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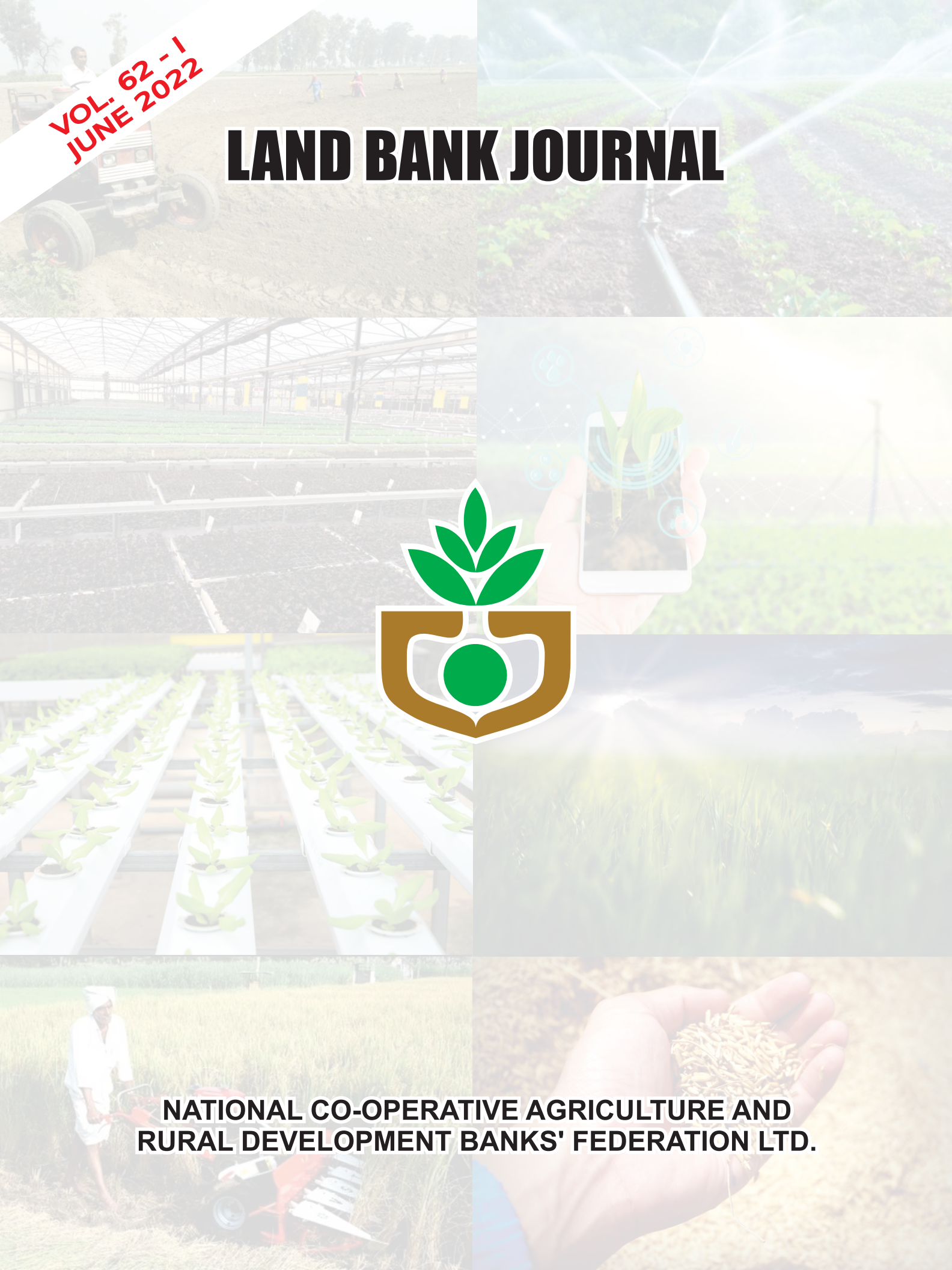

NATIONAL CO-OPERATIVE AGRICULTURE AND
RURAL DEVELOPMENT BANKS' FEDERATION LTD.

THE MEGHALAYA CO-OPERATIVE APEX BANK LTD.

HEAD OFFICE : SHILLONG
Estd. 16th February, 1971

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A premier licenced Scheduled State Cooperative Bank with all branches on CBS platform and recipient of National Award having democratically elected Board of Directors since inception and managed by professionals.

FINANCIAL HIGHLIGHTS

	(₹ in Lakhs) As on 31.03.2021	(₹ in Lakhs) As on 31.03.2022
• Paid up Share Capital & Reserves :	16142.61	17320.85
• Deposits :	309681.38	348923.10
• Loans & Advances :	169947.46	172132.13
• Investments :	115056.98	125850.18
• Money at Call & Short Notice :	41690.69	65739.84
• Net Profit :	1203.57	1327.86
• Working Capital :	368913.37	411493.12

Our Banking Products & Services

- *Current Deposits*
- *Mobile Banking*
- *Internet Banking*
- *RTGS/NEFT enabled*
- *PFMS/IMPS*
- *Savings Bank Deposits*
- *No Frills Savings Deposits*
- *Fixed Deposits*
- *Recurring Deposits*
- *Monthly Income Deposits*
- *Cash Certificates*
- *Fixed Deposit linked with RDs*
- *Housing Loan Linked Deposits*
- *Crop Loans for Agriculture through KCC/SHG/JLG/ Cooperatives*
- *Term Loans for Agriculture & Allied Agriculture*
- *Aquaculture Development / Meghalaya State Aquaculture Mission*
- *Loans for Housing*
- *Loans for SRTO*
- *Consumer Durables Loans*
- *Loans to Technocrats & Professionals*
- *Loans to Educated Unemployed Youth*
- *Cash Credit & Overdraft Facilities*
- *Loans for Children's Education*
- *Loans for Women through WDC Cell*
- *Term Loan for Tourism Development*
- *Personal Loan to Salary Earners*
- *Bank Guarantee*
- *Safe Deposit Lockers & Other Ancilliary Services*
- *Loans to Tribal under NSTFDC Schemes*
- *Loans to Physically Challenged under NHFDC*

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(QUARTERLY)

Editor
K. K. RAVINDRAN

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Shri Amit Shah, Hon'ble Union Minister of Home and Cooperation in his address in the National Conference of ARDBs 2022 in New Delhi mentioned about growing imbalance between long term and short term loans in the total agricultural credit flow. He said ideally the share of long term finance in total agricultural credit should be more than 50%. About half of India's agricultural lands of 39.4 crore acres still remain unirrigated. There is unlimited potential and demand for long term finance for investments in irrigation and other farm infrastructure, leading to enhanced productivity of land, production and income. However, the share of long term finance in total agricultural credit has been declining steadily, making it less than 25% compared to 50% about 25 years back. Shri Amit Shah stressed the need to reverse this trend and wanted NABARD and the Federation to play an important role to facilitate the same. The above remarks of Hon'ble Minister once again brought to focus the need for strengthening long term rural cooperative credit structure which is functioning as a specialized agency for long term finance to farmers since early 1920s. Loans given by LTCCS accounted for the major share of investment credit till 25 years back. But this share has drastically come down after 90s with the failure of the structure in agriculturally important States of Bihar, Assam, Madhya Pradesh, Maharashtra and Odisha. Presently, the structure is fully functional only in 13 States and in these 13 States also their performance is far below the potential except in a few cases. Obviously, weakening of LTCCS is a major factor which contributed to the slackening of long term credit flow to agriculture in the last 25 years. The Vaidyanathan Task Force II (2006) recommended a revival package for LTCCS consisting of legal and policy reforms at state level, recapitlisation and support for computerization and human resources development. Though Govt announced implementation of this package in the Union Budget 2008-09 it still remains a non starter. Implementation of this package is the most important step Govt needs to take to reverse the declining trend of long term finance in agriculture. Along with measures to revive existing institutions in the structure, creation of a new Multi State ARDB for States where LTCCS doesn't exist at present is also necessary to ensure availability of long term finance to farmers throughout the country.

The condition of govt guarantee for availing NABARD's refinance is the main constraint faced by LTCCS to increase its share of investment credit. In fact, downfall of the structure where it became sick and defunct started with abrupt stoppage of refinance support and lending operations due to issues related to govt guarantee. In fact, NABARD's present system of refinance for SCARDBs which is linked to govt guarantee has become untenable in the context of enactment of the ceiling on govt guarantee Acts in various States. Out of 13 fully functional SCARDBs, only 7 SCARDBs managed to obtain govt guarantee during 2021-22. Even the limit available to these 7 banks is too small compared to their requirements. NABARD over a period of time introduced qualitative norms of risk rating, linking refinance eligibility with audit classification, linking refinance with standard assets etc., for giving refinance to ARDBs. However, no relaxation has been brought in the condition of govt guarantee for giving refinance to SCARDBs. Only alternative to govt guarantee is pledge of fixed deposit receipts to the extent of 125% of refinance which is not an option at all. As most of the State Govts are unable to give additional guarantee, ARDB sector is now drawing only 5% of total refinance support of NABARD which used to be more than 50% about 20 years back. Working Group on Enhancing Share of ARDBs in Investment Credit under the Chairmanship of Shri Y.C. Nanda, Ex.Chairman, NABARD recommended introducing a new additional refinance product for SCARDBs on the basis of their unencumbered quality assets and financial strength. Vaidyanathan Task Force II also recommended to include a provision for NABARD to give refinance to SCARDBs based on their performance and financial strength. Changes are required in the refinance policies of NABARD concerning LTCCS on the basis of these recommendations. NABARD Act also needs amendment to include a provision for giving refinance to Multi State ARDBs also.

K. K. RAVINDRAN
Editor

PERFORMANCE OF THE GUJARAT STATE CO-OPERATIVE AGRICULTURE & RURAL DEVELOPMENT BANK LIMITED

V. M. Chaudhari

Introduction:

Historically, farmers in India are resource poor who depend heavily on borrowings to facilitate production and smoothening of consumption pattern. Institutional credit was virtually absent till the end of 19th Century though farmers occasionally were given loans by the Government, especially during drought years. The idea of forming Cooperative Societies to give loans to farmers came only in the beginning of 20th Century. This thinking finally resulted in the enactment of Cooperative Credit Societies Act in 1904. Cooperatives gradually became an important source of agricultural credit throughout the country. Rural credit also received the continuous attention of the Government in the early part of 20th Century. The original Cooperative Societies Act 1904 was amended in 1912 to give legal recognition to Cooperative Societies. Establishment of Provincial Cooperative Banks, resulting in the creation of 3-tier Cooperative credit structure was another important development during this period. The operations under this 3-tier credit cooperatives structure however, confined to short term loans. At the same time, farmers were in need of long term loans to free their land from prior debts, which claimed a major portion of crops they produced by way of interest on such debts.

This Bank was established by Late Shri Udaybhansinhji (Yuvraj of Porbandar state) in the year 1951 with its registered office at Rajkot in the erstwhile state of Saurashtra for providing loans to tenants/farmers for redemption of prior debts. The name of the bank at the time of its inception was The Saurashtra Central Co-operative Land Mortgage Bank Ltd., Rajkot. Its jurisdiction was confined to the then state of Saurashtra consisting of 5 districts. Saurashtra was merged with Bombay state in 1957 but this bank continued to work as separate institution even in the bigger bilingual Bombay State but its area of operation was limited to the region of Saurashtra only.

Peculiar circumstance responsible for the establishment of this bank were the necessity to have banking agency to provide loans to tenant cultivators to enable them to purchase occupancy rights over the land tilled by them under the Saurashtra Land Reforms Act of 1949. In the initial stage of lending, this bank provided loans amounting to Rs. 2640 million to nearly 56000 tenant cultivators, which enabled them to become owners of the land that had been cultivated by them for years. Consequent upon the bifurcation of Bombay state and on formation of separate State of Gujarat in 1960, this bank extended its jurisdiction to the whole of Gujarat State in 1961. In this context the name of the Bank was changed to Gujarat State Co-operative Land Mortgage Bank Ltd. Ahmedabad to confer the jurisdiction suitably to cover whole of Gujarat. Thereafter, the name of the bank was changed in 1965 to correlate its activities from “mortgage banking to developmental banking” for land improvement and accordingly the name “Gujarat State Co-operative Land Development Bank Ltd.” was adopted from 1965.

In the eighties, the bank has started financing for non-farm sector and such other activities allied to rural development. Therefore, the name was finally restyled appropriately to the present once since 1990 and currently known as “Gujarat State Co-operative Agriculture and Rural development Bank Ltd.” (GSCARDB). This bank is popularly called as Kheti Bank. (Website: www.khetibank.org)

Organisational Structure:

This bank is an apex institution in the co-operative sector in the State of Gujarat for providing investment finance for the development of agriculture and allied activities. It has adopted unitary structure and does its business through the net-work of branches numbering to 176 as credit delivery outlets. It has got 17 district offices to control the working of branches and to ensure the advantages of decentralized administration. Its

Joint Managing Director, GSCARDB, Ahmedabad, Gujarat

registered office is at Ashram road in Ahmedabad, Gujarat. This bank has head office at the state level and branches at each taluka headquarters level. Head office functions through seventeen district offices located at district headquarters.

Legal Entity:

This Bank was registered as a co-operative institution to provide long term agricultural loans to farmers under the provisions of Bombay State Co-operative Societies Act of 1925 and thereafter it was registered under Gujarat State Co-operative Societies Act, 1961 which repealed Bombay Act. Bank has got its own by laws approved by the Registrar of Co-operative Societies for managing its internal affairs and the same are amended from time to time as per needs. Thus this bank is body corporate under the law.

Organisation and Management:

Responsibility of administration and management is vested in a Board of Directors composed of 22 members, 17 are elected by the representatives of members of the Bank one each from17 Districts, and 3 directors are State Government nominees including Registrar of Co-operative Societies (RCS) – Gujarat State, one representative of State Co-operative Bank and the Managing Director of the GSC ARD Bank. Thus total numbers of members of the Board of Directors are 22. This Board meets quarterly to decide policy affairs of the bank. Different Committees have been formed from amongst the members of the Board such as Executive Committee, Loan Committee and Administrative & Staff Committee, Audit Committee etc. These Committees meet as and when required for the work delegated to them. Managing Director of the bank is appointed by the board in consultation with the State Government. He is the Chief Executive of the bank and an ex-officio member of the Board of Directors. Term of office of the members of the Board of Directors is for the period of 5 years and a new board is constituted on the expiry of the term. Bank is equipped with administrative machinery consisting of senior management, middle level management and junior level staff of different categories posted at head office, district offices and branch offices of the bank.

Branch Committees:

As the structure of the Bank is unitary, Branch Committees are also formed at each branch to control and guide the affairs of the branch. It is composed of elected members. Term of office of these committees is for a period of 5 years. The number of members of branch committee ranges from 4 to 8 depending on number of Shareholders of branch. These committees are useful to avail the benefits of local leadership and it is essential in democratic framework of an organization. This Bank derives the benefits of local leadership as envisaged in a federal structure. Bank have separate Branch committees for all 176 branches.

Membership and General Body of the Bank:

Membership is open to all individuals who intend to take loan from the Bank. Institutional membership is also allowed to firms, societies, co-operative institutions etc. if they desire to take loan for the development of agricultural and allied activities. Bank gives loans only to its members and hence non-borrowing membership is not allowed. Total members of the bank as on 31 March, 2022 were 294714. Reduction in members over previous years is due to cessation of membership on death of members over a period of time.

Generally the members of co-operative institutions constitute its general body but the General Body of this Bank is representative one which is composed of delegates who are elected by members of the Bank. These delegates numbering 500 as fixed by the bylaws of the Bank are elected branch wise from amongst the members of the bank enrolled at branch membership register. Term of office of the delegates to general body is for the period of 5 years. District Directors to the Board are elected by the Electoral College composed of elected delegates from the District. Thus Directors of the Bank are indirectly elected by the members of the Bank at large.

Loan Policy and Project Approach:

Bank has adopted production oriented loaning system and it gives loans only for productive purposes since 1954 which enables the farmers to get sustained rise in

his farm output. Bank grants loans to farmers if the loan propositions is found economically viable and technically feasible. Loans are approved on the basis of repaying capacity arrived at after considering the economic feasibility of loan proposition by calculating the net incremental income expected to be generated from the proposed development on land under project approach. Various norms have been evolved to judge the repaying capacity and economic feasibility per hectare of land for a given proposition. Such norms save time in appraising individual loan application and maintain uniformity also. If the loan proposal involves big amount such as loaning for tube well, tractor, lift irrigation, market-yard, etc. individual appraisal is made to judge the economic feasibility without resorting to norms. Bank gives loans for about 61 different broad purposes of loan all for the development of agriculture and allied agriculture activities. The Bank also gives loans for non-farm sector which includes loaning to rural artisans, handicraft etc. Loan for rural housing, medium term Krishi Vikas Loan, Cash Credit Loan are also available to farmers. Period of loan is decided on the basis of economic life use of the assets created out of loan coupled with repaying capacity of the intending borrower as per guidelines received from NABARD from time to time. Security of loan is mortgage of agriculture land and or assets created by loan.

Loan Sanctioning Procedure:

Intending borrower submits his loan application in a prescribed form duly filled & signed with copies of necessary revenue records and other required papers to the branch concerned under whose jurisdiction his land is situated. Thereafter the spot inspection is carried out by Branch Manager/Supervisor to verify the nature of proposed improvement, economic feasibility and technical viability, repaying capacity of applicant and title of the land to be taken as mortgage. Branch Manager/ Supervisor if satisfied about all these aspects for loan approval, recommends the loan to be sanctioned to Branch Committee which recommends it and forward such loan cases to District Loan Committee for final sanction. After getting sanction from the District loan Committee, the applicant is informed about the terms of sanction and loan amount is disbursed after the mortgage deed is executed. Bank gives payment of loan directly to the dealer, suppliers of machinery, the contractors who carry out the work or to borrowers after verifying the bills to ensure proper utilization of loan. Moreover after the loan is disbursed the end use is verified by conducting re-inspection to ensure its proper utilization. Generally the loan application is disposed of within 15 to 21 Days. The Bank has simplified its loan procedure from time to time and powers of sanction are also decentralized by conferring the same to District Loan Committee since 1976.

Recovery Procedure:

Bank's loan was recovered by annual equated instalment comprising of principle as well as interest but since 1988 it was replaced by annual equal instalment. Due date for repayment of yearly instalment is fixed on the basis of harvesting time of crops and accordingly 31st January is fixed for those loaners taking Kharif crop while 31st March is kept for those borrowers who are taking Rabi crops. Now uniform due date is fixed as 31st March for yearly instalments. 31st May and 30 November is fixed as due date for half yearly instalments (KVL-NFS loans). The Demand statements are prepared every year or half yearly at the branch level and demand collection notices are issued to each loaner well in advance before instalments due date. Many loaners are regular in their repayment While, some of them are to be contacted to persuade them to repay due instalment by launching recovery drive. If the loaner does not repay the yearly instalment on or before due date, he becomes defaulter and legal action can be taken against him under the provisions of Gujarat State Co-operative Societies Act. There are mainly two provisions to collect recovery under the Act. One provision is sell of mortgaged properties by special recovery officer (SRO's) as well as forfeiture of other movable property and its auction by revenue authorities on the strength of certificate issued by District Registrar to recover the defaulted amount as

arrear of land revenue. Another provision is sell of mortgaged property after following due procedure of auction by bank's own staffs who are delegated the powers of sales officer. As the Bank is financing for agricultural and allied agricultural activities which is mostly dependent upon vagaries of nature, the repayment of loan naturally becomes uncertain. There are many reasons for the default in loan repayment and there by the increase in overdue. Recovery is a combined effect of various factors' such as drought, natural calamities, poor rural economy, wilful defaults, lack of supervision and no timely contact with the borrowers, infructuous investment, misutilization or underutilization of loan, defective lending system, non-remunerative price of agricultural produce, lack of coordinated recovery

Table: 1

Awards & Trophies obtained by the Bank at national level for outstanding performance

Year	Awards & Trophy Detail
1987-88 1990-91 1991-92	Meloth Narayanan Nambiar Memorial Trophy for Best Lending Performance awarded by National Cooperative Agriculture & Rural Development Bank's Federation, Navi Mumbai.
1991-92	Udaybhansinhji Memorial Outstanding Performance Award Category – II.
2012-13	16th Indian Cooperative Congress Award of Excellence awarded by National Cooperative Union of India, New Delhi.
2013-14	Federation Trophy for Best Turnaround Performance awarded by National Cooperative Agriculture & Rural Development Bank's Federation, Navi Mumbai.
2014-15	Best Performance Award from National Cooperative Agriculture & Rural Development Bank's Federation, Navi Mumbai.
2021-22	NAFCARD - Award for Outstanding Performace Presented by Shri Amit Shah, Hon'ble Union Minister of Home & Cooperation at National Conference of ARDBs 2022 on 16th July 2022, New Delhi

Source: Annual Reports of GSCARD Bank.

Table: 2

Awards obtained by the Branches of the Bank at national level

Year	Branch	Awards & Trophy Detail
1996-97	Modasa (Sabarkantha)	Best Performance Award at national level received from the Hon'ble Prime Minister of India Shri Atalbihari Vajpayee.
1998-99	Bhachau (Kutchh)	Best Performance Award at national level received from the Hon'ble Union Finance Minister Shri Yashwant Sinha.
2003-04	Dhrangadhra (Surendranagar)	Best Performance Award at national level received in 8th National Conference at New Delhi.
2012-13	Gondal (Rajkot)	Best Performance Award by National Cooperative Union of India during 16th Indian Cooperative Congress at New Delhi.

Source: Annual Reports of GSCARD Bank.

Table-3

Financial Position of the GSCARD Bank for last 6 years

(Rs. in lakhs)

Year	Share Holders/ Members	Share Capital	Reserve Funds	Profit/loss	Dividend Declared	Audit Class
2016-17	6.73	4563.35	53901.51	1804.83	12%	A
2017-18	6.74	4590.85	54874.65	2100.14	10%	A
2018-19	6.74	4532.39	56022.41	2101.52	10%	A
2019-20	6.75	4450.98	57086.39	2525.02	12%	A
2020-21	6.75	4318.51	59019.11	1150.16	12%	A
2021-22	2.95**	4263.48	60078.96	2929.04	*20 %	

*Subject to permission of Registrar of Cooperative Societies, Government of Gujarat

** Reduction in members is due to cessation of membership on death of members over a period of time.

Rs. in lakhs

Year	Loan Disbursed	Recovery	Recovery %	Fixed Deposit	Investment
2016-17	14256.36	19580.72	34.18	26741.50	21416.33
2017-18	17763.06	22373.55	37.05	26078.31	23562.33
2018-19	14956.81	19323.76	32.65	27041.55	40459.33
2019-20	13652.31	21249.49	34.64	26711.86	52549.13
2020-21	11776.58	18971.01	31.97	24588.71	58196.61
2021-22	15128.33	19079.34	32.54	23810.08	54527.23

Source: Annual Reports of GSCARD Bank.

drive etc. Bank is doing its utmost to recover defaulted loans and to tackle the problem of overdue for smooth recycling of fund.

Financial Resources:

Bank raises its financial resources by availing refinance from NABARD in the form of loan. Other source of fund is share capital which is subscribed by Bank's loaned members. It is compulsory for the loaner to hold banks share to tune of 5 percent of loan amount. Bank also accepts fixed deposits to raise its fund. Generally Bank finds no difficulty in raising the resources but it has to work in accordance with the financial discipline as imposed by RBI/NABARD and to take utmost care to ensure the recycling of scarce financial resources. Bank raises funds from NABARD through Loan system as refinance for the 5 years against State Government guarantee. Bank may also avail loan from NABARD through pledge of fixed deposits receipt in absence of Government Guarantee. Balance of the proportionate matching contribution is given by Government of India & Government of Gujarat in form of Debentures. Recovery of loans also contributes to the financial resources of the bank.

Fixed Deposit Scheme

The Bank has introduced the scheme of accepting term fixed deposits from 1991-92. Bank accepts deposits from publics, members, societies, trust. 0.50% additional interest is given to the employees of the Bank & senior citizen on their fixed deposit in the bank. Bank disburses loan to the farmers against mortgage of their agricultural land. Thus, the fixed

Table: 4
Loan disbursed by GSCARD Bank since its inception till 31-03-2022

(Rs. in Crore)

Purpose of Loan Disbursed	No. of borrowers	Amount
New wells (Including old wells, Bore wells, Tube wells	343587	195.75
Oil Engine, Electric Motors, Lift Irrigation, Machine Rooms, Pipeline	258673	180.22
Farm Mechanization (Including Tractors)	78345	1309.82
Milch Animals and other Dairy Development Schemes	34500	284.11
Land Improvement and Field channels in command areas (in irrigated areas)	24	33.42
Loans to Tenants for Purchase of Land under Tenancy Act.	--	5.98
Medium Term Krishi Vikas Loan – MTKVL	83032	1517.25
Cash Credit Scheme (KBCCS)	3620	39.83
Social Debt Loan (SDL)	4167	76.07
Other including NFS (Non-farm Sector Loan)	36103	900.80
Total	842051	4543.25

Source: Annual Reports of GSCARD Bank.

deposits mobilized by the bank are fully secured.

Supervision - Inspection & Audit

Bank has got its own inspection department at Head office to supervise the working of the branches. Moreover district offices also carry out the half yearly inspection of branches. NABARD conducts voluntary inspection of the Bank every year and issue inspection report along with findings with reference to financial position of the banks to strengthen the performance of bank. Concurrent audit of the banks head offices, district office & branches is conducted by Joint Registrar (Audit) on quarterly basis. Audit of the bank is also conducted by Chartered Accountant firm among NABARD's approved panel.

Bank disburse Loans to the farmers for following purposes:

Construction of new well/repairing- Deepening of old well, Installation of pump set with oil engine/electric motor/Submersible Pump, Construction of deep tube well, Lift Irrigation, Installation of pipelines (Cement/PVC), Sprinkler irrigation / Drip Irrigation, Milk animals (cow, buffalo, goat, sheep),Construction of milk house for Milk Producers Society, Dairy development-dairy plant and dairy expansion, Construction of cattle shed, Construction of farm house and rural godown, Development of fodder land and fodder cultivation, Gobar gas plant/biogas plant, Plantation of coconut, mangoes, sapota (chiku), guava, bananas and other horticultural crops, Purchase of tractor, power tiller, trailer and other implements, Purchase of opener/thresher, harvester, Land levelling, construction of kyari, contour bunding and such other land improvement works, Wire fencing for crop protection, Construction/expansion of buildings for Agriculture Produce Market Yards (APMC), Construction of cold storage, Construction of roofs for preserving onions, Construction of rural godown for Co-operative Societies & individuals, Purchase of bullocks, bullock cart and camel cart, Poultry farming, Fisheries, Farm forestry, Development of waste land, Development of cottage, village industries and handicrafts, Rural & Urban housing, Medium term Krishi Vikas Loan, Higher education loan, Non-farm sector activities like food processing industries, cottage industries, quarries, SRTO etc., Road Transport Vehicles, Cars/Trucks, Consumer Loan :- For purchase of T.V., Washing machine, Refrigerator, Flour mill, Computer/Lap Top, Furniture items etc., Cash Credit Loan, Green House, Electric Connections estimate payment, Solar power pump, Solar light. Bank gives loan to farmers for more than 300 purposes related to Agriculture, Allied to Agriculture & Non – Farm Sector.

Major areas hampering the progress of GSCARD Bank are low recovery, overdue, rising NPAs, lesser growth in loans & advances, limited scope for deposit mobilization, non-availability of Government guarantee in time, lack of skilled & professional staff, acute shortage of staff, resource crunch for expansion of Credit, non-computerization, non-availability of interest subvention scheme.

The bank needs to chalk out suitable and time bound viability action plans to focus attention towards improving the recovery performance for reducing overdue & NPA. Major areas hampering the progress of GSCARDB shall be tackled with immediate corrective steps. Computerization of bank will greatly increase operational efficiency and services to farmers. Bank shall introduce short term loan products for faster rotation of funds lent.

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NON-CHEMICAL WEED MANAGEMENT IN KHARIF PULSES

Ramanjit Kaur[1], Teekam Singh[2] and Sunil Kumar[3]

Pulses are the important crops after cereals and are the cheapest source of dietary protein. While pulses are produced in every region of the world, South Asia and sub-Saharan Africa together account for about half of global production and have the highest levels of average per capita consumption of pulses (FAO 2019). North America is the largest exporter of pulses and Asia, with a large demand for pulses, accounts for 64 percent of global imports. Pulses contain carbohydrates, mainly starches (55-65% of the total weight); proteins, including essential amino acids (18-25%, and much higher than cereals); and fat (1-4%). Pulses play an important and varying role in farming systems and in the diets of poor people worldwide. After the Green revolution, the production of pulses in India remain stagnant over the years due to various biotic and abiotic stresses. In addition to food value, pulses also play an important role in cropping systems as pulses possess wide adaptability to fit into various cropping systems; have ability to fix nitrogen and thereby enrich the soil and reduces as a result, the requirement of not only additional nitrogenous chemical fertilizers for the succeeding crops, but also that of chemical pesticides and herbicide, disrupting thereby the periodical crop disease and insect cycles; and improves physical health of soil making soil more porous because of their tap root system. Eating foods that contain more pulses can certainly help mitigate green house gas (GHG) emissions as pulses require little or almost no nitrogen fertilizer, they constitute a low-carbon footprint food.

Pulses are grown in northern, central and western India primarily in the summer months (March-June) and in the kharif season (June-September). Summer or Kharif season mung and urd account for about 70 percent of the total production of these crops. The due attention is required to enhance the production of pulses not only to meet the dietary requirement of protein but also to raise the awareness about pulses for achieving nutritional, food security and environmental sustainability. Pulses truly are nutritious seeds for a sustainable future, and can make an important contribution to the achievement of many of the Sustainable Development Goals of the 2030.

Constraints in pulse production:

Over the years, while the country has accumulated a huge surplus of wheat and rice, the pulses remain in short supply. Consequently, the per capita availability of pulses has progressively declined from 65.5g a day in 1961 to merely 39.4 g in 2011 against the minimum requirement of 160 g/capita/day; whereas, availability of cereals has gone up from 399.7 to 423.5 g. In India, pulses are cultivated on marginal lands under rain fed conditions. Only 15% of the area under pulses has assured irrigation. India, although being a major producer and consumer of pulses, due to restricted irrigation facilities and barren land areas, and poor policy initiatives to promote the pulse market, the productivity problems are much worse than those in other major pulse-producing countries. Global cereal production grew nearly three times in the past half a century, but pulse output has risen at a slow pace of less than one and three-fourths through the same period. It seems that unless area under pulses expands significantly, or productivity improves appreciably, it would be difficult for the pulses market to see any appreciable growth in the coming years. For a country that faces persistent protein inflation and has preference for vegetarian diet, pulses are the most economical source of vegetable protein. Higher consumption of pulses will help address the scourge of pervasive malnutrition caused by protein deficiency among large sections of the Indian population.

The government has also implemented the National Food Security Mission (NFSM) on pulses in 622 districts of 27 major pulses growing states of the country. The Pulse Mission, a government scheme over the last five years has incentivized farmers to improve pulses

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production in the country and enabled more people to consume protein-rich diet. As a result of this, large amount of self-sufficiency has been achieved in the area of major pulses. To meet the demand of pulses, India will import approximately three million tonnes of pulses in the year 2020-21 (FAOSTAT 2019). In order to ensure self- sufficiency, the pulse requirement in the country is projected at 32 million tonnes by the year 2030 which necessitates an annual growth rate of 4.2%. This requires a paradigm shift in research, technology generation and dissemination. Despite being world's largest producer of pulses, only small exports of pulses are taking place from India, both because of restrictions on exports and the high domestic demand.

Other factors that have inhibited the productivity growth are lack of irrigation, low application of fertilizers, climatic conditions, and low remunerative prices to the farmers. Crops under abiotic stress are usually more susceptible to weeds, insects and diseases, which increase the losses considerably. One way to increase the quantity and quality of food is to reduce damages caused by insects, diseases and weeds to crops. According to an estimate, in India, weeds cause about 33% of the total annual loss of agriculture. If weeds are not managed properly then it can reduce the yield of pulses to the tune of 30-80% in monsoon season and 18-80% during winter and summer season. Therefore, one cannot obtain the full yield potential of any pulse crops, unless the weeds are properly removed from crop field. Weed infestation in field may reduce yield depending upon intensity, nature and duration of weed competition (Table 1).

Table 1. Extent of yield loss due to presence of weeds in pulse crops

Pulse crops	Loss in seed yield (%)	Critical period of crop-weed competition (days after sowing)
Red gram/ Pigeonpea	21-52	15-60
Green gram/ Moongbean	40-50	15-30
Black gram/ Urdbean	44-83	15-30
Rajmash	20-48	-
Fieldpeas	25-35	40-60
Mothbean	30-40	15-60

Weeds compete with crop plants for soil moisture, nutrients, light and space. The weed infestation is more in kharif and summer season crops due to frequent rains and irrigation, respectively. Weed problem also vary according to crop, soil type and management practices. Successful weed management requires a field by field approach and requires knowledge of weed diversity and weed seed bank status, soil type, herbicide use history and cropping system.

Weed flora infesting pulse crops:

During rainy (kharif) season, weeds pose a serious problem. The major weeds found infesting kharif pulse crops are annual grasses like Echinochloa colona, Dactylocteinum aegyptium, Eleusine indica, Digitaria sanguinalis, Commelina benghalensis, Eragrostis spp.; broadleaf weeds like Trianthema portulacastrum, Digera arvensis, Phyllanthus niruri and perennials like Cyperus rotundus etc. During spring/summer, both rabi and kharif season weeds can infest the crop depending upon growth behavior.

Critical period of crop-weed competition:

Pulse crops are very sensitive to early weed competition. The competition becomes severe due to smothering effect when weeds emerge earlier than the crop. The critical period of crop-weed competition is an important principal of an integrated weed management (IWM) program. It is a period in the crop growth cycle during which weeds must be controlled to prevent yield losses and weeds that are present before or emerge after this period do not cause significant yield loss. Depending upon crop duration and growth behaviour, critical period of crop-weed competition varies. First 30-60 days are very critical in life cycle of plants of pigeonpea (red gram), soybean, and pea as these are long duration crops and have bunch-type traits. Whereas weed control is required for initial 15-30 days of the crop season of green gram, black gram and cowpeas as these are short duration crops and have branching-type growth traits. Crop competitiveness with weeds depends largely upon rate and extent of crop canopy development; intercepting maximum sunlight and shading the ground and inter-row spaces.

Weed control approaches:

Weeds should be managed in such a way that will encourage the growth of crop plants beneficial to our interests and suppress the remaining unwanted plants (weeds). Various weed control measures can be adopted to keep the weeds below economic threshold levels are as under:

1. Preventive methods:

For successful weed management, it is most important to prevent the distribution of weed seeds from one field to another, and from infested to uninfested areas. One year's seeding makes seven years' weeding is used figuratively for the danger of allowing weeds to grow and seed themselves. Weed prevention comprises all measures, which checks the entry and establishment of weeds in an area and also includes farm hygiene that prevents the every year production of seeds, tubers and rhizomes by the weed species already present on the farm; preventing the weeds from becoming a problem over time. These methods may be physical, mechanical, chemical or quarantine laws which prevent any new weed to infest new habitat. Non-cropped areas like irrigation channels, drainage channels, ditches, fence lines, farm boundaries, bunds and other similar non-cropped areas are often neglected by the farmers. The contamination of crop seeds can be prevented in two ways: by producing weed free crop or by cleaning the crop seeds of weeds before storage and at sowing time.

2. Ecological approaches:

Weed management differs from weed control or weed eradication wherein weeds are kept under check at a level that these do not cause economic loss of the crop. Weed scenario present within crops is the end consequence of different agronomic and ecological weed management practices. Good weed control practices will be that which can increase weed species diversity, yet maintaining their biomass below a critical threshold level for desired crop growth and yield. There is change in the distribution of weed species in a population or increase in dominance of one or more species within a population. Understanding weed biology and ecology is pre-requisite to develop strategies for the cultural management of any weed. Information of weed biology helps in framing time-chart for different weed control operations; identifying the weakest links in phenology of weed plant so that agronomic interventions can be done to reduce crop-weed competition.

Soil solarization:

Solarization is a method of heating the surface soil by using plastic sheets placed on moist soil to trap the solar radiation. By this method the soil temperature increased to 8-12° C over the corresponding non-mulch soil and thereby most of the annual and perennial weeds belonging to genera Amaranthus, Anagallis, Avena, Chenopodium, Convolvulus, Digitaria, Eleusine, Fumaria, Lactuca, Phalaris, Portulaca, Solanum and Xanthium can be effectively controlled. The degree and duration of soil solarizaton differ from one weed species to another species. Solarization for only 10 days gives complete control of Phalaris minor and Avena ludoviciana, the most dominant grassy weeds during winter, where as there is a less effect on Melilotus indica even after 40 days of solarization.

Stale seed bed technique:

One to two flushes of weeds can be destroyed before planting the crop. Stale seedbed practice has been found very effective in reducing infestation of Cyperus rotundus in the crop. In this practice, weeds are allowed to germinate after a light irrigation or rainfall and emerged seedlings are killed either using a non-selective herbicide or tillage operations, preferably herbicide use as it avoid bringing back the buried seeds again on or near the soil surface and later on sow the crop without any further tillage. Stale seed bed technique is time consuming and delay sowing of crop translating into poor yield.

Crop rotation:

The long-term weed population dynamics is affected by the choice and sequencing of crops. The key

component of weed management in traditional farming was the rotation of different crops with different life cycles. With each crop, certain typical weeds appear which are less serious in some other crops and these weeds increase rapidly if a favorable crop is grown continuously. Crop rotations are effective in controlling crop-associated weeds. Crop rotation with crops requiring different management practices is well known in disrupting the growth cycle of weeds. Adoption of rotation crops, however, will depend on their market prices; yield stability, prevention of weed seed production and subsequent weed seed bank build up.

Cultivars:

The differential morphological character of cultivars plays a vital role in crop-weed competition. Generally, tall cultivars along with early vigour, more tillers, inclined leaves, more biomass accumulation at the early crop stage, high leaf area index and specific leaf area during vegetative growth for rapid ground cover by canopy are desirable traits.

Intercropping:

Changing the plant spacing pattern (intercropping, relay cropping etc) and time of sowing might be helpful in providing additional weed control. Intercropping considerably suppress weeds than sole cropping due to increased population density and crop canopy.

Planting method and time:

Row arrangement also affect the weed growth by cutting light availability at the ground level. Narrower row spacing improves the competitiveness of crops with weeds by developing faster canopy cover. Uniform row planting suppress more weeds than the paired row planting mostly due to low spaces in inter row regions. Planting time decide the occurrence and manifestation of weed species. In timely sown chickpea, the weed population at 30 days after sowing is generally high to force manual weeding, whereas in late sown chickpea the build-up of adequate weed flora is only after 45 days.

Optimum plant population:

In an agricultural ecosystem, by maintaining narrow row spacing and high seeding rates, the crop provides a more smothering effect on weeds as less space is available for weeds to flourish. With the help of high crop density per unit area, weeds can be suppressed by maintaining the dominant position of crop plants over weeds through a modification in canopy structure. Higher plant population can put pressure on the availability of space for weed growth and make the crop more competitive against weeds. High seeding rate could partly control weeds depending upon the biology of weeds and crop cultivars present in the field.

Fertilizer application:

Manipulation of crop fertilization especially nitrogen is a promising agronomic practice in reducing weed interference in crops. Poorly fed crop is less competitive in nature as compared to weeds. Without weed management, alone crop fertilization is not helpful for getting higher net returns. There should be more emphasis on application of fertilizers as band placement along crop rows at proper time in optimum quantity.

3. Mechanical method:

Tillage serves only as a temporary means of weed control because the soil contains many dormant weed seeds. Ploughing may bury weed seeds at a depth that prevents germination but may also expose other, from deeper soil layers to surface where conditions are suitable for germination. Thus, it affects weeds through cutting, burial, uprooting and ouster of weeds; moreover, it changes the soil micro-climate and alters weed germination, emergence and establishment. Conservation agriculture may promote the germination and emergence of newly shed weed seeds that stay on or near the soil surface, and these germinated weeds can be killed with any contact herbicide and crops can be sown without any tillage operations. With reduced tillage, density of some annual and perennial weeds can increase, so effective weed control practices should be employed to manage weeds successfully. Precision land levelled or regular sloping fields enable appropriate water

management which have profound effect on weed growth and bio-efficacy of any applied herbicide. A well levelled field is essential for good weed control.

Physical methods include pulling, digging, discing, ploughing and mowing. In the past, hand weeding was synonymous to weed management due to abundant labour availability, cheaper cost of labor and the nature of agriculture as major occupation. Hand weeding is time consuming and tedious. When weeds are large enough to be gripped, they are pulled out of the soil and discarded. Smaller weeds can be hand-pulled. Early hand weeding is better; since any delay will enable the weeds to absorb nutrients. Hand hoeing is used as a very handy method of weed control, particularly where line-planting is practiced. Hand hoeing is faster than hand weeding and even creeping perennials can be controlled. In red gram, green gram, black gram, and soybean, two mechanical weedings, one at 25-30 days and another at 45-60 days after sowing give excellent weed control. Hand weeding/interculture with the help of hoe is always better than herbicides because interculture operations improve aeration in the soil. Hand-weeding still occupies more than 40% of the small farmer's time in the least developed countries and this practice does not completely prevent crop losses caused by weeds. The importance of integrated weed management in developing countries is increasing due to labour scarcity.

4. Biological control:

Seed predation by granivore fauna, such as ants and other insects could be used as an important tool in weed management systems where newly produced weed seeds remain on the soil surface, mostly under zero-till systems. Weed seed predators can be encouraged by retaining crop residues in the field as they serve as forage to them. Since no additional cost is required to apply such approaches, these environmentally-friendly, safe and economical approaches for weed control can be combined with existing practices as a component of an IWM package and potential of biocontrol agents have to be harnessed however, there is very low abundance of these natural enemies at the particular time required to control the weed in a specific agricultural situation.

5. Integrated approaches:

Integration of weed control methods is very important for solving long term weed problems. The escaped weed plants after the use of herbicide must be uprooted before seed setting. These escaped plants may be of resistant population or may be due to lack of proper spraying technology. So, left over plants should not be allowed to form seeds to reduce seed bank. The objective of integrated weed management is to maintain weed densities at manageable levels, preventing weed shifts to more difficult-to-control ones and managing weed biodiversity and puts greater emphasis on preventing weed reproduction, establishment and minimizing weed competition with the crop. It involves the concept of multiple tactics of weed management to maintain weed population below certain level while conserving environment quality and emphasizes on integration of techniques and knowledge in a manner that deliberates to the causes of weed infestation rather than retorting to problems after they occur.

Integration of different methods have synergistic weed management as efficiency of applied herbicides and crop competitiveness against weeds can be improved by integration of improved production and protection practices, their timeliness, optimum fertilization and water management and incorporation of crop residues in the soil. None of these techniques when employed individually result in complete control but the integration of these tools in suitable combinations works efficiently. Reducing the reliance on one or two specific weed control techniques or tools are helpful in enhancing life of those methods for future use. The inclusion of herbicides with various non-monetary, low-input, low-cost resource conservation techniques like zero tillage, change in establishment methods, line sowing, FIRB sowing, good water and fertilizer management, soil solarization, stale seed bed, crop residue incorporation, mulching, timeliness of operations and other cultural methods could be the

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OFF THE BEATEN TRACK: THE IDEA OF A COOPERATIVE UNIVERSITY

H.S. Shylendra

The creation of a new Ministry of Cooperation at the national level has brought cooperatives into policy focus again. Even as the potential areas of intervention by the new ministry are being explored, cooperative education has emerged as a pertinent area of policy thrust. The creation of a university of cooperation has been mooted as an ingenious step that may take cooperative education to newer heights in the country.

A university for cooperation looks like a novel idea having the potential to make a major impact both on the theory and practice of cooperative ideology. Despite the potential, the idea is fraught with several challenges in terms of its conception, design, and actualization. There has been no instance of the creation of an exclusive university for propagating cooperative education in India or abroad. But there is a variety of educational efforts by cooperatives and their associations to build the technical capacities of the cooperatives and their personnel at various levels. Some of these efforts have led to the formation of regular universities, if not specialized ones, for cooperation. For example, the erstwhile USSR, the Centresoyuz an apex cooperative body, had created a vast network of educational infrastructure (Mahal 1989) offering specialized training and education to cooperative personnel and youth. At least two of the institutions of Centrosoyuz have now emerged as regular universities offering affordable education to the public. So is the case with the Cooperative University of Columbia which emerged in 1983 from an institution set up by cooperators to work on the solidarity economy.

In the UK, the country where the Rochdale cooperatives emerged, an effort continues to transform the renowned Cooperative College into a radical new university working for cooperative values and principles (Yeo 2014). Similarly, in Spain, the initiativen the Mondragon worker cooperatives to promote technical education among cooperative employees has culminated in the creation of a full-fledged university called Mondragon University, which offers opportunities for higher education and research in diverse fields. In India, apart from the vast network of cooperative training created by the cooperative unions and the government, there exists a few educational institutions which are promoted and managed on cooperative lines offering general or specialized education. A few universities did launch courses in cooperation at UG or PG level. At the same time, ideas to set up a university or an institution of excellence for cooperation were mooted in the past (GoI 1989; Sisodia 2007) though the same were not taken to the logical end due to lack of clarity and conviction.

The university of Cooperation being proposed currently in India, if attains fruition, will undoubtedly be a unique and a pioneering attempt. It can help mainstream cooperation in the domain of higher education to raise its stature. The university may open opportunities for fresh courses and studies relevant to cooperation and collective action. An attempt is made in this paper to expound on the potential relevance of a university of cooperation by identifying the design features necessary for creating such a unique educational venture. Prior to attempting the same, it would be worthwhile to briefly highlight some experiences of cooperative education, both globally and nationally, and draw relevant lessons.

Cooperative Education: A Brief Review

Cooperative education has been an integral part of the formal cooperative movement in the last two centuries. The pioneers of the movement in the UK and elsewhere not only recognized the role of cooperative education in the success of cooperatives, but took concrete steps to foster the same. All formal cooperatives were urged to contribute a part of their profits towards promoting cooperative education among members and the public. The establishment of libraries, cooperative colleges, study circles, and

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networking with workers' education associations were some of the early steps taken in this direction (Todd 2011). Even in Russia soon after the revolution in 1917, Lenin recognized the importance of educational work to mobilize peasants into cooperatives, calling it the cultural work' different from the political struggles (Serayev 1984).

Cooperative education got a further fillip when Education, Training, and Information' was codified as one of the basic principles of cooperation by the International Cooperative Alliance (ICA) in 1936 (ICA 2015). The principle created an onus among the cooperatives and their support agencies to organize and propagate relevant education rooted in cooperative values among members, elected representatives, staff, youth, opinion-makers, and the public. Such efforts played some useful role in creating awareness among members and others about cooperatives, which emerged as a new social and economic organization in the post-indus- trial revolution period (Shaw 2011).

A similar thrust was given to cooperative education in India by the cooperative laws and policies enacted since the beginning of the 20th century.

The cooperative unions and governments have worked towards creating specialized training institutions at national, state and district levels to educate and train members and employees of cooperatives which were growing rapidly in the country as part of the planned development and cooperativisation of the rural economy. Cooperative education came to denote two types of efforts, one being education and another being training carried out separately yet complementing each other (Gol 1989). While the educational effort was meant to create awareness among the members of the cooperatives about the principles and values of cooperation; training was meant to buildup the capacities of leaders and personnel for effective governance and management of the cooperatives. Overall, cooperative education went with the overlapping goals of contributing to individual learning, creating effective cooperative organizations, and building a wider cooperative movement.(Shaw2011).

Cooperative management training aimed at professionalizing cooperatives has been pursued since the beginning of the planning under the leadership and guidance of the National Cooperatives Union of India (NCUI) and the National Council of Cooperative Training (NCCT) (Gol 1989). NCUI through its National Centre for Cooperative Education (NCCE) has been promoting the training of cooperative personnel besides attempting to strengthen cooperative education in the country and the neighbourhood. The NCCT has created a wide network of cooperative training and education institutions which include, among others, fourteen Institutes of Cooperative Management (ICM), five Regional Institutes of Cooperative Management (RICM), and the premier Vaikunth Mehta National Institute of Cooperative Management (VAMNICOM) offering a variety of short and long duration training programs for the cooperatives.

At the state level, the state level cooperative unions, through Junior Cooperative Training Centers (JTC) undertake the training of grassroots cooperative employees. The cooperative education instructors (CEIs) attached to the state unions are the cornerstone who promote cooperative education among members and leaders. While CEIs conduct cooperative education following peripatetic methods,the JCTs have been providing a Variety of training programs for skill development among cooperative employees. Many of these educational and training programs have been supported by cooperative development schemes of the central and state governments.

Parallelly, cooperative training has been promoted even by other apex and development organizations in the country like the Reserve Bank of India (RBI), National Bank for Agricultural and Rural Development (NABARD), National Dairy Development Board (NDDB) and National Cooperative Development Corporation (NCDC) besides some leading NGOs (Gol 1989). These agencies have been fostering cooperative training and education as part of their sector development

programs involving cooperatives. Some of them have created specialized institutions like the College of Agricultural Banking (CAB), Institute of Rural Management, Anand (IRMA) and Bankers' Institute of Rural Development (BIRD) providing advanced training and education with a focus on cooperatives and other rural development organizations. Some of the national level cooperatives or federations like IFFCO, KRIBCO, and NAFED have also taken up initiatives towards cooperative training by creating their training facilities.

Though in general there is a dearth of evaluation of cooperative education, the diverse efforts made in the country, as highlighted above, seem to have contributed to the spread of the cooperative movement by increasing awareness among members and developing skills and abilities of cooperative leadership and employees (Balaji and Durgaprasad 1985; Gol 1989; Shylendra 2003). This is partly supported by the fact that there has been sustained progress in the cooperative movement in terms of the number of cooperative societies formed and the members reached across different states.

Not long ago, cooperatives came to occupy a prominent position in different sectors of the economy (Shylendra 2021). At the same time, the available evidence also suggests that these cooperative education efforts have faced several constraints in making the expected impact (GOI 1989, Prakash 1988). Resources have been a major constraint in up-scaling cooperative education programs, more so in states with a weak cooperative movement. The education personnel like CEIs were found to be inadequate both in terms of their number and initiatives. The members' education, which is crucial for the democratic working of cooperatives, has been weakened in the process of heightening bureaucratic control and top-down management of cooperatives (Prakash 1988). As regards training programs, the available assessments suggest several limitations like fragmented training efforts, inadequate reach with less than 50% of the personnel availing training, hesitancy among cooperatives to depute staff for training, and poor quality training programs including mismatch with the needs of the cooperatives (Rao 2008; Trivedi 1992). Though relevant, the training programs have been able to play only a limited role in enhancing the professional abilities of the cooperatives in general. This is manifested in the fact that cooperatives, in general, have faced difficulties in increasing their market shares and business acumen.

Cooperation and Higher Education

Higher education in any discipline enables advanced studies including the creation of theoretical and empirical knowledge in the area. A deeper understanding of a subject and its application becomes possible through higher education. Globally, cooperation has been able to find a place only in a few centers of higher education. In India, cooperation as a subject of study has been introduced at graduate or post-graduate levels by select universities like the University of Mysore, MS University of Baroda, and Kerala Agricultural University. These efforts were the result of policy support provided to cooperation and other areas to be taken up as subjects of higher learning.

However, the introduction of cooperation as a subject of study was neither universal nor uniform in format across universities. The courses offered were peripheral to existing departments like economics or commerce. Even in countries like Canda or Ireland though different centers were created for cooperative studies, again these centers were part of the larger schools relating to public policy or management in the university(MacDonnell 2011), In essence, cooperation has not been considered not worthy of a subject to be introduced more widely by the universities despite the growing spread of the cooperative movement including in capitalist countries.

The limited focus given to cooperation by the mainstream universities has also not been without challenges, especially in the wake of economic reforms and liberalization. There are lamentations that there is increased neglect of cooperation by conventional universities, leading to their invisibility in the academic

curriculum(ICA2015, Todd 2011). The higher education courses in cooperation have been either dispensed with or modified to give them management orientation, given the demands of the market economy. The university departments have been compelled to do so as they have been not able to attract students, also given the limited employment opportunities offered by such courses. The drift is also accompanied by the relative decline of the cooperative sector and organizations, if not their relevance, especially in the post-reforms period.

An education system that has become market driven and cost-conscious cannot accommodate subjects that find no favour from market forces. The decline of state funding for education in the wake of economic reforms has made the running of courses considered peripheral even more difficult. Even though the relevance of cooperation as an alternative idea and a way of life remains relevant but in the prevailing political economy, cooperative education is bound to struggle to find its due place.

In terms of cooperative research, there has been a relatively broader involvement of scholars from diverse departments or disciplines. Cooperative research has been pursued not only by the specialized departments or centers on cooperation but also by other conventional departments like sociology, economics, commerce, and management, given the interdisciplinary nature of cooperation. These departments have carried out research in the cooperative field from the perspective of their disciplines (Attwood and Baviskar 1988; Ostrom 1990).

Research in cooperation has been carried out in the Indian and global context and management institutions functioning outside the university framework. Some of them have made notable contributions to the field of cooperation through such research efforts (Shah,1996). However, despite such a broader involvement, overall research efforts in the domain of cooperation have been rather limited given the lower priority attached to cooperation in the domains of policy, academia, and business. Incidentally, in India, some of the larger cooperatives or apex agencies like IFFCO, GCMMF, and NDDB have tried to support research efforts but found them to be of limited consequence in making any significant dent.

The inadequate focus on research in cooperation is manifested in another form. There are only very limited specialized academic journals in the filed of cooperation meant for the publication of research work and studies. No doubt journals in other domains do publish articles on cooperatives with some notable contributions, but the overall research outcomes are only limited. Such research also has been more sporadic, scholar-driven, and less widespread. The growth of any subject or discipline would require a more proactive, concerted, and wider research, which the field of cooperation has lacked, Institutionalization as a discipline alsi has been weak, with not many associations or networks of scholars and practitioners formed in the area.

The idea of a dedicated cooperative university assumes relevance in the light of the gaps identified above regarding cooperative education at various levels. The idea needs to be debated for better clarity. Irrespective of the form it may take, a university or a center of excellence, a dedicated higher education institution with a clear purpose, design, and resources can give a real fillip to Cooperative education, which in turn can strengthen the cooperative movement.

Why a Specialized University?

A university is a place of higher learning involving teaching, res- earch, and extension. By pooling talented scholars, the university

enables advanced learning and knowledge creation in diverse disciplines which contribute to a society's progress. To emerge as a center of learning and excellence, any university would require a clear purpose and resources to pool the talents and needed infrastructure. It would also require appropriate governance through commited leadership and

autonomy to foster academic goals.

Broadly, universities, in terms of their focus, may be classified into two categories-general and specialized. Conventionally, most universities have been of general type pursuing studies in diverse disciplines covering science, humanities, commerce, arts, technology, etc. Special- ized universities focus on any one chosen broad field of study or discipline like medicine, law, management, technology, and rural development. Specialized universities have emerged because general universities have not been able to respond to the growing needs of a particular discipline or area. While both may go with their strengths and weakness, the New Educational Policy(NEP) 2020, however, advocated phasing out specialized universities as the multi-disciplinary approach is found to be more relevant.

The cooperative university would be a specialized university even as it may draw upon multidisciplinary and interdisciplinary approaches. The university must be dedicated to the broad field of cooperation. The creation of such a university becomes necessary both in the context of the specific needs and challenges of cooperative education as highlighted previously and the larger relevance of cooperation as an alternative approach and ideology to replace the crisis-ridden capitalism.

Undoubtedly, cooperation as an alternative approach needs sufficient societal attention both in policy discourse and in the educational sphere. This emerges form the fact that the dominant capitalist ideology finds itself in a deep crises. Frequent recessions disturbing social and economic stabilities, hideous inequalities, and the deepening climate change which threatens the very existence of the human race are part of the larger crisis induced by the domineering capitalist system owning to its inherent contradictions.

Creating an equitable and sustainable society is a pressing need where collectives become essential structures. Cooperation goes with the principles of solidarity, mutual help and sharing, and equality as against individual rationality, private property, profits, greed, and accumulation which underpin the capitalist system. Promoting a society based on solidarity, mutual sharing and equity necessitates an appreciation of and thrust on collectivist ideas at all levels and in all spheres of life. Hence, cooperation both in theory and practice needs to be understood well and proactively given due place in the educational domain.

Moreover the prevailing market- based system driven by neo- liberalism will not enable the education system to give the needed attention to subjects like cooperation, especially given their contrasting ideological orientation. A cooperative university hence assumes relevance where a cooperative idea can be pursued deeply with a vision and goal to contribute to establishing a just and sustainable society based on cooperative. It is also aimed at overcoming one of the limitations of the current higher education system, which is excessively focused on building instrumental skills and knowledge devoid of humanistic values.

The cooperative university will be a mission-driven institution. It can be a unique center of learning and excellence to address the challenges confronting human civilization based on a collectivist approach. Strategically, both in terms of its creation and working, the university will have to be extricated from the pressures of market forces. Only then such a university can emerge and thrive. Left to the market forces alone, it would entangle itself in a web of contradictions leading to its drift and decline.

Design of the Cooperative University

The university would function as a specialized university with a focus on cooperation. Cooperation will be the pivotal of all the activities at the university. Other disciplines will exit in university only to supplement and complement cooperation for a more holistic understanding.

The jurisdiction of the university can be global. The head of the university will always be a scholar or a practitioner of coo- peration. The leader will believe

in the idea of cooperation and solidarity. The faculty and scholars though may be drawn from diverse disciplines but focus and specialize in different cooperative themes. The belief in cooperation comes both in its mission and practice. The university would be governed on a collective basis, keeping the cooperative ethos in view. The cooperative sector organizations would be one of the stakeholders of the university engaging actively with the university in all its activities.

The university will be a multiactivity institution. It will engage itself in teaching, training, extension, and research activities, all carried out in an integrated way. The faculty and scholars will creatively involve themselves in diverse activities to attainsynergy in the outcomes. The mode of education can be in both regular and openuniversity formats. Under teaching activity, the university may offer diplomas and undergraduate and post-graduate degrees in various domains of cooperation. Both theoretical and practical oriented papers will be offered covering themes like Cooperative thought and ideology, Cooperative based development, Cooperative movements, Cooperative education, Cooperative law and policy, Cooperative Governance, Cooperative economics, Cooperative Sociology, Cooperative accounts, etc. The university will develop unique and innovative courses keeping the emerging needs of the cooperative theory and practice. The UG/PG programs may follow a multi-disciplinary approach of an integrated type where diverse courses are taught, having a bearing on cooperation. For example, economics will be taught to understand the economics of collectives, and sociology would be taught to understand the social dynamics of cooperatives and collective action. Intensive fieldwork and internships will be an integral part of the learning. Learning methods would prominently involve group and collective approaches.

Students from any disciplinary background can join these programs which have the common goal of imbibing cooperative values and knowledge. The basic requirement or qualification would be an inclination to pursue the study with the required rigor. Cooperatives, cooperative promoting agencies and civil society organizations can also depute their employees for these programs. The university will offer scholarships to all the students for their studies with the explicit goal of broad basing cooperative education. Diversity and inclusion norms are adopted in real spirit by the university, going beyond statutory norms. The master-level program may offer more advanced papers covering the theory and practice of cooperative themes with critical perspectives, though there could be a specialization that should not lead to any hierarchy among students. The university may introduce other innovative courses/programs as it evolves in its working and scholarship. The curriculum and reading will be developed by the university, which can serve as a model for other universities willing to network. During internships, the students will also act as extension workers to spread cooperative ideas, policies, and practices among cooperatives and the public. There could be scope for study in different languages under the open- university stream. For vernacular candidates, the university may liaise with local universities or colleges for instruction and evaluation.

In terms of placement, the goal shou be not to fall into the trap of salary and a career-oriented approach. While the graduates may join any organizations after their degree, the university will facilitate placement only with the cooperatives. These graduates are expected to act as catalysts of change and leaders of cooperative management and development. Innovative ways to link graduated with cooperatives need to be evolved. The university needs to engage constructively with the cooperatives for such an arrangement. The 'placement' could be done in a mutually understanding way involving the university, cooperatives, and students. While the cooperatives may recruit as per their need and abilities, the university may offer fellowship for a limited period in needy cases as an incentive to supplement the salary. For fellowship, the university could raise funds from the government and various other sources having an

interest in the cooperative sector. The university and the graduates will continue their engagement to exchange knowledge and ideas about cooperative practice feeding into the teaching, training, and research activities of the university.

Research is another major area complementing the university's goals. Ph. D program will be an integral part of the research activity. Besides having its corpus, the university will mobilize research funds from sources aligned with the goals of the cooperative movement.

The thrust of research activity is to create theoretical and empirical knowledge to advance the cooperative field. The university, in consultation with its stakeholders, experts and practitioners in the cooperative domain, may identify its research priorities. Theoretical and empirical issues confronting cooperative organizations and cooperative movements are proactively identified. Problem solving studies also could be carried out at the request of cooperatives.

The university will publicize its research through its publication wing, journal, working papers, monographs, magazines, the internet, and other media. The research papers and works will be reviewed by scholars for critical feedback before they are shared and published. The aim is to make available relevant research findings to a wider audience, including cooperatives and their members creatively. While facullt and scholars may publish through regular channels, the university will not fall into the trap of instrumental academic research and publications, creating gaps between the scholars and the practice.

The university may network with like minded universities or center on its chosen research themes. The research findings will be debated and discussed through regular seminars and workshops in which scholars, cooperators, and the common public may participate. Policy oriented seminars are organized to push the cause of cooperatives sectors and the movement. Practitioners would be regularly invited to come and share their experiences and challenges. The university will structure its activities in flexible and innovative ways to enable faculty, scholars, and students to participate in a diverse range of activities. The library of the university should emerge as a rich repository of books and resources on cooperatives. The research wing will actively build accurate statistical information and a database on cooperatives in collaboration with sector oirganizations for wider application in policy and research.

Training is another major area of attention to be pursued both to build capacities of the cooperatives and community-based organizations as well as to establish strong links with the practice of cooperation. A dedicated traing and extension center could be created for the university. The center will draw upon its experienced trainers, faculty, and practitioners form the field. Training could be organized even in local universities or colleges. The thrust would be to build the skills of cooperative personnel based on a proper training need assessment and practical orientation.

All training courses will necessarily have a module on experience sharing on cooperative values and principles. Innovative methods, including collective learning, are used to impart training. The center would collaborate with national and local level training institutes to upgrade training methods and materials. Besides conducting its extension on cooperation involving students and extension staff, the center will work with cooperative education wings at state and district levels to enegise them and develop innovative ways of extension, including using social media for the purpose.

To be accountable, the university will conduct a periodic review of its work and progress involving relevant experts and stakeholders. The same will be shared with all stakeholders. Through an innovative and effective review of the outcomes, the university may attempt to render the application of mainstream instruments as NAAC and NIRF redundant in its case.

The faculty growth or career plan would be driven by the mission and purpose of the university.

Conclusion

Cooperation and cooperative education need a new societal thrust. While diverse steps and initiatives are warranted at various levels to reinvigorate the cooperative movement, a dedicated cooperative university may open new vistas for cooperative education. The idea, though, is ridden with challenges but worth experimenting given the larger relevance of cooperation and collectivism for the future of humankind. A historical opportunity awaits the policymakers here, and the university could be created as an institution of national importance with due enablement by the government.

Simultaneously, advancing cooperative education for a wider impact may require going beyond the university. Cooperative ideas and their relevance must be made a part of the common curriculum of schools and colleges. Cooperation can be mooted as one of the subjects under the multi-disciplinary learning visualized under NEP 2020, which will create the much needed appreciation for cooperation as an alternative approach, especially among the youth.

Continued from pg. 13

component of integrated weed management and are being practised in recent years to reduce herbicide load on ecosystem. Site-specific IWM strategies have to be evaluated considering available resources situation and hydrology/environment in which rice is being grown.

Recommended integrated weed management (IWM) options for pulses

- Pre-emergence herbicides (e.g., pendimethalin 1.0 kg/ha; oxyfluorfen 0.18 kg/ha) + residue retention after pre-em. herbicide application- Controls broad-spectrum of weeds in most pulses.
- Pre-emergence herbicides (e.g., pendimethalin 1.0 kg/ha) – Hand weeding at 30-35 DAYS; Controls broad-spectrum of weeds in most pulses
- Intercropping + pre-emergence herbicides (e.g., pendimethalin 1.0 kg/ha) + residue retention after pre-emergence herbicide application; Controls broad-spectrum of weeds (Pigeonpea + Mung bean, Pigeonpea + Cowpea)
- Raised bed planting + pre-emergence (pendimethalin 1.0 kg/ha) + post-em. (quizalofop-ethyl 50 g/ha) with or without residue (Pigeonpea)
- Zero-tillage with residue + Pre-emergence herbicides (e.g., pendimethalin 1.0 kg/ha) – Controls broad-spectrum of weeds (Summer mungbean, Urdbean)

Summary

Suitable and safe herbicides are limited in pulses, especially for the post-emergent control of broadleaf weeds, with many registered herbicides having a narrow crop safety margin. While cultural practices are at the backbone of an integrated weed management plan, they alone may not be enough to secure adequate weed control and chemical control measures are required for timely management. Practicing crop rotation in conservation agriculture is a successful approach to reduce weed pressure. There is a need to evaluate the effect of high seeding rates on weed management and crop productivity in areas where herbicide use is limited as in organic production systems. Integrated weed management has potential to achieve higher productivity and profitability through efficient utilization of resources and better weed suppression. However, it is crop-specific, location-specific and environment-dependent. Therefore, efficient IWM modules/schedules should be studied across pulses, and pulses-based cropping systems for different agro-climatic regions of the country for efficient management of weeds.

INCLUSION, DIGITALIZATION & SOCIAL MEDIA THROUGH COOPERATIVES

Sharangouda G. Patil

It is high time for the cooperators to discuss certain issues which are important for the growth of the cooperative movement in India. Inclusion, digitalization and social media are the three pertinent issues confronting the cooperative movement. If the cooperatives effectively take up these issues, the movement can do much better in all the other sectors of our growing economy.

It is necessary to have a look at the progress and achievements of the cooperative movement in our country and also discuss its role in the economy of our country.

The cooperative movement in our country was started in the year 1904 by enacting cooperative legislation. This was done in order to free the farmers from indebtedness so that they can concentrate on farming activities. Since then, the movement has diversified into various fields of socio-economic activities and there has been the formation of numerous cooperative societies right from the primary to district and national level. With over 8 lakh cooperatives covering 90% of the villages, the cooperatives have a significant presence in all the areas of socio-economic activities. IFFCO, AMUL KRIBCO, CAMPCO, and many urban cooperative banks, primary agricultural Credit cooperative societies, and general credit have achieved marvelous progress in their fields and are the stars of the cooperative movement in our country. India's cooperative movement is the largest cooperative movement in the world.

Against the above backdrop, the cooperatives have a much bigger role to play in financial inclusion, adopting digitalization and use of social media to contribute substantially in the growth of our economy.

Inclusion

Inclusion aims to cover every individual of our country in the financial orbit. This includes the farmers, the labour class, the unidentified workers of the agricultural and small industrial sector, women and the down trodden sections of the society. There are villages where there are no banking services. The Government of India and the state governments are trying to provide banking facilities avail able to all by opening branches of the banks wherever required. The commercial banks and rural development banks are present ly small finance banks and are putting maximum efforts into financial inclusion. The cooperative sector also has a major role to play in inclusion. Presently there are only 31 crore people who are in the cooperative ambit. There are many more opportunities to extend the orbit of cooperation to other sections of the society. Efforts have to be made to ensure that the people are enrolled as members of cooperatives in those areas where cooperatives are not present. The cooperatives should partner with the government in the inclusion schemes from which the deprived sections of the society can benefit.

Digitalization

Cooperatives need to contribute their best to help India become a 5 trillion economy by 2024. They face a bigger challenge of using the latest technology-based communication system which not only helps them to communicate with their members but also with the external stakeholders to improve their governance system to make it not only autonomous and self-sustaining but also use it to enhance their business as well as advocacy, autonomous and promotional role to compete in the market economy.

The digitalization of Cooperatives

In the changing market economy, cooperatives are fast adapting themselves to the demands of the digital economy. In the wake of rising consumer expectations, high levels of NPA, and the need to serve their prime clientele-the poor and weaker sections of the society, the cooperative banks are adopting Core Banking Systems (CBS), ATMs, net banking, mobile banking and other modes of digital transactions. There is a strong realization that, in the wake of fast-emerging digital trends, cost-effective digital solutions are very

Source - The Cooperator Issue - April'22

important for the smooth functioning of these institutions. The cooperative banks also realize that digital transaction management systems are important to make traditional systems paperless, reduce costs, enhance customer experience and strengthen security and compliance. During recent Vaikunth Bhai Mehta Memorial Lecture event organized by NCUI, Govinda Rajulu Chintala, Chairperson of NABARD called for developing hi-tech cooperative banking system with a focus on artificial intelligence, blockchain technology, etc.

The Government has made a sufficient provision of Rs. 1900 crore towards computerization of primary agriculture credit cooperatives, the bottom tier of the short-term cooperative credit structure. This shows the desire of the government to provide a level-playing field to cooperatives like commercial banks in pursuit of digitalization. The cooperative banking credit sector was recently hit by massive fraud in PMC Cooperative Bank, which clearly showed glaring deficiencies in the regulatory mechanism of cooperative banks. This has led to RBI strengthening its monitoring mechanism and coming up with a regulatory framework for the urban cooperative banks. In the wake of this, there is a strong realization that cooperative banks must undertake effective steps to streamline their banking measures, more particularly digital measures adopted in these cooperatives

Digital Identity and Financial Inclusion

For the cooperatives, reaching out to their customers in remote and inaccessible areas is a big challenge. The cooperative banks face a bigger challenge than the commercial banks that are well equipped to open the branches in the remote areas as they have more resources and are backed up by full government support.

Digital identification for the cooperatives is also important at a time when the public distrust in these institutions has increased because of various irregulations reported in the functioning of these banks.

Viable digital identification options have to be explored, considering ground realities like the local context, the strong community orientation of cooperative institutions, and the need to develop a strong monitoring mechanism that can look after the hazards of governance in cooperatives.

The poor customers of the cooperative banks have to travel a long distance to reach the premises of the banks. If the employees of the cooperative banks can serve the customers with digital identification and other services at their doorsteps, the entire process can be cost saving for both the banks and customers.

Cooperatives and Social Media

The cooperative movement in the digital era today faces a big challenge of building up connectivity and forge a wide range of collaborations at all levels (membership, internal and external stakeholders, the wider community, public, etc.) to usher in innovations that can enhance the well-being of the people in the society. This is not only the demand of the competitive economy but also highly imperative for the image building of the cooperative sector.

Cooperatives and social media work on the same principle of empowering people in their ways. The tools of Social Media (Facebook, Twitter, lnstagram, etc.) give the citizens a free platform to engage as well as strengthen their connections which pave the ground for social innovation. Though there are exceptions like AMUL, IFFCO, NAFED, CAMPCO, KSSFCL, Saraswat Cooperative Bank, NCUI, and a few other organizations, it has been found that many of the cooperative organizations are still not utilizing the potentialities of Facebook, Twitter, and other social media platforms for effective communications. Some have Facebook pages, but they are inactive due to a lack of professionals who can leverage the platform for forging wide range collaborations. Similarly, many do not have Twitter accounts when Twitter has emerged as the most effective medium to highlight the causes/campaigns of other types of NGOs and keep them aligned with the global issues of sustainable development, climate change, etc. The cooperatives in India lack effective communications with the members and other external stakeholders, due to which the issues are not discussed effectively, as a result of which problems remain

unresolved, and solutions unfound. If cooperatives in India use social media platforms actively, then effective collaborations can lead to impactful solutions to the problems confronting the cooperative movement. Organizations can share innovative solutions to understand each other's problems and build up necessary strategic alliances. All sectors of the cooperative movement can use social media, however, good potential of the use of social media exists in business cooperatives, more particularly credit and banking institutions which are technologically sounder than other types of cooperatives. Good use of social media by cooperative banking institutions can bring them closer to their customers. The promotional organizations can also effectively use social media for their advocacy, educational, and training needs. It has been witnessed that the cooperatives in India remain aloof from effective campaigning of the causes they stand for, like environmental protection, poverty reduction, gender equality, etc. They are also inhibited by budgetary constraints. Facebook provides them with a strategic opportunity to connect with the members and form a wider community by attracting new supporters, and even raise money, as most of the cooperative organizations do not under take fundraising seriously. Thus, they lack the necessary resources. Websites can also be used for various purposes such as to generate funds, start a project which has a social concern, and finding supporters is an area in which cooperatives are yet to take significant steps, but it is very vital for opening the rich doors of social innovation.

Conclusion

In the present competitive economy, the world is moving towards digitalization. Social media is playing a very important role in the sustainable growth of our economy. The inclusion of every common man in the development plans of our country is important so that the benefits reach to the poorest sections of the society. The economic systme of our country should focus on inclusion, digitalization and social media in which the role of cooperatives becomes the key.

Shri Dollarrai kotecha elected as Chairman, NAFCARD Ltd.

Shri Dollarrai Kotecha Chairman, Gujarat State Cooperative Agriculture and Rural Development Bank Ltd. was elected as Chairman of NAFCARD Ltd.in the board meeting held on 11th July 2022. Shri Dollarai Kotecha is an eminent co-operator from Gujarat who is associated with both Gujarat State Cooperative Bank as well as State Cooperative Agriculture & Rural Development Bank for the last 30 years and has made his mark as a senior leader of Cooperative movement at national level with his election as Chairman of NCARDB Federation.

Profile of Shri Dollarrai Kotecha

Date of Birth : 30 June 1957

Sr. No.	Designation	Organization	Tenure
1	Chairman	National Cooperative Agri.& Rural Development Banks Federation Ltd., Mumbai	From 11-07-2022
2	Vice Chairman	The Gujarat State Cooperative Agri. & Rural Development Bank Ltd. Ahmedabad	From 2014 to 2018
	Chairman		Since 06-09-2021
3	Director	Gujarat Urban Cooperative Banks Federation, Ahmedabad	From 2003
	Chairman		From 2005
	Vice Chairman		Since 2010
4	Director	National Federation of State Cooperative Banks Ltd. (NAFSCOB)	From 23-9-2021
5	Director	The Gujarat State Cooperative Bank Ltd., Ahmedabad	Since 04-02-2003
6	Director	The Gujarat State Cooperative Union, Ahmedabad	From 2005 to 2011
			Since 2019
7	Director	Junagadh Commercial Cooperative Bank Ltd., Junagadh	From 1992
	Chairman		From 1992 to 2003
	Managing Director		From 2004 to 2008
	Director		Since 2008
8	Managing Director	The Junagadh Jilla Sahkari Bank Ltd., Junagadh	2011 to 2018
	Director,		2018 to 2020
	Chairman		15-6-20 to 02-11-2021
	Director		Since 02-11-21
9	Director	Junagadh District Cooperative Union, Junagadh	Since 2005
10	Director	Gujarat State Cooperative Housing Finance Corporation Ltd., Ahmedabad	Since 04-09-2008
11	Director	Gujarat State Handloom Handicraft & Industrial Cooperative Federation Ltd.	From 2010
12	Ex Tafcub Member	Reserve Bank of India, Ahmedabad	From 2005
13	Director	Kodinar Taluka Cooperative Banking Union Ltd. Kodinar	From 2009
14	Director	Shri Bileshwar Sugar Industries Cooperative Society, Kodinar (Guj)	From 2009
15	Director	Saurashtra Kutch Urban Bank., Rajkot	
16	Director	Jamnagar District Central Cooperative Bank Ltd., Jamnagar	Since 2020
17	Director	Kheda District Central Coop.Bank Ltd. Nadiad	Dt.30-07-2009 to 17-02-2011
18	President	Lohana Students Bhavan	

Niti Aayog developing National Gender Index

NITI Aayog is in the process to develop a National Gender Index. The objective of the National Gender Index is to measure the progress and identify the persisting gaps in gender equality to make informed policy decisions. In its latest annual report, Niti Aayog said the index will serve as a tool to map the progress of States and Union Territories (UTs) on defined gender metrics and build the foundation for positive change. The index will support the policy action and advocacy around gender and will be aligned to the framework of Sustainable Development Goals.

NITI Aayog has also developed a draft State Energy and Climate Index to assess the performance of states on indicators such as DISCOMs' viability and competition; access, affordability and reliability of energy; clean energy initiatives, generation capacity; energy efficiency; and environmental sustainability and new initiatives.

NBFCs gear up to sell bad loans in time to meet RBI's asset norms

With the Reserve Bank of India allowing six months to non-bank lenders to meet the asset classification norms, top NBFCs are preparing to sell off a big chunk of their bad asset pool to clean up their books and release liquidity. RBI has mandated NBFCs that loan accounts classified as NPAs can be upgraded as 'standard' assets only if entire arrears of interest and principal are paid by the borrower. We are in the midst of creating pools of assets we want to get rid of, this will help us avoid sudden spikes in bad assets and clean up our books, said the CEO of a mid-sized NBFC. The loan sales should pick up steam from the June quarter as the deadline ends in September.

The RBI last month extended the timeline by six months to September 30 for NBFCs to adhere to the new NPA recognition norms. Earlier, the regulator had set March 31 as the deadline for non-bank lenders to upgrade NPAs only after all arrears and principal dues were paid. As per an analysis by rating agency ICRA, after the regulator tightened the norms, NPAs for NBFCs were higher by about 150 bps, while for HFCs, they were higher by 70 bps as of December 2021. Bad loan sale is the most preferred route to avoid a PCA (prompt corrective action) like scenario, show cleaner books and release liquidity, said the CEO of another NBFC. We have held initial talks with a couple of ARCs, the interest is enthusing and will fetch us decent returns without having to take a sizeable haircut.

The non-banking sector has been facing increased regulatory oversight and a push towards convergence with banks through various measures such as scale-based regulation, realignment in asset quality classification and prompt corrective action norm. We see that NBFCs' stage three assets could increase to 6% by FY23 from 5.6% in the December quarter, primarily due to slippages from the restructured and Emergency Credit Line Guarantee Scheme supported books, said Jinay Gala, associate director at India Ratings. The credit cost impact is likely to be moderate as NBFCs have created adequate provisioning buffers. According to an analysis of 21 NBFCs and 11 HFCs conducted by rating agency ICRA, about 45% (in loan book terms) of the NBFCs and 25% of the HFCs had not aligned their Gross Stage 3 (GS3) with NPAs as of December 31, 2021. For these NBFCs and HFCs, the NPAs on account of the tightened norms were higher by 3.0% and 1.0%, respectively.

The extension in the timeline provided by RBI would allow entities to strengthen their systems and controls, add to their provisions and help in a smoother adoption of these norms, said AM Karthik, vice president-financial sector ratings at ICRA.

Government to pay ₹12,000 crore extra for rural jobs scheme

The Centre is proposing to provide ₹12,000 crore for additional expenditure on government schemes including the Mahatma Gandhi National Rural Employment Guarantee (Mgnrega) scheme. The rural employment guarantee scheme will require additional funds beyond the upwardly revised ₹98,000 crore in the Budget presented on February 1. According to the finance ministry estimates, the scheme may require another ₹8,000-9,000 crore. The ministry also expects increase in the outflows towards fertilizer subsidy and by the Department of Food and Public Distribution.

However, officials said these extra expenditures were well within the comfort level and will be capped at ₹12,000 crore. Some schemes may require more than RE (revised estimate). But they will be below ₹12,000 crore and, if required, we may use the contigency fund, ," a senior official from the finance ministry told. Article 267 of the Constitution mandates formation of a corpus under the Contingency Fund of India to deal with any emergency situation. In the last Union Budget, the

government enhanced the Contingency Fund from ₹500 crore to ₹30,000 crore through the Finance Bill 2021, keeping in view the pandemic.

New gin berry species discovered in T.N.

A team of scientists from the Botanical Survey of India (BSI) has discovered a new gin berry species from the Kanyakumari Wildlife Sanctuary in Tamil Nadu. The species, named Glycosmis albicarpa with a distinct large white fruit, is endemic to the southern Western Ghats. The species belongs to the Orange family, Rutaceae.

The findings have been published in the latest issue of Nordic Journal of Botany, published from Sweden. Many of the related plants of these taxonomic groups are being utilised for their medicinal values and food. Most commonly related species of these plants are collected from the wild, mainly for local use as food and medicine. Berries of Glycosmis species have the unique characteristic of 'gin aroma' and has gained in popularity as an edible fruit. The species is also a larval host plant for butterflies like other species of Glycosmis, said K. A. Sujana, the leader of the scientific team.

The species, an evergreen small tree, was found as undergrowth in Tirunelveli semi-evergreen forests at the Panagudi forest section of the wildlife sanctuary as a single population that covers an area of approximately 2 sq.km., said Dr. Sujana. While exploring the study site, four sub-populations of the species were located in the valley between two hillocks, with each having three–seven mature individuals in groups, she said. Though flowering, natural regeneration and seedling recruitment of this taxon is found to be fairly good within the locality, while habitat modification causes a major threat to the survival of this species, she added. A special conservation effort for this particular region is the need of the hour, said Dr. Sujana. The discovery not only re-emphasises the uniqueness and endemism in Western Ghats' flora but also add to the growing inventory of the region's flora, said Ragesh Gopala Vadhyar, co-author.

Govt to fast-track rollout of direct transfer system

After years of dithering, the Centre has restarted work on a roadmap to roll out a direct benefit transfer (DBT) system to contain the rising fertiliser subsidy bill. The move comes in the context of this item of revenue expenditure proving to be onerous and sticky, while there has been a steep decline in fuel subsidies after the decontrol of retail prices of petrol and diesel.

With the Ukraine war putting further pressure on global commodity prices, rating agency ICRA has recently estimated that the Centre's fertiliser subsidy in FY23 to be 50% higher than the Budget Estimate at ₹1.5 lakh crore. The Centre's fertiliser subsidy bill has risen steeply in recent years. According to sources, the government is considering several options to save on its fertiliser subsidy expenditure, via improved targeting. One option is to let all the 14.6 crore beneficiary farmers buy the soil nutrients at market rates and later transfer the subsidy to their Aadhar-linked bank accounts. The subsidy amount would be determined on a per-acre basis, without any cap on the landholding.

Another option is to make available subsidised fertiliser to the farmer or deposit the subsidy in cash to his bank account, subject to a landholding limit. If the landholding is higher than the limit, the farmer will be denied the subsidy for the land he holds above the eligibility threshold. Subsidy component was fixed for P&K fertilisers effective April 2010 and this has resulted in subsidies on these fertilisers declining from ₹41,500 crore in FY11 to ₹26,369 crore in FY20. However, retail prices of urea, the most commonly used fertiliser, continue to be controlled. While the production cost of gas-based urea is about ₹900/45kg bag, the farmers get it for ₹242, at a discount of over 70%. The spike in global natural gas prices is threatening to inflate the subsidy expenditure on urea. Even the subsidy on P&K fertilisers has shot up again to ₹37,372 crore in FY21 and to ₹64,192 crore in FY22 as the government could not pass on the sharp rise in the cost of these fertilisers, which are mostly imported. Currently, the government releases subsidy amount to fertiliser manufacturers periodically, based on Aadhaar- authenticated sales via point of sale (PoS) machines, which was rolled out from April 1, 2018, as a precursor to the rollout of the DBT mechanism. The PoS system helped the Centre save ₹10,000 crore in fertiliser subsidy by plugging leakages in Fy19.

Maharashtra beats UP with record sugar production this season

Maharashtra is looking at record sugar production in the 2021-22 season, leaving its closest competitor Uttar Pradesh far behind. As of March 2022, 197 mills in Maharashtra have crushed 1072.58 lakh tonne of cane to produce 111.16 lakh tonne of sugar. Uttar Pradesh has reported production of 78 lakh tonne of sugar so far this season.

Maharashtra sugar commissioner Shekhar Gaikwad said total production in the state is likely to touch 125 lakh tonne by the end of the season, the highest till date. The state had previously reported its highest production in the 2018-19 season at 107 lakh tonne. Maharashtra has already diverted 12-15 lakh tonne of sugar towards ethanol production. Gaikwad said the current season is likely to stretch over 160-180 days and may continue till the end of May or beginning of June in some regions. Normally, crushing is completed within 120 days. State cooperation minister Balasaheb Patil told the legislative assembly recently that there is a sugarcane glut in Beed, Jalna, Parbhani, and Satara districts. Experts attributed this to rise in per hectare production, which has crossed 125 tonne per acre this season. Till date, 19 mills have stopped crushing operations for the season.

Area under sugarcane has gone up from 3.5 lakh hectare to nearly 5 lakh hectare in the region due to good rains and the promise of a guaranteed income, BB Thombare, President, western India Sugar Mills Association said. Area under sugarcane in the state for the 2021-22 season has increased to 12.32 lakh hectare from 11.42 lakh hectare in the previous season. In view of the excess sugarcane production in the Marathwada region, some factories have been asked to continue crushing operations even if they were finished with the yield in their allotted areas, senior officials said. The region usually produces 10 lakh tonne of sugarcane, but crushing may go up to nearly 12.5 lakh tonne this time around.

Ayush helped 59,350 farmers grow herbs': Minister

The Ministry of Ayush has supported 59,350 farmers for cultivation of 84 medicinal plant species out of 140 prioritised medicinal plants, and covered 56,305 hectare area throughout the country from 2015-16 to 2020-21, according to information submitted by Ayush Minister Sarbananda Sonowal in Rajya Sabha during the Parliament session.

The Minister was responding to a question from M.V. Shreyams Kumar on the number of farmers who cultivate medicinal plants and have availed subsidy scheme for growing 140 prioritised plants and the total amount spent for subsidy The Ministry of Ayush has supported 59,350 farmers for cultivation of 84 medicinal plant species out of 140 prioritised medicinal plants, and covered 56,305 hectare area throughout the country from 2015-16 to 2020-21, according to information submitted by Ayush Minister Sarbananda Sonowal in Rajya Sabha during the Parliament session.

The Minister was responding to a question from M.V. Shreyams Kumar on the number of farmers who cultivate medicinal plants and have availed subsidy scheme for growing 140 prioritised plants and the total amount spent for subsidy so far. The Minister added that under medicinal plants component of Centrally Sponsored Scheme of National AYUSH Mission (NAM), the Ministry had provided financial assistance in form of subsidy to encourage the farmers for cultivation of medicinal plants throughout the country from the 2015-16 to 2020-21. The cultivation activities were implemented through the identified implementing agency of concerned State as per the State Annual Action Plan approved for concerned State. Under the scheme, a subsidy was provided to farmers at 30%, 50% and 75% of cost of cultivation. However during the last five years, the Ministry of Ayush has provided ₹11,773.830 lakh for cultivation of 84 medicinal plants, noted the reply.

Exports cross $400 billion annual target as goods shipments jump

India's annual goods exports crossed the $400-billion mark for the first time ever, the government announced, buoyed by an increase in shipments of merchandise, including engineering products, apparel and garments, gems and jewellery and petroleum products. Marking the “first time ever” development, Prime Minister Narendra Modi congratulated the manufacturers, farmers and weavers for achieving this

target. Commerce and Industry Minister Piyush Goyal asserted that neither the COVID-19 pandemic nor the global uncertainties following the Ukraine crisis had affected India's ability to reach its export goals.

India set an ambitious target of $400 billion of goods exports and achieves this target for the first time ever. This is a key milestone in our Aatmanirbhar Bharat journey, Mr. Modi said in a message. Exports had reached $331.02 billion in the pre-pandemic fiscal year of 2018-19. Shipments have so far increased by $25.19 billion during the month of March and by March 31, the total figure is expected to be $410 billion.

Commenting on the development, Mr. Goyal said the boost in the exports was likely to bolster India's position in the ongoing negotiations for Free Trade Agreements (FTAs) with several trade partners. Noting that the agriculture sector too had recorded it's highest-ever export during 2021-22 with the help of export of rice, marine products, wheat, spices and sugar, Mr. Goyal termed the development a Made in India blockbuster and a collective show of strength. A country which is self-confident, which provides for its needs where people respect domestically made products — and we are able to work with the rest of the world from a position of strength and are able to take on challenges of all sorts and compete on the strength of our farmers who toil day and night to produce truly exotic and wonderful fruits and vegetables and our fishermen who go out into the sea... it's truly a time for all of us to reflect on our strengths and our future, said Mr. Goyal, who dedicated the achievement to everyone in "Team India".

The Minister attributed the success to the coordination between the government, the industry and various Ministries, including the diplomatic arm. He said Indian embassies and envoys had explored new opportunities across the world to help achieve the target. We broke every silo within the government... our missions abroad, and collectively everybody worked for a common purpose, said Mr. Goyal who thanked banks, insurance companies and India's diplomats. Crossing $400 billion is a remarkable achievement particularly as we will be adding over $110 billion in one year to reach here, despite huge logistics challenges, including container shortage, sky rocketing freight and liquidity constraints, said A. Sakthivel, president of the Federation of Indian Export Organisations (FIEO).

Dairy goods kept out of FTA

India has kept sensitive dairy products out of the purview of its free trade agreement (FTA) with the UAE and pledged phased reduction of tariffs on certain key farm and food items, mainly meat, to safeguard the interests of domestic players. The details of the India-UAE Comprehensive Economic Partnership Agreement (CEPA) show New Delhi, which taxes bovine meat and chicken imports at 30%, will trim the duty to 27% in the first year of the FTA, followed by a phased reduction of 300 basis points each year until it reaches 15%. Buffalo meat alone contributed about $2.8 billion to India's farm export kitty until January this fiscal. Of course, in some other meat segments where it's not a big player, the duties will be abolished immediately.

A broad range of dairy products, including milk, yogurt, butter, ghee and cheese, which typically attract duties of 30-60%, are excluded from the ambit of the agreement. The fact that New Delhi didn't grant concession to the UAE, which isn't a large dairy player (unlike Australia), suggests the sensitivity it attaches to the dairy sector that was at the forefront of opposing a deal with the Beijing-dominated RCEP partners. The details were unveiled by commerce and industry minister Piyush Goyal in Dubai. New Delhi signed the CEPA — its first FTA with any economy in a decade — with the UAE in February and it came into force on May 1,2022.

New Delhi has also kept certain sensitive sectors and products, including most of those covered under the production-linked incentive schemes, out of the FTA's purview. These products include fruit, vegetable, cereals, tea, coffee, sugar, food preparation, tobacco, petroleum waxes, coke, dyes, soaps, natural rubber, tyres, footwear, processed marbles, toys, plastics, scrap of aluminium and copper, medical devices, TV pictures, auto and auto components. Indian jewellery exporters will get duty-free access to the UAE, which currently slaps a 5% customs duty on such products. This will substantially raise its jewellery exports. As for services trade, New Delhi has offered market access to Abu

Dhabi in about 100 sub-sectors, while Indian service providers will have access to 111 sub-sectors there encompassing 11 broad service sectors. These are business services, communication services, construction and related engineering services, distribution services, educational services, environmental services, financial services, health related and social services, tourism and travel related services, recreational cultural and sporting services and transport services. The UAE, however, has kept energy and energy-related services out of the purview of its commitments. Interestingly, for the first time, India has included a digital trade chapter in the FTA, unlike those that were signed in the past. This suggests India is willing to discuss prospects in such emerging areas bilaterally.

Godowns of states to be made part of FCI's digitised system

To complete digitisation of food grain storage facilities across states, the government will soon roll out a system for real-time tracking of rice and wheat stored in state government godowns, in terms of their volume and quality.

As part of the depot online system (DOS), around 2,200 storage facilities or godowns owned and hired by the Food Corporation of India (FCI) have already been integrated into the digital network. However, more than 14,000 godowns of the state governments haven't been made part of the integrated system. Once these godown are linked to a central portal, rice and wheat stocks with government agencies could be ascertained on a real-time basis. Many states including Madhya Pradesh, Chhattisgarh, Odisha, Tamil Nadu and Gujarat follow a decentralised procurement model to manage procurement, storage and distribute grain under the public distribution system (PDS). Surplus grains are handed over by them to the FCI for distribution to grain-deficient regions. The idea is to improve operational efficiency of the FCI, which distributes around 55- 60 million tonne (mt) of grains under the National Food Security Act (NFSA) annually. The focus is to ensure end-to-end digitalisation of food grains from procurement to distribution to PDS beneficiaries.

We are working with the states to integrate them into the common digital platform, Atish Chandra, chairman & MD, FCI, told. Food ministry officials said that at present, Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Karnataka, Kerala, Maharashtra, Madhya Pradesh, Odisha, Punjab, Tamil Nadu, Telangana, Tripura, Uttarakhand and West Bengal are at various stages of integrating their grains storage facilities with the central portal. By next month, once all the states come on board for digitally integrating their godowns, the Centre can track food grains stocks held in the godowns of the FCI, Central Warehousing Corporation and state warehousing corporations, classified on the basis of procurement year, quality parameters and truck-wise data on the grains on transit at a single source.

SBI economists suggest reforms to incentivise regional rural banks

House economists at the State Bank of India (SBI) have called for a slew of reforms to incentivise regional rural banks, including granting them on-tap licence for conversion into Small Finance Banks (SFBs). In September 2018, the Reserve Bank of India (RBI) allowed urban cooperatives and microfinance lenders to convert themselves into SFBs.

Leading Regional Rural Banks (RRBs) are much bigger than most of the SFBs even today, according to a note by Soumya Kanti Ghosh, the group chief economic adviser at SBI. Stating that it is a fallacy to use outcome-based interventions as a yardstick for rule-based regulatory intervention in RRBs, Ghosh said that allowing RRBs to convert themselves into SFBs will create a level playing field across RRBs, UCBs and SFBs given the fast-paced changes taking place in the banking space. UCBs are Urban Cooperative Banks. The largest RRB is Baroda UP Bank with a ₹72,015 crore-balance sheet and is much bigger than the largest SFB -- AU Small Finance Bank – which has business (deposits and advances) size of only ₹70,588 crore as of March 2021. The second largest RRB is Karnataka Gramin Bank with ₹54,856 crore of business while the second largest SFB Equitas has only ₹33,240 crore. At the third slot is Aryavart Bank (₹48,649 crore) while the business of the third largest SFB Ujjivan SFB is at ₹27,630 crore, according to the report. From a modest beginning of six RRBs with 17 branches covering 12 districts in December 1975, their number increased to 196 RRBs in 1987.

Imports hit record $610 bn. in 2021-22

India's merchandise imports in FY22 hit a record $610.2 billion, an increase of 54.7% over the previous year and 28.6% higher than pre-Covid levels of FY20 as per preliminary trade data for March released by the Commerce Ministry. Imports in March 2022 grew 20.8% from a year earlier to $59.07 billion, and rose 87.7% from March 2020 levels. Exports for the month were worth $40.38 billion, taking the deficit for the month to $18.7 billion. With exports of almost $418 billion in FY22, the trade deficit for the year was $192.4 billion, 87.5% above FY21 levels and 19.3% over pre-pandemic levels. The trade deficit for non-oil and non-gold/jewellery items stood at $55 billion or 1.7% of GDP in FY22, accounting for around one quarter of the total merchandise trade deficit, said ICRA chief economist Aditi Nayar, who expects the current account deficit to have receded to under $19 billion in the January-March 2022 quarter.

Bank credit may grow 8.9-10.2% in FY23: ICRA

Banks may see credit growth improve to 8.9-10.2% in FY23, accompanied by a decline in provisions, rating agency Icra said. Icra expects banking credit growth to continue to be driven by the retail and MSME segments, and partially by co-lending arrangements with non-banking financial companies (NBFCs).

The growth drivers for banks will be a strong corporate credit ratio, tightened underwriting in the retail and MSME segments and reducing bounce rates and improving collections, Icra said. Credit growth for FY22 is seen at 8.3%. Along with growth in the small loans segment, the wholesale credit segment may also see growth amid a shift in demand from the debt capital market to bank credit, in a scenario of rising yields, as was seen in Fy19.

Anil Gupta, vice president, Icra, said that in terms of asset quality, the gross non-performing assets (NPAs) are expected to decline to 5.6-5.7% by March 2023 from an estimated 6.2-6.3% in March 2022 and net NPAs will fall to 1.7-1.8% as against an estimated 2% in March 2022. Icra estimates that credit and other provisions will decline to 1.3-1.4% of advances in FY23 as against an estimated 1.7-1.8% in FY22. Deposit growth is expected to slow down to 7.3-7.9% in FY23 from about 8.3% in FY22, Gupta said. According to Gupta, challenges for the sector emanate from the performance of the restructured loan book, which could create uncertainty on the asset quality front as restructured loans exit the moratorium phase. Also, Russia-Ukraine conflict poses macro-economic challenges related to cost inflation, higher interest rates and exchange rate volatility. This could pressurise asset quality, Gupta said, adding that elevated levels of overdue loans in the retail and MSME segments post-Covid also remain a concern. The RoA and return on equity (RoE) for public sector banks (PSBs) will remain steady at 0.5-0.6% and 8.6-9.6% respectively for FY23. For private banks the RoA could work out to 1.3% and the RoE to 10.8-11.1% despite moderation in treasury income.

Model by-laws soon for agri-credit societies

The Union government is all set to bring in model by-laws to govern around 63,000 Primary Agricultural Credit Society (PACS) across the country. The newly created Ministry of Cooperation is also formulating a national level policy for cooperatives that is likely to be finalised by the end of this year, a senior government official has said.

The formation of the Ministry of Cooperation was announced on July 5, 2021 and Home Minister Amit Shah was allocated the portfolio during the Cabinet expansion. Many cash rich cooperatives in several States are controlled by Opposition parties such as the Nationalist Congress Party (NCP) and the Congress and they play a crucial role in political events in States such as Maharashtra, Kerala, and Gujarat, parts of Karnataka, Tamil Nadu, Madhya Pradesh and West Bengal. The ministry has planned a two-day National Conference on Cooperation Policy on April 12 and 13. It will be inaugurated by Mr. Shah. The conference would discuss ways to promote new cooperatives and revitalise the defunct ones, cooperation among cooperatives, ways to increase membership.

FCI to use land pool to attract private investment in storage infrastructure

To bring in efficiency in its asset utilisation, the Food Corporation of India (FCI) is planning to create additional modern storage facilities using its 'land pool' by attractive private sector investment.

Sources told that additional storage facilities creation would reduce FCI's dependence on hired godowns from private entities for storing foodgrains. Currently, out of FCI's 80 million tonne (mt) of grain storage facilities, 35 mt is hired from private entities. The FCI owns several assets which are primarily used for conventional storage facilities of keeping foodgrains. Sources said that these 'land parcels' could be offered to the private sector for redevelopment and monetisation through creation of additional storage facilities. The corporation in collaboration with state agencies handles around 80-100 mt foodgrains annually. Around 60 MT of mostly wheat and rice are allocated for distribution to more than 80 crore beneficiaries under the National Food Security Act annually. According to food ministry sources, additional storage creation is expected to attract investment of around ₹2,600 crore in the next couple of years while the corporation has identified around 200 storage facilities which have potential for modern storage development.

In a communication in March, 2021, the ministry of consumer affairs, food and public distribution, has proposed an asset monetisation for 7,000 acres and 3,500 acres of land held with FCI and Central Warehousing Corporation (CWC) in the next three years. The proposed asset modernisation would cover grain storage facilities of 17.5 mt of FCI and 3.4 mt of CWC. In case of those storage facilities where augmentation of storage is not required, FCI has identified around 14 locations which have the potential to offer an additional 0.33 mt of warehousing capacity for alternative use. Officials said that alternate use of storage facilities could be used for cold storage, e-commerce, B2B & B2C warehousing and storage of fertilizers, industrial goods, etc.

On April 1, FCI and state agencies had had more than 50 MT of rice and wheat against the buffer norm of 21.04 MT. Meanwhile, in a bid to attract investment of corporate entities in foodgrain storage infrastructure, the food ministry has approved a policy which encourages the private players to bid for multiple projects for construction of 249 state of art silos with close to 11 million tonne (MT) wheat storage capacity for FCI. The silos will be built across 12 states including Punjab, Haryana, Madhya Pradesh, Maharashtra and Kerala over the next four to five years through public-private partnership (PPP) model with an estimated investment of ₹9,200 crore

Banks ask RBI to allow cloud adoption, list the do’s & don'ts

Battling onslaught from fintech firms, high-street banks want the Reserve Bank of India (RBI) to laydown the rules that allow them to store and analyse data on Cloud which, they believe, is at the heart of digital transformation.

In a report submitted recently, they have asked the regulator to set out a “clear and not unduly burdensome process” for banks and financial institutions to follow when outsourcing and adopting the selection, on boarding and management of cloud services, two persons familiar with the development told. A cloud service, simply put, offers data storage and computing power without the user's — here, a bank's — direct management. The proposal assumes significance in the wake of data security and other regulations on one hand, and the urgency felt by traditional banks to innovate with fintech firms challenging the conventional operating models and commercial structures.

Traditional banks have been grappling with low margins, declining efficiency ratios, a low-interest-rate environment, flattened revenue growth, and growing nonperforming loans. During the current pandemic, these have become even more acute. With the advent of the digital economy, the banking business is undergoing a constant transformation… It has become

imperative for banks to undertake a digital transformation, adopt data as the currency for growth and reimagine their operating model. Technology has proven to be the most important enabler and it is powering significant banking industry transformation and the cloud is at its centre, says the report prepared by a 11-member committee (of senior bankers) constituted by Indian Banks' Association.

The outsourcing guidelines of RBI are largely silent on hiring Cloud services. On Cloud adoption, institutions depend on MeiTY (the Ministry of electronics and information technology) and TRAI. But given the sensitivity about customer data, banks are looking for guidance from RBI. What kind of data can be on Cloud, what should be the protocol, said a senior banker. In the present environment, Cloud, according to banking circles, is not merely a virtualised infrastructure provided by tech biggies like Microsoft and Google as Indian firms for data storage.

Amit Shah moots poll body for cooperatives across country

Union Cooperation Minister Amit Shah said that elections in cooperatives should be held in a democratic and transparent manner and suggested that a body on the lines of the Election Commission of India to conduct the polls. Mr. Shah, who is in charge of the newly created Ministry of Cooperation, said many agriculture cooperative societies were not registered due to political reasons and there should be transparency in administration. Mr. Shah inaugurated the two-day national conference on National Cooperation Policy.

Model bylaws

The Union government is all set to bring in model by-laws to govern around 63,000 Primary Agricultural Credit Society (PACS) across the country and is also formulating a national level policy for cooperatives that is likely to be finalised by the end of this year.

The Minister stressed that the defunct PACS should either be revived or taken for liquidation process. Corporates and industries may bring development in the country, but cooperative is the only model that can help in the equitable distribution of profit to 80 crore economically backward people in the country. We have seen this happen; cooperative movements such as Lijjat and Amul are examples of this, Mr. Shah said.

The cooperatives are a source of political power in many States such as Maharashtra, Kerala, Gujarat, parts of Karnataka, Tamil Nadu, Madhya Pradesh and West Bengal. Out of a total 8.5 lakh cooperatives in India, around 1.77 lakh units are credit cooperatives and the remaining 6.8 lakh are non-credit units. Allaying apprehensions, the Minster said the Centre does not intend to interfere in the functioning of State cooperatives, but it will endeavour to bring uniformity in State laws through dialogue and coordination.

Policy revamp

The issues such as the present legal framework of cooperatives, identification of regulatory policies, operational barriers, reforms for strengthening governance, making cooperatives vibrant economic entities, training and education promoting new cooperatives including social cooperatives, revitalising defunct ones — are some of the topics which are discussed in the two-day conference. Mr. Shah said the framework governing the cooperatives was several decades old and it was time that the policy be revamped. He said that the Ministry's portal will soon have a window for people across the country to send their suggestions on how to revamp the cooperative policy. D.K. Singh, Secretary, Cooperation Ministry said each cooperative should have its own website and place its balance sheet on the portal to encourage transparency and accountability.

Food ministry's dynamic database to identify subsidy beneficiaries

In a bid to develop a uniform criteria for identification of beneficiaries under the National Food Security Act (NFSA), the food ministry is formulating new guidelines in consultation with state governments. Currently,

state governments follow different norms for identification of beneficiaries under NFSA, under which more than 800 million people are provided with highly subsidised food grains. It is not clear if and how the new guidelines could alter the number of beneficiaries. Sources told that the objective of the proposed model guidelines is to bring in uniformity, rightful targeting and evolving dynamic data base under public distribution system where the inclusion and exclusion exercises are undertaken on a regular basis.

Officials said that as per the section 10 of NFSA, respective state government and Union Territories have the responsibility of identification and selection of beneficiaries. States currently follow inclusions criteria, which broadly covers residential vulnerability, age, disabilities, gender, caste, income and occupational vulnerability. Sources said that the usage of different criteria by states likely to leave an essential gap in the coverage under NFSA. For instance, destitution being recognised as inclusion criteria is only followed by 16 states and union territories. The vulnerable households criteria is followed by only 9 states/UTs while the gender based vulnerability is followed by 28 states/UTs. NFSA which was passed in parliament in 2013, aims at providing highly subsidised food grains to 75% of the rural and 50% of the rural population.

Officials also said that under section 38 of NFSA states that the centre to provide guidelines to states from time to time for ensuring effective implementation of food security legislation. Beneficiaries under NFSA, receive 5 kgs of food grains per person per month at subsidised prices of `3/2/1 per Kg for rice/wheat/coarse grains. Besides, the existing Antyodaya Anna Yojana households, referred as poorest of the poor will continue to receive 35 Kgs of food grains per household per month.The economic cost of food grains procurement by the Food Corporation of India, which includes expenses such as MSP payment to farmers, procurement, acquisition and distribution costs etc for rice and wheat are `3,597.2 and `2,499.7 per quintal, respectively in 2021-22.

The Union Budget 202223) has made a provision `2.06 trillion under food subsidy in 2022-23. However, the government has to provide additional funds under the food subsidy head following the Union Cabinet last month decision to extend the free ration scheme – Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) announced in 2020 to deal with COVID19 pandemic, by six months to September-end 2022, at an additional cost of `80,000 crore. The government has so far spent about `2.6 trillion under PMGKAY, which was launched in April 2020. Under the extended PM-GKAY each beneficiary will get additional 5 kg free ration per person per month in addition to his normal quota of food grains under NFSA, according to a statement issued by the department of food and public distribution after the Cabinet meeting.

Rural Co-op Banks get more options to raise funds

The Reserve Bank of India allowed Rural Cooperative Banks(RCBs) to raise funds form people in their area of operation or existing shareholders rough a variety of instruments. RCBs, which include state co-operative banks and district central co-operative banks, can raise funds from preference sharesand debt instrutements,RBI said in a notification. RBI said the review is being done following the rural co-operative banks coming under the ambit of the amended Banking Regulation Act. Such lenders can augment their capital through the issue of preference shares, which can include issue of perpetual non-cumulative preference shares which will be eligible for inclusion in core tier I capital. Besides, tier-II capital instruments, including perpetual cumulative preference shares, redeemable non-cumulative preference shares and redeemable cumulative preference shares can also be utilised.

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Centre's intervention sought to reopen jute mills in West Bengal

With over a dozen jute mills closed in West Bengal and thousands of workers out of job, Trinamool Congress Rajya Sabha MP Sukhendu Sekhar Ray and the Indian Jute Mill Association (IJMA), an association of manufacturers, have approached the Centre seeking intervention so that prices of raw jute are revised and the mills resume operation.

Mr. Ray on April 18 had written to Union Minister of Textiles Piyush Goyal and Union Minister of Agriculture Narendra Singh Tomar. Mr. Ray pointed out that as per the Commission for Agricultural Cost and Prices (CACP), 2022–2023, the overall jute scenario is very discouraging with production becoming stagnant for five years and a decline in acreage and supply by 3% and 11% respectively. In view of this alarming situation, the entire industry is on the verge of collapse endangering the lives of 3 crore people engaged in this sector, in spite of the fact that jute has been placed very high in the whole sale index of commodities, the MP said. Mr. Ray pointed out that 15 mills are closed in the State and about 60,000 are out of work.

Mr. Ray said the catastrophe is because of the high–handed decision of the Jute Commissioner to fix the ceiling price at ₹6,500 per quintal. Instead of searching for a solution, the Jute Commissioner, for the past few months, has been engaged in a legal battle with the industry. The State government requested the Commissioner to raise the ceiling to ₹7,200 per quintal. The price of raw jute is fixed by the Commissioner and almost 90% of the mills' produce is bought by the government for packaging of foodgrains. In the letter addressed to the Union Minister of Agriculture, the MP pointed out that the "stock to user [SUR] has fallen by 84% and jute yield is stagnant for five years. There is 70% shortage of credible seeds needed for robust cultivation".

In a letter addressed to Upendra Prasad Singh, Secretary Ministry of Textiles, the IJMA has pointed out that "production of jute products has declined by over 25% since September 20, 2021" and this has also led to "loss of employment of over 27,000 people working in the mills.

Promote healthy credit culture, not loan waivers

The government must promote a healthy credit culture, invest in farming and address distortion in the agriculture sector instead of waiving farmers' loans irrespective of their distress level, a joint study by NABARD and Bharat Krishak Samaj has said. The study, 'Farm loan waivers in India: assess the impact and looking ahead', was released.

The production cycle coupled with other factors, makes it impossible for farmers not to be indebted, and the income instability makes it difficult for farmers to come [out of] a cycle of debt," the study said. It covered farm loan waiver schemes in Punjab, Uttar Pradesh and Maharashtra. Farmers in Punjab borrowed the largest amounts per farmer category and their dependence on non-institutional sources was also the highest across all farmer categories, the study said. Credit needs of farmers in Uttar Pradesh and Maharashtra were similar, while the share of loans from non-institutional sources was lower in Uttar Pradesh. The decisions of central and state governments in writing off past dues and providing access to fresh credit lead to 'cyclicality of debt' as farmers face multiple distortions, making the business of farming volatile and unviable.

Farm loan waiver schemes were aimed at providing relief to farmers during flood and drought, "increasing frequency of waivers and by universalising its distribution that is mostly unconnected to levels of farmer distress", the study said. It suggested that a waiver may be reserved as a toll, as it was originally designed to be a one-off event for situations of extreme plight. A waiver only improves a farmer's financial health for a short period of time and in a matter of time that beneficiary farmer is indebted again and driven to appoint of needing another round of waivers soon, it said. The study has suggested creating a real-time dynamic distress index of farmers, which can integrate available high frequency data on weather conditions, existing and upcoming climatic conditions, debt burden on farmers, and data on agricultural commodities. The distress index could be monitored on a real-time basis to track the level of farmers' distress and the results could be used by policy makers to plan and design timely interventions.

Credit push: State-run banks told to collaborate with startups, fintechs

The government has asked state-run banks to explore collaboration with startups and fintechs to give a credit push to the economy and come out with innovative products to bring more people in the formal credit cycle. Lenders can co-create products and further expand reach like giving customised loan offers to those availing direct benefit transfer, said an official aware of the developments, adding that banks can also partner with Account Aggregators (AA) as Financial Information User (FIU) and Financial Information Provider (FIP) in line with their board-approved roadmap.

Some of these issues were discussed in the PSB Manthan and accordingly working groups have been set up to look at the possible options, the official said. In PSB Manthan 2022, held last week, banks were asked to set up a three-year roadmap to improve their performance and competitiveness. Banks will focus on both geography-specific opportunities such as economic corridors and business sector-specific opportunities such as green energy. PSBs need to identify focus areas relevant to them and develop a three-year strategy roadmap, said a bank executive, adding that six groups have been formed to look and suggest measures for key focus areas, including customer service, digitisation, HR incentives, governance and collaboration.Some of these performance indicators will also be a part of the EASE 5.0, the objective is that PSBs can build peer-to-peer collaboration by building and sharing technology, operations, and people capabilities," the above quoted executive added. Enhanced Access and Service Excellence or EASE is a common reform agenda for all PSBs, which aims at institutionalising clean and smart banking. PSBs will also explore more collaboration by building and scaling up common utilities and initiatives such as e-auction platforms, cloud platforms, initiatives under PSB Alliance. The government had also suggested that large banks should share their best practices with small lenders and guide them in areas where they need more expertise. Lenders will share best practices to expedite detection and mitigation of frauds using data analytics. Banks are expected to leverage co-lending partnerships for agriculture and offer digitalised banking solutions integrated across agriculture and allied activities value chain.

75 districts to get digital banking units by July: Indian Banks' Association

All state-run banks, 10 private-sector banks and one small finance bank have started work to operationalise 75 digital banking units (DBUs) by July 2022, the Indian Banks' Association (IBA) said. State Bank of India will set up the highest number of DBUs (12), followed by Punjab national Bank and Union Bank of India (8 each), Bank of Baroda (7), Canara Bank (6) and India Bank (3).Among private lenders, ICICI Bank and Axis Bank will establish three DBUs each and HDFC Bank two DBUs, according to the IBA.

The move is in sync with finance minister Nirmala Sitharaman's latest Budget announcement to set up these units in 75 districts to commemorate the 75 years of India's independence. The progress in the pilot implementation is being monitored by a committee of the Reserve Bank of India, the IBA said in a statement. DBUs will be treated as banking outlets and each unit needs to be housed distinctly, with separate entry and exit provisions, the IBA said. Each DBU has to offer certain minimum digital banking products and services, both on the asset (loan) and liabilities (deposits) side. The banks will have the option to engage digital business facilitators/ business correspondents in sync with relevant regulations to expand the virtual footprint of DBUs. Also, there shall be adequate digital mechanism to offer real-time assistance and redress customer grievances arising from business and services offered by the DBUs directly or through business facilitators/correspondents, the IBA said.

Panels suggest steps to reverse falling Fasal Bima cover

Two working groups, set up by the ministry of agriculture and farmers' welfare to review the Pradhan Mantri Fasal Bima Yojana (PMFBY), has recommended targeted premium subsidy for small farmers, empowering the Centre to levy penalty on states for any delay in subsidy settlements and extensive use of remote sensing data for crop yield assessment.

The last two years saw a steep fall in the number of farmers and crop area covered under the government's flagship crop insurance scheme. While the claims to premium ratio has come down in recent years, improving the viability of the scheme from the insurers' point of view, many states have of late developed cold feet on it. Targeted subsidies for weaker sections of the farming community can increase penetration, ensure uniform coverage and bring down the average premium rates, a sub-committee on 'actuarial aspects' under the working group constituted to examine 'alternate risk management mechanisms' under PMFBY, has said.

Last year, the government constituted the working groups comprising officials from the Centre, key crop-producing states and senior officials of the state-owned insurance companies to suggest 'sustainable, financial and operational models, for PMFBY. The scheme is currently being implemented in 20 states/union territories. The Punjab government hasn't adopted PMFBY since its 2016 launch, while states like Gujarat, Andhra Pradesh, Telangana, Jharkhand, West Bengal and Bihar exited the scheme, because of “higher cost of premium subsidy” to be borne by them. Many states have asked for capping of premium subsidies under PMFBY. The group has also stated that farmers enrolled under various schemes like PM Kisan Samman Nidhi, where ₹6,000 is annually transferred to around 9 crore farmers, may be provided coverage as per the eligibility criterion. According to the agriculture ministry estimates, there are around 140 million farmer families in the country. Enrolment under PMFBY has not crossed 20 million in the last three years.

According to analysis by the working group, since its launch in 2016, PMFBY premium has increased by more than six-fold which has led to an increase in subsidy liability of the government. In February 2020, the government made PMFBY voluntary for farmers while previously it was mandatory for the farmers to take insurance cover under the scheme. Under the heavily subsidised PMFBY, the premium to be paid by farmers is fixed at just 1.5% of the sum insured for rabi crops and 2% for kharif crops, while it is 5% for cash crops. The balance premium is equally shared amongst the Centre and states and in case of North-Eastern states, the premium is split between the Centre and states in a 9:1 ratio.

Citing the delays in release of subsidy by states and resultant delayed claim settlements in many states, the group has called for empowering the Centre to levy penal charges on the state or adjust such subsidies against other liabilities of the central government in case state government fail to pay in stipulated times. A parliamentary panel last year had stated that the delays in settlement of claims are mainly due to reasons like delayed transmission of yield data, late release of states' share in premium subsidy and yield data, yield related disputes between insurance companies and states, non-receipt of account details of some farmers for transfer of claims. Earlier, the government had identified hardening of the premium market, lack of sufficient participation in tenders, inadequate underwriting capacity of insurers among factors preventing adoption of PMFBY on a large scale.

The sub-committee on 'adoption of technologies for yield estimation under PMFBY has recommended remote sensing satellite and weather data for faster yield assessment so the delay in settlements could be addressed. For taking farmers in confidence in the case of remote sensing technology, the sub-group has stated that unlike crop cutting experiments-based yield estimation, analysis using satellite data cannot be physically observed by farmers, thus lead to discontent or litigation.

Cabinet advances ethanol blending target by 5 years

The Union Cabinet approved a host of amendments to the National Policy on Biofuels, 2018 and advanced the target of blending 20% ethanol-blended petrol by five years, from 2030 to 2025-26. It also allowed more feedstocks for the production of biofuels, which when mixed with auto fuels, can help the country cut dependency on imported oil for meeting its energy needs. At present, the oil marketing companies blend around 10% of ethanol in petrol. The amendment also added new members to the National Biofuel Coordination Committee (NBCC). These decisions will help India, which depends on imports for meeting 85% of its oil needs, to cut reliance on overseas shipments. According to the statement, the approved amendments are in line with advancements in the field of biofuels and various decisions taken in the NBCC meetings, to increase biofuel production. It also provides for promoting the production of biofuels in the country under the 'Make In India' programme, by units located in special economic zones (SEZ)/export-oriented units (EoUs). The Cabinet also approved granting permission for export of biofuels in specific cases. The proposal will also attract and foster developments of indigenous technologies which will pave the way for 'Make in India' programme and thereby generate more employment, and thereby lead to a reduction in import of petroleum products by the generation of more and more biofuels, the statement said.

Since many more feedstocks are being allowed for the production of biofuels, this will promote the Atmanirbhar Bharat and give an impetus to Prime Minister's vision of India becoming 'energy independent' by 2047, the statement added. Reacting to the amendment, the sugar industry said that it welcomes the move and looks forward to playing a leading role as the country's ethanol supplier. Thanks to positive initiatives taken by the Government, there are significant new investments happening to augment ethanol production across the country. However, for the smooth roll-out of the programme, we request the removal of certain process impediments like signing of bipartite and tripartite agreements with all ethanol producers and equal preference be given to new and old ethanol plants, instead of only new plants. We further request that Uttar Pradesh, which is the country's largest ethanol producing state, be given preference and oil marketing companies should encourage more production rather than cause impediments, said an official of the industry.

MFI's total loan portfolio grows by 5% as on March 2022

The Loan portfolio of themicrofinance industry loan portfolio grew by 5% year-on year to ₹2,62,598 crore in the fiscal ended March 2022, according to a report by Sa-Dhan. In the year-ago period, the same stood at ₹2,50,826 crore. Sa-Dhan is an RBI recognised Self-Regulatory Organisation (SRO) for micrifinance. In the last quarter of fiscal 2022, the industry's total loan portfolio registered a growth of 13%.

Sa-Dhan Executive Director P Satish said the sector is showing signs of recovery after being in turmoil for around two years. Though it is a long and arduous journey for the sector to bounce back to its old glory, timely intervention by the government and the RBI in matters pertaining to policy and financial packages have helped the industry to a great extent, he said.Positive growth is expected in the first quarter of the current fiscal and the trend to continue throughout the current fiscal, Satish added.

Despite around 5% y-o-y growth in the total portfolio, the portfolio of banks decreased by 7% to ₹1,02,527 crore as of March 31, 2022. NBFC-MFIs loan portfolio grew by 19% to ₹94,096 crore as of end March. Total disbursement declined by 6.84% to ₹85,667 crore in Q4 Fy22. The report said that while funds flow to the sector has improved, small MFIs are struggling in accessing funds from banks.

Govt looking at new selection body for PSU financial entities

The government is looking to set up a new body, Financial Institution Bureau, for the selection of key executives in state-owned insurance companies and other state-run financial institutions, and guide them to make business and human resource (HR) strategies. The government is actively considering setting up of a

new institution on the lines of Banks Board Bureau (BBB) to avoid any legal issues going forward," a government official privy to the development, told. This comes after the selection of executives by BBB for various other institutions was challenged before the courts. Another official said the proposed body can be an umbrella body, with BBB as its part. "It's being discussed at the highest level," he added.

Last year, the Delhi High Court had said BBB cannot select general managers and directors of public sector general insurers as it was not a competent body. The appointments made pursuant to the impugned selections of general manager and directors of PSICs (public sector insurance companies) are liable to be set aside. It is ordered accordingly, it had said. This led to the government transferring Madhulika Bhaskar, then general manager of General Insurance Corporation(GIC Re), to New India Assurance as acting chairman.

This new institution will have members from both insurance companies and other requisite fields, said the first official quoted above, adding that this will clear the way for all future appointments. Separately, the government may bring in new people to the BBB to succeed members whose terms ended last month. Set up in 2016, BBB, with the former comptroller and auditor general (CAG) Vinod Rai as its chairman, was to make recommendations for the appointment of whole-time directors as well as non-executive chairman of public sector banks. It was further entrusted to engage with the board of directors of all the PSBs to formulate appropriate strategies for their growth and development. Since April 2018, BBB has been headed by B P Sharma, former secretary in the Department of Personnel and Training. The other part-time members are Vedika Bhandarkar, former MD of Credit Suisse, P Pradeep Kumar, former MD of State Bank of India, and Pradip Shah, founder MD of rating agency Crisil.

Food grain production seen at record 314 MT 2021-22

India's foodgrain production will rise 1.2% on year to a new record of 314.51 million tonne (MT) for the 2021-22 crop year (July-June), according to the third advance estimate released by the agriculture ministry. In the second advance estimate released in February, the production was seen at 316.06 MT. Wheat production estimate for the current crop year has been revised downwards to 106.41 MT, from 111 MT in February estimate. It implies that the current year's wheat production will be close to 3% less than the previous year's of 109.59 MT.

However, trade sources told that wheat production is estimated at around 96-98 MT for the year. Heatwaves in the second half of March, with temperatures rising to 40 degrees Celsius, hit the wheat crop at the ripening stage in the key growing states of Punjab, Haryana, Rajasthan, Madhya Pradesh and Uttar Pradesh. Pulses production of the current crop year is estimated at a record 27.75 MT, which is close to 9% higher from the previous year. The production of chana (gram), which has a share of more than 50% in the pulses output, grew more than 17% in the current crop year to 13.98 MT from 11.91 MT reported in the previous crop year. India imports about 15% of its annual consumption of pulses. Coarse cereals output has declined marginally to 50.7 MT in current crop from 51.32 MT reported in the previous year.

According to the third advance estimate for other crops such as oilseeds, sugarcane and cotton, the production is estimated to reach a record level. Total oilseeds production during 2021-22 is estimated at a record 38.49 MT, which is higher by 2.55 MT than the production of 35.94 MT reported in 2020-21. India imports about 55% of its annual edible oil consumption. Total production of sugarcane in 2021-22 is estimated at 43.04 MT, which is higher than the production estimate of 40.53 MT for the previous year. The cotton output is estimated to have declined by more than 1.5% to 31.54 million bales (each of 170 kg) this year than the previous year's production.

Traditional wisdom keeps indigenous seeds alive

Restoring the link between crop diversity and climate resilience, tribal women in southern Rajasthan's Banswara district have utilised traditional wisdom to preserve indigenous seed varieties, which are on the verge of extinction. The initiative has immensely helped small and marginal farmers in the region.

A women's group, which has named itself "Saksham Samooh", has taken up the preservation of seeds as a mission in the form of Beej Swaraj or seed sovereignty, helping out the tribal communities with training and guidance. The group is supplying seeds to the farmers regularly for cultivation of crops and vegetables. The indigenous seed varieties are inherently compatible with the local farming conditions and are economically practical and environmentally more sustainable than the high-yielding varieties being used in agricultural fields. Besides, these seeds are pet-resistant and require a very limited use of chemical pesticides. Saksham Samooh, based in Sangela village in Banswara district's Garhi tehsil, has utilised traditional techniques for filling the seeds in sacks, sealing them and keeping them in the granary for the next crop season.

To get vegetable seeds, women allow the vegetables to ripen and later let them dry, separate the seeds and keep them in a store. While several farmers are dependent on the government agencies or private firms for getting seeds, the women's initiative had provided them with an alternative, with which they are keeping the indigenous seeds alive. Kanti Devi, another group member, said the women in the tribal-dominated region had been preserving seeds as a family tradition and tribal culture. The women had learnt the techniques to identify the quality and quantity of seeds to be preserved in their families.

Farmers in the tribal belt mostly practise rain-fed cultivation of paddy, maize, pulses, moong and wheat. Additionally, the female members of tribal households grow a variety of vegetables in their kitchen gardens to meet the family needs. In this process, preservation of indigenous seeds has become a part of upbringing of children. Banswara-based Vaagdhara, which works on tribal livelihood issues, has generated awareness among the tribal communities about the significance of indigenous seeds. Vaagdhara secretary Jayesh Joshi said the concept of green revolution had drastically shifted the focus of agriculture away from biodiversity to high-yielding crops. This has resulted in the reduction of genetic base of traditional seed varieties that are now on the verge of extinction, Mr. Joshi said.

Nanotech gives better crop protection

A team of researchers at IIT Kanpur has developed novel nanoparticles that can protect agricultural crops from fungal and bacterial infections. The team, led by Santosh K Misra, and Piyush Kumar from the department of biological sciences and bioengineering at IIT-Kanpur has developed the novel nanoparticle-based bio-degradable-carbonoid-metabolite (BioDCM), in collaboration with researchers C Kannan and Divya Mishra from ICAR-Indian Institute of Rice Research, and R Balamurugan and Mou Mandal from the School of Chemistry, University of Hyderabad.

This is the second such innovation in the agriculture sector since last year from IIT Kanpur. Last year, out of the 107 patents filed by the institute, one path-breaking invention was the Bhu-Parikshak soil-testing device that significantly reduces the time required for testing soil in the lab. The latest invention acts as a shield to protect the crops, especially rice crop from infection and diseases. The invention of these novel nanoparticles would lessen the worries of crop infection and give boost to crop yield, said Abhay Karandikar, director of IIT Kanpur.

The technology is a protective biological alternative that can be used to enhance crop protection against various diseases in agricultural field. Some key advantages of the invention are:

*Precise target action

*Can be active at low concentration

*Has similar advantages such as chemical pesticides

but safe and biodegradable, unlike them

*Can offer multiple actions, e.g. – bio pesticide, phyto-stimulants, etc.Fast in action as it is applied in bioactive forms

*The bio formulation protects the active compound from high temperature.

Natural products are in great demand for plant protection in organic agriculture and export-oriented products. The bio-formulation is of non-toxic nature, eco-friendly, easily degradable and is established to be a potent natural inhibitor in suppressing the growth and development of soil-based plant pathogens, including fungi and bacteria. The novel particle helps the crops to defend themselves by eliciting defence mechanisms and thus ensuring better farm productivity.

Agri-tech space saw ₹6,600 crore PE funding in 4 years

Private equity investments in the Indian agri-tech space grew more than 50% annually to aggregate approximately ₹6,600 crore till 2020, according to a new report by Bain & Company and Confederation of Indian Industry (CII).

Titled 'Innovation in India's Rural Economy: Disruptive Business Models are Stimulating Inclusive Growth in Agriculture and Rural Finance', the report pointed out that India's rural economy contributed close to half of the nation's overall GDP in 2019–2020. Two-thirds of India's population participated in its rural economy in the past two years, and agriculture — the largest sub-sector within the rural economy, had the highest share of output, contributing approximately 37% of the total rural GDP, it said.

It noted that the Indian agriculture sector had been growing steadily at a compound annual growth rate (CAGR) of 11% since 2015, 'supported by government and private sector initiatives towards improvements in its physical and digital infrastructure'. It has also witnessed the highest disruption in terms of smartphone and Internet penetration. This ecosystem is now at an inflection point, and companies that address inefficiencies across the value chain will have explosive growth potential, it said. Significant domestic and international investments are being pumped into the sector to improve efficiency and access to credit. Private-equity investments in the agri-tech space have skyrocketed in the last four years, growing at more than 50% per annum to aggregate approximately ₹6,600 crore till 2020, it said, adding that investors had focussed on opportunities that address systemic issues, building sustainable systems and ensuring inclusive growth.

Disruptive business models to stimulate inclusive growth in agriculture, rural finance: Study

The food and agriculture sector is expected to witness massive (constructive) disruption through introduction of new-farming models, advanced agri-tech services and new food products, which would replace the traditional farming system, a joint report by CII and Bain on Wednesday stated.

In the last six years, several start-ups have emerged to reduce systemic inefficiencies among inputs and marketplaces, precision farming, processing and storage, the report titled 'Innovation in India rural economy: Disruptive business models are stimulating inclusive growth in agriculture and rural finance,' has stated. According to the report, new players in the agri-start-up sphere like Ninjacart and WayCool are improving distribution efficiencies, which cause 17% to 22% leakage, when perishable commodities are moved from farm to mandi. The CII-Bain study noted that as newer generations of farmers and Farmers Producers Organizations (FPOs) become digitally savvy, new business models are emerging across the agriculture value chain, from inputs and harvesting to processing and distribution.

Information and transparency initiatives are addressing existing inefficiencies and formalising a traditionally informal sector. Meanwhile, for ensuring that host of agri-services are accessible to the farmers through electronic National Agriculture Market (e-NAM) digital platform, the Small Farmers Agribusiness Consortium (SFAC) will launch a 'platform of platforms' where private entities providing services such as

transportation, logistics, assaying, weather and fintech will be integrated. Once the digital integration of all the portal runs by agri-services provided by private entities is completed, around 1.75 crore registered farmers, FPOs, traders, commission agents and other stakeholders with the eNAM platform can avail these services.

The report also noted that in the past decade, the rural infrastructure has improved because of interventions by the government and private sector. There have been continued improvements in physical infrastructure and connectivity, plus significant advancements in digital infrastructure. Rural smartphone and internet penetration increased 30% p.a. over the last five years, the report noted. Stating that there has been a significant increase in access to credit in the rural ecosystem, the report has state that in the last five years, agri-credit has grown from 8 lakh crore in FY15 to14 lakh crore in FY20. About 35% of agri-credit business comes from three states: Tamil Nadu, Andhra Pradesh, and Uttar Pradesh, according to the report. CII and Bain report stated that demand for credit has risen in rural areas, especially among consumption-driven loan products like those for two-wheelers and consumer durables. Technology disruption played a key role in this growth by lowering loan servicing costs, which enabled lenders to service lower-value loans.

Climate impact: India's genetic pools tapped to develop resilient crops

To mitigate the adverse impact of rise in temperature because of climate change on food production, scientists at the Indian Agricultural Research Institute (IARI) in collaboration with several other research institutions has identified about 15,000 selected germplasms of rice and wheat for developing varieties which are tolerant to flood, drought, heat waves and diseases.

Agricultural scientists, as part a Department of Biotechnology (DBT) project to develop improved crop varieties to fight climate change, have sourced rice and wheat genetic resources from a gene bank located at the heart of Delhi, which is managed by the National Bureau of Plant Genetic Resources (NBPGR). The gene bank has a total collection of more than 4 lakh accessions (a unique identifier given to a protein sequence). Out of close to 1 lakh accessions of paddy and around 40,000 accessions of wheat, we have marked 15,000 accessions, which have the traits to withstand extreme weather conditions and diseases, Ashok Kumar Singh, Director, IARI told. These accessions represent the wide natural genetic variation across the 15 agro-climatic regions in the country. After identification of genes, scientists are using marker-assisted backcross breeding technology for developing rice and wheat varieties, which could withstand extreme weather conditions such as drought, floods and heat waves, as well as diseases such as bacterial blast and blight. Through market-assisted technology, it takes three-five years to develop a new variety which previously used to take at least 10 years.

The three varieties of disease resistance Basmati rice developed by IARI — PB 1847, PB 1886 and PB 1885, is through DBT supported projects which will be provided to private sector seeds players for multiplication. A MoU with private seed companies will be entered into shortly. In the case of wheat, varieties to cope with new challenges with climate-changing scenarios. Is being developed by NBPGR in coordination with several other institutions. The Intergovernmental Panel on Climate Change Working Group II report, 'Climate impacts, adaptation and vulnerability', released recently, had stated that rise in temperature would severely hit India's food production where rice, wheat, pulses and coarse cereal yields could fall almost 9% by 2050 According to DBT, there is development of 17 varieties of crop plants (rice: 8, wheat: 4 and maize: 2) with enhanced nutritional content, resistance to pathogens and tolerance to abiotic stress has been released.

Tamil Nadu earmarks ₹5,157 crore for FY23 for providing free power to farmers

The Tamil Nadu government said that with a view to providing free electricity to all the farmers across the state, an amount of ₹5,157.56 crore will be provided to Tamil Nadu Generation and Distribution Corporation (TANGEDCO), for the fiscal year 2023. Presenting a separate agri budget, Tamil Nadu state agriculture minister MRK Paneerselvam said for implementing crop insurance scheme continuously during 2022-23, the state government has allocated an amount of ₹ 2,399 crore as state share of premium subsidy.

Despite severe financial crunch, the state government continues to implement the crop insurance scheme to protect the farmers from crop losses due to adverse natural calamities. Due to the continuous efforts of the state government, an amount of ₹2,055 crore has been disbursed to 9.26 lakh farmers as compensation for the year 2020-2021. Tamil Nadu government is giving special attention to increase the area under micro irrigation on cluster basis, by providing 100% subsidy for small and marginal farmers and 75% subsidy for other farmers. The scheme will be implemented in an extent of 2,50,000 acre at an outlay of ₹960 crore with the Union and state government fund.

To fulfil the farmers' need and increase their income with various components, this government will introduce a new scheme namely State Agricultural Development Scheme, this year with a total allocation of ₹71 crore. To support to small and marginal farmers under Scheduled Caste and Scheduled Tribe categories, additional subsidy of 20% will be permitted over and above the existing subsidy rate. Tamil Nadu will establish village-level value addition and marketing centres to help small and marginal farmers of Tamil Nadu so that they can earn additional income if they take up value addition locally. The state government will source funds from NABARD. Such centres will be established in 38 villages at a total outlay of ₹95 crore, where millets, pulses, oilseeds and vegetables are predominantly cultivated, by giving priority to those regions where millet mission is being implemented. Facilities for cleaning, grading, packing and value addition will be created in those centres, in addition to building of storage godown.

With the objective of learn, cultivate and earn, the state government will establish Agricultural Market Intelligence cum Farmer Advisory Centres, in 15 districts such as Kallakurichi, Salem, Tirupattur, Tirunelveli, Tenkasi, Kancheepuram, Nagapattinam, Perambalur, Vellore, Chengalpattu, Ramanathapuram, Namakkal, Tiruppur, Ranipet and Ariyalur at an outlay of ₹1,650 crore during 2022-23 under the Union and state government fund. While congratulating the full-fledged state agricultural budget with a total allocation of ₹33,007.68 crore, A Sakthivel, president, Federation of Indian Export Organisations, said that the welfare measures announced in the budget will go a long way in making Tamil Nadu a welfare state by reaching the benefits to all cross sections including the weakest of the weaker sections.

Farm income fell in four States panel

The Centre vowed to double farmers' income between 2015 and 2022, but by the midway point, farm families in Jharkhand actually saw their average monthly income drop by about 30%. In its report on the demand for grants for agriculture submitted to the Lok Sabha, a parliamentary standing committee asked why the Centre remained a “mute spectator” while farmers' income declined in four States between 2015-16 and 2018-19. Over the same period, nationwide farm income rose 27%, which is still well short of the trajectory needed to achieve the goal of doubling income this year.

The Committee recommended that the Department of Agriculture and Family Welfare should formulate a Special Team to figure out the reasons for falling farmers' income in those States and take some course corrective measures so that the doubling of farmer's income is not lost sight of.

Agri exports robust, set to cross FY22 target of $23 billion

India's agricultural and processed food products exports are set to exceed the target of $23 billion in FY22 thanks to a sharp spike in shipments of rice, wheat, fresh & processed fruits and vegetables, and livestock products. Exports of commodities under the Agricultural and Processed Food Products Export Development Authority (Apeda) basket have crossed $21.45 billion during April-February (FY22). In FY21, agricultural and processed food products were valued at $20.39 billion.

According to the DGCIS data, rice exports crossed $8.67 billion in the first 11 months of FY22. India has been the world's largest rice exporter in the last decade — export earnings stood at a record $8.7 billion in FY21 and could cross $9 billion this fiscal. India exports rice to more than 90 countries. The country is likely to continue holding a major share of global rice trade in the current fiscal, with an estimated shipment of 21 million tonne, an increase of more than 24% from the previous financial year. The country's rice exports in the current financial year is likely more than the combined exports of the next three largest exporters — Thailand, Vietnam and Pakistan. Wheat exports in FY22 so far have witnessed the sharpest spike of 380% to $1.74 billion compared to the year-ago period. The country had been a relatively marginal player in global wheat trade until FY21, but the prospects now looks very bright given the elevated global prices and ample domestic stocks and production. The government is targeting increasing wheat exports in FY23 on the rising global demand due to the Russia and Ukraine conflict. During Covid-19 pandemic, while many countries were stockpiling their rice and wheat output, we took a proactive role in organising logistics and developing value chains which has given a boost to cereal exports, M Angamuthu, chairman, APEDA, told.

Sun glared down on Himachal apples

Unusually warm weather conditions in the hill State of Himachal Pradesh during the second half of March month have left apple growers and horticulture experts anxious, as they are concerned over the prevailing higher temperatures during this time of the season of the year, against previous years.

Horticulture experts and growers told if the temperatures do not drop any time soon and the dry weather conditions continue to prevail the apple crop could be adversely affected in terms of yield and production. The new plantations of apple in the orchards are quite susceptible to the warm climatic conditions and could face damage. Apple is the most important fruit crop of Himachal Pradesh, which constitutes about 49% of the total area under fruit crops and about 85% of the total fruit production. Bhupinder Sharma, an apple growers Kotgarh area in Himachal Pradesh, who has a family orchard in over 10 'bhiga' (1.60 hectares), said if the weather continues to be warm it will severely impact the quality, yield and production of the crop. The temperature has been unusually higher this year in comparison to the previous years. The advancing of the growing pattern will dent apple size and colour, eventually damaging the quality of the crop. The yield (productivity) will also be hit adversely, resulting in the drop of production, he said.

Northeast rubber wave revives Kerala nurseries

Riding on a plantation wave that is sweeping the Northeast of the country, the rubber nurseries in Kerala are getting the best out of their grow bags after a decade-long lull. A plan by the Rubber Board to develop rubber plantations in an area of two lakh hectares across the seven Northeastern States in a span of five years starting from 2021- 22 has unleashed pent-up demand among the rubber nurseries in the State. Besides bringing in a dramatic turnaround in sales, this expanding programme of plantation has also ensured a longer business season in the coming years as nurseries play catch-up.

Cross-country special trains

According to officials with the Rubber Board, a whopping 51 lakh rubber saplings, sourced from the nurseries across Kerala, will soon be making their way

to plantations across the Northeast and West Bengal. The consignment, comprising 36 lakh of rubber stumps and 15 lakh cup plants (root trainer plants), will be sent to Guwahati on board various passenger and special trains.

As many as 10 special trains have been scheduled between Thiruvalla in Pathanamthitta and Guwahati from May last week to the first half of September for transporting the cup plants. These saplings will be dispatched to the respective destinations through the farming clusters under the Board, said a top official with the Rubber Board. The total requirement for this year, according to him, stood around 1.32 crore saplings and of this, the remaining stock will be sourced from the nurseries across the Northeast. The planting project kicked off last year with the Board operating three special trains from Kerala to transport the saplings and completing the planting operations in about 3,800 hectares. To support the project, the agency has also rolled out a credit-linked rubber plantation development plan for the region with the support of the Automotive Tyre Manufactures Association (ATMA) and the National Bank for Agriculture and Rural Development (NABARD).

India gets to tap Iranian orthodox tea market ceded by Sri Lanka

Sri Lanka has seen a major dip in tea production and lost a chunk of Iranian market for orthodox tea. Around 20% of India's total tea exports go to Iran and the present decline in Sri Lankan orthodox production may enable India to increase its market share of orthodox tea in Iran.

India produces an average of 120 million kg of orthodox tea per annum and Sri Lanka an average 300 million kg per annum, predominantly orthodox. There has been a drop of above 15% tea production in Sri Lanka and it has to be seen whether Indian quantum is capable of filling in the gap of orthodox tea supplies in the global market, PK Bhattacharya, president, Tea Association of India, said. Tea exports from India to Iran jumped two fold in January this year to 2.7 million kg from 0.59 million kg during the corresponding month last year. Price realisation this year was also higher at ₹282.63 a kg against ₹271.34 a kg realised in January last year, according to tea board data.

According to Bidyananda Barkatkoty , advisor, North East Tea Associatiion, Russia and other CIS markets are highly uncertain at present. So, for Sri Lanka whose tea economy is intensely export-oriented the shortfall may match with the demand fall. But Iran would be the matter where quality orthodox tea is always in high demand. The fall in quality of tea may be detrimental for Sri Lanka in the Iranian market and that's where there is an opportunity for India to focus on increasing its market share in Iran, which down the line would increase India's total global market share. But other's loss is our gain and is not what the tea industry wants. Gains should come in competitive manner, Barkatkoty said. India's total tea exports in January this year have shrunk a tad to 17.21 mkg from 17.22 mkg during January last year. But realisation has drastically fallen from ₹263.62 a kg to ₹253.18, which hints to major quality compromise. Exports to Russia and other CIS countries in January this year was 4.08 mkg with a price realisation of around ₹164.51 a kg against 5.16 mkg of export in January last year realising a price of ₹202.98 a kg.

Gujarat all set for record summer sowing

Gujarat is all set to report record sowing of summer crops such as pulses, oilseeds, cereals and vegetables this year. This is attributed to adequate availability of water and demand pushing up prices of these crops. As per the data of the state agriculture department, progressive sowing area of the 2022 season under all summer crops have crossed one million hectare (mh) against the last three year's average sowing of 0.89 mh. This is an increase of more than 23%.

Due to MSP as well as higher market prices of different agricultural commodities coupled with availability of ground water, the state is witnessing increased acreage in summer sowing. Parts of Gujarat witnessed prolonged monsoon last year. As a result, in some areas

farmers are taking crops in all three seasons including that of summer, said CM Patel, joint director of agriculture, Gujarat. Farmers in Gujarat resorted to pulses this summer season as they earned handsomely from these cash crops during the previous two years, says Sagar Rabari, trustee of Khedut Ekta Manch.

According to him, some Gujarat farmers are also experimenting on soyabean as one of the summer crops. Acreage of pulses has risen to 90,000 hectares compared with a three-year average of around 54,000 hectares. During the last summer season, pulses were sown in 63,000 hectares across Gujarat. Sowing of oilseeds too increased from 0.1 million hectares to 0.16 million hectares. This rise is due to widespread sowing of sesamum (til). Acreage of another oilseed crop groundnut too has gone up from 49,200 hectare to as high as 60,000 hectares on year, especially in Saurashtra and North Gujarat regions. Interestingly, there has been only a marginal rise in sowing of cereals from the past three years average of 0.315 million hectare to 0.3.2 million hectares in the current summer season. However, compared to previous summer season's 0.28 million hectares, there has been significant increase in acreage of cereal crops, as per the latest data of the state agriculture department. Some of the other crops, including onion, vegetables, fodder and guargum, the sowing areas increased this summer season compared to past three years average as well as last year's sowing areas. Sowing of sugarcane, which requires lots of water, has increased from 6767 hectares to 8823 hectares.

India to export 3-3.5 million tonnes of wheat in Apr-July: Food Secy

Traders have entered into contracts for the export of 30-35 lakh tonnes of wheat during the April-July period, buoyed by increasing demand for the commodity in the world market, Food Secretary Sudhanshu Pandey said. The country's wheat exports crossed 70 lakh tonnes in 2021-22 as against 21.55 lakh tonnes in 2020-21, according to the official data. The trade estimate is that about 30-35 lakh tonne of wheat has been contracted for export during the April-July period of this year, Pandey told.

The maximum quantity of wheat will be shipped from Gujarat, Rajasthan and Madhya Pradesh because of proximity of these states to ports and easier logistics, he told. As a result, private traders are procuring wheat for export from these states. If international prices rise further, traders may buy the grain from other states like Haryana and Uttar Pradesh. The government is, however, monitoring the situation regularly, he added. Commerce and Industry Minister Piyush Goyal had said that the country's wheat exports could cross 100 lakh tonnes during the 2022-23 fiscal. Many countries are sourcing wheat from India and other countries after Russia's invasion of Ukraine and the subsequent Western sanctions against Moscow curtailed their wheat supplies. Indian government plans to promote wheat exports to cash in on higher wheat prices in the global market. India is the second-biggest producer of wheat in the world.

India to exports banana, baby corn to Canada

India will soon commence exports of banana and baby corn to Canada, after market access had been approved. According to a statement by the ministry of agriculture and farmers welfare, market access for Indian banana and baby corn has been provided to Canada, following the negotiations between National Plant Protection Organisations of both countries.

Based on the technical information provided for fresh banana by India, Canada has approved banana for entry into Canada with immediate effect, an official statement said. In a meeting held by Manoj Ahuja, agriculture and farmer's welfare secretary, and Cameron Mackay, Canadian High Commissioner to India, it was informed that the export of fresh baby corn could commence this month after updation of relevant directive on plant protection import and domestic movement requirements for corn. The statement noted that a decision by Canada would immensely

benefit the Indian farmers growing these crops and would also enhance India's agricultural export earnings.

Last year, for the first time a consignment of fibre and mineral rich and Geographical Indication (GI)-certified 'Jalgaon banana' was exported to Dubai. The bananas were sourced from progressive farmers of Tandalwadi village, part of Jalgaon district of Maharashtra, a banana cluster identified under Agri Export Policy. India exported bananas worth more than ₹616 crore in 2020-21. India majorly exports bananas to Iran, Qatar, United Arab Emirates and Saudi Arabia. The banana exports from India have grown from 35,000 tonne in 2016-17 to 1.91 lakh tonne in 2020-21. Of these, Maharashtra's share is around 70%. India is the world's leading producer of bananas with a share of around 25% in total output. Andhra Pradesh, Gujarat, Tamil Nadu, Maharashtra, Kerala, Uttar Pradesh, Bihar and Madhya Pradesh contribute more than 70% of the country's banana production. According to the second advance estimates of horticultural crops (2021-22), banana production in the current crop year grew by around 2% to 32.45 million tonne (mt) compared to 2020-21 and the total acreage of banana production in the country is 0.23 million hectare.

In a first, Pune's GI-tagged figs exported to Germany

For the first time, fresh figs from Purandar taluka of Maharashtra's Pune district with GI tags have been exported to Europe. The Purandar Highlands Farmers Producers Company (PHFPC) has managed to successfully export a consignment to Germany. The export was facilitated by the Maharashtra State Agriculture Marketing Board (MSAMB). Fresh figs from Purandar is highly perishable, has never been exported before this.

Rohan Ursal, chairman of the FPC, said the first shipment was sent to Pilz Schindler GmbH, located in Hamburg, Germany. He said the farmer producer company has been working for the last two months on improving the shelf life of the fruit. Fresh figs while being a rich source of nutrients, are highly perishable; their quality deteriorates within hours of being plucked. Over the last two months, the FPC has been conducting trials with StePac, a packaging solution company from Israel, as well as Bayer Crop Sciences' food chain department. After preparing and following specific protocols in packhouse tests, the figs can be preserved in perfect condition for 15 days. Following the success of this consignment, the farmer producer company intends to begin working on full-fledged exports to Europe later this year and also tap the Pan-Asian market, Ursal said. The company is also building its presence in the domestic market and has been able to send shipments out of Maharashtra through air cargo to markets of Hyderabad and other areas. Established in January 2021, Purandar Highlands has been working in the segments of fresh figs and custard apples. The company has been sending figs under the 'Super Figs' brand name to seven states, including Delhi, Kolkata, Bengaluru, Ahmedabad, Cochin and Hyderabad. Sahyadri Farms of Nashik, Tata Trent Hypermarket and other supermarkets are also sourcing the fruit from Purandar Highlands.

At present, the FPC has been processing one tonne figs on a daily basis, and is working with 260 odd farmers. It intends to expand operations to include more farmers, besides inviting retail chains to to set up pack houses in Purandar Taluka, he said. Turkey is the largest producer of figs in the world with 0.3 million tonnes. The total production of fig in the world is roughly 1.26 million tonne. In India fig farming is mostly done in Maharashtra, Gujarat, Uttar Pradesh, Karnataka and Tamil Nadu. The total area under fig cultivation is around 5,600 hectares and about 13,802 tonne of the fruit are produced.

Government's wheat procurement may fall by half this season

The government's wheat procurement may fall by as much as half in the current season that began April 1, as private trade has become more lucrative because of the higher global prices, say traders and processors. The government is, however, confident of meeting the target set at last year's level of 44.4 million tonne and does not see a small shortfall impacting domestic needs. Actual procurement may only be 25 million tonnes in the 2022-23 season and the government may have to provide more rice under the various welfare schemes, says private wheat traders and buyers. Lower wheat production because of a decline in yields due to warmer weather in March may also impact procurement, they added.

Along with exports, the expected fall in wheat production due to heat damage and holding of the crop by farmers in anticipation of better returns may result in lower procurement numbers this year, said Ajay Goel, director, Shivaji Roller Flour Mill, a large wheat processor. Goel estimates slightly higher procurement at 30 million tonne. The government has estimated procurement of a record 44.4 million metric tonnes of wheat for the 2022-23 marketing year which started in April, said Sudhanshu Pandey, secretary, Department of Food & Public Distribution. We also have carry over stock. Even if there is a difference in procurement, it will not be much.

Pandey said the procurement has usually been more than the requirement and if the purchase is less, we have enough wheat supply. Despite being surplus we haven't been exporting until now because international prices of wheat were low. Now that prices are higher we can do it, he said. India is expecting production of 111 million tonnes and even if the production goes down a little the domestic supply will not be affected as India is wheat surplus, Pandey said.

Fertiliser subsidy spend to touch ₹2 trillion in FY23

India's fertiliser subsidy expenses could touch ₹2 trillion in 2022-23 because of a sharp spike in global prices of urea, di-ammonium phosphate (DAP) and muriate of potash (MoP) in the last one year, an official with the fertiliser ministry said. The fertiliser subsidy was at ₹1.6 trillion in 2021-22. According to the ministry data, imported urea prices have risen by more than 145% to $930 a tonne in April 2022 from $380 a tonne a year ago. Similarly, prices of DAP and MoP have risen by 66% and 116% to $924 a tonne and $590 a tonne in April 2022, respectively, comparison to the year-ago period. It would be the third year in a row in 2022-23 that the annual Budget spending on fertiliser subsidy will be much above the ₹1-trillion mark, against a lower range of about ₹70,000-80,000 crore in the past few years. The official said that the futures prices of imported fertiliser could depend on the Russia-Ukraine conflict, which has disrupted the supplies of DAP and MoP. We could see a sharp spike in fertiliser subsidies this fiscal, the official told.

However, the official stated that there will not be any fertiliser shortage in the upcoming kharif sowing season. In case the Ukraine-Russia conflict persists, there could be a shortage of fertiliser in the rabi sowing season, an official said. According to official estimates, against fertiliser requirement of 35.43 million tonne (MT) during the 2022 kharif season, availability would be 48.55 MT, including 10.47 MT of imported fertiliser and 25.47 MT of domestically produced soil nutrients. While farmers in the country continue to be insulated from the relentless rise in global prices of urea and natural gas, as the retail prices of the nitrogenous fertiliser are capped and subsidy on it is open-ended, the surge in DAP and MoP prices in the global markets inflates the farmers' costs as the subsidy on the two products, although high, are capped. In the case of urea, farmers pay a fixed price of ₹242 per bag (45 kg) which covers about 20% of the cost of production, the balance is provided by the government as subsidy to fertiliser units. With retail prices of DAP and MoP rising steeply since November 2021, the Cabinet is expected to announce a sharp increase in the nutrient-based subsidy (NBS) on these fertilisers this week in order to reduce the cost of the key farming inputs to farmers, ahead of the kharif sowing season. The new NBS rate will be applicable from April 1, 2022. In 2021-22, the

government had twice revised NBS rates for phosphatic fertilisers. India meets about 75-80% of the volume of consumption of urea from domestic production while the rest is imported from Oman, Egypt, the UAE, South African and Ukraine. Nearly half of it's DAP requirement are imported via (mainly from West Asia and Jordan) while the domestic MoP demand is met solely through imports (from Belarus, Canada and Jordan, etc).

Agriculture absorbed additional 11 million workers over last 3 years: CMIE

Agriculture sector absorbed an additional 11 million workers over the last three years while the rest of the economy lost 15 million jobs, the Center for Monitoring Indian Economy said. According to CMIE's Consumer Pyramids Household Survey, agriculture saw an estimated 4.5 million increase in employment during fiscal 2021-22. While total employment fell by 21.7 million in the pandemic year of 2020-21, agriculture provided employment to a substantial 3.4 million. In 2019-20 as well agriculture saw an addition of 3.1 million to its count of employed.

This has been possible because of good monsoon, bumper production and higher prices, the CMIE said. "Agricultural prices have remained elevated as well. Farmers have therefore seen the benefits of rising prices for their bumper crops and have also benefited from favourable terms of trade," CMIE said, adding that this prompted migration of labour to agriculture. In 2019-20, agriculture grew by 5.5% while the non-agricultural sectors grew by a lower 3.5%. In 2020-21, agriculture grew by 3.3% while the rest of the economy shrunk by 6.3%. In 2021-22, while the rest of the economy recovered from its deep fall, agriculture continued to grow by 3.3%.

Rajasthan to train officials for crop scheme

After the presentation of a separate agriculture budget with a provision of ₹5,000 crore for Krishak Sathi Yojana this year, the Congress government in Rajasthan has shifted its attention to get full benefit of the Prime Minister's Crop Insurance Scheme. The special assessment survey will find out the extent of damage caused to the rabi crops across the State. The State government has also chalked out a plan for training revenue officials working in the villages to monitor the harvesting of crops through a specially designed mobile phone app. The tracking by revenue officials will ensure that there is no unnecessary delay in the distribution of the claim amount to the farmers.

Compensation norms

Chief Secretary, Usha Sharma said at a meeting of the Group of Secretaries for Farmers' Welfare here on the assessment survey would facilitate speedy payment of compensation to the farmers. The norms laid down by the Union government provide for compensation on the damage to a minimum of 33% of the crops. The cases found eligible during the survey will be processed for insurance claims by the companies concerned. The standing crops of wheat, fennel, barley, mustard and cumin, which were to be harvested, were most affected during the hailstorm last month, which was caused by western disturbance in the atmosphere in Ajmer, Jodhpur, Kota and Udaipur divisions.

Mission mode

The first–ever agriculture budget, presented by Chief Minister Ashok Gehlot on February 23, has adopted a mission mode for 11 thematic areas and laid emphasis on welfare measures for farmers and innovations for cultivators. Ms. Sharma said the issue of power supply at agricultural rates instead of commercial rates for mushroom cultivation would be resolved shortly.

Subsidy scheme

The State government has also launched a scheme for giving subsidy on capital investment and interest to farmers and entrepreneurs for setting up agro–processing industries and developing infrastructure on the agricultural land. Farmers have evinced a keen interest in setting up units and warehouses and cattle feed enterprises, taking advantage of the incentives offered to them.

Who is a distressed farmer?

Rationale for the index

According to a recent study by Nabard, more than 60% of the 'very high' and 'high' distress small and marginal farmers did not get loan waiver benefits in the last many years. In Maharashtra, for instance, more than 42% of such farmers haven't been eligible for loan waivers. Even in Uttar Pradesh, 47% farmers are deprived of loan waiver benefit. On the other hand, sugarcane farmers from Maharashtra and UP received benefits of loan waivers, even though they possessed irrigated land and enjoyed price support. Farmers with largely non-irrigated lands who grow lower-value crops especially those which are not procured by the government at minimum support prices have little access to the financial system.

Key elements of the index

The index will integrate high frequency data on weather conditions, climatic conditions, debt burden on farmers, agricultural commodities and the market. It would measure variables such as monsoon rains, excessive rainfalls, drought and dry spells, variations in temperature and soil moisture, yield of major crops in each district, area under irrigation, depth of underground water and unusual frost. Marketing opportunities available to the farmer including MSP support will also be assessed. The index will also have a metrics on the existing level of debt burden of the farmers, their access to crop insurance.

Benefits

Based on the severity of distress, the government and lenders can provide a combination of unconditional grants, crop loan restructuring or complete debt waivers. The assistance to individual farmers can be based on a combination of district index and individual farmers' distress measured via irrigation status of his land, income from crops grown by him, average productivity of the district and the average price in Agricultural Produce Market Committee (APMC) markets of the district as compared to the average price of the state. Such an index can help policymakers in not just predicting but also monitoring farmer distress. Timely monitoring of distress would help in formulating mitigation measures. Instead of focusing just on the aspect of crop damages, the index would provide a more holistic view of farmer distress.

Severe heatwave across India roasts crop yield

An unusually early heatwave across India has impacted the end-season mustard crop, reduced the wheat yield and raised worries among farmers about just-sown pulses crops such as urad, tur and moong beans in Maharashtra, Telangana and Karnataka. Bodo rice harvesting in West Bengal has also been affected by the heatwave as workers are not ready to work in the fields. According to the India Meteorological Department(IMD), the average temperature in the country in April was 35.05 degrees Celsius, the fourth-highest in 122 years, due to continuously scanty rainfall activity.

Sowing has started for tur, urad and moong beans in states of Maharashtra, Karnataka and Telangana. If the heatwave continues and intensifies, then it will impact the crop, Bimal Kothari, chairman, Indian Pulses and Grain Association, told. Farmers will then again have to replant them. They may face losses but if they are covered under crop insurance, losses will be minimised. India produces 4 million tonnes (mt) of tur pulses, 2.5 mt of urad and 2.2 mt of moong beans. Tur takes 150 days to harvest while urad and moong beans take 100 days and 70 days, respectively, for harvesting.

Centre decides to lift price capping on raw jute

The government said it has decided to lift the price cap of ₹6,500 per quintal on raw jute from May 20 this year. It is expected that the cap removal will help the farmers, mills and jute MSME sector, wherein over 7 lakh people are dependent on the jute trade in addition to about 40 lakh jute farmers, the textiles ministry said.

Jute Commissioner Office has been collecting the information about the raw jute prices through formal and informal sources and it has found that the present prices are ruling near the capped price, it said. As the existing prices of raw jute are ruling around ₹6,500 (per quintal), Government of India has taken a dynamic

decision to lift the price capping w.e.f. 20th May, 2022, it said. The price cap was fixed on September 30 last year. The central government, after careful examination of the market dynamics of raw jute trade, has lifted price cap of ₹6,500 per quintal for TD5 grade of raw jute, fixed w.e.f. (with effective from) 30th September, 2021 on purchase of raw jute by the jute mills and other end users, it said. The decreasing trend in prices will also benefit jute goods' exports, which constitute about 30% of the industry's turnover in value terms, it added.

Genome edited crops to weather climate risks- Explained

The environment ministry's exemption of some genome-edited crop types from bio- safety norms for genetically modified (GM) crops, and the biotechnology department notifying guidelines for safety assessment of such plants, are likely to spur faster development of climate-resilient crop varieties. Sandip Das explains gene- editing technologies and their potential.

Genome editing

Genome editing enables modification of plants' owned genes, without insertion of external genes, as with GM crops. Genome-edited varieties possess no foreign DNA and are indistinguishable from crops developed through conventional plant-breeding methods, or using naturally occurring mutations.

- The environment ministry in March 2022 exempted SDN 1 and SDN 2 genomes from Rules 7-11 of the Environment Protection Act
- Conventional breeding technique takes 8-10 years for development of new crop varieties; genome-editing can do this faster
- mGenome editing is being used in 25 countries in 40 crops for which partial or complete genome sequence is available.

Global developments

Genome editing is being used in most crop plants for which partial or complete genome sequence is available and is being applied in around 40 crops across 25 countries. The US and China are leaders in usage of this technology for developing crop varieties like rice, maize, soybean, canola and tomato which withstand biotic and abiotic stresses arising out of climate change.

Impact on domestic crop development

The Indian Council for Agricultural Research has said the technology has great promise and emphasis is needed on improving oilseed and pulse crop varieties resistant to diseases, insects or pests, and tolerant to drought, salinity and heat stresses. Last year, a group of scientists wrote to the PM, for ease of release of the technology.

Faster development of crop varieties

Conventional breeding technique takes eight to 10 years to develop agricultural crop varieties, while through genome editing, it can be done in two to three years. Experts say the technology has promise to reduce import dependence on oilseeds and pulses through faster development of varieties resistant to diseases, pests, and with tolerance to drought, salinity and heat stresses.

Relaxation in rules

The exemption of SDN1 and SDN 2 genomes from Rules 7-11 will help avoid a long approval process through the Genetic Engineering Appraisal Committee for GM crops. SDN1 and SDN 2 genome editing is being used in Indian labs to breed crops imparting traits like resistance to diseases, drought and salinity stresses.

Comfortable reservoir water levels allay crop loss fears

Despite the scorching heatwaves across large parts of the country, average water levels in 140 major reservoirs in the country are up 6% on year, Central Water Commission (CWC) has said, allaying fears of water scarcity hitting agriculture crops. However, reservoir water levels were down 8% on year each in eastern and western parts of the country. The comfortable water reservoir levels augurs well for forthcoming kharif crops such as paddy, pulses, oilseeds and coarse cereals. Monsoon rains are expected to arrive at Kerala coast on May 27, three days ahead of "normal date", according to the India

Meteorological Department (IMD). Also, the rainfalls are predicted to be "normal" for the fourth year in a row. Water reservoirs are filled with 56.87 billion cubic metres (BCM) of water, which is about 32% of their combined capacity. A year ago, the water available in these reservoirs was 53.54 BCM and the average of the last 10 years was 44.41 BCM, according to the latest CWC note.

Current water level of reservoirs was 106% of the live storage of the corresponding period of last year and 128% of storage of the average of last ten years, the commission stated. In terms of regional variations in water levels, 25 reservoirs of the central region – Uttar Pradesh, Uttarakhand, Madhya Pradesh and Chhattisgarh and 39 reservoirs in the southern region – Andhra Pradesh, Telangana, Karnataka, Kerala and Tamil Nadu have more water than last year and average of last 10 years. However, the water level of 21 reservoirs in eastern region – Jharkhand, Odisha, West Bengal, Tripura, Nagaland and Bihar is currently lower than a year ago and the average of the last 10 years. In 46 reservoirs in western region – Gujarat and Maharashtra, water level at present is less than the corresponding period last year, higher than the average storage of last decade.

Nine reservoirs in the northern region – Himachal Pradesh, Punjab and Rajasthan have more water at present compared to last year, but water level is less than last 10 year's average. Officials said that water level at reservoirs is set to rise in the coming months as IMD had stated that India would receive a 'normal' monsoon (June-September) at 99% of the benchmark long period average (LPA), with a model error of +/- 5%. If the forecast comes true, the country will receive normal rainfall from the annual phenomenon for the fourth year in a row. Meanwhile, private weather forecasting agency Skymet has stated that monsoon would hit Kerala coast on May 26. India's foodgrain production will rise 1.2% on year to a new record of 314.51 million tonne (MT) for the 2021-22 crop year (July-June), according to the third advance estimate released by the agriculture ministry released last week. The low water levels in western and eastern India reservoirs could have some impact on pulses, oil seeds (west) and paddy output (east).

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Nine reservoirs in the northern region – Himachal Pradesh, Punjab and Rajasthan have more water at present compared to last year, but water level is less

Model in community weather monitoring

The community weather monitoring system in Wayanad, an initiation of the Hume Centre for Ecology and Wildlife Biology in association with the Advanced Centre for Atmospheric Radar Research, CUSAT, and the District Disaster Management Authority, has set a model in localised weather forecast, especially for the farming community. We have been using daily weather forecast for planning agricultural activities, says K.V. Divakaran, a farmer at Anoth near Pozhuthana. At a time when climate change is posing serious threats to the farm community, advance site-specific information is useful for planning agricultural activities such as ploughing, nursery raising, fertilizer application, and harvesting, says Mr. Divakaran. The information not only saves time but also money, he adds.

The forecast has benefitted nearly 100 traditional farmers under the Thirunelly agri producer company last season, says Rajesh Krishnan, CEO of the farmers collective. The farmers, who are following the organic way of cultivation, can plan their agricultural

operations in advance, he says. The initiative aims to build local resilience to the adverse impacts of climate change by equipping people with site-specific weather monitoring capabilities for addressing climate issues in Wayanad, one of the most climate-sensitive districts of the State, says C.K. Vishnudas, director, Hume centre. The system was launched four years ago mapping the major landslips and flood locations in the district after a comprehensive study. As the study found that extreme rainfall was the trigger for the landslips, a citizen science programme was initiated to understand the pattern of rainfall intensity with the support of 250 farmers, says Mr. Vishnudas.

The district was divided into 25 sq km grids and rain gauges were installed in the grids with the help of farmers. They share daily data from their locations at 8 a.m. through WhatsApp with the Hume centre, which in turn pass it on to the DDMA. Now, the daily rainfall data from 120 locations along with specific rainfall forecast help to closely monitor the threshold level for any possible landslips and floods in the region. The data collected from the locations show a west to east gradient.

The district is divided into four climatic regions based on the data to help farmers better manage the water resources. The research and development initiative of the past three years has now been placed on social media where daily weather information is shared with the public, he says.

Climate change hits food crop yield in Kerala

The downpour that floods an entire landscape and searing heat that drains water in every form. Such weather variations in Kerala are impacting its food platter too, with the yield from crops falling up to 33% in the past few decades.

This was revealed in a study done by the Kozhikode-based Centre for Water Resource Development and Management between 2014 and 2019. It covered Kozhikode district of Kerala and Tikamgarh district of Madhya Pradesh and Gujarat. Twenty farms covering all the agro-ecological units in Kozhikode were chosen for the purpose. The increase in the maximum temperature ranged from 0.43 degrees Celsius to 1.92 degrees Celsius. The minimum temperature showed an increase of 0.66 degrees Celsius to 2.17 degrees Celsius. Rainfall was reported to have gone up by 166 mm to 1,434 mm. The main reasons for these are what scientists call “anthropogenic activities” that include deforestation, industrial pollution, soil erosion, and land degradation.

The yield from rice, banana, rubber, coffee, black pepper, coconut, and arecanut, all rain-fed crops, showed a decline of 0.3% to 33% under different scenarios. The total crop water requirement of major crops such as coconut, paddy, and banana increased with a rise in temperature, enhancing the irrigation water demand. Since a rise in the mean temperature above a threshold level will cause a reduction in agricultural yield, an increase in maximum temperature by one, two, and three degrees Celsius could reduce the grain yield of rice by 6%, 8.4% and 25.1%, respectively, if all other climatic variables remain constant. The grain yield of rice declined by 10% for each one degree Celsius increase in the minimum temperature during the growing season. Crop climate suitability is also changing abruptly because of climate change, says the study. As much as 81% and 64% of growing areas of coffee and black pepper may not be suitable for these crops in future unless effective management strategies are adopted.

The study suggests that the yield can be sustained or improved in the case of coconut, coffee, arecanut and black pepper if the crop is irrigated. Since about 80% of the land is under rain-fed farming in Kerala, it is essential to manage every drop of water received through rain, especially during summer, by effective implementation of soil and water conservation steps. Mulching with green and dry residues of crops is important for reducing the higher soil temperature as well as for conserving available soil moisture, it says. The study was in research collaboration with International Institute of Applied Systems Analysis, Austria; National Institute of Hydrology, Roorkee, Uttarakhand; and the Institute of Rural Management, Anand, Gujarat. It was funded by the Government of India think-tank Technology Information, Forecasting and Assessment Council of the Department of Science and Technology.

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Financial Performance of TSCAB

(₹ In Crores)

S.No	Particulars	31.03.2021	31.03.2022 (Unaudited)	Percentage Increase (YOY)
1	Share Capital in Rs. Crores	230.64	289.25	25.41
2	Reserves	556.53	625.33	12.36
3	Deposits	5466.41	6941.95	26.99
4	Borrowings	5413.42	6261.80	15.67
5	Business Turnover	13245.69	16276.71	22.88
6	Loans & Advances	7779.28	9334.76	20.00
7	Investments	1467.72	2058.78	41.95
8	Operating Profit (Profit Before Tax)	59.38	96.63	62.73
9	Gross NPAs %	0.17	0.14	(-)17.64
10	CRAR %	9.90	10.53	6.36
11	CD ratio	142.31	134.47	(-)5.51

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The Bank was established in 1951 to extend long term and medium term loans to farmers for agriculture and allled agricultural activities through 176 branches and 17 district offices located at each taluka places and district places respectively in the State of Gujarat. The Bank has significantly contributed 71 years towards rural development of Gujarat since Inception by advancing Rs 4543.25 crores long term loans to farmers for agriculture and allied agricultural activities up to 31.3.2022

FINANCIAL DETAILS OF THE BANK AS ON 31-03-2022

Sr. No.	Particulars	2021-22 (Rs In Crores)
1	Owned Funds	643.42
2	Loans Disbursed	151.28
3	Investment	545.27
4	Fixed Deposit	238.10
5	Loan Outstanding	550.43
6	Net Profit	29.29
7	Dividend	20%
8	CRAR	75.10%
	Audit Class (2020-21)	A

SALIENT FEATURES

1. New loan policy with reduction in Rates of interest with the effect from 1st April, 2022 is 10% per annum.
2. 2% rebate on amount of Interest paid by borrower who pays Installments regularly.
3. All the loans issued by the Bank are by registered mortage of land.
4. Bank has covered accidental insurance of Rs. 2 lakhs for all the loan borrowers of bank on Hon;ble Prime Minister Shri Narendra Modiji's Birthday.

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Deposit Period	Interest Rate Individual/Member	Interest Rate Trust/society/other banks etc.
1 Year	6.00%	5.20%
2 Year	6.10%	5.30%
3 Year	6.25%	5.40%
4 Year	6.25%	5.50%
5 Year	6.25%	5.60%
6 Year and above	6.25%	5.75%
Additional 0.50% interest to Bank Employees & Senior Citizen		

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