Abhyankar said local I-T officials have sought data on the last three years of interest payment on deposits of shareholders. He claimed banks were being asked not only to deposit the interest, but also the TDS amount for the last three years, along with a hefty penalty. This figure, he said, ran into crores and could wipe out the entire operating capital of UCBs.

Even small banks are learnt to have received notices for recovery of TDS dues of nearly ₹20-60 crore and the cumulative amount could run into ₹1,500-1,600 crore. NAFCUB says banks are ready to start deducting TDS from the current financial year, but retrospective payment could land them in deep financial trouble. Moreover, as several customers might have claimed this amount in their I-T returns, providing details would be cumbersome for banks, said Vikrant Ponkshe, MD, Cosmos Cooperative Bank.

Banks Adopt tech, get efficient: Nabard tells Co-op banks

Nabard has pitched for implementation of Core Banking Solutions across the cooperative banks for better efficiency and furthering the goal of financial inclusion. There is a need to keep pace with the changing needs, Nabard Chairman Harsh Kumar Bhanwala said at a workshop for the MDs/CEOs of State Cooperative Banks.

The banks were requested to be in readiness on DBT (Direct Benefit Transfer) technology platform to serve the farmers' needs. He requested the State Cooperative Banks to take up the leadership role in providing banking services by playing a proactive role in Financial Inclusion by technology adoption. As the demographic age profile of the prospective customers has come down, the aspirations and expectations from the banks have gone up in terms of financial and non-financial services, he said. Praising efforts of few Cooperative banks which have taken lead in technology by obtaining mobile banking permission from the regulator, he said, the emerging intensive competition in the wake of entry of new Payment Banks and Small Finance banks has urged the cooperative banks to orient their policies accordingly and also urged the banks to put into practice a good governance and IT policy.

RBI eases norms for home loans for up to ₹10 Lakh

Giving a boost to affordable housing, the Reserve Bank of India (RBI) eased the norms for home loans of up to ₹10 lakh by allowing banks to include stamp duty and registration charges to the cost of a unit. These charges form around 15% of the cost of the house and place a burden on borrowers."With a view to encourage availability of affordable housing to such borrowers, it has been decided that in cases where the cost of the house does not exceed ₹10 lakh, banks may add stamp duty, registration and other documentation charges to the cost of the unit for calculating LTV (loan to value) ratio," the RBI said in a notification.

As per the current practice, lenders do not include stamp duty, registration and other documentation charges in the cost of housing property. "It has been brought to our notice that these amounts form around 15% of the cost of the house and place a burden on the borrowers from economically weaker sections (EWS) and low income groups (LIG)," the RBI said while easing thenorms.

Overdraft under Jan-Dhan comes under priority sector lending: RBI

To give a fillip to the Pradhan Mantri Jan-Dhan Yojana (PMJDY), the Reserve Bank of India, said bank overdrafts of up to ₹5,000 extended by banks to customers who have opened accounts under the Yojana will be eligible for classification under priority sector advances. Besides being classifieds as priority sector advances under the 'others' category, such advances to PMJDY accounts will also qualify as advances to weaker sections, provided the borrower's household annual income does not exceed ₹60,000 for rural areas and ₹1.20 lakh for non-rural areas.

Priority sector refer to those sectors of the economy which may not get timely and adequate credit in the absence of this special dispensation. Typically, these are small value loans to farmers for agriculture and allied activities, micro and small enterprises, poor people for housing, students for education and other low income groups and weaker sections. Banks are required to have priority sector lending portfolio amounting to 40% of their total advances. Since its inception in August end 2014, banks have collectively opened 12.54 cr accounts under the PMJDY up to January 31, 2015. Of these accounts, about 67% are zero balance accounts. The balance 33% accounts have deposits aggregating about ₹10,500 cr.

BRICS bank should be operational by Aug 2016

Business leaders of the BRICS nations are expecting the New Development Bank to be operational by August 2016, which is aimed at boosting infrastructure, logistic and connectivity and trade ties among the member countries."We strongly believe that the BRICS Bank should be operational as soon as possible or within 18 months latest," BRICS Business Council Interim Chairman of India, Tulsi Tanti said after a meeting of the Council in Brazil. Established in 2013, the BRICS Business Council comprises 25 prominent entrepreneurs from Brazil, Russia, India, China and South Africa, representing various industries and sectors in the BRICS nations.

The meeting apart from the New Development Bank also discussed proposals related to favourable business environment, trade in local currencies, business travel, trade facilitation, logistic and connectivity, technical standards, investment ties, besides the BRICS Bank. It also decided to lay importance on building energy sector based on the principles of affordable, sustainable energy for all, low carbon economy, generate jobs and attaining energy security in the BRICS region. The business council aims to give impetus to trade, business, information exchange and collaborations. Heads of the five nation BRICS group-Brazil, Russia, India, China and South Africa-decided last year to create a development bank as well as a reserve fund to finance infrastructure projects and to head off future economic crises. India will hold the Presidency of the USD 100-billion New Development Bank for the first six years. The Bank will be based in Shanghai, China's financial hub.

AGRICULTURAL NEWS

Pusa 1509 to drive basmati output to a new high

Production of basmati rice is set to touch a new high with farmers in the key producing States such as Punjab, Haryana and Uttarakhand taking up cultivation of the new high-yielding variety Pusa 1509 in a big way. Lured by high returns, farmers have planted the aromatic rice on a record area of 2.1 million hectares (mh), an increase of 31% over 2013 acreage of 1.6 mh. Bulk of this increase is driven by the Pusa 1509 variety.

The All India Rice Exporters Association, based on the latest acreage numbers, has pegged the output at around 8.4 million tonnes (mt) against last year's 6.6 mt, said Rajen Sundaresan, Secretary of the exporters' body. The latest crop survey commissioned by AIREA, estimates the acreage under the popular variety Pusa 1121 at 1.16mh, almost same as that of last year. However, the acreage of Pusa 1509, which consumes less water and has more resistance to pest attacks has seen a quantum leap. The acreage under 1509 has touched a little less than half-a-million hectare at 4.92 lakh ha against last year's 5,000 hectares. “Even the traditional variety HBC 19 or Taroari Basmati and CSR 30 that have higher aroma have seen a slight increase in area mainly in Haryana and Punjab,” Sundaresan said. The cultivation of 1509 variety has come in handy for farmers mainly in Haryana, and parts of Punjab, where declining water table has become a major issue in recent years.“The adoption has been pretty good this year and next year the acreage will further grow to about 8 lakh hectares,” said AK Singh, main breeder of Pusa 1509 at the Indian Agricultural Research Institute.

The average yield levels are hovering around 24-25 quintals/acre against an average of 20 quintals/acre for the 1121 variety. Farmers are getting a price of about ₹3,200 a quintal and their realisations are around ₹90,000-1 lakh per acre, Singh added. Basmati is the largest exported agri-commodity and the shipments in 2013 stood at a record 3.75 million tonnes valued at ₹29,299 crore. Meanwhile, shipments to Iran have been sluggish as the largest buyer of the Indian aromatic rice hiked the import duty to around 40% from the earlier 22%. Iran accounted for over a third of India's basmati exports in value and about 40% in quantity in the year 2013.

Innovative approach to manage water hyacinth

The aquatic weed, water hyacinth, is ranked among the top ten weeds worldwide and is one of the most successful colonisers in the plant kingdom. A native of Brazil, the weed has spread to other parts of the world, through initial intentional introductions for its aesthetic values in Africa, Southern Asia and the U.S. Manual removal is laborious and expensive. Though herbicides are effective, none of them has been registered in India for use on water bodies restricting their application for the management of this weed.

Research sponsored by Ministry of Water Resources, Government of India, at Annamalai University has shown that herbicides like 2, 4-D, glyphosate and paraquat are effective in controlling the weed. However, herbicide use in water system impairs the water quality in terms of dissolved oxygen, electrical conductivity etc. Among the herbicides tried, glyphosate was observed to be safer comparatively.

Besides causing mortality of fishes, the water treated with all these herbicides caused histological damages in fish organs like gills, liver, kidney and brain. However, water treated with these herbicides proved safe for irrigation to crops like rice and cotton.The Department of Agronomy, Annamalai University through a National Agricultural Technology project sponsored by Indian Council of Agricultural Research, brought out an innovative approach of managing the weed with the application of dried leaf powder of a medicinal plant called Coleus amboinius/aromaticus (Karpooravalli or Omavalli in Tamil).

Dried leaf powder of karpooravalli at rate of 20g/l of water makes water hyacinth dead within 5h of treatment and through electrolyte leakage, water hyacinth biomass gets reduced drastically in 3 days. However, this karpooravalli needs to be cultivated on a large scale to make available the required quantity of leaf powder. Utilising this weed, through composting and incorporation at 6.25 t/ha favoured rice yields.

A quarry that produces organic fruits

Efforts by U Rajesh Naik, owner of 100-acre Oddoor Farm, have made it an integrated self-sustaining organic farm. Now most of the fruit-bearing trees such as mango, papaya, cashew, rambutan and commercial crops such as coconut and arecanut along with a man-made lake and a dairy are the main strengths of this farm.

Naik told that though he inherited family property, he wanted to do something on his own land went ahead with buying dry land at Ganjimath 27 years ago. The quarries were levelled and a cultivation plan was made after that. He planted coconut, cashew, mango and arecanut. Taking into consideration the immediate requirements such as irrigation and manure for farming, he began working on them simultaneously.

There was a small well on the

land he bought. Slowly and gradually he converted the water body into a lake. Now it is a 60-ft-deep two-acre water body. It sustains the entire operation of the farm and his house. Even during the last summer, water level did not go below 25 ft, he said, adding that the water table has gone up in nearby areas in the recent years. As he was determined to make the farm organic, he began rearing a few cows with an intention to provide manure to the farm.

The total number of cows has crossed 200 now after 27 years. With pride, Naik said he is a major supplier of milk to the Karnataka Milk Federation's dairy in Mangalore. His dairy supplies around 800-1,000 litres of milk a day to the federation. The green fodder for cows is grown in his farm only. The slurry from the dairy, which contains cow dung and cow urine, is stored in a tank near the dairy. Fermentation in the tank leads to formation of methane, he said. One of the outlets from the tank collects the methane to run a 65-kv power generator. Power for farm operation and house is generated that way. The methane-free slurry is sent through two different outlets as liquid and semi-solid manure. Naik claimed that he gets around one lakh litres of liquid manure a day. Semi-solid slurry is used for the production of solid manure through composting.

A poultry-based scheme for empowering tribal women

Without participation of women, the rural economy cannot be sustainable. For the economy to improve and prosper women's empowerment becomes a pre-requisite. Women are the real workforce both at home and in the farm combining a multitude of activities. Even if uneducated, they are naturally endowed with native wisdom. In this sector, especially tribal women have remained vulnerable to monetary strains.

To help this neglected sector become financially independent the Tamil Nadu Veterinary and Animal Sciences University (Tanuvas) started a scheme on commercialisation of desi bird farming as a livelihood option among the tribal women in Keeraikadu, Mottukadu, Puttur, Pelakkadu and Arangam hamlets of Yercuad Hills."As most of them are illiterate and unable to attend formal training courses leaving their domestic responsibilities, these women are not in a position to adopt new technologies. Among various options discussed we found that desi chicken rearing could be taken up by them without any difficulty and we started the initiative to introduce them to this scheme and through a participatory market chain approach, brooding, hatching, breeding, disease-control and marketing were also facilitated by us since 2012,"says Dr. C.

Chandrahasan, Director of Extension Education, Tamil Nadu Veterinary and Animal Sciences University, Madhavaram, Chennai.

The beneficiaries were supplied with breedabledesi birds (chicks), limited feed, poultry cages, vaccines, deworming drugs, feeder, drinkers etc. For better linkages, value chain networking and feed, product branding and formation of desi bird producer groups with a membership of 104 tribal women beneficiaries was created. The involvement of the women and the income benefits obtained have resulted in the formation of a federation called “Navamalar Nattukozhi Valarpoor Mahalir Kuttamaippu” which is being governed by the elected representatives among the members. The progress of the federation is also monitored through regular meetings. Till date three such meetings have been organised.“The group-based approach has been highly helpful in sustaining desi chicken production in tribal hamlets. The scheme has been instrumental in developing new institutional arrangement for brooding, health care and hatching of eggs,” explains Dr.Chandrahasan.

Women members have been identified and trained as community vaccinators for vaccination, deworming and tick control. These workers are providing services at the door step of beneficiaries at a minimal cost. Based on the local issues for brooding (such as electricity and requirement of day old chicks in few numbers per member) the supply of chicks was made available through community brooding centres.

In order to avoid poor hatchability due to power failures and difficulties in brooding of few chicks, community brooding centres were established in group members' homes. The incubators were equipped with a solar backup system to overcome electricity failure. For sustaining and promoting this livelihood credit support is also provided from internal savings of the groups and also linking them up with some banks. For marketing the eggs, chicks and adult birds a direct market outlet facility has been established at Yercaud town. In addition, market support through Uzhavar Santhai (farmer's market) and facilitation with other marketing channels is presently being explored. This scheme has proved that compared to other livestock like cattle or pigs, poultry sector provides supplementary employment and sustainable source of income at an affordable cost.

Utilisation of weeds for productive purposes

Floating cultivation helps reduce the pressure on arable lands by turning the flooded and waterlogged areas into productive ones. A pilot study was undertaken at RARS, Kumarakom, Kerala Agricultural University on open water culture of seasonal vegetables by utilising water hyancinths as seed beds in floating rafts for vegetable farming.

Bamboo poles were used to fix the seed beds in position to avoid damage due to water ripples or drifting. The average dimensions of the seed beds were 5.7 m (L) x 1.8 m (B) x 0.7 m (H). Within this area dense water hyacinth is allowed to stand on and more of it was piled up to make it compact. The duration or stability of the floating bed depends on the first layer, which remains at the bottom. The length and width of the bed can be decided by the farmer.

Though the bed has no definite size, small sized bed is easier to manage and better for crop production. The thickness depends on the duration of crop as it needs to float for the whole time. Red Amaranthus (Arun red variety) was transplanted on a thin layer of coir pith compost over the bed. It was spaced closely at a distance of five centimeters between plants since open water culture permits trapping of maximum solar radiation. Application of either 19:19:19 at rate of 1% or supernatant filtered cow dung slurry was sprayed at weekly intervals for nutrient requirement. No pests/diseases were noticed. The crop was harvested in 60 days. A yield of 17.8 kg was obtained from a single bed (approximately 17.5 t/ha).

Floating beds are mostly made of water hyacinth, a very invasive weed that doubles in area within ten to fifteen days. These type of experiments provide a means of using the weed in a beneficial way viz., reducing breeding grounds for mosquitoes, improves free water movement and navigation, facilitates open-water fishing etc.

Farmers to recover cane dues before banks-Supreme Court

In a major setback to PSU banks, the Supreme Court said farmers will get precedence over banks for the recovery of cane dues, amounting to around ₹5,440 crore, from sugar mills in Uttar Pradesh. A bench headed by Chief Justice HL Dattu while rejecting the appeals of State Bank of India and Punjab National Bank observed, “if you do not pay farmers, they commit suicide. Why should the farmers suffer?”

The banks had challenged the Allahabad High Court order that held that sugarcane farmers will have the first right over mills' sugar sales realisation, and not the lenders. The HC while disposing of a PIL filed by Rashtriya Kisan Mazdoor Sangathan convener VM Singh had directed district magistrates concerned to monitor as well as “cooperate” with defaulting mills in the state in offloading their sugar stocks at "best possible prices" and that all cane arrears be cleared. The PIL had sought a direction that farmers be paid outstanding dues for season 2013-14 immediately. The high court also directed that where there is a tagging agreement between a mill and its lender, the bank will be entitled to 15% of the sugar sales realisation while the farmers will get 85%.

Attorney general (AG) Mukul Rohatgi and senior counsel Dhruv Mehta, appearing for the banks, argued that it would be difficult to recover the loan amount once sugar is auctioned. They argued that the banks had granted credit facilities from time to time to sugar mills in the state and out of the total loan of ₹5,000 crore granted to sugar mills, the total outstanding of SBI in respect of 10 sugar companies, including Bajaj Hindusthan, Balrampur Chinni Mills, Uttam Sugars, Simbhoali Sugars, Trivani Engineering and Industry, DCM Shriram Industries, Oudh Sugar Mills, is more than ₹3,000 crore.

Two scientists, two blockbuster crop varieties

When A K Singh was appointed head of the Indian Agricultural Research Institute's (IARI) Genetics Division, he got a congratulatory SMS from Baljeet Singh Virk, a farmer from Bathinda in Punjab, for becoming the top man at the "Genetics department". The message went on to say that Singh had not just given farmers paise or rupees, but had made them "lakhpatis". Virk's praise wasn't without reason. Singh is the chief breeder of Pusa-1509, a basmati rice variety that farmers have grown on almost 5 lakh hectares in 2014 kharif season, compared to 5,000 hectares in 2013.

Pusa-1509's advantage is its yield. The average 25 quintals paddy per acre from the variety are way above 10 quintals from traditional basmati varieties such as Taraori and Dehraduni. It surpasses even the 20 quintals for Pusa-1121, which now accounts for over half of India's two-million-plus hectares sown with basmati.

Deepak Pental, professor of genetics and a former vice-chancellor of Delhi University, said Pusa-1509 represented "a very fine example of what publicly funded farm research can really do". No less a success story in public breeding is HD-2967, a wheat variety that was released for commercial cultivation in September 2011. In the 2013-14 rabi season, this variety bred by IARI scientists led by its Joint Director (Research) K V Prabhu was grown in about six million hectares. No variety or hybrid of any crop has ever covered such a large area in as short a time; even Bt cotton took five years from 2002 to 2007 to cross six million hectares in India.

Both Pusa-1121 and Pusa-1509 have lower plant heights than the 160 cm levels for traditional basmatis, making them more responsive to fertiliser application. “The Pusa-1509 plant is only 80 cm tall, below even the 120 cm for Pusa-1121,” says A K Singh, who was also associated with the breeding of Pusa-1121 that generated three-fourth of India's $4.9 billion earnings from basmati exports in 2013-14. But yield isn't the sole attraction. “Pusa-1509 matures within 120 days. Since transplantation can be done after monsoon arrival, I have to give only 10-11 irrigations, whereas it is 15-16 for Pusa-1121 that grows over 145 days,” said Pritam Singh.

The head rice (i.e. unbroken kernels) recovery is only 47-48 kg from every quintal of parboiled Pusa-1509 paddy, while 53-54 kg for Pusa-1121. But from the farmer's standpoint, the five quintals extra yield and 25 days less duration (in maturing) more than compensates for any lower price realisation. Pritam Singh estimated the total production cost for Pusa-1509 at about ₹ 21,500 per acre. Given revenues of ₹2,500/quintal, it translates into a profit of ₹ 40,000-plus an acre.

Prabhu attributed HD-2967 wheat variety's fast spread partly to farmers' search for an alternative to PBW-343, a workhorse wheat released in 1993 that until recently occupied over nine million hectares. “This was a popular variety, but had developed high susceptibility to yellow and leaf rust fungal diseases, affecting its yield. HD-2967 is resistant to these as well as Ug99, a deadly African race of stem rust already prevalent in central India,” said Prabhu. HD-2967 is also the first wheat variety bred with what is called 'adult plant resistance'. This was done through incorporation of 'minor' genes, which on their own may not protect a plant against rust attacks, but are effective in combination.

Generating constant income imperative for successful farming

If anybody asks a farmer what he considers successful farming is all about, the answer in all probability would be low investment and a good, steady income. “It could be a small farmer or a farmer with 10 acres; the bottom line is generating revenue from his crop. And modern technologies should aid him in improving income and his standard of living. Take the case of Mr. Umesh, a small farmer with 2.5 acres he earns a net annual income of ₹4.8 lakh,” says Dr.Sreenath Dikshit, Zonal Project Director, ICAR, Bangalore.

The synergistic integration and optimal utilisation of resources by Mr. Umesh, hailing from Kalya village of Magadi taluk of Ramangara District, Karnataka, is one such role model for the impoverished farmers of the State. “In fact, persons like Umesh could be the right model for farmers of Karnataka facing the scenario of low yield and income coupled with unpredictable rainfall," says Dr.Dikshit.

Initially Mr. Umesh's traditional farming included only arecanut in one acre along with a small dairy unit. The technical support from Krishi Vigyan Kendra, Ramangara helped him to shore up and integrate his farming through introduction of improved crop varieties, stall feeding of sheep, upgrading a dairy unit, growing azolla as cattle feed, vermicompost manufacturing, poultry, developing a fodder bank and drudgery reduction through farm mechanisation at his level. "The most crucial intervention is the introduction of rose and marigold along with vegetables like pole beans, cucumber, tomato and brinjal as intercrops. He has a stall feeding unit of sheep (15+2) that has drawn the attention of neighbouring villagers," says Dr. K.H. Nagaraj, Program Coordinator of the Ramanagara dist KVK.

Keeping the requirement of the market demand the farmer had planned these two varieties in such a way it starts flowering in September-October when the demand for fresh flowers would be high in the state. Earlier, the only source of income for him was from arecanut. He was advised to establish a fodder bank comprising Co-3, Co-4 grass varieties and azolla to feed his small dairy unit (one HF & one Jersey cow) and sheep unit. He has also planted silver oak trees all along the borders of his farm. The trees act as a wind barrier to the arecanut garden. KVK guided him in preparing his own feed mixture for the sheep as well as dairy animals. The combination of azolla and the feed mixture has reduced his feed cost by ₹150 per day.

The entire garden is irrigated through a micro sprinkler. To reduce drudgery, the farmer has opted for mechanisation by deploying a chaff cutter, rotowater and a cycle weeder that has helped him to reduce the cost of labour. He recycles farm waste through a vermicompost unit. The average production from his farming per year is 0.8 tonnes of green areca nuts, about one tonne of vermicompost, 15 tonnes of cow dung, 40 tonnes of fodder grass and vegetables worth ₹2,40,000 .

Control of bark eating caterpillars in fruit trees

Two species of bark eating caterpillars Indarbelatetraonis and Indarbelaquadrinotata are very destructive to a wide range of fruit trees. The caterpillars bore into the bark, making tunnels into the main trunk and shelter under silken galleries. It predisposes the stem to bark decay. The caterpillars spin a silken web consisting of their excreta and chewed wood particles which are seen hanging loosely on the bark of the affected tree.

In other words, thick, ribbon like, silken webs are seen running on the bark of the main stem.

Generally a single caterpillar is found inside a tunnel but heavily infested trees may contain 15-30 larvae. Old trees are more susceptible to the attack than young ones. Particularly, neglected orchards are more prone to this infestation. The pale brown moths lay eggs in cuts and crevices in the bark and after ten days of hatching the dirty brown caterpillars with reddish brown head remain hidden in the galleries and are nocturnal. They develop in up to 10 11 months and pupate for about 25 days within the tunnel. Moths emerge in summer and are short lived. There is only one generation in a year.

Management

- Avoid growing susceptible varieties. Collect and burn, loose, damaged barks and affected branches.
- Kill the caterpillars mechanically by inserting an iron spike into the holes made by the caterpillars
- Clean the affected portion of the trunk and insert into the hole a swab of cotton wool soaked in petrol or kerosene.
- During September and October inject 5 ml dichlorvos in the bore hole with the help of a syringe or wash bottle and plug the hole with mud. Carbofuran 3G granules may be placed at 5 gm per bore hole and plugged with mud.
- Padding with monocrotophos at 10ml / tree could help. Swab the trunk with carbaryl 50WP at 20gm/lit. Use light trap at 1no/ ha to attract adult moths.

Innovative methods in vegetable growing bring good yields

It is not what crops a farmer grows; it is the net profit he is able to get that is really important. Be it cash crops or food crops, the bottom line is profit and this is what matters for any small farmer. “Agriculture is a very big sector in this country. Soil, climate, labour practically everything differs between states and regions. Even for the same crop variety yields vary for different soils. And the job for the researchers becomes all the more challenging to help and guide a farmer get a better profit under these situations,” Dr. I.S. Tomar, Programme Coordinator, Krishi Vigyan Kendra, Jhabua.

Take the case of Mr. Balaram Patidhar from Sarangi village in Petlawad district, Madhya Pradesh. Some years back the farmer was growing the usual maize and wheat which were common in the region. There was nothing exciting in terms of revenue but once he switched to growing crops like tomatoes and chillies the income from his land increased. The reason for this was his ability to get a very good yield of nearly a tonne of tomatoes and chilli compared to others growing the same crops (maize and wheat) from a hectare.

"The average yield in the state from both these crops in the recent past has not been very appreciative. Prolonged dry spells and sudden downpours during monsoon have affected yield of many crops," explains Dr.Tomar. Apart from the yield, the farmer has been able to successfully market his produce in New Delhi, Ahmadabad, Mumbai, Indore markets and has been able to earn ₹10-15 lakh a year.

This is something big in vegetable cultivation. Because, being a short term crop (3-4 months), and having a lower shelf life, fast disposal is important for both growers and buyers. In fact, with the money he earned from his crops, Mr. Patidhar has bought additional lands (from an acre he has increased the land holding to about 4.5 acres) to try his success formula in an expanded area."I use all the scientific technologies such as seed treatment, integrated pest management, nutrient management and water conservation methods in my field. I have set up drip irrigation for all the crops and presently grow capsicum and papaya in addition to tomatoes and chillies," says the farmer.

Mr. Patidhar is also credited with designing a tractor operated bund maker and fertilizer drill for making ridges in fields in which papaya, tomato, and chilli are cultivated. The device consists of two (six feet long and 1.4 feet width) iron plates. One end of the plates are joined together in a "V" shape and fitted with a frame. A fertilizer drum with a pulley system is attached to this. Adjustments are provided to suit the size and fertilizer application amount for farmers. The farmer was conferred the Best Innovator award by the Central Institute of Agricultural Engineering (CIAE), Bhopal, for his innovation and also the State Progressive Farmer award.

Managing tobacco disease in cotton

The low yield of Cotton in our country is due to crop diseases, insects and nutrients deficiency. Important diseases are root rot, wilt, leaf spot, grey mildew, rust, anthracnose, bacterial leaf blight, leaf curl and tobacco streak virus. These diseases occur almost regularly at different stages of the growth and cause heavy damage. Tobacco Streak virus is the most destructive. Initially brickish red necrotic spots appear on the young leaves, spreading lesions on leaves, sometimes forming numerous diffuse ring spots. Slowly the area of discoloration increases and the leaf may turn reddish and dry up completely. Infected leaves show alternating light green and red patches.

Bud and flower production get reduced. Infected plants mature late and are small in size. Early infection causes death of the plant before flower or bud set. Diseased plants exhibit leaf curling and mosaic with stunted growth.

Infection causes reduction in plant yield and quality of bolls. This disease is transmitted by thrips.

Management strategies

Seed dressing with appropriate insecticide before sowing should be done. Follow crop rotation and field sanitation. Grow suitable region-wise resistant varieties. Remove affected leaves/plants from crop fields to avoid secondary spread. Destroy host weeds such as parthenium, tridax and other weeds around the cotton crop, which will help limit the occurrence of this disease. Inter crop with short duration non-host crops like sorghum, redgram, greengram, blackgram soyabean, pearl millet and maize. Spray insecticides such as methyl demeton at 2.0 ml or thiomethoxam at 0.2 gm or monocrotophos at 1.6 ml or acetamiprid at 0.2 gm or acephate 1.5 gm/l at the initial stage of disease. Foliar sprays of Fipronil at 2ml/l also control the vector spread. Barrier crop such as sorghum, maize etc., can be grown in 3 to 4 rows.

Encapsulating bio inputs for crops has several advantages

The Indian Institute of Spices Research (IISR), Kozhikode, has made a significant breakthrough in bio-fertilizer production by successfully encapsulating plant growth nutrients. "The encapsulation process is simple, does not require sophisticated equipment and comes at a low investment" says Dr. M. Anandaraj, Director, who also happens to be the inventor of this benign and simple technology.

In present-day agriculture, bio-fertilizers are of great economic importance because they partially replace chemical inputs and play a vital role in enhancing soil and environmental quality. Different formulations of bio-fertilizers like liquid, peat, granules, and freeze-dried powders are available in plenty in the market and their success depends on the crop, environment, ease-of-use, cost and availability. But a perfect bio-fertilizer formulation does not exist till date and each type has its own limitations. Nevertheless, a promising advancement has been the development of this capsule technique that allows encapsulating the required nutrition in a capsule and delivering them to the crops, according to Dr. Anandaraj.

While such methods have been fairly successful inside laboratories, practical attempts to implement the same in the fields have been largely unsuccessful. Presently no such commercial products are available in the market."Termed as bio-capsule, the other advantages of this technology include reduced cost and easy handling and transport, no harmful by-products, less requirement of inorganic and inert material, storage at normal temperature and more importantly, enhanced shelf life (18-24 months)" says Dr. Anandaraj.

Besides, the number of capsules required will be markedly less compared to other bio formulations. For instance, the normal requirement of any other bio-fertilizer for ginger crop is 20 kg for a hectare. It can be replaced with just 200 capsules weighing 200gm (each capsule weight being 1.0gm), a marked decrease of 100 times by volume. The main components in the capsule are the essential nutrients packed in a hard gelatin capsule (like the ones we get in medical stores). The whole process of encapsulation can be done at room temperature.

Apparently, this means one does not need any sophisticated equipment or special conditions. This is significant because the investment cost to manufacture these capsules is low. "The encapsulation technique appears to be significant because it can be used to deliver all kinds of agriculturally important microorganisms like nitrogen fixers, nutrient solubilizers/ rhizobacteria, trichoderma, etc to any crop, whatsoever.

"The technology has been successfully tested in farmers' fields and patent for this delivery process has been filed for," he explains. On how it should be used he says: At the time of application, the required capsules should be mixed in water and the seed/ planting materials are soaked in the solution for 30 minutes before sowing. The remaining liquid can then be drenched in the field or pots. "We field tested it for two years in ginger and its performance was way ahead of talc-based formulation and at par or sometimes even better than chemicals like Metalaxyl-mancozeb which is commonly used in reducing soft rot disease and enhancing growth" he adds.

Controlling pod borer in pigeonpea

Pigeonpea is one of the most important grain legume crops of tropical and subtropical environments. More than 200 species of insects live and feed on pigeonpea, though relatively few cause heavy annual yield losses. Among the important insect pests, podborer has become serious production constraint in pigeonpea.

The caterpillars destroy buds, flowers and pods. Larva feeds on pods by making holes, seen feeding with the head alone inside and rest of the body hanging out. If flowers and pods not available, larvae will feed on foliage. Medium-sized light brown moths have a dark speck and dark area on the forewings. Hind wings are light in colour with a dark patch at the outer end.

Management

- Summer ploughing should be done to expose the hidden stages of the pest to natural predation.
- Instal H. armigera pheromone traps at 3-4traps /acre.
- Fix bird perches with branched tree twigs to attract predatory birds for insect predation. Sow redgram mixed with pundi or local sorghum for attracting birds.
- Hand collect grownup larvae of the pod borer by manually shaking the plants and dislodging them.
- First spray can be taken up with thiodicarb 75 WP 0.6 g or profenophas 50 EC 2 ml or methomyl 40 SP 0.6 g per litre of water to control eggs.
- Second spray to be done with spraying of 5% neem seed kernel extract.
- Third spray to be done with viral pesticide, HaNPV at 100 LE /acre along with 0.5% jaggery and 0.1% boric acid.

If the infestation is severe, new insecticide molecules like 0.3 ml indoxacarb 14.5 SC or 0.1 ml spinosad 45 SC or 0.75ml navaluron 10 EC or 2.5ml chlorpyriphos 20 EC can be applied. For one hectare area around 500 litres of spray solution is recommended.

'Fish on wheels' change lifestyle of fisherme

Marketing of fish in good condition is a challenge particularly in areas along reservoirs, dams and rivers. Unlike near the sea shore in many places crushed ice or slabs are not readily available for preserving the fish. The National Fisheries Development Board (NFDB), Hyderabad, Government of India came up with the simple intervention of assisting fish farmers, fishermen and vendors with motorcycles and ice boxes.

"We found the impact impressive. Fish reaches consumers fast and in good condition. It is also available on demand as vendors share their mobile numbers with customers. The vendor is able to sell at least 50 kg in a day much more than what they could before (between 10 to 12 kg a day.) Many a time, fish used to become stale because they could not sell due to physical limitation of time and distance. Now, they are able to go to distant places to get better price and market which was not possible before," says Dr. M.V.Rao, IAS, Chief Executive, National Fisheries Development Board (NFDB), Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Rajendranagar, Hyderabad. Mr. N. Narasimhulu and his fellow fishermen catch fish in the Krishna River at Beechpalli landing point in Mahabubnagar district, Telangana.

When the river water dries up, they have to go quite far upstream to catch fish. Thanks to the mopeds funded by the NFDB, he and seventeen fellow fishermen are able to save time. He is also able to earn ₹800 to ₹1000 as an extra income a day. The story is similar in Bidar, Solapur, Cuttack, Karimnagar and many places in Jharkhand and Chattisgarh.

A similar case study shows that Mr. Razzack Lalshab in Hotgi village near Solapur in Maharashtra and others of the Haji Fardeen Baba Fishermen Cooperative Society are dependent on fishing and its marketing for their livelihood. Belonging to a nomadic tribe they used to sell at nearby places or to middlemen who decided on the price and paid them a low price. But after getting assistance from NFDB for procuring mopeds and ice boxes they started selling more quantities for a better price thus bringing about a significant change in their income levels. Similarly in Bidar, Karnataka, fishermen of the Janwada Fishermen Cooperative Society and members of other similar societies like Basava Kalyan had been having a difficult time marketing their fish.

They catch fish from the tanks leased to them by the state fisheries department apart from fishing in rivers and streams. The Board helped them financially thus helping them to earn some extra income. NFDB started implementing this mission of reaching at least one lakh fish vendors across the country. "We expect this step from us will result in higher income for one lakh families and minimum of one million tonnes of extra quantity of fish marketed in a year in the country," says Dr. Rao.

The board organised a meeting of these champions. Nearly 500 fish farmers and vendors from across the states attended and shared their experiences. Both farmers and vendors expressed the opinion that they were able to get a profit margin of 20 to 40 rupees per kg of fish caught and sold. Several fish growers and vendors felt poverty and related stress on family are past issues thanks to improved marketing resulting in higher incomes which they have not seen in their lives. "Fishermen from across the country and those interested to take up fish rearing (both table and ornamental varieties) as whole time profession are welcome to contact us," says Mr. Rao.

Weekly bazaar for marketing

Integrated Livestock Producers Association (ILPA), a registered society of KVK, Kancheepuram has initiated a revolutionary marketing concept of "Rainbow weekly bazaar" for marketing agricultural and livestock produce. The farmers of Kancheepuram District after the skill based training ventured into agriculture and allied enterprises but found it difficult to market their produce individually.

Hence they joined together to form a registered Association so as to facilitate themselves and fellow farmers in production and to market their produce under one umbrella and is the first of its kind in the state wherein a farmers' association has joined hands with KVK to market the farmers' produce. Krishi Vigyan Kendra, Kattupakkam, Kancheepuram District is functioning under the administrative control of Tamil Nadu Veterinary and Animal Sciences University and has provided adequate space at ATIC campus, Kattangulathur for the farmers to put up stalls and display their produce and products for sale.

In the initial phase, 30 farmers had contributed ₹5,000 each to set up temporary stalls at the Bazaar to market their produce. A project proposal has been submitted to NABARD for erecting stalls with adequate infrastructure."This set up will boost the morale of the farmers, entrepreneurs and rural youth to involve in agricultural and livestock production aggressively. The main objective of the bazaar is to facilitate marketing of agricultural, livestock produce and value added products of farmers directly to the consumers/fellow farmers without middlemen's involvement." says Dr. P. Kumaravel, Professor and Head Krishi Vigyan Kendra, Kattupakkam. The market at the KVK ATIC campus Kattangulathur will function every Saturday from 6.00 a.m to 6.00 p.m. A wide range of agricultural and livestock products will be available for sale.

Hybrid seeds maker Monsanto bets big on agriculture extension

The $15 billion agriculture technology MNC Monsanto already has over 13.5 lakh farmers registered under its Monsanto Farm AgVisory Service (MFAS) platform across 17 states. "We have data on each of them name, mobile number, the village and tehsil to which they belong, age, educational qualification, annual income and ownership of farm equipments (tractors, harrows, cultivators, seed drills, harvesters, etc). Besides, we know their landholding size, soil type, irrigation status, individual crop acreages, and sowing dates," said Shilpa DivekarNirula, CEO-India Region, Monsanto Holdings Pvt Ltd.

Nirula, stated that MFAS was a free mobile-based crop advisory service. "We are not thinking in terms of monetising it now. Our aim is to evolve this service to customise it at the individual farmer level to the extent possible," she added.

MFAS basically offers two kinds of services. The first is voice-based crop advisories in local language. These are pre-recorded outbound alerts that go out to each farmer through an entire cropping season.

In rabi corn, for instance, farmers receive one every 4-5 days right from the time of sowing around early November to harvesting in mid-February. Such advisories be it on how much and when to apply which fertiliser or irrigation, disease and weed management tips are timed to the cropping schedule in each area, while also incorporating local weather forecasts and mandi price information.

The second is inbound calls made by farmers themselves seeking advice on their crop that may have, say, developed yellowing of leaves after 40 days of growth. These toll-free calls are attended by MFAS agents, who are mainly agriculture graduates having undergone rigorous training and equipped to communicate in the local language. The agents, then, recommend the necessary insecticide or herbicide treatment based on the farmer's on-field description. In 2013-14, the MFAS platform issued about 1.6 crore automated outbound advisories and received 4 lakh inbound calls. That included 2 lakh from unique farmers meaning one farmer calling twice on an average.

These numbers aren't small even compared to the 44.43 lakh calls received by the Kisan Call Centres (KCC) under the Union Agriculture Ministry in 2013-14. The latter have, moreover, been in existence since 2004 while covering a much wider range of crops and even allied activities from poultry and sericulture to bee-keeping. "As a farmer, I want information relevant to my crop. For makka (corn), I get it from this company (Monsanto) that makes money from selling its seed. Such specialised information is not available from the KCC and nor we do have any agriculture department scientist visiting us," said Vishal Chandra Mehta, a 25-acre farmer from Routa village in Kumarkhand tehsil of Bihar's Madhepura district.

According to Sushil Kumar Yadav from Rajoula in Amarwara tehsil of Chhindwara in Madhya Pradesh, the Gram Sevak (agricultural extension officer) of his area has at least 15 villages under him. "How many villages, forget farmers, can this person cover in a season?" he pointed out. It is this gap, arising from the government practically exiting farm extension activity, which MNCs like Monsanto are trying to fill.

Garlic variety suitable for hilly regions

The National Horticultural Research and Development Foundation has developed the first new garlic variety Agrifound Parvati-2 recommended for cultivation in Jammu & Kashmir and Himachal Pradesh. The crop matures in 220-240 days after planting and keeping quality is moderate. Bulbs are attractive, compact, round and white. It is tolerant to stemphylium blight, purple blotch and environmental stress conditions. Average yield is about 20-21 t/h. Right season for planting in hills is August-September. About 700-800 kg cloves are required to plant one hectare and care should be taken to select bigger cloves preferably from the outer side of the bulbs. Long slender cloves present in the centre should not be used for planting since cloves do not give properly developed bulbs.

The seed rate depends on bulb size, clove size, clove weight and number of cloves per bulb. It has been recommended to apply 25 t/ha FYM at the time of field preparation and mix well in the soil. For a normal soil 100 kg. N, 50 kg P, 50 kg K and 50 kg S per hectare through chemical fertilizers has been recommended. Complete dose of phosphorus, potash, sulphur and half of nitrogen should be applied before planting. Another half dose of nitrogen should be applied after a month of planting. 15 x 10 cm spacing has been recommended. Garlic needs irrigation at an interval of 8-10 days during vegetative growth and 10-15 days during maturation.The crop is considered ready for harvesting when the tops turn yellowish or brownish and shows signs of drying up. It can be stored in bundles along with foliage or in hessian bag or leno bags after foliage cut in ventilated godowns.

Maintaining a nursery along with farming fetches better income

Growing only one or two crops seldom proves to be remunerative for farmers. Along with the crops an additional activity needs to be taken up to increase income. For some it could be rearing animals; for others it could be maintaining a nursery for supplying ornamental plants and fruit seedlings. In fact maintaining a nursery is one of the main requisites for agriculture because a good nursery is very essential for supplying the right type of seedlings to farmers who plant it on large areas. And another fact is that compared to animals or birds, nurseries are quite easy to maintain, don't need extra hands or special care or huge investment, though in some cases some farmers invest in setting up a greenhouse.

Mr. S. Thinakarasamy from Kooliyankadu village of Pudukkottai district, owns three acres of wetland and three acres of dry land. With a strong desire for learning the latest techniques in nursery production, he attended several training programmes on propagation of ornamental plants, like grafting casuarinas, eucalyptus, grafting of jack and cashew and other fruit crops through the Krishi Vigyan Kendra, Vamban, Pudukottai and started a nursery on a small scale. He was advised to construct a polyhouse in his farm and started propagation of ornamental plants like durantha, crotons, jasmine and medicinal plants like Coleus and supplied to Pudukottai town. Meanwhile, he was approached by farmers of nearby villages for fruit and forest plants.

"I learnt grafting and layering skills from KVK and started commercial propagation and sale of plants particularly chikoo, guava, cashew, jack, casuarina and eucalyptus."I also started producing and distributing the high yielding cashew varieties grafts (VRI 2 & 3) to farmers to fulfil the Government sponsored waste land development scheme at Pudukkottai district," says Mr. Thinakarasamy.

Mr. Thinakarasamy is one of the trusted and famous nursery men in Pudukkottai district for sourcing seedlings. He also carries out planting in the farmers' field on contract basis. "The socio-economic status of the farmer improved after he entered into the nursery venture. Since he started the nursery in 2007 he has sold more than ten lakh seedlings and earned a net profit of ₹7,14,750 every year and bought a new two wheeler and subsequently a three-wheel vehicle for nursery and transporting seedlings. Currently, he is engaged in establishing a separate nursery for medicinal plants," says Dr.V.Krishnamoorthy, Assistant Professor, Horticulture.

The advantage of maintaining a nursery as business according to Dr. R.P. Gnanamalar, Programme Coordinator, is that it is remunerative and can be conducted in a small area even behind the farmer's house with minimum investment, making it highly suitable for adoption by small/marginal farmers. More than 250 seedlings in plastic bags can be accommodated in a sq. metre area. The initial investment for procuring the seedlings on wholesale might work out to ₹10,000 to ₹15,000 for fruit and flower varieties from government authorized nurseries.And farmers can sell it to individual persons for ₹10 more a seedling than the price of purchase.Several nurseries can be set up in a village within a few kilometre radius supplying quality seedlings to other villages. With availability of good quality planting material from local nurseries, farmers can effectively plan their planting requirement in advance or delay planting time without suffering any yield loss.