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From the Desk of President

The tradition of science and technology (S&T) in India is 5000 years old. The idea of wheel, fundamental to most modes of transport goes back to the days of Mahenjodaro. Indian town planning along with underground sewage system was well advanced as can be seen in the ruins of Harappa and Mahenjodaro. Aryabhatta was one of the astronomers mathematicians who lived in the 5-6th century. There are textual evidence dedicated entirely to medical knowledge as in Carak sanhita and susruta sanhita. Modern scientific knowledge is closely tied up with the industrial revolution, which though took place in Europe, the factors responsible for the same were in other countries also. In India, colonial S&T system was largely limited to narrowly defined needs of the British rulers. However, a renaissance was witnessed in the first half of the 20th century. Post independence, the paradigm of planning and development of public sector in R&D was mostly shaped by Neheruvian perceptions of 'self reliance' and 'development'. The S&T infrastructure has since grown up. India now has third largest scientific and technical manpower in the world with technological advancements in various sectors including telecom, IT and e governance. Significant achievements have been in the areas of nuclear, space science, electronics and defense.

The era of modernization has impacted in agriculture sector also. Now, farmers are equipped with agricultural technology that is latest and trouble free. The green revolution in the sixties has transformed Indian agriculture especially in the irrigated areas contributing substantially to our food basket. However, there have been negative impacts of green revolution such as growing disparity among people and regions resulting lopsided development as well as deterioration of condition of soil, loss of biodiversity, depletion of ground water resources, over capitalization of agriculture and other aspects ecology and environment. The scientific advancement should, therefore, ensure harmony with environment, preserve ecological balance, reduce the demands on energy particularly energy from nonrenewable sources; recycle waste materials and make full utilization of byproducts and improve quality of habitat. It should provide the maximum gainfully, satisfy employment to all strata of society and bring about tangible improvement in the conditions of weakest sections of the population and speedy development of backward regions.

Activist groups and similar movements have now come together and identified issues of common concern and interest resulted in the initiation of people's science movement. People's science movement aims at popularizing science and scientific outlook among common people. The members of ARICARE who have devoted most their life for scientific research should also contribute to help implement alternative modes for development with emphasis on equity and sustainability .

**ASSOCIATION OF RETIRED INDIAN COUNCIL OF AGRICULTURAL RESEARCHEMPLOYEES
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From Secretary's Desk, ARICARE news 3(1)

I congratulate '**e-Journal & Face book**' sub-committee for timely publication of first issue of 3rd vol. of *ARICARE news*. The *ARICARE news* was started its journey in 2017 as a bi-yearly e-newsletter with the very initiative of **e-journal and Facebook** sub-committee. ARICARE has already published four issues of *ARICARE news* which had been widely circulated and were highly appreciated by all.

I believe, all the pensioners are getting their pensions regularly, Earlier there were some pending cases of pension as per 7th CPC. ARICARE '**Pension, Administration and Medical**' sub-committee had extended all necessary assistance in resolving those cases. For cashless medical treatments in hospitalized cases CRIJAF, Barrack pore had taken a very bold step for issuing ID cards to its pensioners and serving employees. Other Institutes were to follow the suit and some Institutes also invited application for IDs but decision is still pending. Notional pay fixation as per 7th CPC has been completed for most of the pensioners under the Pension office of CIFRI, Barrackpore. But many other ICAR pension offices outside Kolkata are lagging behind. Pensioners meetings' at CIFRI, Barrackpore are being regularly represented by ARICARE.

The General election of the country is knocking our door. Now- a-days farmers has become a centre of politics. Politicians wish to adore with pro – farmer tag by waiving farm loans without long term vision and policy. To meet up the deficits in farm loan waiver the states need to borrow more and more which ultimately affects all including farmers, poors, middle classes, industries and the economy as whole. According to NITI Aayog Farm loan waiving helps only a fraction of farmers. In poorer states only 10-15% farmers are profited by farm loan waiver as few farmers get Institutional loans. A study by Indian Statistical Institute in 2013 showed an increase in loan repayment default after the central government announced waiver of Rs 60,000 crore in 2008, a year before the general election. Honest farmers repaying loans also turned defaulters after the waiver. Ultimately this will affect credit flow to farmers. According to Dr. M.S. Swaminathan, Credit is the key input and a healthy credit system cannot be based upon loan waivers". In fact, the problems of Indian agriculture are structural. India needs massive investment in areas such as irrigation, water conservation, better storage facilities, market connectivity and agricultural research. If the huge amount spent as loan waiver is spent on structural developments, Indian agrarian distresses will find long-term solutions. But this will not catch the attention of the populist politicians According to Dr. D Rajshekar, professor of developmental economics at the Institute of Social and Economic "The reason for agrarian distress is systemic and fundamental. Loan waiver is like applying band-aid for cancer."

Meetings and Events

Extended governing Body Meeting at ICAR-NINFET, Kolkata On 30th Aug., 2018



An extended Governing Body (GB) meeting of ARICARE was held on 30th. Aug.. 2018 (Thursday) in the BPD hall of ICAR- NINFET (earlier known as NIRJAFT), Tollygunge, Kolkata 700040. Besides GB members, a good number general members and members of different subcommittees attended the meeting. Profuse thanks were given to Dr. A. N. Roy, Director (Actg.), ICAR-NINFET, Kolkata for according necessary permission to hold the meeting in his Institute and for extending institute facilities. Thanks were also given to the staff members of NINFET, Kolkata for their excellent cooperation. The participants had a threadbare discussion on the issues raised in the meeting and made their observations, at the end of which appropriate resolutions were taken.

Extended governing Body Meeting at ICAR-IVRI, Kolkata REGIONAL STATION On 6th.Oct., 2018

An extended Governing Body (GB) meeting of ARICARE was held on 6th. Oct., 2018. (Saturday) in Regional Research Station of ICAR- IVRI, located at Belgachhia, Kolkata. Besides GB members, a number general members including members of different subcommittees also attended the meeting. The association expressed gratitude to Dr. Sushovan Bandyopadhyay, In-charge of the Regional Station for according necessary permission to hold the meeting in his Institute and for extending institute facilities. Other staff members of the institute were also given thanks for making necessary arrangements. The members discussed all the pertinent issues as per agenda items listed for the meeting and suitable resolutions were adopted

INTERNATIONAL TOUR – MAURITIUS, DUBAI, Sept. 19-23, 2018



VIJAYA SAMMILANI AT ICAR-NBSS&LUP, Kolkata, Nov. 03, 2018



PICNIC at ICAR-CRIJAF, Barrackpore, Jan. 20, 2019



News Round Up

IT must focus on agribusiness and agri-markets: VP

Information Technology must also focus on agribusiness and agriculture markets to improve the farmers' income because they are un-remunerative, Vice President of India, M. Venkaiah Naidu has said while addressing the gathering after giving away IT/ITeS Industry Summit Awards at the 26th Annual HYSEA Summit 2018, organised by the Hyderabad Software Enterprises Association, in Hyderabad Friday. The Vice President said, the software engineers should think of ways to bridge the digital divide in the country and asked them to ensure that the skill deficit is addressed and rural youth should become active stakeholders in India's inclusive growth endeavour. The only way to stay on top of the tech wave is to constantly innovate and develop new technologies and solve business problems in multiple verticals using newer technologies which require regular upgradation of skills. IT knowledge should ultimately help the poorest of the poor, promote literacy, digital literacy and skill. IT industry should increase its focus on innovation, invest in intellectual property and develop new technologies, besides skilling the youth to provide gainful employment.

(Rural Marketing News Letter, 28th..July, 2018, Faridabad, Haryana)

ICRISAT to scientifically assess Telangana's Mission Kakatiya

The Mission Kakatiya of the Government of Telangana that aims to restore over 46,531 tanks across the state will be scientifically assessed. An MoU for this was signed between the Ministry of Irrigation, Government of Telangana and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad in presence of the Minister for Irrigation. The MoU signed by Commissioner, Common Area Development Authority, Ministry of Irrigation and Deputy Director General, (Acting), ICRISAT. Speaking at the formal signing, Minister said, "There are a number of reported benefits including reports on in-bound migration following the desilting of water tanks. We look forward to understand also how the change in availability of water has affected reverse migration. We need to look at many parameters including sustainability, more than just in monetary terms." The two-year project will carry out economic assessment of benefits of Mission Kakatiya to smallholder farmers to understand nutrient return to the soil and the productivity and profitability. Through stratified sampling, nutrient content of silt from across 30 districts will be assessed. Demonstration trials will be undertaken with different levels of silt along with balanced nutrient management for major crops. Overall 750 sites will be examined for soil and water health, besides crop diversity and impact on livelihood

(Rural Marketing News Letter, Aug. 4, 2018, Faridabad, Haryana)

French Jute And Natural Fiber Delegation For Partnership Mission In India And Bangladesh

Under the impetus of the Embassy of France in India, Business France - The French Trade & Investment Commission is organizing a mission in Jute and Natural Fiber in Bangladesh and in India, with the support of the Directorate General for Enterprise (DGE). French companies and universities led by the French cluster of Industry & Agro-Resources (IAR) will meet various organizations, institutes, jute mills of Bangladesh, Minister of Jute in Bangladesh and Ambassador of France to Bangladesh. Similarly, in India, the delegation will meet various institutes and government organisations like University of Kolkata, NIRJAFT, Meghalaya Govt. along with various Indian companies. A presentation of the Project Ramie initiated by the French Institute in India (IFI), the Meghalaya Govt. will be delivered. India is the world leader of raw jute and jute products whereas Bangladesh is the major exporter of jute products. With the increasing demand for natural fiber, export of jute and natural fiber from Bangladesh and India has huge potential. Through this mission, Business France and the participating French companies, aim to lay emphasis on modernization of the jute and natural fiber sector.

(17th.Sept., 2018, by PTI, BW Businessworld)

PAU to provide pulses and oilseeds kit at Kisan mela-Sept., '18

The Associate Director (Seeds) of PAU Dr Tarsem Singh Dhillon informed that the University has developed a new concept of Pulses and Oilseeds Kit to fulfill the needs of small farm families of the state. The kit has seeds of gram (1 Kg), lentil (400 g) and canola/gobhi sarson (250 g) with which an expected area of 250 sq. m of gram, 130 sq. m of lentil and 650 sq. m area of gobhi sarson can be sown, he said. On an average, one can produce around 50 kg gram, 18 kg lentil and 50-60 litres of canola oil from this area which will be sufficient to fulfil the annual requirements of pulses and oilseeds of a small family, he added. The cost of this kit is Rs 200 and it will be provided during all the Kisan Melas, being organized by PAU, he informed. It will also be available at all the Krishi Vigyan Kendras in the state and Seed Shop at PAU, Ludhiana. So, farmers can use this kit to grow pulses and oilseeds to meet their requirements and reduce their expenses, he said.

(Farmers Grid, Sept.18, 2018, PAU, Ludhiana)

Backyard Poultry – A success story of a tribal start-up

In over three decades, poultry in India has moved rapidly from the backyard (BY) to intensive commercial production. Modern poultry is one of the fastest growing industries across the world. However, it often involves large-scale commercially produced crossbreeds. Although large-scale intensive commercial poultry production has tremendously increased the availability of meat and eggs in the country, it has also had serious health and environmental consequences.

BYP has tremendous potential and is ideal to augment the income and nutrition of small and marginal farmers. It could be promoted either commercially or as part of an integrated model involving small and marginal farmers across the country, especially in the rainfed areas. With all the households of the village rearing backyard poultry, the traditional culture of rearing native chicken breeds has come alive at Peda Kodapalli village in Andhra Pradesh. The local communities are able to consume eggs and meat produced in their backyard, on a regular basis. Also, the chicken and eggs, produced in the backyards are healthy compared to commercially produced chicken, thus ensuring better health to the families. With the establishment of Breeding Farm, not only are chicks accessible to the households, the entrepreneurs are also able to make a decent living by selling chicks and chicken. Chicken droppings are recycled as manure for the crops, thus enhancing soil fertility.

(LEISA INDIA, Vol. 20 No.3, Sept. 2018, Bangalore, Karnataka)

NCDC's scheme to promote young entrepreneurs in cooperatives

In order to cater to the needs and aspirations of the youth, the National Cooperative Development Corporation (NCDC) has come up with a youth-friendly scheme 'Yuva Sahakar-Cooperative Enterprise Support and Innovation Scheme' for attracting them to cooperative business ventures.

The scheme will be linked to Rs 1000 crore 'Cooperative Start-up and Innovation Fund (CSIF)' created by the NCDC. It would have more incentives for cooperatives of North Eastern region, aspirational districts and cooperatives with women or SC or ST or people with disabilities (PwD). The funding for the project will be up to 80 percent of the project cost for these special categories as against 70 percent for others. The scheme envisages 2% less than the applicable rate of interest on term loan for the project cost up to Rs 3 crore including two years moratorium on payment of principal. All types of cooperatives in operation for at least one year are eligible. It supports cooperatives in diverse fields apart from agriculture and allied sectors. It is an ISO 9001:2015 compliant organisation and has a distinctive edge of competitive financing. It has extended financial assistance of Rs 63,702.61 crore during 2014-2018 (as on November 13).

(Rural Marketing News Letter, Nov. 15, 2018, Faridabad, Haryana)

Innovative market mechanism

In remote hilly regions of the country, small land holders are still not able to make a remunerative living out of farming owing to poor access to markets. Farmers in the remote hilly region of Chakrata area in Dehradun district of Uttarakhand have evolved a unique type of localized marketing mechanism, which is successful and sustainable. With improved connectivity, farmers explored the idea of using the utility vehicles for marketing their vegetables in the mandi. The innovative market mechanism has come as a boon to the farmers in hilly areas. This mechanism has been working well saving farmers from visiting mandis often, thus saving on travel costs too. Uniqueness of the mechanism lies in the fact that along with big farmers, it also supports small and marginal resource poor farmers with small produce. With no great technology, the mechanism has been successful solely owing to the faith that farmers, drivers and wholesale agents have on each other. Its time to look for such simple innovative practices that make farmers lives easy and remunerative.

(LEISA INDIA, Vol. 20 No.4, Dec. 2018, Bangalore, Karnataka)

Simple innovations by small farmers deserve attention

Use of simple tools and implements accompanied by continuous farmers' creative ideas in the fish husbandry process and skill of problem solving proved to be quite successful and stood the test of time. Farmers in some of the districts in West Bengal have been practicing fish production using traditional wisdom and simple indigenous innovative devices. Some of the innovative practices of fish farmers are as follows : (1) To tackle depletion of dissolved oxygen (DO) content in pond /tank, a simple device using bamboo baskets put in a cascade pattern, tied with 3 bamboo poles and affixed in the pond with 0.5 HP pump connection attached to hosepipe is used to make good oxygen deficiency in water in a short time, (2) To overcome threats for fish survival from predator birds, farmers use simple threads, spreading over the culture ponds. (3) Creation of shed on the pond with palm leaves, (4) measurement of water quality parameters, (5) Fortnightly application of medicated feed , (6) Periodic removal of generated gases from the pond bottom.

Of late, farmers are instead encouraging the growth of plants like Ipomea which is considered delicious. Growing azolla and duckweeds have served as feed for fish and also as a biofertilizer. All such practices have helped the farmers to grow human food of very high biological value at a relatively low production cost making the entire state a model for inexpensive low external input aquaculture. While there is no denying that application of scientific principles is important in the scaling up of the production performance of cultured fishes, ingenuity of farmers' innovations and improvements successfully tested over time should not be overlooked and given due recognition, lest such innovative ideas and spirit get lost for ever.

(LEISA INDIA, Vol. 20 No.4, Dec. 2018, Bangalore, Karnataka)

Will farm loan waiver go the way of the property tax repeal?

Farm distress has been a sadly persistent feature for the past 5 years on account of failed rains and policy failure on a no. of fronts, including most visibly unremunerative prices for farm produce. Farm loans from the formal banking sector, which qualify for waivers, are basically capital loans covering input costs for a season and are hypothecated to the crop but not to the land. Even so, tenant cultivators without ownership documents cannot access bank loans, and with the coupling of bank loans to crop insurance, the exclusion of boundary has only become tighter. Their only recourse is informal credit supplied by money lenders, who in the rural context would be mostly large farm owners supplemented perhaps by owners of rural industries like flour mills. In a situation, where banks themselves are severely stressed, higher risk in agricultural lending cannot be loaded onto them. Banks now recognize shares , as certified by the patwari, in ownership of ancestral land, even without formal identification of the boundaries of the land held by the borrower. That is about as far as banks can be expected to go. Owners are locationally rooted, tenants are not.

(Mint e-paper, 4th. Jan., 2019, New Delhi)

Deadline in enrolments show waning interest in PM's crop insurance plan

Sharad Markad, a lanky teenager from a marginal farming family in Maharashtra, spent the first day of 2019 scrounging for funds. Faced with a drought, the third in the past five years, Markad had taken it upon himself to build a community cattle shed in November. Due to an acute shortage of fodder and water, farmers in his village in Ahmednagar district were struggling to tend to their livestock. Now, Markad's shed is home to 250 cattle and he is desperate for funds to keep it running. When asked if his family had crop insurance that would help cover daily expenses during a drought, Markad said he couldn't care less. "We did not enrol last season since it is of no use... our crop was damaged in the past but we did not receive any money."

In April 2016, Prime Minister Narendra Modi launched PMFBY as a key scheme to help farmers cope with weather uncertainties. In a country where over half of the unirrigated crop area is dependent on the vagaries of the four-month-long southwest monsoon, PMFBY promised increased cover for a variety of risks at a premium of just 2% (of sum assured) for kharif and 1.5% for winter or rabi crops. It was decided that the centre and states will equally share the cost of actuarial premium payable to insurance companies.

(Mint e-paper, 9th. Jan., 2019, New Delhi)

e-NAM commences inter-state trade between APMC mandis

To facilitate inter-state trade between the e-NAM states, Union Ministry of Agriculture and Farmers' Welfare has facilitated licensing of traders for inter-state trade on e- National Agriculture Market (e-NAM) portal. It is a pan-India electronic trading (e-trading) portal which seeks to network the existing physical regulated wholesale markets, known as APMC markets, through a virtual platform to create a unified national market for agricultural commodities. e-NAM platform promotes better marketing opportunities for the farmers to sell their produce through online competitive and transparent price discovery system and online payment facility. It also promotes prices commensurate with quality of produce. The e-NAM portal provides single window services for all APMC related information and services. This includes commodity arrivals, quality and prices, buy and sell offers and e-payment settlement directly into farmers' account, among other services. This online trading platform aims at reducing transaction costs, bridging information asymmetry and helps in expanding the market access for farmers. So far, 585 regulated APMCs of 16 states and two union territories have been integrated to e-NAM platform. The government has also decided to integrate additional 415 markets by March, 2020.

(Rural Marketing News Letter, Jan. 10, 2019, Faridabad, Haryana)

Farmers need irrigation more than poll freebies

Less than half (48.8%) of India's farm lands are irrigated. The rest are perennially dependent on the vagaries of the monsoon. The economic survey last year estimated that climate change could reduce annual agricultural incomes by 15-18% on average, and up to 20-25% for unirrigated areas over the long run

To be sure, spending on large irrigation projects may not always be very effective given high levels of wastage and inefficient usage of water in such projects. A more sustainable solution could be micro irrigation—smaller irrigation projects that serve an area of less than 2,000 hectares and use water conserving techniques such as drip irrigation. According to the NITI Aayog, micro-irrigation techniques such as drip irrigation can enhance efficiency and therefore farm productivity by over

Micro-irrigation projects will reach more farmers and tackle India's water efficiency problem. As a previous Plain Facts column (bit.ly/2RsQZrw) had highlighted, India is extremely inefficient in consuming water. Globally, it has the largest footprint in terms of blue water (surface and groundwater) consumption. As India's groundwater runs out and the threat of climate change increases, farm incomes are likely to become even more volatile than they are now unless there is a radical overhaul of water management practices.

(Mint e-paper, 17th. Jan., 2019, New Delhi)