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# **LAND BANK JOURNAL**



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# Contents

**REVISED PRADHAN MANTRI FASAL  
BIMA YOJANA (PMFBY)** 03

**INCOME TAX CONCERNING COOPERATIVE  
AGRICULTURE AND RURAL DEVELOPMENT BANKS** 05  
\*Dr. A.K. Zakir Hussain

**WATER-USE EFFICIENCY THROUGH  
A MULTI-STAKEHOLDER PLATFORM** 09

**e-Agriculture initiatives in Andhra Pradesh  
– A move towards inclusive growth** 10  
\*G. Prasad Babu, G. Narayanaswami and B. Vijayabhinandana

**Report of the Working Group on  
Enhancing the Share of ARDBs in Investment Credit** 13

**सहकारिता के रास्ते ही सफल होगा  
आपरेेशन ग्रीन** 15

**पशुपालको के लिए पशुपालन से सम्बंधित  
कुछ महत्वपूर्ण जानकारियाँ** 17  
डा.राम निवास, और चारु शर्मा

**सिटी कम्पोस्टिंग: एक सतत अपशिष्ट प्रबंधन  
तकनीक** 22  
प्रतिभा कुमारी, बल्लू शर्मा, एवं रिना कुमारी

**26** News  
& Notes

**37** Agricultural  
News



## Interim budget 2019

Finance Minister Shri Piyush Goyal presented interim budget 2019 on 1<sup>st</sup> February 2019. In sectoral allocations, agriculture has seen an increase of 73% over revised estimate for 2018-19. Pradhan Mantri Kisan Samman Nidhi Scheme promising guaranteed income of ₹6000 per year to small and marginal farmers is the main highlight of the budget. This will involve an annual outlay of ₹75,000 crores accounting for about 0.36% of GDP. In addition to continuation of crop loan interest subvention scheme providing 3% rebate for timely repayment, interest subvention of 2% has been introduced for farmers affected by natural calamities. Income support scheme is expected to reduce farmers' distress and boost rural consumption and demand to a certain extent. This initiative also offers scope for enhancing the support in coming years to create better impact. For the Micro, Medium and Small Enterprises (MSMEs) the Govt announced 2% interest rebate for loans upto ₹1 crore for units registered under GST. Requirement of sourcing by govt enterprises from MSMEs has also been increased upto 25% of which at least 3% should be from women led MSMEs. Interest rebate is expected to encourage more MSMEs to register under GST, expanding tax base and speeding up formalisation of the economy. Govt E-Procurement Market place (GEM) will also help MSMEs to access larger market. Pradhan Mantri Shram-Yogi Maan dhan Yojana is an initiative for providing social security for workers in the unorganized sector. The scheme envisages provision of assured monthly pension of ₹3000 to workers in the unorganized sector with a monthly income upto ₹15000. The scheme is contributory with matching contribution by the Govt. The scheme is expected to promote savings among workers in unorganized sector apart from providing old age social security. In the real estate sector benefits under section 80-IBA of the IT Act has been extended by another year for projects approved till March 2020 facilitating real estate developers to deduct 100% of profits derived from affordable housing projects. This move will boost construction activity particularly in affordable housing. In personal taxes, while there are no changes proposed in the income tax rates and slabs, the Govt has made certain key proposals to provide relief to tax payers especially those in the

middle and salary earning classes. Raising the ceiling of tax free income from ₹2.5 lakhs to ₹5 lakhs for individuals, increasing the standard deduction from ₹40000 to ₹50000 for salaried persons, exempting second self occupied house from paying tax on notional rent and increasing the limit for deduction of tax on interest from bank or post office deposits from ₹10000 to ₹40000 are the main benefits extended to tax payers.

The budget envisages a total expenditure of ₹27,84,200 crores marking a significant increase over ₹24.42 lakh crores during 2018-19. As against the total expenditure of ₹27.84 lakh crores, the estimate of total revenue without considering borrowings is only ₹20.80 lakh crores. This implies that Govt needs to borrow or create other liabilities to the extent of ₹7.04 lakh crores to balance expenditure and receipts. This amount represents fiscal deficit which accounts for 3.4% of GDP. Ideally, fiscal deficit should be kept below 3% of GDP as per the guidelines in Financial Responsibility and Budget Management (FRBM) Act. Out of the total expenditure of ₹27.84 lakh crores, ₹3.36 lakh crores is allocated for capital expenditure constituting 12% of the budget. Further, ₹2 lakh crores is allocated to State Govts as grant-in-aid for capital asset creation raising the gross capital expenditure to 20% of the entire budget. Expected tax revenue is ₹17 lakh crores accounting for 61% of total expenditure. Govt also expects non-tax revenue of ₹2.7 lakh crores which makes total revenue receipts to ₹19.77 lakh crores constituting 71% of total expenditure. Similarly, total revenue expenditure which in other words is expenditure required for day-to-day expenses of running govt machinery is ₹24.47 lakh crores as against total revenue receipts of ₹19.77 lakh crores.

The interim budget while providing fiscal stimulus of about ₹1 Trillion (₹1 lakh crore) through direct cash benefit to small and marginal farmers and tax benefits to middle class, however, puts further pressure on fiscal consolidation on the background of on-going slippage in budgeted fiscal deficits in the last 2 years.

**K K. Ravindran**  
Managing Editor





# REVISED PRADHAN MANTRI FASAL BIMA YOJANA (PMFBY)

## Background

The PMFBY was launched from Kharif 2016 season in place of National Agricultural Insurance Scheme (NAIS) and Modified National Agricultural Insurance Scheme (MNAIS). Government has modified the operational guidelines for Pradhan Mantri Fasal Bima Yojna (PMFBY). The new operational guidelines came in to effect from the current rabi season, which starts from 1st of October 2018. As per revised operational guidelines, performance evaluation of insurance companies has been made stringent.

## Salient Features of PMFBY

- The PMFBY is compulsory for loanee farmers availing crop loans for notified crops in notified areas and voluntary for non-loanee farmers.
- Provide comprehensive insurance coverage against crop loss on account of non-preventable natural risks, thus helping in stabilising the income of the farmers and encourage them for adoption of innovative practices.
- Scale of Finance declared by the District Level Technical Committee is taken as Sum Insured of the crops under the Scheme.
- Risk coverage of Crop cycle – pre-sowing to post-harvest losses.
- Area approach for settlement of claims for widespread damage. Notified Insurance unit has been reduced to Village/Village Panchayat for major crops.
- Uniform maximum premium of only 2%, 1.5% and 5% to be paid by farmers for all Kharif crops, Rabi Crops and Commercial/ horticultural crops respectively.
- The difference between premium and the rate of Insurance charges payable by farmers shall be provided as subsidy and shared equally by the Centre and State.
- Uniform seasonality discipline & Sum Insured for both loanee & non-loanee farmers.
- No capping on premium or reduction of sum insured to facilitate farmers to get claim against full sum insured without any reduction.
- Inundation has been incorporated as a localized calamity in addition to hailstorm and landslide for individual farm level assessment.
- Provision of individual farm level assessment for Post-harvest losses against the cyclonic & unseasonal rains for the crops kept in the field for drying upto a period of 14 days, throughout the country.
- Provision of claims upto 25% of sum insured for

prevented sowing.

- “On-Account payment” upto 25% of sum insured for mid-season adversity, if the crop damage is reported as more than 50% in the insurance unit. Remaining claims settled based on Crop Cutting Experiments (CCEs) data.
- For more effective implementation, a cluster approach will be adopted under which a group of districts with variable risk profile is allotted to an insurance company through bidding for a longer duration upto 3 years.
- Use of Remote Sensing Technology (RST), Smartphones & Drones for quick estimation of crop losses to ensure early settlement of claims.
- Focused attention on increasing awareness about the schemes among all stakeholders and appropriate provisioning of resources for the same.
- The claim amount will be credited electronically to the individual farmer’s Bank Account.
- Adequate publicity in all the villages of the notified districts/ areas.
- Premium rates under Weather Based Crop Insurance Scheme (WBCIS) have also been reduced and brought at par with new scheme. Further, capping on Actuarial premium and reduction in sum insured has been removed in this scheme also.

## New Provisions in the Operational Guidelines of PMFBY

The PMFBY has been revised and the new operational guidelines have been made applicable from the 1st October 2018. The major new provisions of the revised guidelines of PMFBY are as under

- Provision of Penalties/ Incentives for States, Insurance Companies and Banks i.e. 12% interest rate to be paid by the Insurance Company to farmers for delay in settlement claims beyond two months of prescribed cut-off date. Similarly, State Govt. have to pay 12% interest rate for delay in release of State share of subsidy beyond three months of prescribed cut-off date/submission of requisition by Insurance Companies.
- Detailed Standard Operating Procedure for Performance evaluation of Insurance Companies and their de-empanelment
- Inclusion of perennial horticultural crops (on pilot basis) under the ambit of PMFBY. (OGs of PMFBY envisages coverage of food and Oilseed crops and Annual Commercial & Horticultural crops)





- Inclusion of hailstorms in post-harvest losses, besides unseasonal and cyclonic rainfalls
- Inclusion of cloud burst and natural fire in localized calamities in addition to hailstorm, landslide, and inundation.
- Add on coverage for crop loss due to damage of wild animals on pilot basis with the additional financial liabilities of this provision to be borne by concerned state Govt.
- Mandatory capturing of Adhaar number – This would help in de-duplication
- Target for Coverage to Insurance Companies especially of Non-loanee farmers (10% incremental).
- Definition of Major Crops, Unseasonal rainfall and Inundation incorporated for clarity and proper coverage.
- Rationalization of premium release process: Release of Upfront premium subsidy based on 50% of 80% of total share of subsidy of corresponding season of previous year as GOI/State subsidy at the beginning of the season- Companies need not provide any projections for the advance subsidy. Second Instalment – balance premium based on approved business statistics on Portal for settlement of claims and final instalment after reconciliation of entire coverage data on portal based on final business statistics on portal.
- States allowed to take decision for inclusion of crops having high premium for calculation of L1 calculation and for notification.
- Rationalization of methodology for calculation of threshold yield - Moving average of best 5 out of 7 years for calculation of claim amount.
- Settlement of claims (Prevented sowing/ on account for Mid-season adversity/Localised Claims) without waiting for Second instalment of final subsidy.
- Yield based claims to be settled on the basis of subsidy provided on provisional business data.
- Separate Budget Allocation for Administrative expenses (at least 2% of budget of scheme).
- Broad Activity-wise seasonality discipline containing defined timelines for all major activities to streamline the process of coverage, submission of yield data and early settlement of claims.
- District-wise crop-wise crop calendar (for major crops) to decide cut-off date for enrolment.
- Increased time for change of crop name for insurance - up to 2 days prior to cut-off date for enrolment instead of earlier provision of 1 month before cut-off date.
- More time to insured farmer to intimate individual claims – 72 hours (instead of 48 hours) through any stakeholders and directly on portal.
- Timeline for declaration of prevented sowing.
- Detailed Standard Operating Procedure for dispute redressal regarding yield data/crop loss.
- Detailed Standard Operating Procedure for claims estimation w.r.t. Add on products i.e. Mid-season adversity, prevented/failed sowing, post-harvest loss and localized claims.
- Detailed Standard Operating Procedure for Area Correction factor.
- Detailed Standard Operating Procedure for Multi picking crops.
- Detailed plan for publicity and awareness- earmarked expenditure-0.5% of Gross premium per company per season and Use of RAST in clustering/Risk classification.
- Penalties/ Incentives for States, Insurance Companies and Banks.
- Performance evaluation of Insurance Companies and their de-empanelment.

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### Key Highlights from Maharashtra Hydro-Economic Analysis (2014)

Agriculture sector in the State uses about 80% of fresh water available and contributes about 11% of the total GDP.

The industrial sector contributes about 25% of the GDP and the allied services sector contributes the remaining 67% of the GDPP.

The continuation of growth in the economy would

have to be supported by higher water availability in all three sectors.

As the overall water resources available to the State cannot be increased, it is important that the State devises strategies to grow agriculture sector in the most water efficient manner possible.





# INCOME TAX CONCERNING COOPERATIVE AGRICULTURE AND RURAL DEVELOPMENT BANKS

\*Dr. A.K. Zakir Hussain

The Cooperative Agriculture and Rural Development Banks (CARDDBs) were established as the long-term federal structure comprising of State Cooperative Agriculture and Rural Development Banks (SCARDDBs) at the State level and Primary Cooperative Agriculture and Rural Development Banks (PCARDDBs) at the taluk level to cater to the long term credit needs of the farmers. Since CARDDBs are meant for the country's agricultural development, they are given certain privilege in the Income Tax Act in the form of deductions and exemptions. To strengthen the resource base of SCARDDBs, RBI has granted permission for accepting rural deposits from the borrowers/non-borrowers of SCARDDBs in rural areas. Some of the PCARDDBs in the country started mobilizing deposits from the members on behalf of SCARDDBs and some undertake chitty based deposit schemes. These changes made the tax department to interpret that the PCARDDBs are banks and bound to follow certain tax obligations like TDS on interest payment, etc. Further, the tax department treats SCARDDBs as cooperative banks and insists them to pay income tax. Therefore, this article examines various tax provisions applicable to SCARDDBs and PCARDDBs and identifies the taxable income and non-taxable income of these entities including the recent cash transaction restrictions under Income Tax Act.

## Tax Benefit to PCARDDBs

The credit cooperatives including SCARDDBs and PCARDDBs were enjoying 100% tax deduction on the net profit generated out of banking business for many decades under Sec.80P(2)(a)(i). According to this section, a cooperative society engaged in carrying on the business of banking or providing credit facilities to its members can deduct the whole profit generated out of such activity from its gross total income. Section 80P was amended by the Finance Act, 2006, introducing sub-section (4), which provides that the provisions of Section 80P will not apply to any cooperative bank other than a PACS and a PCARDDB. Explanation to Section 80P (4) defines the PCARDDB as a society having its area of operation confined to a taluk and the principal object of which is to provide for long-term credit for agriculture and rural development activities. Therefore, the tax liability does not arise for PCARDDBs as their income is derived from

extending credit facility to members.

## Tax Benefit to SCARDDBs

The explanation to Section 80P(4) of the Act which was brought in the Finance Bill 2006, specifies that for the purpose of this sub section, a cooperative bank shall having the meaning assigned to it in Part V of the Banking Regulation Act, 1949. In part V, Section 5(cci) of the Banking Regulation Act, "Cooperative Bank" means a State Cooperative bank, a Central Cooperative Bank and a primary cooperative bank.

Section 80P(4) specifically provide deduction to PACS and PCARDDBs. Since there is no mention on deletion of deduction to other cooperatives doing banking or credit business, employees' cooperatives and urban credit cooperatives in many court verdicts got eligible for tax deductions in their favour. There are many instances like CIT Vs Jafari Momin Vikas Coop. Credit Society Ltd. (Gujarat High Court, Appeal No. 442 of 2013 dt. 15.1.2014), Quepem Urban Coop. Credit Society vs. Assistant CIT (Bombay High Court, Tax Appeals No.22-24 of 2015 dt. 17.4.2015), etc., wherein the verdict was in favour of cooperatives as they are not falling under the meaning of cooperative bank referred u/s 80P(4) Earlier, the CBDT vide circular No.133 of 2007 dt.9.5.2007 clarified that Delhi Coop Urban Thrift & Credit Society Ltd. is not a cooperative bank and therefore Section 80P(4) shall not apply. From the above clarifications, it can be gathered that Section 80P(4) will not apply to an assessee which is not a cooperative bank. Therefore, SCARDDBs which are not falling under the meaning of cooperative banks as specified in Section 80P(4), may also claim 100% deduction.

## Deductions Available to CARDDBs

1. Entrance fees is a fee received from members for extending them the financial assistance and therefore such fees is deductible u/s 80P as it is part of banking/credit activity.
2. Interest from staff or interest received from employees on vehicle loans, house building advances and staff warm clothing loans are income incidental to banking business and, therefore, eligible to deduction u/s 80P (2) (a) (i)–Vide Asstt. CIT v.-H.P. State Cooperative Agriculture & Rural Development Bank Ltd.: (2006) 104 TTJ (Chd-Trib) 864.

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3. Under Section 80P(2)(a)(iv), the income of a CARDBs derived from the purchase of agricultural implements, seeds, livestock or other articles intended for agriculture for the purpose of supplying them to their members, is fully deductible. Similarly, any income from sale of cattle feed is eligible for deduction u/s 80P(2)(a)(iv).
4. Where the cooperative society has purchased different kinds of manures and pesticides and mixed them up for the purpose of selling the same to the small farmers the income derived so is deductible u/s 80P(2) (a) (iv) and cannot be treated as a manufacturing activity or processing of goods. [CIT v. Thudialur Coop Agricultural Services Ltd. (1997) 143 CTR (Mad) 362].
5. Income other than credit activity of CARDBs is taxable like PCARDBs undertaking chitty type deposit schemes. However, a flat deduction of ₹ 50,000 is deductible u/s 80 P(2)(c) from the overall profit generated out of non credit activities.
6. Section 80 P(2)(e) provides for deduction of rent received by a CARDBs which let out its property for godown purpose. CARDBs which let out their property for any other purposes like Auditorium, running cooperative institutions, shops, etc., the whole of the rent received is fully taxable. However, they can deduct an amount equivalent to 30% of rent received from the rent resulting in taxable rental income. This is called standard deduction which is available for the purpose of repairs, renewals and other maintenance charges u/s 24(a). This deduction is available to CARDBs apart from the flat deduction of ₹ 50,000.
7. Section 80P(2)(f) provides for deduction of income received from securities and property income, for CARDBs if the following conditions are satisfied:
  - The gross total income of the society should not exceed ₹ 20,000.
  - The income derived only from interest on securities and from house property, qualifies for deduction.

Even though, there are multiple deductions available to CARDBs, care has to be shown in claiming deductions. For instance, all rental income earned by CARDBs are not eligible for deduction u/s 80P except godown rent. However, making of wrong claim under section 80P may call for levy of penalty under section 271(1)(c).

### Filing of Returns

Section 139(1) of the Act, provides that the cooperative

societies shall file their income tax returns voluntarily in Form ITR 5 within 30<sup>th</sup> September of the assessment year (in case of tax audit liability) and 31<sup>st</sup> July of the assessment year in any other case. All CARDBs irrespective of loss making or profit making should file the income tax returns. However, CARDBs may file the return till completion of the assessment year [called belated return u/s 139(1)] with the penal interest, if any and penal fee.

Cooperatives not filing the returns or late filing of returns would invite penal interest u/s 234A. Further, cooperatives not complying with filing return would invite penal fee u/s 234F i.e. (i) ₹ 5000, if the return is furnished after the due date but on or before 31<sup>st</sup> December of the assessment year; and (ii) ₹10,000/- in any other case.

Further, Section 80A(5) of the Act provides that where the cooperative fails to claim the deduction available to it u/s 80P, no deduction shall be allowed. Section 80A(5) was introduced by Finance Act of 2009 with retrospective effect from 1.4.2003 and one of the conditions to avail deduction is to make a claim in the return of income. As per Section 80A(5), CARDBs should claim the benefit available to it under section 80P by filing of income tax returns in time. If CARDBs fails to file the return and claim their banking income as deduction, then such deduction is not available to CARDBs and they are liable to pay tax even on income from banking business.

### Tax Audit

CARDBs whose turnover during the financial year exceeds ₹2 crore are liable to undertake tax audit u/s 44AB of the Act through a Chartered Accountant. Two forms namely Form 3CA and 3CD has to be filed electronically within 30<sup>th</sup> September of the Assessment Year. Penalty for non-completion of tax audit in time or late filing of tax audit report would invite a penalty equal to half percent of the turnover or ₹1.50 lakh whichever is less.

### Tax Deduction at Source

CARDBs are liable to deduct TDS while making certain payments like salary, commission, contract, professional services, etc. exceeding the threshold limits. A deductor has to deposit the deducted TDS to the Government and a return has to be filed quarterly namely Form 24Q for salary TDS and Form 26Q for other TDS. Payments requiring TDS, TDS rate and threshold limits for the financial year 2019-20 for cooperatives are given overleaf :

In case of persons not submitting PAN to the society, TDS rate of 20% would be applicable and the rates given in the above





| Sl. No. | Nature of Payment                 | Threshold limit (Exceeding)                     | Rate of TDS                                      | Due date of payment of TDS                                 | TDS Certificate to be Issued | Due date to issue TDS Certificate       | Quarterly Returns to be filed | Due date of Returns                      |
|---------|-----------------------------------|---|--|--|------------------------------|---|-------------------------------|--|
| 1       | Employees' Salary                 | ₹.2,50,000                                      | Individual Slab Rate                             | One week from the date of deduction                        | Form 16                      | 31 <sup>st</sup> May                    | 24Q                           | 31 <sup>st</sup> of July, Oct, Jan & May |
| 2       | Interest paid on time deposits *  | ₹. 40,000 p.a.                                  | 10%  | Within 7 <sup>th</sup> of the following month of deduction | Form 16A                     | 15 <sup>th</sup> Aug, Nov, Feb and June | 26Q                           | -do-                                     |
| 3       | Dividend paid to members          | No limit  | 10%  | -do-   | -do-                         | -do-                                    | -do-                          | -do-                                     |
| 4       | Rent paid on machinery/ equipment | ₹. 2,40,000 p.a.                                | 2%   | -do-   | -do-                         | -do-                                    | -do-                          | -do-                                     |
| 5       | Rent paid (others)                | ₹. 2,40,000 p.a.                                | 10%  | -do-   | -do-                         | -do-                                    | -do-                          | -do-                                     |
| 6       | Contract amount                   | ₹.30,000 per payment or ₹.1 lakh aggregate p.a. | 1% (if payee is an individual and 2% for others) | -do-   | -do-                         | -do-                                    | -do-                          | -do-                                     |
| 7       | Professional fee                  | ₹.30,000 p.a.                                   | 10%  | -do-   | -do-                         | -do-                                    | -do-                          | -do-                                     |
| 8       | Commission and Brokerage          | ₹.15,000 p.a.                                   | 5%   | -do-   | -do-                         | -do-                                    | -do-                          | -do-                                     |

\* Interest payments on deposits by a cooperative land mortgage bank or cooperative land development bank is exempted from TDS u/s 194A(3)(viiia).

table would not be considered. Cooperatives not complying with TDS would incur disallowance of 30% of the sums paid without TDS and added with their net profit for calculating tax. Further, penalty, penal interest and penal fee are leviable for non compliance of TDS.

#### PAN requirement

All CARDBs (including loss making entities) shall obtain their Permanent Account Number (PAN) in Form 49A. They are mandated to quote their PAN numbers in all their forms, returns, challans and letters submitted to the income tax department. Further, while registering under GST, they have to quote their PAN. Further, all CARDBs have to obtain PAN from their customers/suppliers while purchasing or selling of any goods and services exceeding ₹ 2 lakh per transaction.

#### Power to Call Information of Depositors

In an attempt to find out the tax evasion, the income tax authorities have resorted to calling of information of the depositors' details from the Cooperative Banks u/s 133(6) of the Act. Failure to produce the above information within the time stipulated in the notice, would invite a penalty u/s 272A(2)(c). CARDBs should provide the information required by the Income Tax department or atleast make a reply seeking time extension.

#### Cash Transactions

The provisions of sections 269SS, 269T, 269ST, 40A(3) and 43 have been enacted with a view to prevent the increase in black money and to stop the tax evasion by discouraging institutions to avoid cash transactions. While dealing with cash, CARDBs should comply with the income tax provisions:

- Section 269SS: Some of the cooperatives mobilize deposits from their members. These societies have to comply with Section 269SS of the Act, which provides that if any deposit is accepted from any other person of an amount of ₹ 20,000 or above, it should be in the form of an account payee cheque or account payee bank draft or use of electronic clearing system through a bank account. Section 271D provides that if any deposit is received in contravention to Section 269SS, a penalty equivalent to the amount of such deposit may be levied.
- Section 269T: Section 269T provides that if any deposit together with interest is repaid to the depositors of an amount of ₹20,000 or above, it should be in the form of an account payee cheque or account payee bank draft or by use of electronic clearing system. Section 271E provides that if any



deposit is repaid in contravention to Section 269T, a penalty would be levied equivalent to the amount so repaid.

- c) Section 40A(3): Cooperatives shall pay any expenditure exceeding ₹10,000 only by an account payee cheque or account payee draft or through electronic clearing system. [Section 40A(3)]. This means, if a CARDB pay more than ₹10,000 by cash, the entire amount is treated as its income and tax is charged on such amount.
- d) Section 43: Cooperatives shall pay any capital expenditure (say purchase of fixed asset) only by an account payee cheque or account payee bank draft or use of electronic clearing system, when such amount exceeds ₹10,000. Section 43 provides that payment by cash exceeding ₹10,000 for procuring fixed assets would attract disallowance of the depreciation claimed on such asset.
- e) Section 269ST: All kinds of receipts of an amount of ₹ 2 lakh or above received in cash whether capital or revenue in nature (other than the receipt of deposits u/s 269SS) shall be received only by an account payee cheque or an account payee bank draft or use of

electronic clearing system through a bank account. Amount received in contravention to Section 269ST would attract a penalty u/s 271DA which is equivalent to the amount of such receipt.

Section 273B provides that no penalty shall be leviable under section 271B if the assessee proves that there was reasonable cause for the failure in complying with certain income tax provisions like non compliance of tax audit, Section 269SS, etc.

### Conclusion

Most of the CARDBs are ignorant about various provisions of the Income Tax Act as it is a newer issue to them. However, many of the societies who are liable to file the return so as to claim tax deductions are ignorant about this condition. They are liable to undertake tax audit when their turnover crosses a certain limit. Further, if any penalty is paid by CARDBs due to non-compliance of any of the applicable Act like Income Tax Act, the Auditors got right to pass surcharge against the Chief Executive and order for recovering the same from their salary. Therefore, SCARDBs and PCARDBs file the income tax returns and other returns in time so as to avoid future complications in the form of penal interest and penalty.

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From Page 9

understand the prevailing status of adoption of micro irrigation in command areas, with a focus on sugarcane cultivation and understanding the readiness of private sector in participating in promoting integrated water management approaches including promotion of micro irrigation and off-take in command areas.

Both the assessments distilled the reasons for low rates of MI adoption and also lack of active private sector engagement on the issue. The assessments also suggested possible ways to promote both MI adoption and encourage private sector participation in achieving water use efficiency and productivity.

Based on this understanding and discussions with key stakeholders, the workstream decided to design and implement innovative integrated pilot projects to promote water use efficiency and productivity in command areas in Maharashtra. A Project Implementation Unit (PIU) was set up for this purpose, within the WRD<sup>2</sup> and work on design of pilots is underway. Several private sector organizations and philanthropy foundations agreed to support this initiative, demonstrating the utility of the MSP.

### Conclusion

2030 WRG has been collaborating with the Government of Maharashtra since 2014 and has been consistently supporting various initiatives that aim to ensure water security for all in the State.

The institutional mechanism of MSP and workstream is now set, important areas have been analyzed and action plans are developed. A major achievement thus far has been bringing key stakeholders together and working together in developing action plans. Innovative concepts like watershed ++, integrated command areas management, cotton water platform, waste water reuse certificates have been introduced and are being developed into policy/ regulatory adoptions, financing instruments, capacity building vehicles through collaborations.

All these actions will lead to improved water security in the near future.

Source IMC Journal November-December 2018

1. The MSP was setup vide a Govt. Resolution dated 18th May 2017 issued by the Water Resources Department.
2. Government order dated 8th October 2018.





# WATER-USE EFFICIENCY THROUGH A MULTI-STAKEHOLDER PLATFORM

## Abstract:

Agriculture sector in Maharashtra consumed about 8% of the total water resources, and hence, holds the key for ensuring water security. Conventionally, the public, private and civil society has worked towards benign development pathways that were not always aligned. Recognizing the common developmental goals for ensuring water security, the 2030 Water Resources Group activities focus on developing unique partnerships. Learning from the global partnership - 2030 WRG - hosted at The World Bank, the Government of Maharashtra created a formal partnership to analyze, convene and transform (ACT) water - use efficiency in the agriculture sector. This paper reports the foundational work carried out by the 2030 WRG and the Government of Maharashtra that resulted in creation of a multi-stakeholder platforms to address water security within the state and the utility of the same.

## Introduction

The 2030 Water Resources Group (2030 WRG) is a unique public-private-civil society collaboration established in the year 2009 to facilitate open, trust—based dialogue process to drive action on water resources reform in water stressed countries in developing economies. 2030 WRG works in about 13 countries/states including Karnataka, Maharashtra and Uttar Pradesh in India. Currently hosted at The World Bank, the 2030 WRG is governed by an international board comprising of representatives from the public sector, private sector and civil society organizations. At the national level, 2030 WRG is a lead partner to the Ministry of Water Resources, River Development and Ganga Rejuvenation (MoWR RD & GR) to develop a blueprint for water accounting and water quality in collaboration with key national and international partners.

## Maharashtra Content

In Maharashtra, a Multi-stakeholder Platform (MSP) was set up in May 2017<sup>1</sup>. The MSP is chaired by the Chief Secretary, Government of Maharashtra and members represent public sector, private sector, civil society, and academia. The MSP approved (in August, 2017) formation of three work streams viz, (i) Water and Livelihood Security in Rain-fed Agricultural Areas, (ii) Command Area Water Productivity and (iii) Wastewater Reuse and Management. 2030 WRG acts as the secretariat for the MSP and the workstream. In addition,

work on two other cross cutting themes (Gender and water in agriculture & Water Accounting) is also undertaken by 2030 WRG under the aegis of the MSP. Brief of the work being carried out under different workstreams is captured below.

## Rain-fed Agriculture Areas Workstream

The formation of this workstream, headed by Principal Secretary, Agriculture department, was a direct outcome of the consecutive droughts in Maharashtra that led to a severe water crisis and low productivity, especially in Vidarbha and Marathwada areas. As Cotton is a major crop in these rainfed areas and is adversely impacted by climate change, the workstream decided to focus on this crop and created the Maharashtra Cotton Water Platform (MCWP). The MCWP seeks to integrate government schemes, on-farm technology and leverage market resources, through appropriate instrument to enable target farming communities to be a part of the global sustainability initiatives in cotton.

Many of the appropriate solutions are already deployed in discrete local projects and the challenge is to apply them at scale. In April 2017, 2030 WRG, in collaboration with IDH. The Sustainable Trade Initiative, began, collaborating with each other on the above issues.

## Wastewater Reuse and Management Workstream

The main focus of this workstream, headed by Maharashtra Water Resources Regulatory Authority (MWRRA), is on enabling reuse of treated waste water for different applications and reduce demand for fresh water. A special emphasis is placed on reuse of treated waste water in agriculture sector, especially for food crops, as water used for growing food crops needs to meet higher level of quality standards. Another innovation in the workstream is the development of tradeable waste water reuse certificates. This work is in early stages of development through discussions with key stakeholders from ULBs, industries, CSOs, technology experts and academia.

## Water Use Efficiency and Productivity Workstream

The workstream on Command Area Water Productivity (CAWP), headed by the Principal Secretary, Water Resources Department, was tasked to find effective solutions to improve on-farm water use efficiency and productivity in command areas. Two rapid assessments were carried out to

Continued to Page No. 8 ➔



# e-Agriculture initiatives in Andhra Pradesh – A move towards inclusive growth

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Agriculture growth throughout global history has been the progenitor of broad-based economic growth and development. The strengths of fundamentals of the economy is evident from the remarkable transition to a high growth path, which was achieved in the recent past. Sustainable growth in Agriculture sector is the “need of the hour” not only for the State of Andhra Pradesh (AP) but also for the Country as a whole. The role played by the agriculture sector in the economy of Andhra Pradesh, remains crucial, despite its volatility cantering around unpredictable weather conditions, huge farm expenditure and non-profitability continues to be the mainstay for millions of population in the state. Making the agriculture sector more resilient and helping the farming community is the most important

priority for the state of Andhra Pradesh. Various strategic initiatives put in place by the State, by and large have improved the living standards of the people. Economy of Andhra Pradesh continues to be predominantly agrarian with three fourth of its work force engaged directly in Agriculture sector. The Government has charted clear vision to increase the farm productivity as part of achieving Sustainable Development Goals 2030. As a part of this State has started many e-initiatives to reach services to gross root level as a result of which agriculture sector is contributing 34.37% to GSDP compared to 13.5% to GDP in India. The e-Initiatives in agriculture sector of Andhra Pradesh are detailed below.

- 1) e-Seed
- 2) e-Crop
- 3) e-Water
- 4) e-Soil
- 5) e-Land records
- 6) e-Magazine
- 7) e-Mechanization
- 8) e-Weather
- 9) e-Market
- 10) e-Insurance

- 11) e-Book
- 12) e- Reports
- 13) e-Schemes in Agriculture
- 14) e-Mobile apps
- 15) e-Budget
- 16) e-Geotagging of assets
- 17) e-Office
- 18) e-Farmer services
- 19) e-Certificate of cultivation

(<https://eseed.ap.gov.in/eseed/index.jsp>)

## **e-Seed:**

Government of Andhra Pradesh is supplying certified seed of various crops to farmers during Kharif and Rabi seasons by collecting it from different seed supply agencies like Agriculture University, MARKFED, NAFED, OILFED etc. For this the government has initiated e-Seed platform to monitor the movement and supply of different crop varieties as per indent and requirement of the districts. Compilation of daily, fortnight supply reports for onward submission to higher authorities. Through this platform government could effectively and efficiently the seed procurement and supply mechanism to ensure that the farmers get good quality seed to get better production and productivity.

## **e-Crop:**

The Department has been doing crop booking using e-Agriculture tab based android application since Rabi-2015. This software was integrated with CM Dash board to show the real time dynamic crop coverage area of the state. 100%

farmer data base is created and validated with Aadhar number. Crop photos are captured as and when sowings are done on the field and geo tagged. The application facilitates real time estimation of crop coverage and dynamic report generation used for decision making and used as a prediction tool.

## **e-Water:**

The government of Andhra Pradesh is being maintained realtime information on water availability reservoirs, major irrigation tanks, water conservation structures, received through rainfall, in the soil, ground water and lift irrigation schemes and these details are being provided to farming community to take decisions on crops to be grown, time of sowing etc. for profit maximization. Besides this government is using this data for forecasting of water budget, water audit, crop stress management, run off forecast and basin level water status.

## **e-Soil:**

Soil Health Management (SHM) Under National Mission for

<sup>1</sup>Programme Coordinator, KVK, Banavasi, <sup>2</sup>Senior Scientist, <sup>3</sup>Principal Scientist & University Head, Agril. Extn, ANGRAU.





Sustainable Agriculture (NMSA) is being implemented during 12th Plan with the objectives to make agriculture more productive, sustainable and climate resilient; to conserve natural resources; to adopt comprehensive soil health management practices; to optimize utilization of water resources; etc. SHM aims at promoting Integrated Nutrient Management (INM) through judicious use of chemical fertilisers including secondary and micro nutrients in conjunction with organic manures and bio-fertilisers for improving soil health and its productivity. Andhra Pradesh stood first for the second consecutive year in the country by distributing Soil Health Cards the farmers with soil test based recommendations. State government has achieved saturation in soil testing. Through drone based cloud technology, soil test reports are made available in real time for farmers in the state. During 1st cycle of soil health card scheme 13.48 lakh soil samples were analyzed and 54.28 lakh soil health cards were distributed to the farmers. The 2nd cycle of soil health card scheme i.e from 2017-18 and 2018-19 is under progress. (<http://elabs.gov.in/index2.php>)

#### **e-Land records:**

Andhra Pradesh government has introduced Bhoodhar cards on the lines of Aadhaar cards. A unique 11 digit number will be given to owners of the lands. Bhoodhar cards will give identity to the actual owners of the land. Bhoodhar initiative bringing more transparency in maintaining land records. For the first time in India, the AP government is giving Bhoodhar cards to landowners. "The status of the land can be known easily and at the same time there would be safeguards to ensure data security. Further, there will be geo-tagging and one can access the record at the click of a button," (<https://bhuseva.ap.gov.in/>)

#### **e-Magazine:**

Andhra Pradesh is being maintained one monthly magazine in regional language called Padi-Panta (Crop and dairy) in which articles related to monthly management practices of various crops by experts and success stories, schemes etc. are covered. This magazine is being made available online for the benefit of farming community to access the information without spending any amount.

#### **e-Mechanization:**

The government of AP has realised that mechanization has great relevance to overcome the labour shortage and means of cost reduction technology and hence it is promoting farm mechanization to provide access to the small and marginal farmers through the schemes like custom hiring centres, Rythu Radham etc. as a part of which large number of farmers have been benefitted. To ensure transparency in the

scheme it has provided online application for needy farmers and also made available the list of farmers who has availed the benefits.

#### **e-Weather:**

To provide the weather related information to the farming community in the state Andhra Pradesh State Development Planning Society (APSDPS) was entrusted to take up Disaster Mitigation studies relating to "Rainfall, Run-off, Flood forecasting, Cyclone model for Track, Wind and Storm Surge forecast to improve the early warning capabilities of State on natural disasters. The society in course of its working also started studies on Coastal Zone Management, Delta Water management, Preparation of Disaster Management Plans related to Cyclone, Drought and Earthquakes as part of its long term mitigation measures. ([www.apsdps.gov.in](http://www.apsdps.gov.in))

#### **e-Market:**

Marketing information is very much crucial for the farming community to realise better remunerative price to get better profits. In order to provide real time market information to farming community government has initiated market portal giving information on market prices in different markets of the state and in the country as well so as to take decision on where to sell, how much to sell and at what price to sell by the farming community of the state. ([www.market.ap.gov.in](http://www.market.ap.gov.in))

#### **e-Insurance:**

Every year, one part of AP is affected by natural calamities like droughts, floods, cyclones, pest and diseases etc. Under such circumstances insurance provides protection to farmers against losses caused by crop failure and thereby ensures stability in farm income. The govt. of AP provides online information on PMSBY, WBCIS schemes to the farmers to make use and to protect themselves from unforeseen climate vagaries.

#### **e-Book :**

Soft copy of a book containing package of practices of various agriculture and horticulture crops including livestock management practices, pest and disease management, water management, fertilizer management, postharvest management, weed management along with videos etc. has been made available to farming community to avoid dependence on private input dealers and to get more production with low cost of cultivation.

#### **e- Report of crop coverage and seasonal conditions:**

Government of Andhra Pradesh is maintaining weekly crop coverage reports and seasonal conditions like rainfall, temperature, wind speed, water levels in reservoirs, pest and diseases related information for both Kharif and Rabi seasons to take real time decisions on whether there is any



need to go for contingency crop planning or drought proofing measures to be taken in different corps based on the above seasonal conditions.

#### **e-Schemes in Agriculture:**

All the schemes that are being implemented for the benefit of farming community, eligibility criteria, location-wise allocations, beneficiaries for maintaining transparency in implementation is being maintained in the website.

#### **e-Mobile apps:**

Mobile Apps developed by Government of AP and other organizations useful for the farming community were placed in the website to download and make use them to meet the various information needs to get more production and productivity and to also to get more net returns on their investment.

#### **e-Budget:**

The state of AP has separate budget for agriculture sector. The complete details of agriculture budget in regional language was placed in website for the officials, policy makers, farmers, students and other individual benefit to have a glance over areas of importance given in agriculture and allied sectors of the state.

#### **e-Geotagging of assets:**

The state of AP is developing infrastructure in agriculture and allied sectors for funding received from RKVY, ATMA, RAFTAAR and other central government schemes for the welfare of the farming community. The assets created under various schemes have been geo tagged and kept

available for public.

#### **e-Office:**

e-Office is a Mission Mode Project (MMP) under the National e-Governance Programme of the Government. The product is developed by National Informatics Centre (NIC) and aims to usher in more efficient, effective and transparent inter-government and intra-government transactions and processes. At present communication of all matters / files are being carried out through e-Office to hasten the process of work to provide the fruits of government to the end users without any procrastination.

#### **e-Farmer services:**

Services like online application for getting eligibility benefits in various schemes, application status, reports, licences, application resubmission facility, different schemes offered by government etc. are being made available to the farming community of the state.

#### **e-Certificate of cultivation**

Farmers who are eligible as tenant farmers have been provided certificate of cultivation which enables them to get easy access to credit from public financial institutions like Scheduled commercial banks, Cooperative banks, RRBs etc.

#### **References:**

1. <http://www.apagrisnet.gov.in/index.phphttp://nif.org.in>.
2. Socioeconomic survey of Andhra Pradesh-2017-18.(<https://www.ap.gov.in/wp-content/uploads/2018/03/Socio-Economical-Survey-2017-18.pdf>)

From Page 14

solutions. However, the progress of implementation is slow. NIC and SCARDBs need to finalise a timeframe for completing the process of computerisation.

#### **Human Resources Development**

- There is deficiency in human resources in ARDBs in almost all States in terms of quantity and quality. Once staff norms and recruitment procedures are approved by Govt/RCS, the banks should be given freedom to make appointments as per staffing pattern without further approval.
- The CEOs of SCARDBs and PCARDBs may be appointed through a selection process.
- Building up of a cadre of professionals at middle level management to support CEOs and to maintain stability and continuity of policies at top management level.
- Revamping JLTCS as per guidelines for accreditation by C-PEC. Promoting self-training by staff by introducing appropriate incentive system for acquiring qualifications relevant to the job.

- Strengthening performance appraisal system for assessing training needs and as an important criterion for career advancement.
- Periodical review of staff pattern norms, work allocations and rotation of work, policy for direct recruitment at various levels, delegation of powers at various levels in the hierarchy as well as in the structure etc.

#### **Profitability**

- SCARDBs to pursue following measures to improve profitability.
- Realistic pricing of loans keeping interest margin at minimum level of 5% for the structure as a whole.
- Revising interest rates on loans based on subsequent increase in the cost of refinance after issuing loans.
- Interest should be charged at the same rate on defaulted interest to avoid losses and avoid giving incentive for default.





# Report of the Working Group on Enhancing the Share of ARDBs in Investment Credit

The Working Group on Enhancing the Share of ARDBs in Investment Credit constituted by the Federation under the chairmanship of Shri Y.C. Nanda, Ex-Chairman, NABARD submitted its report on 1st November 2018. The Working Group made a number of recommendations to build up the capacity of ARDBs in terms of structural design and business model, financial and human resources and technology to enhance their share in rural credit and in investment credit to agriculture.

The Working Group observed that the share of ARDBs in investment credit has been steadily declining since early 2000s. The sector had a share of 22% of annual disbursements of investment credit by all banks in 1995 which declined to 1.6% in 2017-18. When the market was going at 14% p.a. during this period the growth in ARDB sector was only 2%. Uncompensated financial losses due to Government policies and dissolution/sickness of the structure in major States of Maharashtra, Madhya Pradesh, Chhattisgarh, Odisha, Assam and Bihar contributed significantly to the declining share. The Working Group examined this very closely and identified the following major issues:-

## Addressing structural and functional deficiencies

The Working Group felt that the ultimate solution to the structural deficiencies is conversion of institutions in the structure into full-fledged banks as recommended by Capoor Committee and Vaidyanathan Task Force II. However, RBI is yet to evolve a policy for giving banking licence to ARDBs.

The Working Group was of the view that under the extant provisions of BR Act unitary SCARDBs can be given licence as primary cooperative banks. There is consensus among federal SCARDBs to become unitary if it is necessary for getting banking licence. This, however, would be possible only in the medium term with coordinated efforts by stakeholders.

## Internal reforms

In the short run, institutions in the structure need to focus on internal reforms to improve financial position and enhance market share and preparedness for banking licence. Following are the important recommendations of the Working Group in this regard.

- Arrangements for meeting adequately the production credit/working capital needs of borrowers of investment credit.
- Govt of India to extend interest subvention to crop loan borrowers of ARDBs also.
- Investment credit for different purposes may be given as composite loan including production credit/working capital for one season/one production cycle as part of term loan.
- SCARDBs need to augment their short term resources through deposits and borrowings to meet incremental

working capital/production credit needs of their long term borrowers.

- ARDBs to encourage cluster farming based on group approach.
- All PCARDBs/branches of SCARDBs should set up Multi Service Centres for extending forward and backward linkages and other support services.
- Declining share of non-farm sector in the total advances by SCARDBs is a matter of concern. Share of NFS in total advance should be stepped up in view of its potential for employment generation and fewer problems in loan recovery compared to farm sector loans.
- SCARDBs projected annual growth rate of 12.72% in investment credit for the next 5 years. SCARDBs need to prepare separate action plans to achieve these projections.

## NABARD's refinance to SCARDBs

- NABARD's funding to SCARDBs need to grow at 15.2% p.a. to achieve the projected growth in investment credit advances as above.
- The conditionality of govt guarantee for refinance is becoming increasingly difficult to fulfil as most of these States have already reached the statutory ceiling of guarantee.
- NABARD, therefore, may consider introducing a new additional refinance scheme for SCARDBs based on their unencumbered quality assets without govt guarantee which may also be linked to rating of SCARDB as per criteria for risk assessment and audit classification. This will encourage banks to raise more resources internally and will help them to realise on State Govts.
- **Other issues relating to NABARD's refinance**
  - NABARD may consider 100% refinance for all purposes as ARDBs don't have own funds to fill the gap in refinance.
  - Support from LTRCF helps SCARDBs to moderate average cost of funds. Increased support from LTRCF may be considered for reducing cost of loans for the farmers.
  - Collateral free loans may be given for setting up Multi Service Centres by PCARDBs/branches of SCARDBs on the security of receivables.
  - Waiving risk cost for refinance guaranteed by govt in view of guarantee fee paid for risk proofing.

## Deposit Mobilisation

### Deposits from public

- SCARDBs are allowed to mobilise term deposits from public as per NABARD guidelines on deposit mobilisation dt. 26 August 1997. As per these guidelines, deposits can be accepted from any individual, partnership firm, joint stock company or any other institution or association



subject to following conditions.

- 15% of deposits outstanding under the scheme to be kept in liquid form including cash, deposit with banks or govt securities.
- Only term deposits of period not less than one year can be collected.
- Aggregate deposits outstanding at any time shall not exceed the net owned funds of the SCARDBs.
- Under federal structure, PCARDBs can function only as agents of SCARDBs initially at least for a period of 2 years before accepting deposits on their own.
- The Working Group observes that ARDBs are collecting fixed deposits from public for more than 2 decades now as per the above guidelines and states that in view of the experience gained in mobilising deposits and the fact that no instance of failure/delay in meeting liabilities to the depositors have occurred so far, there is a case for broadening the scope for mobilising public deposits by ARDBs especially with regard to the tenure of deposits and the ceiling on deposits.
- Since SCARDBs have introduced short term loans the tenure restriction on deposits can be considered for relaxation. Similarly, the ceiling on deposits and the percentage of liquid reserve may be suitably revised taking the norms as applicable to NBFCs as the base as recommended by Vaidyanathan Task Force II.

#### **Member deposits**

- Accepting public deposits as per the scheme issued by NABARD in 1997.
- ARDBs are also accepting deposits from their members under deposit schemes as approved by Board of Directors of SCARDBs.
- The Working Group recommends that all depositors under member deposit schemes should be enrolled as members with voting rights.

#### **CRAR**

- Except Gujarat, Kerala and Tamil Nadu SCARDBs, CRAR of most of the banks is less than the desirable level of 9%.
- Banks need to strengthen their capital base to meet CRAR by accepting long term deposits which qualify for Tier II capital and unlocking capital funds locked up in provisions against NPA.
- ARDBs should not retrench share capital before completion of the statutory audit for the year during which the loan account has been closed.
- ARDBs may incentivise borrowers to convert share contributions as long term deposits with assured returns after closure of loans which would qualify for tier II capital for applying with CRAR requirements.

#### **Borrowings avenues other than NABARD**

- Short term/medium term loans are available to SCARDBs which can be used for introducing short term products.
- SCARDBs with strong financial position and high recovery

rate are eligible for NCDC loans on the security of receivables without collaterals.

- NHB refinance is available to SCARDBs under National Rural Housing Fund with loan recovery above 60% in the case of federal structure and 70% in the case of unitary structure without collaterals.
- SCARDBs should go in for rating by accredited rating agencies which will help some of the financially strong SCARDBs to borrow from commercial banks on favourable terms.
- Rating may also pave way for collateral free loans from NABARD and other funding agencies.

#### **Tackling of overdues and NPAs**

- Recovery position both at ultimate borrower level and apex level showed remarkable improvement since the introduction of internal reforms in 2012-13. However, recovery suffered huge set-back in 2016-17 due to demonetisation which continued in 2017-18 also due to debt waiver announcements by State Govts across the country.
- The Working Group stressed the need for formulating recovery policy by SCARDBs and PCARDBs fixing responsibilities and accountability for concerned staff with arrangement for monitoring their performance. Federation has issued guidelines for formulating recovery policies containing suggestions for revamping lending and repayment systems for achieving higher rate of due date repayment/voluntary repayment as well as strengthening the legal recovery system as an effective deterrent against wilful default. The Working Group recommended that SCARDBs and PCARDBs should formulate and implement recovery policies and strategies as per the guidelines of the Federation.
- SCARDBs and PCARDBs need to make concerted efforts to bring down gross NPAs within tolerable levels. ARDBs should carry out special recovery drive during October-March every year focusing on accounts which are classified as NPAs in March end.
- Working Group also recommended various measures for effective risk management such as
  - Risk Management Committee in the HO to suggest measures to expand credit portfolio.
  - Developing suitable exposure norms.
  - Improving appraisal system.
  - Insurance of assets financed at borrower level.
  - Financing agricultural value chain with tripartite arrangement for recovery of loans etc.

#### **Technology adoption and upgradation**

- Federation has earlier recommended the common software and core banking solutions for ARDBs developed by NIC.
- Most of the SCARDBs have already entered into MoU with NIC for computerisation and introducing core banking

Continued to Page No. 12 ➡



# सहकारिता के रास्ते ही सफल होगा आपरेशन ग्रीन

श्वेत क्रांति के जनक डॉक्टर वर्गीज कुरियन देश के पशु पालकों के लिए भाग्य विधाता बन गये। उन्होंने सहकारिता के रास्ते जो बिगुल फूँका, उसकी गूँज से पशु पालक किसानों के दिन फिर गये। भूमिहीन भी गरीबी मुक्त हो गये। डेयरी क्षेत्र की यह क्रांति आपरेशन फ्लड के नाम से जानी जाती है, जिसका डंका पूरी दुनिया में बज रहा है। दुग्ध उत्पादन में भारत विश्व में पहले पायदान पर पहुँच गया है। सरकार ने लघु व मझोले किसानों की माली हालत में सुधार के लिए उसी तर्ज पर आपरेशन ग्रीन शुरू करने की घोषणा की है। इस दिशा में काम भी शुरू कर दिया गया है। लेकिन इसकी सफलता की गारंटी डाक्टर वर्गीज के सहकारिता के रास्ते ही संभव माना जा रहा है।

किसानों को खून के आंसू रुलाने वाली प्याज, आलू और टमाटर जैसी बागवानी वाली फसलों की फायदे का कारोबार बनाने के लिए सरकार ने आपरेशन ग्रीन की शुरुवात की है। राज्यों के साथ केंद्र सरकार के कई मंत्रालयों के साझा प्रयास से अलग तरह की यह हरित क्रांति देश के किसानों के जीवन में खुशहाली भर सकती है। इस योजना में टमाटर, प्याज और आलू जैसी फसलों को उसकी खेती से लेकर रसोई घर तक की आपूर्ति श्रृंखला को पुख्ता बनाना है। कृषि मंत्रालय के साथ खाद्य प्रसंस्करण उद्योग मंत्रालय की भूमिका अहम होगी। रसोई घर की प्रमुख सब्जियों में शुमार इन कृषि उत्पादों की खेती आमतौर पर देश के छोटे व मझोले स्तर के किसान ज्यादा करते हैं। यही वजह है कि पैदावार अधिक हुई तो मूल्य घट जाने से उनकी लागत मिलने के भी लाले पड़ जाते हैं। इसके विपरीत इन जिसों की पैदावार घटी तो पूरे देश में हायतौबा मचना आम हो गया है। राजनैतिक तौर पर यह बेहद संवेदनशील मुद्दा बन जाता है। आपरेशन ग्रीन के तहत इसमें एक तरफ किसानों को इनकी खेती के लिए प्रोत्साहित करना है, तो दूसरी तरह उपभोक्ताओं को उचित मूल्य पर इन जिसों की सालोभार उपलब्धता बनाए रखने की चुनौती से निपटना है। इन्हीं दोहरी बाधाओं से निपटने के लिए सरकार ने आपरेशन ग्रीन की शुरुवात कर दी है। आगामी वित्त वर्ष में इस दिशा में कार्य तेजी भी पकड़ सकता है। इसके चलते किसानों की आमदनी को दोगुना करने की सरकार की मंशा को पूरा करने में भी मदद मिलेगी।

दरअसल टमाटर, प्याज और आलू की खेती में अपार संभावनाएं हैं। कम खेत में ज्यादा पैदावार लेना आसान होता है। देश में उन्नतशील प्रजाति के बीज, आधुनिक प्रौद्योगिकी, मशीनरी व अनुकूल जलवायु के चलते इनकी उत्पादकता बहुत अच्छी है। लेकिन लॉजिस्टिक सुविधाओं का अभाव, कोल्डचेन की भारी कमी और प्रसंस्करण सुविधा के न होने से किसानों की मुश्किलें बढ़ जाती हैं। इन नाजुक फसलों की आपूर्ति बनाये रखने और मूल्यों में तेज उतार चढ़ाव कई बार गंभीर संकट पैदा कर देता है। तभी तो कई बार फसलों की कटाई के समय बाजार में मिट्टी के भाव आलू, प्याज और टमाटर जैसी सब्जियां बिकने लगती हैं। किसानों को उनकी लागत का मूल्य भी नहीं मिल पाता है। छोटे किसानों से उनकी उपज को कलेक्ट करना बड़ी चुनौती है। इसे केवल सहकारिता से ही सुलझाया जा सकता है।

चालू वित्त वर्ष के आम बजट में ५०० करोड़ रुपये की प्रारंभिक

धनराशि से आपरेशन ग्रीन को संचालित करना है। इस धनराशि से कोल्ड चेन, कोल्ड स्टोरेज, अन्य लॉजिस्टिक और सबसे अधिक जोर खाद्य प्रसंस्करण पर दिया जाएगा। प्रधानमंत्री कृषि संपदा योजना इसमें बेहद मुफीद साबित होगी। इसके तहत देश भर में आलू, प्याज और टमाटर उत्पादक क्षेत्रों में क्लस्टर आधारित पूरी श्रृंखला विकसित की जाएगी, ताकि किसानों के उत्पादों के बाजार में आने के वक्त कीमतें न घटने पायें और समय रहते उनका भंडारण उचित माध्यमों से किया जा सके।

सब्जियों के उत्पादन में भारत दूसरे स्थान पर है। यहां सालाना १८ करोड़ टन सब्जियों का उत्पादन होता है। हालांकि पहले पायदान पर रहने वाले चीन में इसका चार गुना उत्पादन होता है। भारत सब्जियों की पैदावार में तेजी से आगे बढ़ने वाला देश बन गया है। लेकिन भारत में हरितक्रांति के समय जैसे गेहूं व चावल की पैदावार और श्वेत क्रांति में दूध के उत्पादन में बहुत तेजी से वृद्धि हुई थी, सब्जियों की पैदावार में वह क्रांति नहीं आई है। उदाहरण के तौर पर वर्ष २००३-४ से २०१७-१८ के बीच आलू का उत्पादन २.८ करोड़ टन से बढ़कर ४.९ करोड़ टन हो चुका है, जबकि प्याज की पैदावार में तीन गुना से अधिक की छलांग लगी है। इसका उत्पादन ६३ लाख टन से बढ़कर २.१४ करोड़ टन हो गया है। टमाटर जैसी फसल का उत्पादन ८१ लाख टन से बढ़कर २.२ करोड़ टन हो गया है। लेकिन बढ़ती आबादी और लोगों की माली हालत में सुधार होने से इन जिसों की मांग में भी खूब इजाफा हुआ है।

कृषि उत्पाद मार्केटिंग कमेटी (एपीएमसी) कानून को संशोधित करने की सख्त जरूरत होगी, जिससे इन एफपीओ से निजी व सरकारी कंपनियों के साथ थोक उपभोक्ता अपनी खरीद कर सकेंगे। श्वेत क्रांति में घर घर दूध पहुंचाने तक की नेटवर्किंग का नतीजा है कि यह क्षेत्र विकास की नई ऊंचाइयों को छू रहा है। केंद्र सरकार ने एफपीओ को सहकारी संस्थाओं की तर्ज पर अगले पांच सालों तक आधुनिक कानून से मुक्त करने का भी ऐलान किया है। यह एक स्वागत योग्य कदम है। दूसरे स्तर पर निवेश का होना बहुत जरूरी है, जिससे लॉजिस्टिक सुविधाएं और आधुनिक कोल्ड स्टोरेज बनाये जा सकें। इससे आलू, प्याज और टमाटर की बर्बादी को रोकने में मदद मिलेगी।

प्याज का उचित भंडारण न होने से खेत से लेकर पंपरागत कोल्ड स्टोर तक पहुंचाने में २५ से ३० फीसद तक बर्बादी होती है। यानी सड़ जाती है। इसे रोकने के लिए आधुनिक कोल्ड स्टोरेज की जरूरत है। विशेषज्ञों के मुताबिक आधुनिक भंडारण प्रणाली से प्याज की बर्बादी १५ से २० फीसद तक रुक जाएगी। साथ ही भंडारण की लागत भी कम होगी। योजना के मुताबिक बिजली से चलाये जाने वाले कोल्ड स्टोरेज सौर ऊर्जा से चलाये जा सकते हैं, जो बहुत सस्ते साबित होंगे। अधिक मात्रा में भंडारण के लिए आवश्यक वस्तु अधिनियम (ईसीए) संशोधन की सख्त जरूरत पड़ेगी, क्योंकि सरकार समय-समय पर स्टोरेज कंट्रोल आर्डर लागू करती रहती है।

Source - The Cooperator

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I, K.K. Ravindran, hereby declare that particulars given above are true to the best of my knowledge and belief.

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# पशुपालको के लिये पशुपालन से सम्बंधित कुछ महत्वपूर्ण जानकारीयाँ

डा.राम निवास<sup>१</sup>, और चारु शर्मा<sup>२</sup>

डेरी किसानों को दुग्ध उत्पादन की वैज्ञानिक जानकारी होने के साथ-साथ यह भी आवश्यक है कि वो पशुओं द्वारा समय समय पर दिए जाने वाले संकेतों को भी समझे, क्योंकि पशु संकेतों की सही समझ पशु के स्वास्थ्य, प्रबंधन, आहार, साफ-सफाई एवं पशु को हो रही असुविधा के बारे में महत्वपूर्ण जानकारी दे सकती है। एक पशु बहुत से संकेतों द्वारा अपनी सेहत के बारे में जानकारी व्यक्त कर सकता है जिसे कि पशुपालक चेतन अवचेतन में अच्छे

या बुरे रूप में परिभाषित करता है। इस संकेतों को समझना बहुत महत्वपूर्ण है, क्योंकि ये संकेत समय के साथ खरे उतरे हैं और इनको मापा जा सकता है, साथ ही ये पशुपालक की अपने पशु स्वास्थ्य एवं सेहत से संबंधित एक आंतरिक अनुभूति भी विकसित करते हैं जिससे वह पशु स्वास्थ्य एवं सेहत से संबंधित एक आंतरिक अनुभूति भी विकसित करते हैं जिससे वह पशु अवस्था के बारे में सही-सही अनुमान लगा सकता है।

## पशु स्वास्थ्य सम्बन्धी जानकारीया

एक स्वस्थ पशु स्वास्थ्य संकेतों माध्यम से अपनी तंदूरुस्ती जता सकता है, जिसे किसान आसानी से समझ सकता है।

| विवरण    | स्वास्थ्य सम्बन्धी जानकारीया  |
|----------|---|
| थूथन     | ठंडा एवं नम, साथ ही पशु द्वारा बार-बार चाटा जाना।   |
| आंखे     | चमकदार, साफ बिना किसी म्भाव, परत और रक्तिम निशान के   |
| सॉस लेना | नियमित, बिना किसी अतिरिक्त प्रयत्न के   |
| चमड़ी    | चमकदार, साफ एवं मुलायम, चिचड़ी/जूं, अन्य परजीवी या फोड़े से रहित। त्वचा का बदरंग होना खनिज लवणों की कमी का एक संकेत है। रुखी/खुरदरी त्वचा कीड़ों के प्रकोप का एक संकेत है।  |
| चाल      | चाल सामान्य एवं स्वच्छंद होनी चाहिए, चाल धीमी अथवा असामान्य नहीं हों, पशु के बैठते समय लचक नहीं होनी चाहिए। पशु को बैठी हुए अवस्था से खड़े होने में कोई दिक्कत नहीं होनी चाहिए, सामान्य पशु चलते समय अपने पिछले पैरों को ठीक उस जगह रखता है जहाँ उसका अगला पैर पड़ा था, लंगड़े पशु का पैर इससे पीछे या आगे पड़ सकता है। |
| थन       | थन का आकार मात्र, अच्छे थन की निशानी नहीं है, इसमें दुग्ध शिराएँ उभरी हुई हों और यह मजबूती से पशु के शरीर जुड़ा हो। यह बहुत शिथिल और बहुत मॉसल नहीं होना चाहिए। पशु के चलते समय थन बगलों में बहुत झूलना नहीं चाहिए।   |
| तापमान   | सामान्य शरीर का तापमान ३८ से ३९ डिग्री सेल्सियस के बीच होना चाहिए (101-5 + 5+1 डिग्री फारेनहाइट)<br>आदर्श रूप में. तापमान सुबह जल्दी या देर शाम/रात के दौरान लिया जाता है।<br>उच्च तापमान (बुखार): सॉस तेज, कंपकपी और कभी-कभी दस्त हो सकता है, कान, सिंग और पैर छुने पर ठंडे लगते हैं, जबकि शरीर बहुत गर्म रहता है।     |
| श्वसन दर | वयस्कों में श्वसन की सामान्य दर १०-३० बार (सांस लेना और छोड़ना मिलाके) एवं बछड़ों में ३०-५० बार प्रति मिनट होती है।   |
| आहार     | पशु प्रतिदिन ५ घंटे तक चरता है।<br>आहार को १०-१५ हिस्सों में खाता है।<br>अखाद्य आहार आदतें (पशु/मिट्टी/पत्थर/लकड़ी या कुछ भी खाता है)।  |

१ विषय विशेषज्ञ (पशुपालन), २ विषय विशेषज्ञ (गृह विज्ञान प्रसार शिक्षा),  
कृषि विज्ञान केन्द्र (स्वामी केशवानंद राजस्थान कृषि विश्वविद्यालय), पोकरण (जैसलमेर)



|                     |   |
|---------------------|---|
|                     | पाड़का नमक बीमारी का संकेत (फास्फोरस की कमी)।   |
| पानी                | पशु को हर समय स्वच्छ पीने का पानी उपलब्ध होना चाहिए।<br>एक लीटर दूध देने के लिए पशु को ३-५ लीटर पानी की आवश्यकता होती है।<br>गरमी के मौसम में पानी की आवश्यकता बहुत बढ़ जाती है।  |
| मल-त्याग            | पशु प्रतिदिन १०-२५ बार मल त्यागता है।<br>गोबर की मात्रा पशु के वजन पर निर्भर करती है ३५०-४०० किलोग्राम का एक पशु प्रतिदिन लगभग २०-२५ किलो गोबर करता।<br>लैक्टिक एसिड की अम्लता (पीला-भूरा झागदार मल)।<br>जान्स रोग (माल में बहुत अधिक गैस के बूलबूले)।<br>दुर्गन्ध युक्त दस्त जिसमें पशु का जबड़ा बोलतनुमा हो जाता है।  |
| मूत्र त्यागने       | एक पशु दिन में १० बार मूत्र त्यागता है।<br>मूत्र की मात्रा पशु के वजन पर निर्भर करती है (लगभग १ एमएल/किलो भार/घंटे)।<br>३५०-४०० किलो का एक पशु दिन में ८.५ - १० लीटर मूत्र त्यागता है।  |
| दुग्ध उत्पादन       | पशु अपने शिखर उत्पादन पर ब्याने के १-२ महीने बाद पहुंचता है।<br>बछड़ीयां अपने शिखर उत्पादन का प्रथम ब्यांत में ७५% एवं द्वितीय ब्यांत में ९०% उत्पादन करती हैं।<br>एक लीटर दुग्ध उत्पादन के लिए पशु के थन में ५०० लीटर रक्त का प्रवाह आवश्यक है।  |
| यौवन की<br>औसत उम्र | संकर गायें - १८ महीने<br>देशी गायें - २.५ साल<br>भैंसे - २.५ - ३ साल<br><br>यदि पशु यौवन के सामान्य उम्र पर आने के भी मद में नहीं आता है इसके कई कारण हो सकते जैसे कुपोषण, खनिज लवणों की कमी, कृमि संक्रमण, गुप्त/अस्पष्ट मद चक्र (भैंसों में), शारीरिक विकृति और जन्मजात विकार आदि। इसी प्रकार यदि पशु बार-बार गर्भाधान के बाद भी का गर्भधारण नहीं करता है तो इसके कई कारण हो सकते हैं जैसे गर्भाशय में संक्रमण, हॉर्मोन्स का विकार, शारीरिक विकार और जन्मजात विकार।<br><br>इसी तरह से यदि पशु ब्याने के बाद पशु का मद में नहीं आ रहा है तो उस पशु के शरीर में ऊर्जा की तथा खनिज लवणों की कमी हो रही है। |
| लार श्रवण           | आहार के प्रकार के अनुसार एक पशु में दिन में औसतन ४०-१५० लीटर लार बनती है।<br>रुखा चारा/रुक्षांश लार के उत्पादन को बढ़ाते हैं जबकि अधिक दाने युक्त आहार लार उत्पादन को कम दर लेना।<br><br>नोट= यदि लार का अधिक उत्पादन, लार का मुंह से गिरना एवं मुंह से झाग निकलना इन सब के कई कारण हो सकते हैं जैसे सूखे चारे का ज्यादा उपयोग मुंह/जीभ में छाले, खुरपका/मुंहपका रोग, जहर खुरानी और रेबीज अदि।<br><br>शरीर में कम लार बनने से पशु में अप्रत्यक्ष अम्लता उत्पन्न होती है, जिससे उसके खाने में गिरावट, वजन में कमी, दुस्त तथा थकान होती है इससे पशु में लंगड़ापन आ सकता है।                                 |
| मद                  | पशु का बार बार मूत्र त्यागना, पशु का बेचैन रहना, चारा कम खाना, पशु का रंभाना, एक पशु जो की मद महीन, वह अपनी पीठ सहलाने पर कमर को झुका लेती है और अपनी पूँछ  |





|                      |  |
|----------------------|--|
|                      | को उठाकर एक ओर कर लेती है।   |
| सामान्य गतिविधि चक्र | पशुओं का एक दिन सामान्य गतिविधि चक्र निम्नानुसार होता है -<br>✓ खाने में (३-५ घंटे)<br>✓ आराम करने में (१२-१४ घंटे)<br>✓ सोने में (२०-३० मिनट)<br>✓ साज - संवार (२-३ घंटे)<br>✓ जुगाली (७-१० घंटे)<br>✓ पानी पीने में (२०-३० मिनट) |

### पशु ब्याने सम्बन्धी जानकारीया

गाय का औसत गर्भकाल २८०-२९० दिन एवं भैंस ३०५-३१८ दिन। ब्याने के संकेतों को समझने से पशुपालक को या जानने में मदद मिलती है कि पशु चिकित्सा सहायता की कब आवश्यकता होगी। ब्याने के संकेतों को मूल रूप से ३ अवस्थाओं में बाँटा जा सकता है।

(१) ब्याने से पहले के संकेत (ब्याने से २४ घंटे पहले) (२) ब्याना (३) गर्भनाल/जेर का निष्कासन। प्रथम चरण-ब्याने से पहले के संकेत (ब्याने से २४ घंटे पहले) योनि द्वारा से स्वच्छ श्लेष्मा का रिसाव और थनों का दूध से भर जाना ही ब्याने की शुरुवात के आसान लक्षण हैं।

### अन्य लक्षण

- ✓ पशु समूह से अलग रहने की कोशिश करता है।
- ✓ पशु की भूख खत्म हो जाती है।
- ✓ पशु बेचैन होता है और पेट पर लातें मारता है या अपने पार्श्व/बगलों को किसी चीज से रगड़ने लगता है।
- ✓ श्रोणि स्नायु/पीठ की मांशपेशियां ढीली पड़ जाती है जिस से पूँछ ऊपर उठ जाती है।
- ✓ योनि का आकार बड़ा एवं मांसल हो जाता है।
- ✓ थनों में दूध का भराव ब्याने के ३ सप्ताह पहले से लेकर ब्याने के कुछ दिन बाद तक हो सकता है।
- ✓ बच्चा जैसे-जैसे प्रसव की स्थिति में आता है, वैसे-वैसे
- ✓ पशु के पेट का आकार बदलता है।
- ✓ उपयोगी बात-ब्याने के दिन का पता लगाना
- ✓ हमेशा गर्भाधान की तारीख लिखकर रखें।

- ✓ अगर पशु पुनः मद में नहीं है तो गर्भाधान के ३ माह पश्चात् गर्भ की जाँच अवश्य करवाएं।

द्वितीय चरण: ब्याने के संकेत (ब्याने के ३० मिनट पहले से लेकर ४ घंटे तक) सामान्य रूप से ब्याते समय बछड़े के आगे के पैर और सिर सबसे पहले दिखाई देते हैं।

- ✓ ब्याने की शुरुवात पानी का थैला दिखाई देने से होती है।
- ✓ यदि बछड़े की स्थिति सामान्य है तो पानी का थैला फटने के ३० मिनट के अंदर पशु बछड़े को जन्म दे देता है।
- ✓ प्रथम बार ब्याने वाली बछड़ियों में यह समय ४ घंटे तक हो सकता है।
- ✓ पशु खड़े खड़े या बैठकर ब्या सकता है।

### ध्यान दें

यदि पशु को प्रसव पीड़ा शुरू हुए एक से ज्यादा समय हो जाएँ और पानी का थैला दिखाई न दे तो तुरंत पशु चिकित्सा सहायता बुलानी चाहिए।

तृतीय चरण: गर्भनाल/जेर का निष्कासन (ब्याने के ३-८ घंटे बाद)

- ✓ सामान्यतया गर्भनाल/जेर पशु के ब्याने के ३-८ घंटे बाद निष्कासित हो जाती है।
- ✓ अगर ब्याने के १२ घंटे बाद तक भी गर्भनाल न गिरे तो इसे गर्भनाल का रुकाव कहते हैं।

### ध्यान दें

कभी भी रुकी हुई गर्भनाल को ताकत लगाकर नहीं खींचें, इससे तीव्र रक्तस्राव हो सकता है और कभी-कभी पशु की मौत भी हो सकती है।



## नवजात बछड़े के बारे में जानकारीया

किसी भी पशुपालक को स्वस्थ नवजात बछड़े के संकेतों के बारे में जानना अत्यावश्यक है ताकि जरूरत पड़ने पर आवश्यक कदम उठाए जा सकें। स्वस्थ बछड़ा पैदा होने के बाद कुछ ही मिनटों में अपने पैरों पर खड़ा हो जाता है और १-२ घंटे में दूध पीना शुरू कर देता है। स्वस्थ बछड़ा जन्म के कुछ मिनटों में ही खड़ा हो जाता है। दूध पीते समय बछड़े का पूँछ ऊपर उठाना इस बात का संकेत है कि ग्रासनाल उचित तरीके से बंद हुई है।

जो बछड़े असामान्य तरीके से पैदा होते हैं उनके सिर में सूजन होती है, वो प्रथम विष्टा में सने होते हैं, उनमें ताकत की कमी होती

है और दूध पीने की इच्छा शक्ति नहीं होती। उन्हें विशेष देख रेख की आवश्यकता होती है।

नवजात बछड़े के स्वस्थ जीवन के ३ प्रमुख स्तंभ

१. जन्म के तुरंत बाद नाभि नाल को उचित कीटाणुनाशक घोल में डुबोएँ।

२. समय पर पर्याप्त मात्रा में खीस पिलाएं।

३. उचित कृमिनाशक सारणी का अनुसरण

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From Page 23

जीप चेन वाले बैग (पीले रंग की उजले रंग की बाजार में उपलब्ध है) में कम्पोस्ट की एक मुट्ठी रखे और इसे एक या दो सप्ताह के लिए सील कर छोड़ दें। जब आप बैग खाले, तो अच्छी खुशबू, मिट्टी की गंध आनी चाहिए। यदि इससे कड़वा गंध या अमोनिया की गंध आये तो समझना चाहिए कि, सूक्ष्मजीवों द्वारा अपघटन का काम अभी भी जारी है। कम्पोस्ट को परिपक्व होने के लिए और एक सप्ताह का समय देना चाहिए, एक सप्ताह बाद इसका परीक्षण बताई गयी प्रक्रिया द्वारा करना चाहिए।



तैयार किया गया कम्पोस्ट

### सिटी कम्पोस्ट के लाभ :

सिटी कम्पोस्ट में सभी आवश्यक १७ पोषक-तत्व पाये जाते हैं, सूक्ष्म पोषक तत्व प्राकृतिक रूप से सड़े खाद्य कचरे से मिलते हैं, गहन खेती में अधिक एवं असंतुलित मात्रा में रासायनिक

खादों का प्रयोग दिन-प्रतिदिन बढ़ता जा रहा है, जिसके कारण भारतीय मिट्टियों में सूक्ष्म पोषक तत्वों की कमी देखी जा रही है, रासायनिक उर्वरकों के साथ कम्पोस्ट प्रयोग करने से मिट्टी की गुणवत्ता कायम रहती है, साथ ही फसलों की कीट प्रतिरोधी क्षमता बढ़ जाती है, केवल रासायनिक खादों का प्रयोग करने पर कुल नाइट्रोजन, फास्फोरस और पोटेसियम उर्वरकों का केवल २०-५०% भाग ही पौधों द्वारा अवशोषित किया जाता है। जब रासायनिक उर्वरकों के साथ कम्पोस्ट का भी इस्तेमाल किया जाता है, तो यह पौधों के लिए नाइट्रेट को मिट्टी में बरकरार रखता है और इस तरह प्रयोग किए गये रासायनिक उर्वरकों की दक्षता बढ़ जाती है, केवल रासायनिक उर्वरकों के प्रयोग की तुलना में कम्पोस्ट के साथ रासायनिक उर्वरकों के प्रयोग से फसल की उत्पादकता ज्यादा होती है। पौधों की जड़ में २ ईंच तक कम्पोस्ट डालने से यह नमी को कम होने से रोकता है, साथ ही मिट्टी के तापमान को स्थिर और पौधों को पोषक तत्व भी प्रदान करता है।

### सिटी कम्पोस्ट के हानि:

सिटी कम्पोस्ट के लाभ के साथ-साथ कुछ हानियां भी हैं, रासायनिक उर्वरकों की तुलना में सिटी कम्पोस्ट में पोषक तत्वों की मात्रा कम होती है तथा पोषक तत्वों के निकलने की दर धीमी होती है, आमतौर पर इसके द्वारा कम समय में फसलों की पोषक तत्वों की आवश्यकता पूरी नहीं हो पाती है, परिणामस्वरूप फसलों में कुछ पोषक तत्वों की कमी हो जाती है। रासायनिक उर्वरकों की तुलना में सिटी कम्पोस्ट की पोषक संरचना अत्यधिक परिवर्तनशील होती है। यह उत्पाद वजनदार और भारी है, जिसका परिवहन करना महंगा हो जाता है।



# Telangana State Co-operative Apex Bank Ltd.

(State Govt. Partnered Scheduled Bank)

Troop Bazaar, Hyderabad -500 001, url: <http://tscab.org>. Phone : 040 - 2468 5503

## Techno-savvy Banking Services take the lead

### Housing Loan

- Upto ₹30 lakhs



### Gold Loan

- Normal Gold Loan upto ₹2 lakhs
- Commercial Gold Loan upto ₹15 lakhs
- Secured Overdraft upto ₹10 lakhs
- EMI Gold Loan upto ₹10 lakhs



### Education Loan

- Abroad upto ₹20 lakhs
- In India upto ₹10 lakhs



### Car Loan

- Rate of Interest: 9.95%
- Maximum Loan Amount: 25lakhs
- Repayment Period: 6 Years

| Period of Deposit    | Applicable Interest Rate (%p.a) |
|----------------------|---------------------------------|
| 180 days to 270 days | 6.75                            |
| 271 days to 364 days | 6.95                            |
| 1 year exact         | 7.10                            |

Additional Interest of 0.60% is applicable to Senior Citizens for deposits over and above 1 year.

\*\* Rate of Interest, subject from time to time.

### Key Financial Indicators

(₹ in crores)

| S. No | Particulars                                       | As on 31.03.2018 |
|-------|---|------------------|
| 1     | Share Capital                                     | 144.10           |
| 2     | Reserves  | 466.00           |
| 3     | Owned funds                                       | 610.10           |
| 4     | Deposits  | 3851.25          |
| 5     | Borrowings  | 3388.92          |
| 6     | Working Capital                                   | 7850.27          |
| 7     | Loans & Advances                                  | 5195.75          |
| 8     | Call money & short term deposits with other Banks | 1198.25          |
| 9     | Investments                                       | 1328.66          |
| 10    | Gross Profit                                      | 66.97            |
| 11    | Gross NPAs  | 0.24%            |



- RuPay Card
- Platinum Debit Card



- Mobile Banking / IMPS



NEFT • RTGS



- Mobile ATM Van



- Micro ATM

**Shri.Konduru Ravinder Rao**  
President, TSCAB

**Dr. Nethi Muralidhar**  
MD, TSCAB

[www.tscab.org](http://www.tscab.org)

*Marching towards Golden Telangana*





# सिटी कम्पोस्टिंग : एक सतत अपशिष्ट प्रबंधन तकनीक

प्रतिभा कुमारी<sup>१</sup>, बब्लू शर्मा<sup>२</sup>, एवं रिना कुमारी<sup>३</sup>

## कम्पोस्ट

कम्पोस्ट कार्बनिक पदार्थ है, जिसे विघटित एवं पुनर्नवीनीकरण कर खाद और मिट्टी संशोधन के रूप में प्रयोग किया जाता है, कम्पोस्ट बनाने की प्रक्रिया को कंपोस्टिंग कहते हैं। कम्पोस्ट पोषक तत्वों से भरपूर होता है। यह उद्यान, बागवानी एवं कृषि में प्रयोग किया जाता है, कम्पोस्ट अपने-आप में भूमि के लिए कई मायनों में फायदेमंद है, मिट्टी कंडीशनर तथा उर्वरक के अलावा, मिट्टी के लिए यह प्राकृतिक कीटकनाशक के रूप में भी काम करता है, पारिस्थितिक तंत्र में कम्पोस्ट, भूक्षरण नियंत्रण, जमीन और नदी सुधार तथा आर्द्रभूमि निर्माण के लिए उपयोगी है।

## सिटी कम्पोस्ट

आवासीय क्षेत्र के कटाई या कतरन जैसे कि घास, पत्ते, बगीचा में गिरे पेड़-पौधों के टूटे हुए भाग, छोटे लकड़ियों के अपशिष्ट पदार्थों तथा रसोई के अपशिष्ट पदार्थों जैसे सब्जियों तथा फलों के छिलके एवं व्यर्थ पके हुए भोजन की थोड़ी मात्रा इत्यादी के साप्ताहिक संग्रह से बनता है, कम्पोस्ट की सार्वजनिक वितरण करने से पहले इसमें मौजूद अमोनिया और कार्बन डाइ ऑक्साइड के स्तर के लिए खाद का परिक्षण किया जाता है; परीक्षण, पीएच और खारापन के लिए भी किया जाता है, कम्पोस्ट एक उर्वरक है, जिसे मिट्टी में मिलाकर प्रयोग किया जाता है, खाद्य बागानों के लिए, हर ६ इंच जोते हुए मिट्टी की गहराई तक कम्पोस्ट के १.५ इंच तक मिलाने की सिफारिश दी जाती है। यह हमेशा ध्यान रखें कि १०० प्रतिशत यानि कि केवल कम्पोस्ट में पौधा न लगायें।

## सिटी कम्पोस्ट बनाने के आसान विधि:

सबसे पहले अपने रसोई के कचरे को एक डबबे में अलग कर दें, एक छोटे डबबे में शुष्क कार्बनिक पदार्थ (जैसे सूखे पत्ते, लकड़ का बुरादा) जमा कर लें, एक बड़े मिट्टी के बर्तन या एक बाल्टी की आवश्यकता होती है, इस बड़े बर्तन के चारों ओर विभिन्न स्तरों पर ४-५ छेद कर दें, जिससे हवा अंदर जा सके, मिट्टी की एक परत से नीचे लाइन बना दें, अब खाद्य अपशिष्ट को पहले गीले अपशिष्ट जैसे जूटे अनाज, सब्जियों एवं फलों के छिलके तथा सूखे कचरे (जैसे पुआल, बुरादा, सूखे पत्ते) को परत में बारी-बारी डालना शुरू करें, कंटेनर भर जाने पर इसे प्लास्टिक की शीट या लकड़ी से ढँक दें, ताकि

कंटेनर में नमी और गर्मी बनाए रखने में मदद मिल सके। हवा प्रदान करने के लिए हर कुछ दिनों पर एक लकड़ी की सहायता से ढेर को जल्दी से पलट दें, यदि आपको लगता है ढेर बहुत सूखा है तो पानी का छिड़काव इतना करें कि ढेर नम हो जाये। २-३ महीनेके भीतर, ढेर से कम्पोस्ट बनने की प्रक्रिया शुरू हो जानी चाहिए, कम्पोस्ट, सूखे और गहरे भूरे रंग का भूरभूरा और भूमि की महक लिए होता है, जो लोग शुरू में कम्पोस्ट बनाने के लिए प्रारंभिक प्रतिरोध पर काबू पाना चाहते हैं उनके लिए बाजार में रेडीमेड कंपोस्टिंग किट उपलब्ध है, समय और धैर्य के साथ, कम्पोस्ट आपके लिए दूसरी प्रकृति बन सकता है।

## कम्पोस्ट बनाने के लिए ४ चीजों की आवश्यकता होती है:

१. कार्बन, जो कि भूरे रंग के कार्बनिक पदार्थ जैसे कि सूखे पत्ते, लकड़ी का बुरादा एवं कागज से आता है।
२. नाइट्रोजन, जो कि बेकार फल, सब्जी तथा कॉफी से आता है।
३. ऑक्सीजन जो हवा से आता है।
४. सही मात्रा में पानी का प्रयोग।

कम्पोस्ट बनाने एवं उसमें सफलता पाने के लिए जरूरी नहीं है कि मार्गदर्शन के लिए नियम-पुस्तिका पढ़ी जाये, इसे कोई भी व्यक्ति कर सकता है, इसको बनाना बहुत ही आसान है, लेकिन शुरू करने से पहले कुछ चीजों को आपको समझ लेना चाहिए, कम्पोस्ट बनाने के लिए चार मूलभूत चीजें हवा, पानी, कार्बन और नाइट्रोजन की आवश्यकता होती है। हवा और पानी की सही मात्रा कम्पोस्ट ढेर में कार्बन और नाइट्रोजन युक्त सामग्री को अपघटित करने वाले जीवों के प्रजनन को तेजी से बढ़ाता है, अपघटन करने वाले जीवाणु में बैक्टीरिया, बग, केचुआ एवं फफूंद शामिल होते हैं, जिसमें से बैक्टीरिया अधिक मात्रा में होते हैं, वायु-जीवी बैक्टीरिया ऑक्सीजन युक्त वातावरण में पनपते हैं, एवं अपघटन में सबसे अधिक प्रभावी होते हैं। ढेर में पर्याप्त हवा नहीं होने के कारण अवायवीय बैक्टीरिया अंदर चले जाते हैं एवं अपघटन की गति को धीमी एवं अप्रभावी बना देते हैं, अवायवीय बैक्टीरिया के कारण कम्पोस्ट पिट में हाइड्रोजन सल्फाइड उत्पन्न होता है, जिसके कारण दूर से ही अप्रिय सड़े अंडे की की तरह बदबू आती है, अतः आप ध्यान रखें कि आपके कम्पोस्ट ढेर में पर्याप्त हवा कि मात्रा हो, आपका प्रयास यह भी होना चाहिए

१ मृदा विज्ञान एवं कृषि रसायन विभाग, कृषि-विज्ञान संस्थान, काशी हिंदू विश्वविद्यालय, वाराणसी, यू.पी.

२ कृषि विज्ञान केंद्र (स्वामी केशवानंद राजस्थान कृषि विश्वविद्यालय), पोखरण, जैसलमेर, राजस्थान

३ कृषि अभियांत्रिकी विभाग, एन. एम. कॉलेज ऑफ एग्रीकल्चर, नवसारी कृषि विश्वविद्यालय, नवसारी, गुजरात



कि आपके कम्पोस्ट ढेर में आवश्यक नमी हो लेकिन गीला नहीं होना चाहिए, जैसे ही ढेर में नमी कम होती है, अपघटन की प्रक्रिया धीमी हो जाती है बहुत अधिक नमी होने पर हवा कम हो जाती है, जो अवयवीय बैक्टीरिया के वृद्धि एवं विकास को बढ़ावा देती है। कार्बन, आपके बगीचे के सूखी सामग्री जैसे गिरी हुई पत्ती एहम टहनी, पौधों के भूरे रंग के भाग, भूसा एवं पुआल, गमला की मिट्टी एवं रसोई घर के सूखे या बेजान सामग्री जैसे फटा समाचार पत्र, बची हुई रोटी और अनाज, बादाम, अखरोट आदि का छिलका, भूट्टा का बचा हुआ भाग और खाद्य पदार्थों से गंदे कागज, तौलिए और नैपकिनसे आता है जबकि नाइट्रोजन नम या ताजे अपशिष्ट या व्यर्थ पदार्थ जैसे कि हरे पौधे, उद्यान के कटे फूल-पत्तियाँ, पत्ते, फूल और घास की कतरनों से आता है। अंडे का छिलका, चाय-पति बैग, कॉफी की तलछट और फलों तथा सब्जियों के छिलके को भी शामिल कर सकते हैं, आपको अपने कम्पोस्ट ढेर में इन तत्वों की मात्रा को संतुलित करने की कोशिश करनी चाहिए। ठीक प्रकार से बने कम्पोस्ट में कार्बन और नाइट्रोजन का अनुपात ३०:१ होता है। कम्पोस्ट बनाने वाले बर्तन बाजार में भी विभिन्न आकार और आकृति में उपलब्ध है, आप प्लास्टिक, लकड़ी, धातु या चीनी मिट्टी के बने डिब्बे ले सकते हैं, या फिर आप इसे अपने घर पर भी लकड़ी, प्लास्टिक, धातु और चीनी मिट्टी के बर्तन से बना सकते हैं, यहां तक कि इस काम के लिए आप पुराने रबर के टायर का उपयोग कर सकते हैं, पर्याप्त मात्रा में हरे रंग की सामग्री नहीं होने पर कम्पोस्ट ढेर धीरे धीरे सड़ेगा, जब कि भूरे रंग की पर्याप्त सामग्री नहीं होने पर ढेर से बुरा गंध आ सकता है। अतः यह महत्वपूर्ण है कि आप इन दोनों में संतुलन बनाये रखें। सामान्यतः आप यह समझ सकते हैं कि हरे रंग की सामग्री की तुलना में २५-३० गुना अधिक भूरे रंग की सामग्री की आवश्यकता होगी, यदि आपको अनुपात लगाना कठिन लगे तो यह बेहतर होगा कि भूरे रंग की सामग्री ज्यादा रखें। जब आप सही मिश्रण का निर्धारण करते हैं तो अपने कम्पोस्ट के ढेर को ध्यान से देखें यदि इसमें ज्यादा मुलायम या लुगदी की तरह लगे तो इसमें कार्बन की मात्रा डालें, जबकि यदि ढेर सड़ा हुआ नहीं है तो इसमें नाइट्रोजन डालने की जरूरत है, हरी नाइट्रोजन युक्त सामग्री जब विघटित होती है तो कम्पोस्ट ढेर से अमोनियम की गंध आ सकती है। अमोनियम की गंध को रोकने के लिए कार्बन युक्त भूरे सामग्री को ढेर में अच्छी तरह से मिलाये, और ताजा डाले हुए हरे रंग की सामग्री को ढक दें, भूरे रंग की सामग्री को ढालने से आप केवल गंध को ही कम नहीं कर सकते हैं बल्कि आप कम्पोस्ट ढेर को कीट और मक्खियों के संक्रमण से भी बचा सकते हैं। यदि आपका कम्पोस्ट बिन ढँका हुआ है, तो चूहे की कोई समस्या नहीं होगी, लेकिन यदि कम्पोस्ट ढेर में उनको कोई जगह मिल गयी तब आपका कारवाई करने की जरूरत है, सबसे पहले, आप यह देखें कि कम्पोस्ट ढेर में आप क्या डालते हैं, मांस और डेयरी उत्पाद तथा वसायुक्त खाद्य पदार्थ, जो जानवरों को आकर्षित करते हैं उसे डालने से बचें। नियमित रूप से ढेर की सामग्री को

उलट-पुलट करते रहें, ताकि जाली ना बन पाये, और हर बार हरी सामग्री डालें, भूरे रंग की सामग्री से उसे ढक दें, यह सुनिश्चित करें कि बिन में कोई छेद या दरार चौथाई इंच (०.६४ सेंटीमीटर) से ज्यादा ना हो, यदि बिन धरती पर रखा हुआ है, तो चूहों को रोकने के लिए बिन के तल तथा मिट्टी के बिच एक पतला लकड़ी का पट्टी रख दें। अंततः सूखा हुआ कम्पोस्ट ढेर टूट जाएगा, लेकिन यह कुछ समय ले सकता है, कम्पोस्ट ढेर में नमी बनाए रखें, लेकिन बहुत गीला ना करें। गर्म, शुष्क मौसम में उचित नमीस्तर बनाने के लिए पानी की थोड़ी अतिरिक्त मात्रा की जरूरत होती है। यदि कम्पोस्ट ढेर बड़ा है, तो एक समय में एक भाग को ही पलटें, लंबी इण्डी वाली रैक फिर लंबी छड़ी से ढेर के अंदर वाले सामग्री को बाहर तथा बाहर वाले सामग्री को अंदर करें, यह प्रक्रिया हर दो से चार सप्ताह पर दुहरा दें।



### कम्पोस्ट बनाने की प्रक्रिया में तेजी लाने के तरीके:

कम्पोस्ट बनाने के लिए हरेक सामग्री को छोटे टुकड़े छोटे टुकड़े में काटना बेहतर होता है, छोटे टुकड़े तेजी से अपघटित हो जाते हैं, ढेर को बार-बार पलटने से अपघटन की प्रक्रिया तेज हो जाती है, थोड़ी अतिरिक्त देखभाल के साथ, आप सिर्फ तीन महीनों में कम्पोस्ट तैयार कर सकते हैं, कम्पोस्ट परिपक्व होने का समय भिन्न-भिन्न होता है, यह आंशिक रूप से जलवायु के द्वारा निर्धारित होता है। गर्म तापमान सूक्ष्म-जीवाणुओं की गतिविधि बढ़ाने और विघटन की प्रक्रिया में तेजी लाता है, ठंडे तापमान गति को कम कर देते हैं, यदि यह गहरे रंग का और भूर-भूरा दिखने लगे तो इसका इस्तेमाल कर सकते हैं। अपरिपक्व मिश्रण का प्रयोग नहीं करना चाहिए, यह चूहा या अन्य कीड़े को आकर्षित कर सकता है।

### कैसे पहचान करें कि सिटी कम्पोस्ट प्रयोग करने के लिए तैयार हो चुका है?

एक साधारण बैग परीक्षण के द्वारा आप जान सकते हैं कि आपका कम्पोस्ट प्रयोग करने के लिए तैयार हो चुका है, एक

Continued to Page No. 20



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

Tippu Sultan Palace Road, Bangalore - 560 018.

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Share of Small & Marginal Farmers in Bank's financial assistance.

55.68%

### STRIKINGLY INNOVATIVE PROGRAMMES INTRODUCED BY THE BANK

- |  |  |
|--|--|
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|--|--|

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- |                                |       |   |
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| 1. 91 days                     | 7.00% | 5. 0.25% of additional Interest to Senior Citizens  |
| 2. 181 days                    | 8.00% | 6. Bank advances Gold, Vehicle Loan, Salary, House Mortgage Loans at attractive rate of interest. |
| 3. One year and upto two years | 9.40% | 7. Locker system available.   |
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## Rise in MSPs of kharif, rabi crops

(in percentage)

| CROPS                  | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|------------------------|---------|---------|---------|---------|---------|
| <b>Kharif Crops</b>    |         |         |         |         |         |
| Paddy (Common)         | 3.8     | 3.7     | 4.3     | 5.4     | 12.9    |
| Paddy (grade A)        | 4.1     | 3.6     | 4.1     | 5.3     | 11.3    |
| Jawar (hybrid)         | 2.0     | 2.6     | 3.5     | 4.6     | 42.9    |
| Jowar (maldan di)      | 2.0     | 2.6     | 3.8     | 4.5     | 42.3    |
| Ragi                   | 3.3     | 6.5     | 4.5     | 10.1    | 52.5    |
| Arhar (Tur)            | 1.2     | 6.3     | 9.2     | 7.9     | 4.1     |
| Moong                  | 2.2     | 5.4     | 7.7     | 6.7     | 25.1    |
| Urad                   | 1.2     | 6.3     | 8.1     | 8.0     | 3.7     |
| Cotton (medium staple) | 1.4     | 1.3     | 1.6     | 4.1     | 28.1    |
| Cotton (long staple)   | 1.3     | 1.2     | 1.5     | 3.8     | 26.2    |
| Ground nut (in shell)  | 0.0     | 0.8     | 4.7     | 5.5     | 9.8     |
| Soyabean (yellow)      | 0.0     | 1.6     | 6.7     | 9.9     | 11.5    |
| <b>RABI CROPS</b>      |         |         |         |         |         |
| Wheat                  | 3.6     | 5.2     | 6.6     | 6.8     | 6.1     |
| Barley                 | 4.5     | 6.5     | 8.2     | 6.4     | 2.1     |
| Gram                   | 2.4     | 10.2    | 14.3    | 10.0    | 5.0     |
| Masur                  | 4.2     | 10.6    | 16.2    | 7.6     | 5.3     |
| Rapeseed/mustard       | 1.6     | 8.0     | 10.4    | 8.1     | 5.0     |
| <b>OTHER CROPS</b>     |         |         |         |         |         |
| Jute                   | 4.3     | 12.5    | 12.5    | 9.3     | 5.7     |
| Sugarcane              | 4.8     | 4.5     | 0.0     | 10.9    | 7.8     |

Source: Government's reply to starred question in Lok Sabha on January 8, 2019

## Farmer producer firm shows women the ropes in farming

An all-women Farmer Producer Company established under the aegis of the Mann Deshi Foundation in Maharashtra has quietly began making waves. The Mann Deshi Kisan Producer Group has around 2,000 women members from Mhaswad in Satara district — an area reeling under the effect of the drought. The formation of this farmer producer company is now helping women farmers gain access to markets outside the village.

The Mann Deshi Foundation has already changed the lives of more than about 4,00,000 women who live around the Mann taluka in rural Maharashtra. Mann Deshi's multitude of activities include an all-women-run bank, some business schools for rural women, the first chambers of commerce for rural micro entrepreneurs, a community radio service and water conservation and sports programme. The bank, founded by Chetna Gala Sinha, is the first one in the country

for and by rural women to receive a cooperative licence from the RBI. In the two decades since the bank was set up (in 1997) with a working capital of ₹7,08,000 raised from its 1,335 members, it has reached 3,10,000 women (84,000 are borrowers), providing financial aid to become successful entrepreneurs.

From its single branch in Mhaswad, Mann Deshi operates with a working capital of ₹150 crore across seven branches in Maharashtra. Sinha chairs the Mann Deshi Foundation, a sister organisation, that has expanded its scope beyond its financial core and evolved into an umbrella platform for community initiatives - organising cattle camps, building check dams, running a local radio station and sports talent hunts - in western Maharashtra. The Mann Deshi Foundation also runs financial literacy classes, where women are taught the ropes of savings, investing, insurances and loans through



modules that comprise games like Monopoly. In 2014, the foundation set up a chamber of commerce to mentor aspiring women entrepreneurs. Now, there are three such chambers. It also operates a toll-free number to provide business solutions.

According to Sinha, the farmer producer company was officially formed a few months ago but informally was operating for the last couple of years. The company deals in both perishables and non-perishables. On a daily basis, some four trucks loads of vegetables from women farmers are sent to Mumbai which is supplied to 5-star hotels and local retail outfits in Mumbai. "A restructuring of the agriculture marketing system to give the farmer greater bargaining power through the farm-to-market value chain. Mann Deshi is setting up a cold storage as part of a central programme to minimise wastage for farmers and save produce for the next market," she said.

Vanita Pise, who handles the farmer producer company, said the company deals in foodgrains including jowar, bajra and maize in addition to vegetables. "Our model of procurement

is different and is done through farmer weekly bazaars which are run on the premises of the bank. Women farmers are then contacted and we send vehicles to their homes to procure grains. In addition to vegetables and grains we also deal in processing and make products including chikki (Fudge), syrups, flaxseed chutneys, amla candy, pickles among other products," she said. Since it was informally operating in the last couple of years, the cumulative turnover has touched ₹150 crore, she said. The Foundation has established a 2000-tonne warehouse and warehousing receipt operations should start from March 2019, she said.

The company has also traded onions and has sold some 2,000 kg to Mumbai. The Foundation is also advising women farmers on the kind of crops they should cultivate and a recent experiment with baby corn on some 20 acre proved to be a huge success, Pise said. The firm has appointed 'KisanDosts' - one for every five villages and the foundation reaches out to 30 villages at present. There are plans to expand and deal in more products.

### **Monsanto wins legal battle on GM cotton seeds**

The Supreme Court allowed Monsanto Technology to claim patent on its genetically-modified cotton seeds, giving a boost to firms developing new seed technologies. The ruling overturned an order of a Division Bench of the Delhi High Court last year which invalidated the patent granted to Monsanto — acquired by German firm Bayer AG — saying the gene sequence responsible for the Bt trait that eradicates pests afflicting cotton plants is a part of the seed, and hence, cannot be patented under Section 3(j) of the

Patents Act, 1970. The court's order came in a case filed in 2015 by Monsanto, through its Indian subsidiary Monsanto Mahyco Biotechnology Ltd, against Nuziveedu Seeds and its subsidiaries for selling Bt cotton seeds using its patented technology despite termination of a licence agreement. In its appeal in the apex court, Monsanto argued that the HC order would be an impediment to the entry of new technology in the farm sector as technology developers will lose pricing freedom.

### **Farm-loan waiver will impact credit culture: RBI Governor cautions States**

RBI Governor Shaktikanta Das has a word of caution for governments propagating farm-loan waiver. "Any generalized kind of write-off obviously has an adverse effect on the credit culture and future credit behavior of the borrowers," he said. Das was speaking to the media after his meeting with the trade bodies on issues concerning Micro, Small and Medium Enterprises (MSME). His remarks come at a time when three new State governments - Madhya Pradesh, Chhattisgarh and Rajasthan - have announced a

farm-loan waiver. Earlier, BJP-ruled governments in Maharashtra and Uttar Pradesh had also decided to go for a loan write-off.

Das felt that though elected governments have the constitutional mandate to take decisions with regard to their finances, every State government, before taking decisions on any kind of farm-loan waiver, has to carefully examine its fiscal space and whether there is any room for maneuvering.

### **Pre-cooling units help Strawberry farmers reach out to far-off markets**

The establishment of a pre-cooling unit by an enterprising farmer in Mahabaleshwar - the strawberry belt of Maharashtra - could mean a huge boost to the farmers in the region. Until now, despite strong demand from other states, farmers in the Mahabaleshwar-Panchgani belt of

Maharashtra were unable to cater to these requirements since this is a perishable fruit and has a short shelf life of barely two days. Thanks to the new unit established by Kisan Bhilare, President, Mahabaleshwar Cooperative Fruits, Flowers and Vegetable Buyer Seller Association at





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## **The Haryana State Co-operative Agriculture and Rural Development Bank Ltd., Panchkula.**

Shakarita Bhawan, Bays No.31-34, Sector-2, Panchkula, Haryana.

The Haryana State Cooperative Agriculture and Rural Development Bank Ltd. is the specialized 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 farmer for the following purpose.

| Sr. No. | Name of the Scheme                                       | Period         | Scale of finance                |
|---------|--|----------------|---------------------------------|
| 1       | Minor Irrigation, WCS/UGPL                               | 7 year         | ₹ 1.20 lacs to 5.00 lacs        |
| 2       | Farm Mechanisation                                       | 5 - 7 year     | 85% of cost of mechanisation    |
| 3       | Purchase of land   | 7 year         | Upto 15.00 lacs                 |
| 4       | Horticulture/Farm Forestry<br>Medicinal & Aromatic plant | 5 - 9 year     | ₹ 65000 to ₹. 4.40 lac per acre |
| 5       | Animal Husbandry   | 5 - 9 year     | ₹ 75000 to 14 lac. 5 unit       |
| 6       | Rural Godowns  | 7 year         | 90% of the Project Cost         |
| 7       | Rural Housing  | Up to 10 years | 2.00 lacs to 7 lacs             |

### **NON-FARM SECTOR**

| Sr. No. | Name of the Scheme             | Period        | Scale of finance        |
|---------|--------------------------------|---------------|-------------------------|
| 1       | Marriage places                | Upto 10 years | 90% of the Project Cost |
| 2       | Community Hall                 | -do-          |                         |
| 3       | Village/Cottage Industry       | -do-          |                         |
| 4       | Public Transport Vehicles      | -do-          |                         |
| 5       | Rural Education Infrastructure | -do-          |                         |
| 6       | Other SSI Units                | -do-          |                         |

The Loan for the purpose of Non-Farm Sector, Rural Housing and Purchase of land are being advanced @ 13.50% p.a. w.e.f. date 07.6.2018.

**Note:** For further details, kindly contact the Haryana State Cooperative Agril & Rural Dev. Bank Ltd., Panchkula and the District Coop. Agril & Rural Dev. Banks at Districts level and its branches at Tehsil & Sub-Tehsil level in the State.

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neighboring Wai, several farmers have begun to benefit.

After initial success with a small pre-cooling unit set up at a local school in Mahabaleshwar, using funds from the Bhilar Gram Panchayat funds, Bhilare decided that this was not enough and more needed to be done. He invested in a four-ton pre-cooling unit at Wai following demand from several corporates and traders. Because of this unit, farmers can now store their strawberries here without fear of the fruit going bad, he said. With the pre-cooling and blast freeze facilities, the shelf life of strawberry has gone upto four days. The facility is offered on a lease of ₹5 per kg for four hours and currently four tonne are being processed on a daily basis, Bhilare said. He says that demand has come from Big Bazaar, Big Basket, Reliance Fresh and traders from Jharkhand, Kolkata, Guwahati and Delhi while Jaipur has shown interest in procuring strawberries. Strawberries are now sent by air to Delhi, Guwahati, Kolkata and Jharkhand and by road to Hyderabad, Goa and Bengaluru. "An expression of interest has come from Saudi Arabia and we

are in the process of clearing the paperwork," he stated. Should the paperwork work out, farmers from Mahabaleshwar could send some 700 to 800 kg strawberries by air on a daily basis to Saudi Arabia, he stated. This season, strawberry has been cultivated on 3,000 acres, nearly 200 acres more than the last season. According to Bhilare, the crop is good this time and yield could go upto 200 kg per acre. At present, some four pre-cooling units are in operation in Bhilar and Wai Farmers are presently getting ₹200 per kg for their produce.

Balasaheb Bhilare, another major strawberry farmer in Bhilar, however, maintains that the crop could get affected due to the recent cold wave conditions in Mahabaleshwar when a thin sheet of ice formed over Vennalake and the strawberry fields. He said one cannot predict the condition and the quantum of the crop at this juncture. The daily production from the 2,000-acre strawberry plantation in Mahabaleshwar and surrounding regions is around 10 tonne during the season.

### **Techies write new code for farming success**

A Praveen, a 38-year-old IT professional, ordered groceries worth ₹1,200 online last week and was very happy to collect it from a designated outlet at Tellapur. Praveen's "joy" when he picked up his consignment was two-fold: One, he was able to buy something that is of high quality. And two, his "purchase" was more like a return that his wise investment has yielded.

"At the beginning of the kharif season, I had invested ₹12,500 on an one-acre plot of a women millet farmer in Sangareddy district. What I received last week was the first consignment of the produce," he told Business Line.

Praveen is not alone. He's part of a consumer-farmer network called Beyond Organic, which has decided to invest in farms directly. As many as 90 consumers, mostly IT professionals, have put in ₹15 lakh in the farms of 98 farmers in the two villages of Arjun Naik Thanda and Lachunaik

Thanda. And, these farms have produced 18 quintals of grains in all of the 90 consumers, as many as 58 have received 12.5 quintals of grains and processed food, which include ready-to-cook and ready-to-eat items. Attracted by the health benefits of millets, these consumers have formed the group just ahead of the kharif season and decided to invest in the farms.

### **A win-win deal**

For farmers, the investments by the IT professionals is like an interest-free loan. "The network has about 250 members. Of this, 98 have invested this year. We have devised two plans - ₹25,000 and ₹12,500, for consumers to invest. We give them a list of millets - both processed and not processed - that they will get at the end of the season," Satyanarayana Raju, who is part of the network, said.

### **Odisha launches income subsidy scheme for farmers**

In a newly-launched welfare scheme meant for farmers, the BJD government in Odisha distributed ₹622 crore among 12.45 lakh farmers in the State. Called Krushak Assistance Livelihood and Income Augmentation (KALIA), the income subsidy scheme was launched by the State Chief Minister Naveen Patnaik in Puri. The total fund earmarked for the KALIA scheme is around ₹10,000 crore.

According to Krishan Kumar, Special Secretary, Agriculture

and Farmer Empowerment department of the State, the scheme targets not just small and marginal farmers, but also the families of sharecroppers and also those with elderly members.

While a small or marginal farmer family would get ₹5,000 continuously for the next five cropping seasons, landless agricultural labourer families will get a one-time assistance payment of ₹12,500 to take up allied agricultural activity such



as fisheries or poultry, etc, he said. The families with elderly people, on the other hand, would get ₹10,000 a year, Kumar said. The farmers will be paid ₹5,000 each on AkshayaTrutiya for the Kharif crop and on Nuakhai for the Rabi crop, said

Patnaik. The State government has so far received 66 lakh applications. A total of 50 lakh families, after the scrutiny of the applications, will be given the income support.

### **Govt Plans to Link All Mandis with E-NAM Platform by 2022**

The government is planning to link all the 7,500 agricultural produce market committees (APMCs) along with the weekly and bi-weekly temporary markets (haats) across the country with e-NAM-the centralised online commodities trading platform - by FY22, Union Agriculture minister Radha Mohan Singh said. Currently only 585 APMCs are linked with e-NAM, he said but was quick to add that more than 400 more will be linked to this portal by 2020, taking the total to 1,000 APMCs. That apart, there are around 14,500 temporary mandis dealing in agri and non-agri goods across the country, which the farm ministry wants to interlink with the National Agriculture e-Market (e-NAM), he added. "we are planning to link 22,000 mandis by FY22," he told an event organized by Crop Care Federation. "This will be another step forward, in contributing to realise the goal of doubling farmers' income

by 2022 as declared by the prime minister," Singh said.

The Minister said the government is implementing several programmes to develop the farm sector and improve the economic condition of farmers. "Issues such as reducing the cost of production, ensuring remunerative price for farmers, stopping wastage and ensuring alternative sources of income are being addressed in a mission mode," he said and called for a more concerted approach wherein the government, industry and farmers work together to overcome these challenges. "The government has been working with the industry to help farmers confront the challenges facing them, however, there is a need to expedite support for them," he added. Singh said, the budgetary outlay of the agriculture ministry has been gone up ₹2,11,694 crore between 2014 and 2019.

### **RBI raises limit for collateral-free agri loans to ₹1.6 lakh from ₹1 lakh**

In the wake of the government announcing direct income support of ₹6,000 per year for small and marginal farmers in the interim Budget on February 1, the Reserve Bank of India, raised the limit for collateral-free agriculture loans to ₹1.6 lakh from ₹1 lakh. The increased limit will enhance coverage of small and marginal farmers in the formal credit system. "Presently the banks are mandated to extend collateral-free agriculture loans up to ₹1 lakh. This limit of ₹1 lakh was fixed in 2010.

"Keeping in view the overall inflation and rise in agriculture input costs since then, it has been decided to raise the limit for collateral-free agriculture loans from ₹1 lakh to ₹1.6 lakh," said the central bank in its Statement on Developmental and

Regulatory Policies, which accompanied the 6th Bi-monthly Monetary Policy Statement.

To provide assured income support to small and marginal farmers, the government said it will launch the 'Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) programme. Under this, vulnerable landholding farmer-families, having cultivable land up to two hectares, will be provided direct income support at the rate of ₹6,000 per year. This income support will be transferred directly into the bank accounts of beneficiary farmers in three equal instalments of ₹2,000 each. The programme will be funded by the Government of India.

### **KAU to set up incubators**

Kerala Agricultural University (KAU) has initiated steps to establish agri business incubators under the Rashtriya Krishi Vikas Yojana funded Remunerative Approches for Agriculture and Allied Sector Rejuvenation (RAFTAR) scheme. The project proposal submitted by KAU has been sanctioned by the Union Ministry of Agricultural Development and Farmers' Welfare. The project, amounting to ₹2.33 crore, will be implemented at the KAU main campus, Vellanikkara, under the Directorate of Extension. The centre at KAU is one of the four RAFTAR centres in South India, coordinated by the Hyderabad based MANAGE as

knowledge partner.

KAU Vice-Chancellor R Chandra Babu said that the university scientists will attend the national innovation, incubation and innovation workshop - SAMARTH - organised by Department of Agriculture, Co-operation and Farmers' Welfare from February 11-13 to launch the RAFTAR agri-business incubator. The centre at KAU will help accelerate economic development in the State. RAFTAR is intended to promote innovation and agri entrepreneurship. The state funded incubator in KAU has developed many innovative protocols to cater to the needs of emerging food processing sector. The



dominance of commercial and horticulture crops in the cropping pattern offers a vast scope for agribusiness opportunities in the State.

The thrust area of the KAU RAFTAR agri-business incubator is

### **In Maharashtra's Wardha villages, banking means ATMs coming home**

MAHADEORAO Fating is over 90, his wife Parvatabai close behind. The couple, who rarely move out of the tin-shed home in Waigaon village in Maharashtra's Wardha district, sustain themselves with the ₹ 600 a month that each gets under the state government's Shravanbal Yojana for elderly destitutes. Once in three months, the money gets deposited in their local State Bank of India branch. There's no way they can make that visit, so the bank comes to them - in the form of Sangita Kamble and her micro-ATM.

Kamble, 40, is a banking correspondent (BC) who takes banking solutions to the doorsteps of the Fatings and several others in their village. She is one of 115 BCs appointed under the Wardha district's Aaplaa Aadhaar Aapli Bank (Our Aadhaar, Our Bank), an Aadhaar-linked banking scheme in villages that either have no banks or where people have difficulty in getting to banks. Started in November 2017, the scheme has seen 1,59,787 transactions worth over ₹ 42.55 crore in Wardha - so far, 11 of the 115 BCs have recorded transactions of over ₹1 crore each. The BCs, most of them drawn from local self-help groups in Wardha, are trained by IDFC First Bank to operate the micro-ATM machine and carry out transactions. These include withdrawals and deposits, utility bills, pension and scholarship, mobile or TV recharge, and opening new accounts.

All that customers have to do is approach the BC with their Aadhaar numbers - in the case of the elderly and infirm, the

post-harvest technology. As per the proposal, KAU targets to incubate four ventures each and commercialise two products each in the next two years under the programme.

BCs carry out home visits - let the machine scan their biometrics and ask the BC for the money to be withdrawn or deposited. After each such transaction, the machine releases a slip and sends a message to the customer on her mobile.

Each BC gets ₹5,000 - ₹ 7,000 depending on the transaction, including commissions and a monthly honorarium of ₹ 3,000 from the Maharashtra State Rural Livelihood Mission (MSRLM).

In a bid to make BCs stakeholders, it was decided that they would invest in the micro-ATM. "The machines costs ₹ 50,000 each but MSRLM made them available to the BCs for ₹10,000, of which the Wardha District Planning and Development Committee (DPDC) pays ₹ 7,500 while the BC has to pay only ₹ 2,500," says Siddharth Bhotmange, District Manager, Financial Inclusion, MSRLM. Besides, the BCs use their own money for the transactions - if they run out of cash, they use their IDFC Bank debit cards to replenish it.

Nationwide, there has been a significant rise in the penetration of this banking model over the last eight years. While the branches in villages have grown from 33,378 in March 2010 to 50,805 in March 2018, the outlets through BCs in villages have grown over 15 times from 34,174 to 5,15,317 in the same period. Even in urban areas, the number of locations covered through BCs has jumped from just 447 in 2010 to 1,42,959 as of March 2018.

### **ICAR, ICRISAT in pact to collaborate on farm research for five years**

A five-year plan for Indian agricultural research was finalised with the signing of a Memorandum of Agreement (MoA) between the Indian Council of Agricultural Research (ICAR) and the International Crops Research Institute for Semi-Arid Tropics (ICRISAT). This plan will focus on technologies especially suited to harsh conditions of drylands, covering grain legumes and dryland cereals - groundnut, chickpea, pigeonpea, finger and pearl millet and sorghum.

The DGs of both organisations highlighted the longstanding partnerships between ICRISAT and ICAR and emphasised on collaborations to evolve, lead and innovate in agricultural technologies. The key projects they will work on include improved crop varieties, new breeding and enabling technologies, systems and modelling tools for better farm systems and nutrition-sensitive agriculture value chains.

### **Karnataka tomato growers to get crop, price forecasts from IBM using AI, ML**

Artificial intelligence (AI) and machine learning (ML) will soon come to the aid of Karnataka's tomato growers, who often face volatile price trends. IBM is developing for the Karnataka Agricultural Prices Commission (KAPC) an advanced price forecasting system - a dashboard that will predict the market price trends for at least a fortnight and the production

pattern of tomatoes. This will be launched in mid-March on a pilot basis.

#### **Multivariate analysis**

The dashboard, leveraging IBM's Watson Decision Platform for Agriculture as well as big data, AI and ML, uses satellite





imagery and weather data to assess the acreage and monitor crop health on a real time basis. It will be able to detect pest and disease infestations, estimate the tomato output and yield, and also forecast prices. Currently, the output estimates are based mainly on acreage data.

Other key input such as the prices in major markets of neighbouring States will also be factored into the price forecast. The price forecasting mechanism being developed for Karnataka is claimed to be the first of its kind in the country.

It is initially being launched for the three major tomato-growing districts of Kolar, Chikkaballapur and Belgavi and

two key maize-producing districts of Davangere and Haveri. Karnataka is a key producer of tomatoes and maize.

Last year, IBM had tied up with NITI Aayog to develop a crop yield prediction model using AI to provide real-time advisories to farmers in 10 districts of Assam, Bihar, Jharkhand, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh in the first phase. The project proposes to introduce and make available climate-aware cognitive farming techniques and identifying systems of crop monitoring, early warning on pest/disease outbreak based on advanced AI innovation.

### **Expert committee recommends ₹ 9,750 monthly national minimum wage**

A government appointed expert committee has proposed doubling the national level minimum wage (NMW) for a worker in the country to INR 9750 a month, up from a floor of INR 4576 at present. The committee has alternatively proposed an NMW at various regional levels in the range of INR 8892-11622 a month (depending on local factors) and suggested an additional house rent allowance for urban workers. The report of the expert committee, led by V.V. Giri, National Labour Institute (VVGNI) Fellow Anoop Satpathy, was made public by the Union labour and employment ministry. The labour ministry has put up the report, titled "Determining the Methodology for Fixation of the NMW", on its website for initiating stakeholder consultations.

The committee has drawn the minimum wage estimates at the national and regional level based on an 'improved' formula, keeping in mind the likely spending by workers' families on a mixed basket of the balanced-diet meal and non-food expenditure, on the basis of this approach, the committee is of the considered view that the single value of the NMW for India should be set at INR 375 per day as of July 2018.

Considering a worker works for 26 days a month, the minimum monthly wage came to INR 9,750. This wage level is irrespective of sectors, skills, occupations and rural-urban locations for a family comprising 3.6 consumption units, according to the report. Over and above the minimum wage, it recommended an additional house rent allowance of INR 55 per day, ie INR 1,430 a month for urban workers. The national level floor was last revised by 10% to INR 176 a day (or INR 4,576 a month) in July 2017. This floor is, however a recommendation from the central government and is not legally binding on states. The committee's proposal is a departure from the present methodology adopted to compute minimum wage. At present, each state can set its

minimum wage for various industries, based on daily spending estimates for a working class family on 2,700 calories of food per person 72 yards of clothes, minimum housing rent and education, and light and fuel, as prescribed by the Indian Labour Conference in 1957.

The present methodology, followed by most states and the Centre, factors in a calorie-based diet for estimating the household expenditure of a worker (considering a consuming unit of three). However, according to the committee's proposed formula, a family with a consumption unit of 3.6 requires 2,400 calories of food, along with a minimum of 50 gm of protein and 30 gm of fat every day, according to the National Sample Survey Office's consumption-expenditure reports. The committee has proposed a reduced intake of calories for calculating wages because it found, through empirical evidence, households were relying on a mixed basket of food and consuming less calories due to a 'reduction in the proportion of workers engaged in heavy work and an increase in the member of workers in moderate and sedentary occupation. Further, the report proposed the minimum wage included reasonable expenditure on 'essential non-food items' such as clothing, fuel and light, house rent, education, medical expenses, footwear and transport. The committee has recommended a minimum wage for five different regions with diverse socio-economic and labour market situations as an alternative to a national level minimum wage. Four of these five regions were grouped using varied socio-economic and labour market factors, while the fifth group included all North-eastern states except Assam. The socio-economic factors considered to group major states into five categories were state income, cost of living, labour market situations, and levels of women's empowerment.



### Region specific minimum wages proposed (in ₹ )

| Region I  | Region II  | Region III   | Region IV   | Region V   |
|---|--|--|---|--|
| 342/ day or<br>₹ 8,892/ month   | ₹380/ day or ₹ 9,880/<br>month   | ₹ 414/ day or<br>₹10,764/ month                                  | ₹447/ day or<br>₹11,622/ month                                | ₹386/ day or<br>₹10,036/ month   |
| Assam, Bihar,<br>Jharkhand, Madhya<br>Pradesh, Odisha,<br>Uttar Pradesh, and<br>West Bengal | Andhra Pradesh,<br>Telangana,<br>Chhattisgarh,<br>Rajasthan, Jammu &<br>Kashmir, and Uttarakhand | Gujarat, Karnataka,<br>Kerala,<br>Maharashtra, and<br>Tamil Nadu | Delhi, Goa,<br>Haryana,<br>Himachal<br>Pradesh, and<br>Punjab | Arunachal<br>Pradesh, Manipur,<br>Meghalaya,<br>Nagaland, Sikkim,<br>Mizoram and Tripura |

### Budget 2019 - 2020 - A growth driver

#### The Budget provides relief to many sectors

The presentation of the Interim Budget is to be seen in the context of various headwinds that are facing the Indian economy, including slower global growth and trade rates, subdued consumption, and farmer stress. At this time, it was necessary to impart a strong stimulus to the economy while adhering to the fiscal deficit as much as possible. In these circumstances, the Budget is balanced and prudent while providing an impetus to growth.

For industry, the emphasis on retaining fiscal deficit at 3.4 per cent for 2018-19 and continuing on this course for 2019-20 is critical. Fiscal deficit is central to financial sector stability, interest rate trend, and availability of credit for industry. Industry commends the government for this move.

#### Support for farmers

The Budget targets key consumer sections of the economy as well. The basic income support for small farmers owning less than two hectares of land at ₹6,000 per year is a strong push for ensuring stability to rural incomes.

There is also a set of measures aimed at diversifying rural incomes from farming to livestock activities.

Similarly, efforts to expand social security are most welcome, given that the unorganised sector workers have been suffering from lack of an umbrella protection system. Once this protection is available to workers, it is possible to envisage a more flexible labour regulatory environment for industry. We hope that the government would consider fast-tracking labour reforms.

The Budget has made a significant contribution towards lowering the tax burden on the middle class. Apart from doubling the exemption limit to ₹5 lakh, there are relaxations in the ceilings for interest income, standard deduction, and

TDS on rent. Overall, this adds to confidence of consumers and would incentivize higher demand.

With housing as a focus for the Budget, the common household gains new assets which again adds to its overall security. It also helps the real estate sector which has been troubled by high inventories. This in turn translates into better demand for products of related industries such as cement, steel, furniture and fittings, and so on.

The Budget increases capital spending to ₹3.36 lakh crore, which is marginally higher than the Budget estimates for 2018-19. The Railways has been a beneficiary of this with increased expenditure of 22%, while allocations for infrastructure in the North East region addresses critical deficiencies. This would also add to overall demand.

The government has not touched GST rates which are in the purview of the GST Council. Similarly, customs rates have not been taken up, whereas industry had expected certain steps to redress anomalous duty structures arising both due to free trade agreements and imposition of IGST.

Another key expectation of industry was that the angel tax issue would be examined in the light of the fact that start-ups have suffered a decline in number of deals going through over the last two years.

Infrastructure financing is a challenge for the private sector and some measures to improve long-term credit availability would be welcome. An active secondary corporate bond market, more power to National Infrastructure Investment Fund (NIIF), and setting up of a Development Finance Institute can help in this regard.

In sum, the Budget is a balanced one that would help create new growth drivers for the economy while bringing significant relief to many sections of society.



## KALIA launched: How Odisha new scheme supports farm community with payments

Among a number of farmer-specific schemes, announced or planned, across the country ahead of the Lok Sabha elections, the Odisha government has come up with a support scheme whose primary targets are small farmers, cultivators and landless agricultural labourers. Called KALIA, the scheme involves payments to encourage cultivation and associated activities.

### The scheme

Short for Krushak Assistance for Livelihood and Income Augmentation, KALIA was launched last month and completed its first phase of registration. Under the scheme, ` 10,180 crore will be spent over three years until 2020-21 in providing financial assistance to cultivators and landless agricultural labourers. At the Krushi Odisha 2019 event in Bhubaneswar, Chief Minister Naveen Patnaik claimed the scheme will benefit 92% of the cultivators in the state and include every category from big farmers to landless cultivators.

### Farmers, big or small

All farmers will be provided ₹ 10,000 per family as assistance for cultivation. Each family will get ₹ 5,000 separately in the kharif and rabi seasons, for five cropping seasons between 2018-19 and 2021-22.

Although the scheme is not linked to the amount of land owned, the government insists it will “greatly benefit” sharecroppers and cultivators, most of whom own little or no land. “The scheme has been made equitable, looking at the best-case/worst-case scenario problems of a small farmer. At the same time, we don’t want to target only certain farmers and leave out others; whether you own one acre or five acres, you get the same financial assistance,” said an Agriculture Department official.

### Work for landless

This targets 10 lakh landless households, and specifically SC and ST families. They will be supported with a unit cost of ₹12,500 for activities like goat rearing, mushroom cultivation, beekeeping, poultry farming and fishery. “The beneficiary is encouraged to choose an activity with which he is familiar because these trades require some skill and network. The idea is to identify an existing capacity and build

on it. We are working on a skilling component to be added to this form of assistance,” an official said.

“This is also going to be an area-specific scheme in the sense that an input support for a particular trade, say mushroom cultivation, will be provided if it is prevalent throughout that locality so that there is aggregation of produce. A critical trade, dairy production, has deliberately been kept out because keeping a cow is more expensive, while milk production needs to have a collection route or agency that processes and refines this low shelf-life product. On the other hand, poultry farming and fishery do not need a strong ecosystem to survive and has a ready market of consumption or cheap method of preservation. Similarly, beekeeping is done by many self-help groups, so they are already familiar with the networks of that trade,” the official added.

One of the interventions will assist the elderly, sick and differently-abled population who are unable to take up cultivation, by providing ₹10,000 per household per year. This is meant to be used for sustenance.

“This is a component that will not be implemented immediately. Odisha already offers free healthcare under the Biju Swasthya Kalyan Yojana. The state disburses old-age pensions and other forms of assistance, for which this additional component will have to be better tailored,” an official said.

The KALIA scheme includes a life insurance cover of ₹ 2 lakh and additional personal accident coverage of the same amount for 57 lakh households. Crop loans up to ₹ 50,000 are interest-free.

An Agriculture Department official said: “Unlike a loan waiver, (through which) banks appease a few farmers, KALIA’s main targets are rural activities as a whole. We will support farming on a small scale, sharecropping, fishing, animal herding, which are not covered under bank loans, but are caught in debt traps set up by local moneylenders. Also, a farm loan waiver will reduce credit available to farmers in the long term, while income support can be used to make a repayment or at least activate a bank account which can then receive a loan.”

## How to address regional imbalances in agriculture credit in India

A defining feature of agricultural credit is that it is an indirect (as opposed to direct) input into agriculture, i.e. credit enables the farmer to buy inputs like seeds, fertilisers, pesticides, insecticides, etc, which has a bearing on what happens in his field and, ultimately, on his income. This criticality of agriculture credit perhaps lends it a power that no other indirect input has ever commanded.

Many a time, experts and opinion-makers have sought to attribute a one-to-one correspondence between growth of agriculture credit and agricultural production. No doubt, growth in agriculture credit is essential for supporting production, but it would be erroneous to seek a perfect correlation between the two, as agriculture credit influences agricultural production through other direct inputs.





In the last decade, agriculture credit has registered a per-annum average growth of 16.5%. In terms of physical outreach, the three credit purveying agencies (commercial banks, cooperative banks and regional rural banks) have been able to add 699 lakh accounts between 2007-08 (440 lakh accounts) and 2017-18 (1,139 lakh accounts). The above aggregate numbers at the all-India level speak for themselves. However, the system needs to go up by a few notches in terms of equity aspects. The inclusiveness quotient in terms of regional distribution and connect with real sector variables can be further strengthened. For example, the five southern states together account for almost 43% of the amount disbursed and agriculture accounts. The next largest share in terms of amount is garnered by the northern region and is almost half of southern region (see table). The increased share for the southern region may be because of better infrastructure facilities, better outreach and credit delivery outlets. The skewed distribution of agriculture credit across regions is presented in the accompanying table and calls for redressal.

| <b>Share of agriculture credit &amp; real sector indicators</b><br>(Region-wise) |                           |                             |                             |                               |
|--|---------------------------|-----------------------------|-----------------------------|-------------------------------|
| (In %)<br>Region   | Agri. credit<br>(2017-18) | Agri. accounts<br>(2017-18) | Gross cropped<br>area (GCA) | Rural /semi<br>urban branches |
| Northern   | 22.02                     | 12.71                       | 20.11                       | 16.62                         |
| North-east   | 0.88                      | 1.37                        | 2.83                        | 3.16                          |
| Eastern  | 8.10                      | 14.29                       | 14.65                       | 17.99                         |
| Central  | 14.43                     | 17.63                       | 27.26                       | 21.51                         |
| Western  | 12.04                     | 10.96                       | 16.47                       | 12.98                         |
| Southern   | 42.53                     | 43.04                       | 18.68                       | 27.74                         |
| All-India  | 100                       | 100                         | 100                         | 100                           |

Source : Calculated based on data from NABARD, MOA and RB

Economic textbook logic tells us that wherever the demand-side factors are conducive, resources (read agriculture credit) should flow towards those regions. For example, the share in credit of the eastern region is quite low compared to its share in the gross cropped area. Similar is the case with the central region. The distribution of real sector variables calls for a much better distribution of credit across regions (see table). What it indicates is the well-known reality that markets do not necessarily allocate resources optimally if left to themselves. The regional imbalance in agriculture credit has persisted for long despite the demand-side mapping reflecting a different picture. So, what needs to be done to make agriculture credit distribution more equitable?

### Few suggestions

While policy stakeholders have been aware of the distortions, a more hands-on approach is required. There is a case for making concerted efforts to cover all farmers' households within the fold of agriculture credit across regions (except southern and northern regions where the number of agriculture accounts is more than the number of farmer households). The gap between farmer households

and agriculture accounts is the highest in the central and eastern regions, at 166 lakh and 152 lakh, respectively.

Fixing priority sector lending (PSL) should become a more granular exercise based on regional realities—the uniform norm of 8% credit going to small (less than 2 hectares) and marginal (less than 1 hectare) farmers under the 18% overall target of agriculture credit under the current PSL guidelines needs to be revisited and targets fixed based on regional realities. Introducing differential weight to the credit disbursed in agriculture credit-starved regions could be considered. Small and marginal holdings constitute 95%, 82% and 86% of total operational holdings in the eastern region, north-eastern region and central region, respectively, and for these regions the said target should be of a higher order.

Digital technology has opened alternatives that can act as substitutes for brick-and-mortar branches, viz. business correspondents, business facilitators, mobile telephony technology, digital card technology, etc. Now, the policy challenge is to ensure that these interventions help leapfrog these hitherto credit-starved regions into the next league. The tendency of digital interventions gravitating towards the already well-endowed regions will accentuate the problem and runs the risk of becoming counterproductive. A similar focus should be in the case of farmers' collectives like farmer producer organisations and joint liability groups as these help reap economies of scale both on the output and input markets and become vehicles of purveying credit to small and marginal farmers.

Digitisation of land records, which is under way in most states, needs to be completed on a mission mode in the eastern and north-eastern regions, as this can provide the much-needed reform at the bank branch level for credit expansion at a click of a button. Digitisation of land records will pave way to bring vibrancy in developing a land lease market.

The government has embarked on an emphatic initiative to complete the identified irrigation projects in a time-bound manner providing irrigation facility to 80 lakh hectares. This shall increase the credit absorption capacity in the command areas of these projects. To hasten the credit flow in these areas, banking plans are required under an 'area development' approach. The impact of public infrastructure creation in rural areas, be it irrigation, connectivity, health, sanitation or education, on enhancing credit absorption capacity and expenditure pattern is a proven one. In the credit-starved regions, rural infrastructure creation needs to be dovetailed with the small area-based plans for various agriculture investments including devices for efficient use of water, electricity and solar power that require bank credit and get the banks on board for these plans.





Agriculture credit has, over the last few years, won the battle of 'growth' - the cake has grown bigger - but it still has to get the distribution aspect right. This is the immediate

unfinished agenda of 'agriculture credit in India', which requires focused attention from all the stakeholders.

### UP to gain most from farmers' scheme

Uttar Pradesh may be the biggest beneficiary of the Centre's assured income support programme due to sheer number of small and marginal landholders in the state, but it is Kerala which figures at the top if one looks at the data in percentage term as over 99% of the farmers there have landholdings of less than five acres.

Under the income support programme (PM-KISAN), announced in the government's interim Budget, the Centre will annually provide ₹6,000 each to only those over 12 crore landholders who have cultivable land of less than five acres (two hectares).

State-wise figures of such landholders show that over 50% of the total beneficiaries will be from five states with the highest of them (2.21 crore) coming from Uttar Pradesh (UP) followed by Bihar (1.59 crore), Maharashtra (1.18 crore), and Madhya Pradesh and Andhra Pradesh (over 75 lakh each).

Over 80% will come from 10 states where Kerala figures at the top in percentage terms followed by Bihar, Bengal, UP and Tamil Nadu. Except Bihar and West Bengal, all the states in the list along with Telangana have adequate digital land records.

These figures are part of the 2015-16 agriculture census, released late last year, which will be the basis of implementing the ambitious assured income support programme while arriving at corroborative land data.

Union Agriculture Minister Radha Mohan Singh confirmed to TOI about making the 2015-16 census as the basis of implementing the programme. He said, "We have this latest farm census data which will be used to collate and corroborate all relevant informations for implementing the

PM-KISAN. The states have already been asked to share their data."

The ministry wrote to all states asking them to share their digital land data base comprising details of beneficiaries including name, gender and SC/ST status. The states which do not have complete land records in digital formats may share their data of beneficiaries of various schemes.

Stepping up measures to implement it as early as possible, the Centre will issue detailed guidelines for its implementation in the next two-three days and appoint link officers in agriculture ministry for each state for monitoring.

Asked how the Centre would arrive at exact data of beneficiaries for properly implementing the programme, additional secretary in the agriculture ministry Ashok Dalwai said, "It'll be implemented through electronic medium so that there is no middlemen and money can be transferred directly to the farmers' Aadhar-enabled 'Jan Dhan' accounts".

Dalwai, who headed the committee on doubling farmers' income, said, "We have data base of over 11 crore soil health cards (SHC), Jan Dhan accounts and various other schemes including crop insurance. We'll use algorithm to come out with a comprehensive centralised data base of all farmers. The ministry's link officers will soon visit states and discuss the modalities to have a complete data of small and marginal farmers."

Officials in the ministry believe that the Jan Dhan-Aadhaar-Mobile (JAM) penetration will eventually play a vital role in identifying beneficiaries and weeding out non-eligible ones.

## HIGH LEVEL COMMITTEE (HLC)

### To monitor the health of cooperative credit Institutions

High Level Committee to review health of cooperative banks in Kerala was organized under Chairmanship of **Shri Tome Jose, IAS, Chief Secretary** on 18th March 2019 along with **CGM Shri R. Srinivasan**, GM Shri Gopakumaran Nair, DGM Shri M S Rao, Team Dos and RBI officials had attended the meeting.

**While Chief Secretary appreciated the detailed analysis on the financial health of cooperatives in Kerala, he advised Secretary Cooperation to have a similar review at Government level.** In this connection

CGM invited Secretary Cooperation and RCS to leverage SLTF meeting being conducted at periodic intervals at NABARD.

The HLC decided to include review of SCARDB financials also in future. The forum was appraised about the deviation in Audited Profitability/CRAR of the banks with that of inspection report and its likely impact on the CRAR of March 2019. In view of these deviation the additional capital infusion that may be needed for the proposed merged entity was also impressed upon to the forum.



### Block chain tech to give a history of Mahindra Agri's grapes

In a bid to dispel global concerns over transparency of the supply chain and the overall brand image of Indian grape exports, Mahindra Agri Solutions is introducing blockchain technology in its grape exports business. This will enable the consumer to be assured that what they are consuming is safe, Ashok Sharma, Managing Director and Chief Executive Officer of Mahindra Agri Solutions Ltd, told. Sharma believes that this adoption will be quite disruptive and it will help change the perception of Indian origin fruit or food, adding that there are very few use cases in India on blockchain technology.

The company will be initially dispatching around 40-50 containers of grapes enabled with blockchain technology, out of the total 800-900 containers to be exported this season, the supply chain for which has already been set up. This number is set to increase post proof of concept. The dispatches will start by January or February and the focus

markets for now would be China and Europe. Sharma said Mahindra Agri has been working on how to create a technological differentiation with its customers and how to build the "overall brand image" of Indian exporters and grapes. This accrues from global concerns about the Indian farming practices, what the supply chain is like and questions on how ethical it is, "to the extent that there is an issue on the overall brand image for Indian grapes," he said. Calling it a game-changer for the industry, Sharma said the benefit of this adoption of blockchain technology will be in the form of creating an ecosystem which would help track all the details of the entire supply chain with the help of a digital code. Interlinking various stakeholders such as the suppliers, importers, customers and farmers, these details will include who the farmer is, the dates of lab-testing and harvesting, the processes involved, the Google map-enabled images of farm/land records, certificates from government-approved agencies and the kind of chemicals used.

### Paddy in brine

When the devastating floods in August submerged large tracts of farmland across Kerala, the Pokkali paddy variety, which grows to a height of up to 2m, survived the rising waters. The GI-tagged Pokkali is a salt water-tolerant paddy grown in the coastal fields of Alappuzha, Ernakulam and Thrissur districts. Endemic to central Kerala, the variety is now grown in only over 5,000 hectares, a drop from over 25,000 hectares a few decades ago, due to high labour cost and poor returns. The single-season paddy is raised in saltwater fields between June and November followed by a season of fish-farming. After the harvest, the paddy stubble in the fields acts as food and shelter for shrimp and small fish.

Fish excreta and scales, along with the decomposed stubble, provide excellent natural manure for another season of Pokkali. Today, this farming tradition is under threat. While Pokkali rice fetches a good ₹110 a kg, the production does not compensate the farmer for the strenuous, labour-intensive cultivation. Lack of labour has forced farmers to try using mechanised tillers and rice planters for cultivation lately, but harvest remains labour-intensive. Pokkali rice is consumed locally. With just a few farmers growing the crop now, local societies, cooperative banks and MGNREGA groups have stepped in to protect this variety of rice, which the local people believe has medicinal properties.

### A jackfruit revolution of sorts to achieve food security

Varghese Tharakan from Velurgrama panchayat in Thrissur district is creating a jackfruit revolution of sorts with the 'Ayurjack' variety. When he felled the 6- and 12 year-old rubber trees on his five acres at Kurumalkunnu in the panchayat for planting jackfruit saplings, nobody took him seriously. But two years down the line, people from far and near, including experts from reputed foreign universities such as Colorado and Adelaide and a BBC team, have visited his Ayurjack plantation to see a farming miracle on a sloppy hill area, 16 km from Thrissur. The fruit-bearing jackfruit trees, hardly seven to eight feet high, are a treat for the eyes. They can be grown in small housing plots of two to three cents or even on the terrace in a big drum.

#### Rainwater harvesting

Ayurjack is a jackfruit variety developed by Mr. Tharakan. It bears the sweet 'Varikka' variety of jackfruit in one-and-a-half years under proper care. "Ayurjack is my experiment towards achieving food security. Jackfruit is a staple food, which also fights many diseases, including diabetes. "It is a gluten-free fruit, which can prevent even cancer. Unlike normal varieties of jackfruit trees, Ayurjack gives fruits throughout the year if properly maintained," Mr. Tharakan said. His scientifically designed five-acre plantation is a perfect model for rainwater harvesting. Small trenches are dug up to create many layers on the hill slopes to harvest every drop of rainwater.



## This organic farmer shows how there's moolah in lemon

Surendranagar, in Gujarat's Saurashtra region, is reeling under drought. Most farmers in this district, which is India's largest cotton producer, have harvested little crop following last year's monsoon failure. Hamirsinh Parmar from Gautamgadh village in Surendranagar's Muli taluka is an exception. He hasn't taken much of a hit — thanks to the income from his lemon orchard and the higher prices of his organically-farmed produce. Parmar has six hectares land, on which his lemon orchard is in a plot measuring around 1.6 hectares. About 25 years ago, I decided to develop this particular plot into an orchard by planting 220 lemon saplings," he states. In 2007-08, Parmar, after retiring as a purchase officer with the Gujarat State Cooperative Cotton Federation, took a further step. He converted the orchard — having an open well recharged by water from the Nayka Dam on the Bhogavo River — into an organic field. "My job required me to meet farmers to procure their cotton. The first thing that Parmar did was to reinforce the perimeter dyke of his orchard, to prevent entry of rainwater from neighbouring fields whose farmers could be using chemicals. He also installed a drip irrigation system to cut water consumption. To prepare manure, he used the dung from a cow reared on his farm and foliage from trees — lemon, neem, rose apple, apple berry, mango and chikoo — and stems of vegetables grown as an intercrop in the orchard. For pest control, he formulated a compound of lemon extracts, aankado (*Calotropis procera*) leaves, cow urine and butter milk. "I make about 1,000 50-kg bags of manure annually, a quarter of which is used in my orchard. The rest I sell; that alone earns me over ₹ 1 lakh," claims Parmar.

The 67-year-old harvests 100 quintals of lemon on an average per year. Since the trees, planted at a spacing of 25 feet each, don't grow too high, he is also able to take vegetables as intercrops round the year. "I have been

marketing my lemons and vegetables as produce harvested from an organic farm. Being richer in taste and aroma, too, my consumers don't mind paying 15-25% more than the market rate. Normal lemon sells for ₹ 80 per kg, while my product fetches ₹ 100. Besides, I make roughly ₹ 1,000 daily from sale of brinjal, okra, spinach leaves and other vegetables grown in the same orchard," notes Parmar. Higher income apart, Parmar has also seen his input costs practically halve. "My spending is limited to purchase of vegetable seeds and hiring of labour. Earlier, chemical fertilisers and pesticide were a cost, whereas now manure is giving me income," he observes. Parmar, however, admits that his farm being just 20 km from Surendranagar has been a major advantage. He himself stays in the town, leaving day-to-day management of the farm to a labourer paid ₹ 3,500 per month. Parmar sells the harvested produce directly from his home to consumers in an urban centre, realising a better price. He pegs his gross yearly revenues at ₹ 5.5 lakh, as against all-inclusive input expenses of ₹ 1.5 lakh.

The other new thing that the sexagenarian farmer has sought to do is value addition. Lemon production is the highest during the monsoon, but market demand does not go up during that period. To address this, he has started making pickles from his organic lemons on an experimental basis. The market response, according to him, is encouraging.

It is not for nothing that Parmar's farming practices has already won him the Gujarat government's Sardar Patel Krishi Sanshodhan Puraskar award for 2016-17. Even before that, he was declared the best farmer of Surendranagar by the district's Agricultural Technology Management Agency. Either way, he has shown that the market for lemons can offer something beyond the ordinary for farmers.

## Doubling farmers' incomes differently

The government wants farmers' incomes to double in five years by 2022. While a laudable objective, the reality today is that farmers are suffering stress, if not shrinkage, in their incomes. Let's view these issues a little differently from the perspective of dairy industry. Agriculture and allied activities, in 2015-16, contributed 17.7% of India's overall gross value added at current prices. But within this larger agriculture sector, milk's share in output value was 19.7%, which means one in every five rupees of farm income comes from it: Almost every farmer, irrespective of which main crop he/she grows, also produces some milk whose total value of

output in 2015-16 was estimated at ₹ 5.61 lakh crore.

Milk's advantage is that it is sold daily and generates income round the year. This income is, moreover, steady — milk prices are generally not volatile unlike other agri-commodities. It, therefore, reduces dependence upon the moneylender, at least to keep the home fires burning.

Unfortunately though, milk, too, in the recent period hasn't been spared from the crisis facing other crops, arising largely from an inability and the lack of a framework to handle surpluses. From a policy angle, the right response would





have been to anticipate these surpluses, which was known to every dairy sector watcher. Had the one-litre surplus powder been bought by the government at, say, ₹ 180/kg from cooperative dairies and given as commodity aid to milk deficit countries in South and Central Asia or Africa, the total cost even over three years would have been just ₹ 5,400 crore. That cost may have been still lower — ₹ 500-600 crore annually — if the powder was sold at ₹ 120-130 per kg, just below international prices.

The poor understanding of agricultural commodity market dynamics is also seen in the response to farmer distress though increases in crop MSPs. To double farmers' incomes, what we need is a new market intelligence-based framework for handling surpluses, besides a focus on reducing production costs that I shall illustrate through milk.

An adult cow requires about 750 grams of crude protein (CP) daily for its basic body maintenance and mobility. In addition, 100 grams is needed for every litre of milk produced. So, for 15 litres, the total CP requirement is 2,250 grams/day. One reason why milk production costs are high is that farmers now supply much of this CP requirement through costly

compound cattle feed or de-oiled groundnut/mustard cake. So, they end up feeding only the animals already in milk, while giving the ones not producing — including the young calves — ordinary green fodder or straw and some de-oiled cake.

For a farmer keeping 30 cows and exclusively growing Co-5 fodder on five acres, the annual savings from sale of 250 litres daily on an average would be ₹ 4.6 lakh. These savings are nothing but additional income.

Farmers' incomes can similarly improve by cutting out the middleman. We were the first dairy to go beyond direct procurement of milk to making payments directly into farmers' bank accounts. When farmers have money in their accounts, bankers start viewing them as creditworthy customers. They can now borrow at 10-12%, as against 48-72 per cent charged by loan sharks. Farmers should be made aware about the limitations of price increases and the potential to raise incomes through lowering production costs and disintermediation. The onus lies on policymakers to shift gears from "managing shortages" to "handling surpluses".

### **MSTC to e-auction North-East farm produce**

State-owned MSTC Ltd is looking to adopt the e-auction route to market agriculture and horticulture products of the North-Eastern States. If successful, it will be replicated in other States. According to BB Singh, Chairman and Managing Director, MSTC, it is currently running a pilot with some specific agriculture produce such as ginger of Nagaland and pineapple from Tripura. Moving to the e-auction platform will help fetch farmers better price. Apart from providing the e-auction platform, MSTC, will also help advertise and market the products from the North-East, thereby managing or creating demand for them. "Since we have pan-India operations, we are near buyers in mainland India. So, people from our offices can advertise and do the marketing for the producers of the North-East apart from hand holding and training them to participate in the e-auction," Singh said.

#### **Logistical hurdles**

MSTC conducted the first e-auction of around 700 tonnes of ginger of Nagaland in 2017, wherein the sellers were required to bring their produce to Jorhat in Assam. However, only around 300 tonnes could be sold as a majority of the ginger could not be transported to Jorhat from Nagaland due to the onset of monsoon. Similarly, in 2018, while an e-auction was conducted for around 1,000 tonnes of ginger, only 100 tonnes could be sold. According to Singh, logistics is a major impediment in scaling up the project. The company is scouting for partners to overcome logistics issues in transporting agricultural produce from the region. Singh also highlighted the need for setting up packaging houses so as to ensure that the agricultural produce is washed, cleaned and preserved properly to ensure that it does not spoil while in transit.

### **Farm loan waivers no solution, says NITI Aayog member Ramesh Chand**

Instead of populist measures such as farm loan waivers or fiscally unsustainable Rythu Bandhu-type income support schemes, the Centre should ensure more farmers have access to institutional credit, it should formulate a more efficient crop insurance scheme and prevail upon the states for effective implementation of the minimum support price policy, NITI Aayog member Ramesh Chand has said.

"The best package for farmers is one that can ensure

remunerative prices for their crops. All other things like loan waivers will not be that meaningful," he told. Thanks to the new MSP policy that promises 50% return over cost of production (A2+FL), the average realisation in most crops this year has been higher than the previous year, he said. Even if the procurement hasn't risen much, the policy has had an impact on market prices. For paddy, the average price realisation by farmers is 7% higher in October-December





2018 than in the same period in 2017, Chand said. Even in case of paddy and wheat, where robust procurement has taken place over the past so many years, the overall procurement is about 30% of the production. It is not that procurement needs to be 80% or even 50% for it to have the desired impact on the market. The second priority of the government should be to make available adequate credit to fund-starved farmers to buy farm inputs. As per a NABARD survey, only 36% of farmers take loans from institutional sources. As many as 48% farmers do not take loans due to various reasons and of the remaining 52%, 70% take loans from institutional sources while others get credit from private money lenders.

Even as farm loans waivers are the flavour of the season, with political parties vying to outdo one another in write-offs, official data shows that in Punjab, Tamil Nadu and Kerala, fresh agricultural loans in 2015-16 were much higher than the estimated value of crop output in that year, clearly

### **Maharashtra farmers to get sops for using solar pumps**

To encourage farmers to use solar agriculture pumps, the Maharashtra government has decided to give two LED bulbs, a DC fan and a mobile charging socket as freebies. The State has launched the Atal Solar Krishi Pump Yojana (ASKP) for farmers with a subsidy of up to 95 per cent on solar pumpsets. The State plans to install one lakh solar pumps.

### **Power bills**

The State aims to reduce losses due to non-payment of electricity bills and also promote solar energy by implementing the scheme. The Government Resolution

indicating that much of the funds don't really go into agriculture.

Thirdly, whenever there is some natural calamity, the insurance payment to farmers must be prompt and adequate, Chand said. Due to a spate of farm loan waivers, the number of loanee farmers (for whom insurance is mandatory) covered in both kharif and rabi seasons declined by 19% from 4.36 crore in 2016-17 to 3.54 crore in 2017-18.

The government could tweak the scheme to incentivise farmers to take the insurance cover on a recurring basis. Appreciating Telangana's RythuBandhu-type scheme, which is also being adopted by Odisha, Jharkhand and West Bengal, Chand said such a scheme would, however, have huge fiscal implications for the Centre. If the Centre follows the Telangana's investment support of ₹ 8,000 per acre to farmers in a year, the cost for a national level scheme would be about ₹ 2.6 lakh crore (net sown area 33 crore acre).

issued on January 1 states that along with solar pump, farmers will get two LED bulbs, a direct current (DC) fan and mobile charging socket.

Farmers with less than five acres will have to pay 5% of the cost of a 3 HP solar pump while farmers with more than five acres will get a 5 HP solar pump and the sops. The scheme would be beneficial to farmers who reside in remote areas where the agricultural feeder is not possible. The Maharashtra State Electricity Distribution Co Ltd (Msedcl) is the implementing agency.

### **Farm crisis: Short-term palliatives are futile**

Policymakers then and now continue to look for facile options to keep farmers 'pleased' or in the least, not complain. The most critical reforms — structural reforms — have remained largely untouched. There is increasing scepticism among growers about the intentions of policymakers, and realisation among the farming community that they are being short-changed. Problems of inputs, water, extension services, agri-infrastructure, marketing and lack of capacity to face risks continue to characterise the farm sector.

Water is the most critical input; but despite huge budgetary outlays, irrigated area for major crops has shown no marked increase. Several irrigation projects continue to languish with time and cost overruns.

Farmers continue to be gullible target for palming off sub-standard inputs as there is no monitoring of their quality and price.

While the whole world is utilising technology in every sphere of human activity, Indian agriculture continues to be nearly in a time-warp. There are now multiple technologies available — Biotechnology, Information and Communication Technology, Satellite Technology, Nuclear Agriculture Technology and of course, Nanotechnology for food processing.

And now, stung by electoral reverses in some key States, the government is reportedly working on some tantalising announcements to woo back the farming community. These include income support scheme (payment of fixed amount to every farmer), zero interest loan, waiver of premium for crop insurance and similar measures. Without doubt, farmers in this country deserve much higher income than they earn at present; but higher income in a sustained manner cannot come from short-term fixes of the type under contemplation. For resurgence, the sector needs a more matured and informed approach that would need a few



years of committed action to show results.

### Six-point plan

A six-point action plan (or six mantras) that can potentially result in sustained farm resurgence without undue burden on the country's fragile fisc is given below.

\* **Strengthen the input delivery system:** Input supplies have to be suitably regulated to ensure farmers are able to access in time the right quality of inputs at the correct price.

\* **Rapidly expand irrigation facilities:** Scores of irrigation projects are languishing for want of funds and attention because of time and cost overruns, and inefficient execution;

\* **Infuse multiple technologies:** Growers are savvy enough to adopt technology if they find value. Extension service is key;

### Nurturing innovation in the agriculture sector

As many as 24 teams of entrepreneurs, all in the agriculture start-up space, visited some of the coconut farms in Pollachi recently to meet the farmers, know first hand the challenges faced by the coconut growers, learn more about the irrigation systems used and see if their innovative solutions can be used in the farms. After a two-day visit to Coimbatore and Pollachi and gaining better insight into the coconut crop, some of these teams have started submitting proposals to Marico Innovation Foundation to try out their technologies in the farms. The visit was organised by the foundation, which is a non-profit organisation of Marico, as part of its "Innovate2Cultivate" programme.

### MSP intervention: A different surplus

If there's one area in agriculture where the Narendra Modi government has probably broken fresh ground, it is in the procurement of pulses and oilseeds.

During the 2016-17 and 2017-18 agricultural years (July-June), the Central agencies - National Agricultural Cooperative Marketing Federation of India (Nafed), Small Farmers' Agribusiness Consortium (SFAC) and Food Corporation of India (FCI) - together procured 18.78 lakh tonnes (lt) and 44.96 lt of pulses, plus 2.16 lt and 19.99 lt of oilseeds, respectively.

This extent of procurement, under the Centre's PSS (price support scheme) and PSF (price stabilisation fund) programmes, has never taken place before. There were years previously when significant quantities of particular pulses and oilseeds got bought — notably the 3.64 lt of chana (chickpea) and 3.61 lt of groundnut pods by Nafed and SFAC in 2013-14. But in the last two years, especially 2017-18, governmental purchases at minimum support prices (MSP) have been across the board for major pulses — arhar/tur (pigeon-pea), moong (green gram), urad (black gram), chana

\* **Invest in rural infrastructure:** Huge funds are required to upgrade rural roads, improve connectivity, revamp agricultural markets, build warehouses as well as primary grading and sorting stations;

\* **Use ICT:** Delivering information relating to weather, input prices and availability, output market rates and so on will allow growers to take more informed decisions; and finally,

\* **Capacity building:** A nationwide movement towards capacity building among farmers including farmer producer companies to face market volatility and de-risk agricultural production and marketing to the extent possible.

Because agriculture is a State subject, it devolves on the Centre to take States on board and work out a farm resurgence plan with adequate policy support, research support and investment support.

This is a programme that connects start-ups with farmers of specific crops so that innovations are nurtured and taken to the farms. Priya Kapadia, head of the Marico Innovation Foundation, explains that this is the first sector-specific project of "Innovate2Cultivate" and has the Centre for Innovation Incubation and Entrepreneurship as its knowledge partner. The foundation invited start-ups to take part by listing out some of the broad challenges faced by the coconut growers and received nearly 100 applications. Of these, 37 were short-listed as cohort members and all of them are working in the agriculture sector.

and masoor (lentil) — and oilseeds, including groundnut, rapeseed-mustard and soyabean (see table).

The bulk of this procurement has, interestingly, been carried out by an organisation that was in the red until recently, with accumulated losses of ₹ 1,090.93 crore as of March 31, 2017 more than eroding its share capital and reserves of ₹ 416.83 crore. Nafed, moreover, had unserviceable debts of over ₹3,000 crore owed to commercial banks.

#### CENTRAL PROCUREMENT OF PULSES AND OILSEEDS IN TONNES

|                       | 2016-17           | 2017-18           | 2018-19*         |
|-----------------------|-------------------|-------------------|------------------|
| Arhar/Tur             | 1364379.58        | 868377.04         | 17034.25         |
| Moong                 | 322128.06         | 297914.42         | 279536.24        |
| Urad                  | 104294.96         | 363081.59         | 272170.65        |
| Chana                 | 60294.44          | 272405.17         | 0                |
| Masoor                | 27073.89          | 242424.42         | 0                |
| <b>Total Pulses</b>   | <b>1878170.93</b> | <b>4495848.64</b> | <b>568741.14</b> |
| Groundnut             | 216122.08         | 1045698.73        | 424329.41        |
| Soyabean              | 0                 | 72282.1           | 19435.02         |
| Mustard               | 0                 | 878404.68         | 0                |
| Sunflower             | 0                 | 2743.39           | 0                |
| Nigerseed             | 0                 | 0                 | 2.15             |
| <b>Total Oilseeds</b> | <b>216122.08</b>  | <b>1999128.9</b>  | <b>443766.58</b> |

Note: Procurement is by Nafed, SFAC and FCI under Price Support Scheme and Price Stabilisation Fund; \*As on January 5.



The unprecedented pulses procurement - 1.9 million tonnes (mt) in 2016-17 and 4.5 mt in 2017-18 — was partly due to India's pulses output going up from just 16.35 mt in 2015-16 to a record 23.13 mt and 25.23 mt in the following two years. But even as production rose, the country continued to import, with that figure, too, hitting an all-time-high of 6.36 mt in 2016-17 and 5.42 mt in 2017-18. As total pulses availability soared way beyond the annual domestic consumption requirement of 23-24 mt - and the Modi government took time to review its inflation-targeting pro-consumer import policy - open market prices crashed below MSPs.

The end-result has been massive build-up of stocks with Nafed, similar to FCI's vis-à-vis wheat and rice. Out of the 18.78 lt of pulses procured in 2016-17, there is still a balance 1.99 lt unsold quantity (mainly 1.58 lt Arhar). The same from the 44.96 lt procurement of 2017-18 is 30.87 lt, comprising 21.24 lt Chana, 5.19 lt Sarhar, 1.78 lt Urad, 1.49 lt Masoor and 1.17 lt Moong. Besides, Nafed is holding 3.62 lt of groundnut and 3.61 lt of groundnut from its procurement during 2017-18.

When the difference is ₹500-1,000/quintal, forcing large-

scale procurement by us, the private trade stops buying, as it starts believing that we will have to offload this entire stock at some point. In other words, they don't have to invest any working capital or incur storage costs. This can be seen in chana, which is now trading in Madhya Pradesh's mandis at ₹ 3,800-4,000 per quintal, as against its MSP of ₹4,620. The pressure on prices will be more, when the next crop starts arriving in March and traders know that Nafed is saddled with huge stocks from last year's procurement.

"The challenge is to ensure that what we buy does not go back to the same market and, instead, moves from producing to consuming centres. That is why we have started offering our pulses stocks to consuming state governments at a ₹ 1,500/ quintal discount to the average market price in the producing states. The states lifting the discounted stocks can further distribute it through their PDS outlets," added Verma.

Nafed has earmarked 34.88 lt of pulses from its PSS stocks under the discounted issue price scheme. States seem to have shown some interest, with around 5.50 lt of indents already placed by them.

### **M&M arm sets up grape pack house unit at Nashik**

Mahindra Agri Solutions (MASL), a subsidiary of Mahindra & Mahindra, part of the Mahindra Group, on Wednesday inaugurated its grape pack house facility in Nashik. The facility was inaugurated by Pawan Goenka, managing director, Mahindra & Mahindra. The grape packhouse facility is a unique one in India and features the latest technologies that are available in post-harvest management of grapes, the company said. Mahindra has over 14 years of experience in grapes harvest and post-harvest management and is one of the leading exporters of grapes from India. This grape packhouse facility is expected to maintain the freshness of

grapes, through a cold chain from its arrival into the facility till it reaches customers in overseas markets.

The company said the unit can pack 90 tonne of grapes per day and has been certified by international bodies, such as BRC (British Retail Consortium), Fairtrade, SMETA (SEDEX), and the RFA (Rainforest Alliance), besides domestic certification by the Food Safety and Standards Authority of India and the Agricultural & Processed Food Products Export Development Authority. The facility is housed within 6.5 acre with a total build-up area of 75,000 sq ft. It has 12 precooling chambers and 280 MT of cold storage capacity.

### **UAE, Saudi Arabia to invest in Indian agriculture sector: Suresh Prabhu**

Union Minister for Commerce & Industry and Civil Aviation Suresh Prabhu said the UAE and Saudi Arabia have evinced interest in investing in India's agricultural sector.

"UAE and Saudi have decided to use India as a base for food security... Exports have been identified. India produces 290 million tonnes of foodgrain and 305 to 310 million tonnes of horticulture. So there is huge potential to export and we will be working with the state governments for this. Investment in Indian logistics sector is expected from Saudi Arabia, the UAE and 15-20 countries from other parts of the world, he

said while addressing the valedictory session of the two-day CII Partnership Summit.

"In the export policy, we have decided to remove all restrictions on organic products and processed products. Both the UAE and Saudi want to invest in both organic as well as food processing industries. This will be a win-win situation for the UAE, Saudi and other GCC countries but also for us, particularly for our farmers, who want better prices to their produce," he said.

### **Agriculture needs an Amul-like solution**

The agrarian challenge is well known in India and the reaction of politicians, economists, and experts is always on

target. Yet little seems to be achieved, and after the regular noise for a season or so, it is back to the old ways.





Announcements that are made are rarely followed up and there is a big gap between loan waivers announced and allocations made. It is not that there is a magic formula to address the issue as the problems and solutions are well

known. Yet, we never seem to be anywhere close to a solution and the same story which we heard two decades back is replayed.

#### Solutions for making farming more resilient

|                     | Requirement                                     | Responsibility  |
|---------------------|---|---|
| <b>Pre-harvest</b>  |   |   |
| Physical inputs     | Supply of seeds, fertilisers, pesticides        | State government, Central government through subsidies and access   |
| irrigation          | Access to irrigation                            | State government to ensure such access                              |
| credit              | Finance for cultivation                         | Link farmers to banks/RRB/cooperative banks                         |
| Volumetric risk     | insurance                                       | Link PM insurance automatically with farm loans and cut red tape    |
| Price risk          | Price hedging                                   | Enable futures sale with farmer association and banks being enables |
| <b>Post-harvest</b> |   |   |
| Packing             | Access  | Panchayat / state   |
| warehousing         | To store product<br>To avoid distress sale      | State   |
| Transport           | To move foods to mandi                          | Panchayat & State   |
| Credit              | Post-harvest credit against warehouse receipt   | Banks with warehouse receipt finance                                |
| Actual sale         | e-mandi to get transparent price                | Central government  |
|                     | Direct sale to consumer especially horticulture | Align urban laws, create space for sale in weekly or daily bears    |
|                     | Procurement at MSP                              | State/Central government  |
| Surpluses           | Channel to buffers/exports                      | Central/state government and cooperatives                           |

### **New rice variety has 'higher yield, nutrition, pest resistance'**

The Tamil Nadu Rice Research Institute at Aduthurai reached another milestone with the release of a new paddy variety ADT 53 this Pongal season.

According to institute Director V Ravi, ADT 53 is a short (110-115 days) duration variety that could fit well in the Kuruvai and Kodai seasons in the delta districts and Sornavari/Navarai seasons in the rest of the districts in the State.

It is also a contingent samba variety that could be cultivated when there is a delay in canal water release beyond October, to enable farmers to harvest the crop before closure of the dam, he added.

"It is a medium slender grain, white rice with 65% milling outturn," the Rice Research institute director said and noted

how several short duration varieties, such as ADT 36, ADT 37, ASD 16, ADT 45 and CO 51 have been predominant in the Kuruvai and Kodai seasons but ADT 43 continued to remain on top both among farmers and consumers due to the grain quality.

This new release (ADT 53), which has been derived from a ADT 43 and JGL 384 cross, and developed through pedigree selection by combining the yield and grain quality, therefore assumes significance.

At Alanganallur in Madurai District, this variety recorded the highest grain yield of 9,875 kg/ ha, depicting its highest yield potential. Yield apart, ADT 53 is rich in Zinc (26.1 ppm (parts per million) and Iron (14.70 ppm), resistant to stem borer, leaf borer and diseases such as blast and sheath blight.

### **Onion cultivation goes hi-tech**

The cultivation of onions, a widely grown crop in the country, is set to get a mechanisation push. The ICAR-Indian Institute of Horticulture Research, Bengaluru, has developed a range of equipment such as a seed drill for sowing of onions, diggers to harvest, de-topper to cut and separate the leaves from the bulbs and graders to sort and grade the produce.

The de-topper is the latest addition to the entire range, which has been commercialised by IIHR, said Harinder Singh

Oberoi, Head of Post Harvest Technology & Agricultural Engineering. The adoption of these machines is expected to help growers bring down input costs — mainly labour — and use less seeds, thereby bringing down their cost of cultivation by about a third, said G Senthil Kumaran, Principal Scientist, Agri Engineering, IIHR.

The per-acre cost of onion cultivation in Karnataka is estimated at ₹30,000 per acre. While the leaf de-topper and





grader are power operated, the digger is tractor drawn. The seeder is animal and tractor drawn but can be used manually also, said Kumaran, who led the team to develop these machines. "The cost of this entire range works out to around ₹8 lakh, nearly one-fifth of the cost of imported machines," Kumaran said.

### **Pilot project**

The Karnataka Horticulture Department will be piloting the use of these machines in four districts of the State in the forthcoming kharif season, while other onion producing

States such as Tamil Nadu, Telangana and Haryana have shown interest in adopting these machines, said Kumaran. "In Karnataka, the machines are being distributed to Farmer Producer Organisations (FPOs) in four districts under the World Bank aided scheme," he added.

A couple of large retail chains and FPOs have already been using the graders developed by IIHR to sort the produce, Oberoi added. Onions are grown on about 13.15 lakh hectares in the country and production for 2017-18 is estimated at 22.07 million tonnes.

### **Maharashtra to extend subsidy scheme for onion farmers**

The Maharashtra government has given the go-ahead to extend the subsidy of ₹200 per quintal for onion farmers by a fortnight. Till now, farmers who had sold their onion between November 1 and December 15 were eligible for the subsidy, with individual quantity being capped at 200 quintals. Now, the Chief Minister has given an in-principle approval to extend the subsidy till December 31, 2018, Subhash Deshmukh, Maharashtra minister of cooperation stated.

Last month, the State Government had announced subsidy on onion sold from November 1 to December 15, due to the drop in onion prices. However even today, onion prices continue to remain below ₹600 per quintal. Therefore, the demand was raised by farmers to extend this period till December 31, the minister pointed out. Maharashtra is the largest growers of onion in the country with an export share of 80%.

### **Kerala Minister for ultra-high density cashew planting**

A Kerala Minister has stressed the need to adopt high-density planting in cashew plantations to get higher yields from less space. Speaking at the 'cashew day' programme organised by the Directorate of Cashew Research at Puttur in Dakshina Kannada district on Tuesday, J Mercykutty Amma, Kerala Minister for Fisheries, Harbour Engineering and Cashew Industry, said that there is an urgent need to increase production and productivity of cashew.

The Directorate of Cashew Research is striving hard to develop technologies and get farmers to take up better

practices of cashew cultivation.

Highlighting the fact that there is a shortage of raw cashew nuts for processing in Kerala and different parts of the country, Mercykutty Amma asked the farmers to use the services of the directorate for better cultivation of the crop.

The Minister distributed H-130 - a cashew hybrid variety from the Directorate of Cashew Research - to the officials of the Horticultural departments from Karnataka and Kerala on the occasion. This hybrid variety is suitable for high-density planting, and each nut weighs around 12-13 gms.

### **Red Rot fungus infestation of high-yielding sugarcane variety leads to hunt for new strain**

The famed Co-0238 high-yielding sugarcane variety that has placed India on the verge of becoming the world's largest sugar producer has run into trouble due to a 'Red Rot' infestation, forcing the government to hunt for a new strain to check a possible slump in output in the coming years.

Coimbatore-based Sugar Breeding Institute (ICAR-SBI), a constituent of the ICAR has started working on a project to develop a variety that will address the problem of the fungal disease besides increasing cane yield and recovery rate (percentage of sugar to sugarcane). The new variety is being

developed at the Institute's Karnal-based centre, which may take up to three years to become ready for commercial use, ICAR-SBI Director Bakshi Ram told IANS. "Broadly, there are three characters we are working on - increasing cane yield, resolving the Red Rot problem and improving sugar recovery. But focus in the new variety is on the Red Rot issue. It is welcoming if other two characters also gets better," he said. Replantation of with new Co-0238 seeds can provide relief to farmers and this advisory has been sent to all sugar mills in the state, he added.

### **Horticulture production to hit record 315 MT this year**

India's bumper horticulture harvest keeps getting bigger with this year's production expected to touch a new record of 314.67 million tonnes (MT), nearly 1% higher than last year and 8% higher than the five-year average.

Advance estimates released by the Agriculture ministry show that overall production of horticultural produce (fruits, vegetables, spices and flowers) in the 2018-19 crop year (July-June) will be better than the 311.7 MT recorded last



year. The glut, however, is also a cause for worry with observers and farm experts questioning whether farmers would actually reap the benefits of such bumper output. High production depresses prices and farmers are left in the lurch.

Per the final estimates provided by the government, the total production of fruits and vegetables in 2017-18 was 311.7 mt. While the production of vegetables was estimated to be 187.5 mt, about 3.5% more than that in 2016-17, that of fruits was 97.35 mt, up 4.8 % over the previous year.

There is a marginal increase in the area under horticulture crops. The area in 2018-19 is estimated to be 25.87 million hectares (mh) as compared to 25.43 mh in 2017-18.

Production of high-focus TOP (tomato, onion and potato) is estimated to be higher than the output of these crops in 2017-18 with potato at 52.58 MT recording 6% growth, followed by tomato (2% higher) and onion (1.5% higher).

In the current year, the production of staple vegetable crops – onions, potatoes and tomatoes -- is expected to be higher as compared 2017-18. While potato production is projected to go up by 6 per cent to 52.58 mt from 51.31 mt last year, that of onion is pegged at 23.62 mt, 1.5 per cent higher than the 23.26 mt in 2017-18. Tomato production, on the other hand, is estimated to be 2 per cent higher at 20.51 mt, the official statement said.

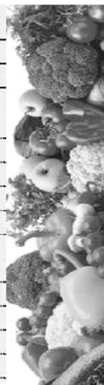
### 2017-18 final figures

The government also released the final estimates for 2017-

18. The final production in 2017-18 was 3.7 per cent higher in the previous year. Among vegetable crops, even though there was a drop in the area under potato and onion crops, the quantum of their production went up. The production of tomatoes dropped by almost 1 mt, even though there wasn't much of a drop in area. The production of major fruits, on the contrary, rose significantly in 2017-18 as compared to the previous year, the estimates showed.

Spices production in 2017-18 remained almost unchanged at 8.12 mt even though there was a marginal increase in the acreage to 3.88 mh from 3.67 mh in 2016-17. Among plantation crops, arecanut and cashewnut recorded impressive growth in production. While the production of arecanut went up to 8.33 lakh tonnes in 2017-18 from 7.23 lakh tonnes in 2016-17, production of cashewnut in 2017-18 was 8.17 lakh tonnes as against 7.45 lakh tonnes in the previous year.

| Bountiful harvest |         | Area: '000 Ha |         | Production: '000 tonnes |  |
|-------------------|---------|---------------|---------|-------------------------|--|
| Crop              | 2016-17 |               | 2017-18 |                         |  |
|                   | Area    | Production    | Area    | Production              |  |
| Vegetables        |         |               |         |                         |  |
| Onion             | 1,306   | 22,427        | 1,285   | 23,262                  |  |
| Potato            | 2,179   | 48,605        | 2,142   | 51,310                  |  |
| Tomato            | 797     | 21,557        | 789     | 22,320                  |  |
| Brinjal           | 733     | 12,510        | 730     | 12,801                  |  |
| Total vegetables* | 10,238  | 1,78,172      | 10,259  | 1,84,394                |  |
| Fruits            |         |               |         |                         |  |
| Mango             | 2,212   | 19,506        | 2,258   | 21,822                  |  |
| Citrus            | 985     | 11,419        | 1,003   | 12,546                  |  |
| Banana            | 860     | 30,477        | 884     | 30,808                  |  |
| Apple             | 305     | 2,265         | 301     | 2,327                   |  |
| Total fruits*     | 6,373   | 92,918        | 6,506   | 97,358                  |  |



\*inclusive others

\*inclusive others



## Maharashtra eyes other States to drive agri co-op revival

The Cooperation Department of the Maharashtra Government has appointed managers at six majors cities across the country to enhance agribusiness between cooperatives in Maharashtra and other States. The business opportunity is over ₹7,000 crore, a senior Maharashtra Government official said.

The managers have been recruited in Maharashtra and placed in Guwahati, Kolkata, Chennai, New Delhi, Chandigarh and Jaipur. They will look for business opportunities in other States. The official pointed that currently, Maharashtra has a surplus of products such as onion, tomato, grapes, pomegranate, mangoes and raisins, which are traded in other States, but the huge profits go to the fruit and vegetable traders. In this process, farmers get lower prices for their produce and the end consumers have to shell out more money,

### Eyeing a revival

The idea is to revive and enhance the collection and trading capabilities of cooperative institutions in Maharashtra so

that farmers get more money and the final consumers have to pay less. The profit margins will be retained by the cooperatives, which are owned by the farmers.

In Maharashtra, pomegranate is sold at ₹60 per kg but by the time it reaches Aizawl in Mizoram, the price shoots up to ₹50 per kg. Therefore given the opportunity in such a market, the Farmer Producer Companies and Primary Agriculture Societies will supply fruits and vegetables directly to similar cooperatives institutions in other States. The Department has already adopted a two-pronged strategy to generate business. The old cooperatives, which have been in the State since the 1950s, are being revived with the help of the new strategy and funding from institutions such as the World Bank.

The other approach is to provide an air freight subsidy on a pilot basis to carry high-value agricultural produce to the North East, Sikkim and Jammu & Kashmir, which will build up the appetite and demand from local markets. Soon, the first air consignment from Nashik will reach Aizawl, the official added.



## Agri household survey this year

The government has decided to conduct the next round of 'situation assessment survey of agricultural households' this year. The survey will provide a comprehensive assessment of the situation in farm households, including their income,

expenditure and indebtedness. Informing the Lok Sabha, the Minister of State for Agriculture G S Shekhawat said the last such survey was conducted by the National Sample Survey Office (NSSO) during 2012-13.

## A 'pink revolution' quietly takes shape in Maharashtra

A 'pink revolution' is quietly taking shape in Maharashtra. The objective is to breed imported pigs to address the problem of protein deficiency in a sizeable section of the population that has been deprived of access to affordable meat besides providing livelihood to farmers.

Mumbai-based Gargi Genetics Pvt. Ltd., supported by the Maharashtra government's policy, is gearing up to create an ecosystem for supply of high quality pork. The company is planning to partner with farmers by supplying them pigs imported from Canada. They would be bred under hygienic conditions for production of high quality meat. It plans to build a fully-equipped international-standard piggery that would support animal husbandry, food and medical industry. While it would create a comprehensive value chain for pork production, it would also supply high quality animals for medical and research industry (organ transplant and insulin), top officials said. In five years, over 1,000 Maharashtra farmers, in a cooperative format, are expected to learn about commercial animal farming with international best

practices.

The project has been mooted by finance professional Sandeep Mestry and genetics healthcare exponent Nitin Malekar who have been working on this for years. They had achieved a litter (number of off spring) size of 10 to 14, which is probably the best under Indian conditions. Indian pork is sold at about ₹250 per kg compared with international quality processed pork which is sold at ₹1,200- 3,000 per kg.

The 'pink revolution' targets to produce five lakh high quality pigs over a period of 5-6 years. "Pink revolution' plans to offer 'farm to market' solution. We are planning to initiate a franchisee chain of signature shops/eateries to promote healthy pork products," Dr. Malekar said. The initiative is scheduled to be officially kicked off in the second quarter of 2019 and the company is in process of raising \$2 million in equity funding in phase I. The company had already acquired land in Wada in Palghar district of Maharashtra to start the project.

The position of import of agricultural commodities in the last 15 years is as given in the Table.

### INDIA'S IMPORT OF AGRICULTURAL COMMODITIES (IN MILLION DOLLARS)

|                | 2003-04 | 2013-14  | 2014-15  | 2015-16  | 2016-17  | 2017-18  | APR-DEC<br>2017 | APR-DEC<br>2018 |
|----------------|---------|----------|----------|----------|----------|----------|-----------------|-----------------|
| Vegetable oils | 2542.51 | 7249.85  | 10621.48 | 10492.08 | 10892.75 | 11637.48 | 9023.34         | 7481.27         |
| Pulses         | 497.23  | 1828.16  | 2786.11  | 3902.22  | 4244.13  | 2908.33  | 2675.38         | 798.58          |
| Fresh fruits   | 174.59  | 1273.44  | 1565.2   | 1694.84  | 1682.88  | 1942.92  | 1462.93         | 1504.84         |
| Cashew         | 298.53  | 774.12   | 1088.79  | 1340.21  | 1347.13  | 1419.51  | 1166.81         | 1494.42         |
| Raw Cotton     | 341.67  | 394.47   | 508.8    | 394.1    | 946.88   | 979.32   | 851.42          | 507.28          |
| Spices         | 122.83  | 571.36   | 717.78   | 823.79   | 858.95   | 990.7    | 704.83          | 792.87          |
| Sugar          | 13.65   | 392.18   | 601.17   | 612.24   | 1021.81  | 936.52   | 781.7           | 426.87          |
| Natural Rubber | 280.77  | 906.41   | 818.29   | 715.12   | 652.57   | 829.15   | 619.54          | 705.99          |
| Wheat          | 0.05    | 4.42     | 9.95     | 135.45   | 1268.64  | 364.5    | 345.86          | 0.17            |
| TOTAL*         | 4677.35 | 15528.94 | 21151.77 | 22578.6  | 25643.4  | 24890.9  | 19807.37        | 16060.15        |

\*Includes other farm commodities.

## A date with prosperity

Surrounded by industries, this farm stands out in Vanjipalayam area, less than 10 km from the knitwear town of Tiruppur. Bunches of golden yellow fruits hang from the trees in the months of June, July and August. K.G. Murugavel grows the Barhee variety of dates on his 2.5-acre plot.

Switching over from turmeric, vegetables and cotton about a decade ago, Mr. Murugavel of K.G. Fresh Dates today exports fresh dates and supplies Barhee tissue culture plants to interested farmers across the country. I decided to import tissue culture of the Barhee variety in 2009 and planted 180





plants. Each tree now yields 150 kg to 200 kg of dates a year," he says.

These fresh dates have several health benefits and with increasing awareness, the demand has also grown. "We sell 40 to 50 tonnes a year now." Awareness among farmers has picked up in the last five years. If climatic conditions are suitable, farmers can raise them on 1.5 to 2 acres.

### **Investment quite high**

The Barhee variety grows only in specific weather conditions

### **'Aseel cock rearing can be economically viable'**

Eggs that fetch between ₹1,000 to ₹2,500 each and cocks that cost as much as ₹1.5 lakh may sound like a flight of fancy but these are not ordinary hens and roosters that breeders are rearing.

With fans of the Aseel — a chicken breed once reared for its fighting abilities and now sought for its looks — ready to pay for birds sporting well-bred parrot beaks and peacock tails, a breeder from remote Cumbum village, near Markapur town in Andhra's Prakasam district, is running a roaring business by rearing roosters. Chilakacherla Krishnamachari took to

and the investments are quite high. The yield goes up gradually and the growers will start seeing profit in five years. The average life of a tree is about 35 years.

Dates consumption is high in the country and a substantial quantity is imported, he adds. Mr. Murugavel studied the possibility of growing other varieties of dates here before deciding on the Barhee. "The Barhee variety needs good land, plenty of water, and suitable weather conditions," he adds.

breeding exotic indigenous chicken varieties in a small way in the 1990s, impressed by their build and warrior-like appearance. "I got two pairs from the Bobbili royal family in Vizianagaram and slowly developed the farm over the years," he says, recounting how it all started. While a well-bred 40-day-old chick fetches ₹20,000, the cost goes up as the chicks get older. An 18-month Aseel commands as much as ₹1.25 lakh, he says after concluding a business deal with an Aseel admirer from Udumalpet in neighbouring Tamil Nadu.

### **A women-owned dairy in Andhra Pradesh eyes the big league**

Before Shreeja entered her life, middle-aged Gangamma of Palamanermandal in Andhra Pradesh's Chittoor district had to be content with the daily drudgery of maintaining her barn and selling the milk from her cows to a private supplier. And that came with the attendant problems of first realising payments from the buyer, and once the money was received, risk having the cash commandeered by a dominant male member of the family - father, husband, son or father-in-law.

But once Gangamma joined the dairy cooperative, the Tirupati-based Shreeja Mahila Milk Producer Company, life changed unimaginably for the better. Along with an army of more than 83,000 women, she is now a proud co-owner of a dairy that not only procures 3.5 lakh litres of milk every day but has become a 'game-changer' in the milk-rich Chittoor district. Shreeja, arguably the world's largest dairy that is exclusively owned by women, was established under the emerging concept of a 'producer company' in September 2014. Backed by the National Dairy Development Board, Shreeja is considered a miniature of Amul — every supplier here becomes a shareholder, or conversely, milk is procured only from shareholders. As a result, the shareholder base has spread across the State's three southern districts of Chittoor, Anantapuram and Nellore besides the bordering areas in Tamil Nadu and Karnataka. The cooperative principles of democratic governance and autonomy are also strictly adhered to. Women are not just shareholders, but

also handle key positions on the board, as 11 of them are always on the 15-member governing board on a rotation basis, apart from three expert directors and a Chief Executive Officer. The advantages in this 'all women' dairy are many. "First, it is a giant leap towards ensuring women's empowerment in the countryside," Shreeja's CEO Jayatheertha Chary told The Hindu.

### **A great recognition**

"Secondly, it recognises the services of the women who are actually involved in milking and cattle management. Thirdly, when suppliers and owners are the same, there is no scope for adulteration as it adversely impacts the yield, the profit and thus their dividend," he added. "Payment is made once in fifteen days, which gets deposited straight into my bank account, making our men look to us for petty cash", Lakshmi Devi, resident of a village in Tirupati rural mandal, said with a wide grin. Transparency in transactions is ensured as data on the procured milk is processed real-time and the amount payable is arrived at right in front of the women.

The handling of milk was resolved with the use of technology. Milk gathered from the 2,400 pooling points are shifted to a centrally-located Bulk Milk Cooling Unit (BMCU), which can handle up to 5,000 litres. When the volume and distance increases, the procured milk is sent to a bigger Milk Chilling Centre (MCC) having a capacity of 20,000 litres. While





collection details were earlier sent to the corporate office through pen drives, the data is now received online through GPRS-enabled units.

### Going retail

Shreeja processes the milk it procures at Balaji Dairy, an NDDDB-operated unit in Tirupati. As much as 80% of the milk is sent to New Delhi-based Mother Dairy through railway

containers. With a procurement channel firmly in place, the company is now eyeing 'real visibility' through retail market presence. Apart from supplying to external agencies, Shreeja is now mulling production of curd, buttermilk, lassi, sweets, yoghurt and flavoured milk as part of a plan for value addition. There are currently four outlets in Chittoor and plans are afoot to open one in Tirupati.

### Marathe welcomes Ordinance on Unregulated Deposit

Reacting to "The Banning of Unregulated Deposit Schemes Ordinance 2019" recently promulgated, Satish Marathe, RBI Board member and a senior cooperator said the Ordinance is directed against Ponzi schemes and is a welcome move on the part of the GOI. "As Sahakar Bharati members we endorse the GOI action which will protect small depositors", he added. Marathe also pointed out that similar laws exist in almost all developed and financially well-regulated jurisdictions.


It bears recall that the Government has issued The Banning of Unregulated Deposit Schemes Ordinance 2019 recently pursuant to which an Individual or group of individuals cannot take any deposit or loan from any person other than relatives. Partnership firms can take deposit or loan from relatives or partner or partners only.

Significantly, the law prohibits deposits by non-voting members in multi-state cooperative societies. Based out of various states, such societies, along with chit funds — masquerading as quasi-banks — are suspected to have raised large amounts that are then lent to companies and entities that serve as fronts for political funding.

In enforcing the ban, the ordinance has brought about amendments to the Reserve Bank of India Act, 1934, and Multi-State Cooperative Society Act, 2002, to explicitly state that "a multi-state cooperative society shall not be entitled to receive deposits from persons other than voting members".


Acceptance of unregulated deposits could cause attachment and freezing of assets and even imprisonment — with 'deposit' defined as money received by way of advance or loan or in any other form by any deposit taker with a promise to return either in cash or kind or in the form of a specified service.

"Multi State Co-ops can lend to only Shareholders/Members who can participate/vote in the Election of BOD. This has been the law after a SC judgement in case related to a Co-op Credit Society. This judgment is equally applicable also to a Credit Co-op registered under any State Co-op Act", Marathe explained. "This case comes post IMG Report which estimated a loot of a whopping ₹65000 crore from innocent and hapless small investors", he underlined.



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|-------------------|----------|
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| Above ₹. 50,001/- | : 12.85% |
| Commercial Dairy  | : 12.35% |

#### Nominal Loan Fee

#### FIXED DEPOSITS

| Period                           | Rate of Interest |
|----------------------------------|------------------|
| For one year upto two years      | 7.35%            |
| Above two years upto three years | 7.00%            |
| Above three years                | 7.00%            |

Senior citizens will be paid interest of 0.50% more than the above described rates of interest.



**THE PUNJAB STATE COOPERATIVE AGRICULTURAL DEVELOPMENT BANK LIMITED**

For more information please contact your nearby PADB

S.C.O. 51-54, Bank Square, Sector 17-B, Chandigarh.

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