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THE HINDU

Making ‘Make in India’ happen

To become a manufacturing nation, India has to quickly move beyond rhetoric to create a clear strategy and favourable policy environment for manufacturing to take off. A close dialogue and partnership between government and the private sector is critical

At this moment, the Prime Minister’s “Make in India” campaign appears to be exactly this — an imaginative marketing campaign. But there is much thought and even more work that is required to convert this to reality.

The theory behind “Make in India” is as simple as it is compelling. India must become a manufacturing powerhouse in order to gainfully employ its demographic dividend; there is no choice here. Fortunately, we have many natural advantages including a big labour pool and a large domestic market. In addition, with China’s competitive advantage in manufacturing eroding, India has the opportunity to take some share of global manufacturing away from China. All we have to do to improve the ease of doing business in India are these —stop tax terrorism, improve infrastructure, reform labour laws, invest in skills development, make it easier to acquire land, implement Goods and Services Tax (GST) and fast track approvals. Voila, we will take our rightful place as the world’s factory alongside China.

Energy factor

This is an attractive thesis that has a lot of merit. A simple step of making it easier to do business will make a huge difference to India’s manufacturing competitiveness. It is one plank of a manufacturing strategy. India ranks 142 on the World Bank Index; China is ranked 90. If we were to improve by just 50 places, it would be a huge perceptual breakthrough. However, this is not a manufacturing strategy in itself. As Reserve Bank of India (RBI) Governor Raghuram Rajan correctly and controversially pointed out, much has changed in the world since China elbowed itself into becoming the world’s factory two decades ago. The nature of manufacturing is changing. Low-cost automation and robotics are making pure labour cost arbitrage less important. Lead times

and a flexibility of supply chains are far more important, leading many companies to move manufacturing back closer to the big markets, the United States and Europe. Energy is the new labour in the sense that the cost of energy will significantly drive where things are made. Here, the U.S. with its huge new shale gas reserves has a big advantage. Developed countries are also realising how crucial local manufacturing is to jobs and to having stable, prosperous societies and so there is an attempt to reverse outsourcing and revive local manufacturing by embracing new technologies and innovations such as 3-D printing and the “Internet of things”.

For an industrial policy

To become a manufacturing powerhouse, India needs a manufacturing strategy, otherwise known as industrial policy. The idea of an industrial policy is out of vogue these days. It is seen as ineffective at best and even retrograde, running contrary to the idea of free trade. This is patent nonsense. Japan, Korea, China, Germany have all prospered by having a clear industrial policy and vigorously implementing it. The U.S., the United Kingdom, France and Italy have seen themselves deindustrialise by not having a clear industrial policy and are trying hard to course-correct this mistake.

There is a successful precedent even in India; our success in IT services was not an accident. It was the result of clear-eyed policies driven by the Department of Electronics, which included reducing import tariffs on hardware and software to zero, setting up software technology parks with tax incentives, and improving connectivity. Policy has always mattered and when it comes to manufacturing competitiveness, India must have a clear industrial policy that spells out priority sectors and how we will build competitive advantage in a way that is consistent with our obligations to the World Trade Organization (WTO).

Building on advantages

India’s industrial policy must recognise where we have important competitive advantages. India is quite uncompetitive at low skill manufacturing. On the other hand, it is good at making complex things which require skilled labour and frugal engineering. Despite all its shortcomings, India remains a very competitive manufacturing location for sophisticated things such as construction machinery, cars and automotive components and diesel engines. It is no accident that companies such as JCB, Cummins, Deere, Volvo, Hyundai and Ford are using India as a major export hub.

We must focus on building competitive advantage and global scale in sectors where we have a large domestic market and certain inherent capabilities. Strategy is all about making choices. Here, five priority industries come to mind. Defence, because we are the world's leading arms importer. Localising what we buy as a condition for all defence deals along with a willingness to allow majority foreign ownership can turbocharge our local defence industry. The second critical industry is electronics hardware. India imports \$45 billion of mobile phones, computers and communications hardware; by 2020, this is projected to grow to \$300 billion and exceed our oil import bill. This is unsustainable.

We have to create policy incentives to create a local electronic hardware manufacturing ecosystem. Since most component suppliers, Original Equipment Manufacturers and Original Design Manufacturers are Chinese, this will necessarily imply incentivising Chinese companies to establish factories in India. The size of our domestic market should make this possible. Concerns about security are misplaced; all our personal computers, cellphones and a lot of switches and routers are already made in China, so we are conceding nothing. The third industry is construction. India will invest a trillion dollars over the coming years in improving infrastructure. We need to create incentives that not only spur investment in manufacturing materials such as cement and steel but also construction equipment, locomotives, power generation equipment and so on. Everything we install should be made in India.

The fourth is health care. India's generic pharmaceutical industry is world class. We must not concede on intellectual property rights that neutralise our advantage. India is also exceedingly good at frugal innovation in medical devices such as low cost X-ray and ECG machines. We have a real shot at being a world leader in innovation and manufacturing in this space. Finally, agro-industries. We are one of the largest agricultural nations.

A third of what we grow just rots and spoils. Investing in agro-industries such as food processing and establishing a reliable cold chain would make a huge difference in terms of rural employment and food security. If we had to pick just five industries where we want to bootstrap a strong competitive advantage it would be these. In other industries, whether it be textiles, toys, or automotive, we need to ensure that we do not disadvantage local manufacturing.

‘Pro-farmer’ amendments: Modi

Government taking the ordinance route; it is afraid of public accountability: Cong.

: “Proposed amendments meet twin objectives of farmer welfare; along with expeditiously meeting strategic and developmental needs of the country,” Prime Minister Narendra Modi tweeted on Monday night on the ordinance to amend the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (LARR) Act, 2013.

While the National Alliance of People's Movements, a network of social activists, described the step as “anti-poor” and pushing a corporate agenda, Mr Modi described the ordinance as including a “pro-farmer step” of bringing compensation and rehabilitation under 13 exempt central laws at par with the norms of LARR 2013.

“Certain amendments have been made in the Act to further strengthen the provisions to protect the interests of the ‘affected families’,” he noted.

Under Section 105 of LARR Act, 13 central laws, including the National Highways Act 1956, the Railways Act 1989, Coal Bearing Areas Acquisition and Development Act 1957, are exempt from the provisions of the Land Act.

The Land Act, however, required that within a year from the commencement of the Act the government may allow LARR’s provisions of rehabilitation to apply even in acquisition under the 13 laws that are currently exempt, subject to Parliament’s approval.

“The Act mandated that within a year, the notification including these 13 exempt laws be laid before Parliament while it is in session, for a total period of 30 days in one session or in two or more successive sessions, which was not possible this session. That is why the government found the ordinance route necessary,” said a senior Ministry of Rural Development.

However, Jairam Ramesh, Minister of Rural Development with the UPA government said this was not true. “The one-year deadline for including the exempt laws already got over in September 2014.” Congress spokesperson Abhishek Singhvi said the government was taking to the ordinance route as it was afraid of public accountability.

“Criticism of the opposition against the ordinance betrays its frustration, after failing to derail the government's reform agenda”, said Shrikant Sharma, BJP national secretary. The Confederation of Indian Industry welcomed the ordinance describing it as a sign of the government's “serious commitment to economic reforms.”

Two cold storages for chilli growers in Ramanathapuram district

Chilli farmers and traders in the district need not travel all the way to Tuticorin to store chillies in a private cold storage, as the Tamil Nadu State Agricultural Marketing Board (TNSAMB) is making available two cold storage facilities in Paramakudi and Kamudhi in the district.

The board had built a 100 tonne capacity air-conditioned godown at the regulated market in Paramakudi at a cost of about Rs.1 crore and 25 tonne capacity godown at Kamudhi for the benefit of farmers and traders to store their produce, Collector K. Nanthakumar said in a press release on Monday.

The facilities would be a boon to farmers, particularly those raising the famous “Ramnad Mundu” chilli as they could store the produce for a maximum of six months and sell their produce when they commanded good market price after preserving the colour and pungency of the chillies, he said.

Presently, the farmers were forced to sell the produce soon after harvest at low price or at the price fixed by the traders in the absence of cold storage facilities, he said.

Loan on produce

If the farmers required money soon after the harvest, they could store the produce in the facility and get 75 per cent of the market value of the produce as loan from the regulated markets, the Collector also said.

The farmers would be given a maximum of Rs.2 lakh interest-free loan for the first 15 days.

After 15 days, the loan would attract five per cent interest rate, he added.

The rent for storing the chillies had been fixed at Rs.40 per quintal for three months, official sources said, adding a trader had already stored six tonnes of chillies in the facility at Paramakudi.

This season, farmers have grown chillies on about 25,000 hectares and the harvest would take place at the end of January and go on till February-end, the sources said.

Better price

Presently, chillies were sold at Rs.80 to Rs.120 per kg and farmers could sell them up to Rs.150 per kg if they stored chillies in the cold storage and could sell them when the demand was more, the sources said.

Facilities to be a boon to farmers raising the famous “Ramnad Mundu” chilli as they could store produce for a maximum of six months

‘Fertilizer stock adequate’

Coimbatore seems to have escaped the fertilizer shortage that other districts faced.

Farmers’ association leaders here say that either during the first crop season or the ongoing second, there was no problem.

V.D. Balasubramanian, district president, Tamizhaga Vivasayigal Sangam, said that the farmers were not short of fertilizers.

Demand

And at present there was no demand for fertilizer because most of the crops neared the harvest stage.

He said that the standing crops in the district included vegetables, paddy in Anamalai belt, sugarcane, cereals, millets, turmeric and a few others.

Price

The problem was not that of shortage of fertilizers but a few private retailers overcharging customers.

For instance, farmers had complained that the retailers sold a 50 kg urea bag at Rs. 320 when they ought to have sold it for Rs. 270, said P. Kandasamy, general secretary, Tamil Nadu Farmers’ Association.

Sources in the Agriculture Department said that as of Monday, the district had 829 tonnes urea, 1,325 tonnes muriate of potash, 2,980 tonnes di-ammonium phosphate, and 1,067 tonnes 'complex' fertilizers, which were more than enough for the standing crops. The standing crops in the district were millets on 30,890ha, pulses on 8,441ha, ground nut on 4,073ha, cotton on 374ha and sugarcane on 847ha. There were horticulture and plantation crops as well.

Farmers had begun harvesting ground nut, a few millets and other crops.

Harvest

And, in the next few weeks, they would harvest other crops to get ready for the third sowing season, which would begin in January.

The sources said that the department had disbursed fertilizers to primary agriculture credit societies, its offices in the unions and other government agencies

Turmeric auctioned

The weekly auction of turmeric at the Attur Pudupettai Agricultural Producers Cooperative Society fetched a turnover of Rs. 11.60 lakh on Saturday.

While *virali manjal* fetched a price ranging between Rs. 6,699 and Rs. 8,909 per quintal; *urundal manjal* fetched a price between Rs. 3,912 and Rs. 8,336; and *panangali manjal* between Rs. 12,812 and Rs. 13,369 per quintal. A total of 235 bags of turmeric was auctioned for Rs. 11.60 lakh.

Tanks to be cleaned



From erecting iron grills on tank bunds to taking Tamil Nadu Agricultural University assistance to control water hyacinth growth, to signing agreements

with Tamil Nadu Sports Development Authority to use Singanallur Tank for water sports the betterment of tanks found prominence in the Council resolutions on Friday.

In the first resolution related to tanks, the civic body had proposed to erect iron grill fence on the Ukkadam Big Tank bund at Rs. 74.70 lakh. The corporation officials said that the proposal was aimed at protecting the water body as well as people.

In the second resolution, the corporation said it proposed to enter into an agreement with the university to take its assistance to remove weeds from tanks and ensure that they did not grow again. And, to convert the removed weeds into manure.

On the Singanallur Tank, the corporation proposed to set up an sewage treatment plant to ensure that only treated water flowed into the tank.

The corporation would sign an MoU with the sports authority to develop the Singanallur Tank in to a place for water sports. The resolution in this regard recalled the recent visit of the authority's member secretary, Coimbatore Collector, Mayor, and Corporation Commissioner.

In another resolution, the corporation went beyond its boundary to establish walking track and park at the Perur Tank bund at Rs. 74.75 lakh. It would also establish a bicycle track there to help birdwatchers.

The civic body would establish a similar track on the Kurichi Tank bund with funds under the State Planning Commissioner Innovation Found, said another resolution. The cost had been estimated at Rs. 18 crore.

New coconut pest threatens Kerala

Kerala is frontline State in battle against coconut leaf beetle

Scientists at research institutions across the State are constantly on the alert against the coconut leaf beetle, an invasive pest that has ravaged the crop in large tracts across several neighbouring countries. With improved air and sea connectivity with the Maldives, a hotspot of the pest, Kerala is considered a frontline State in the battle against the coconut leaf beetle (*Brontispa longissima*).

A native of Indonesia and Papua New Guinea, the beetle has spread to Australia, Malaysia, the Pacific islands, Singapore, Cambodia, Laos, Thailand, Vietnam, Philippines, Myanmar, China and the Maldives. The Indian Council of Agricultural Research (ICAR) has classified it as a very destructive pest posing an immediate threat for States like Kerala.

“With three daily flights connecting Thiruvananthapuram to the Maldives, the risk of transmission is very high,” says T.V. Sajeev, Entomologist and Head, Forest Health division, Kerala Forest Research Institute, Peechi. “Once the pest establishes a beachhead in Kerala, it could blight the coconut crop, triggering a crisis worse than the dreaded mandari (Eriophyid mite) that had destroyed tens of thousands of palms across the State.

It would be difficult to eradicate it,” said Dr. Sajeev

Jim Thomas, Associate Director of Research, Kerala Agricultural University said a general alert had been issued to agricultural scientists to keep a sharp look out for the pest.

“Though quarantine facilities are available at points of entry, it will be difficult to screen bulk transport and hand baggage.

Travellers can carry the eggs, larvae or adult beetles on their bodies,” said Prof. Thomas.

According to a fact sheet released by the Asia- Pacific Forest Invasive Species Network (APFISN), countries such as India, Bangladesh and Sri Lanka, major coconut growers, are at high risk because neighbouring countries including Myanmar and Maldives are already infested with *Brontispa longissima*.

The larvae and adults of the beetle feed on the soft tissues of the young leaves, resulting in stunted growth of the tree and reduced nut production. Millions of palms have been damaged and substantial yield loss has been reported from the affected countries.

Shipments of ornamental palms from infested countries have been the main source of spread within the Asia Pacific region. APFISN has recommended the adoption of strict quarantine measures to control the import of plant materials, soil and organic material from infested countries.

Low cost agricultural appliances for small farmers



Subash Moharana displaying his implements at the Regional Agricultural Festival at Berhampur on Monday. photo: By arrangement

: Subash Moharana (45), a rural innovator and inventor, who has designed several low cost user-friendly agricultural appliances, is yet to get appropriate patronage for his self-designed tools.

Innovative agricultural appliances designed by him, which have proved useful for small farmers, are a crowd puller at the Regional Agriculture Festival in Berhampur.

Subash from Gobara village of Belaguntha block in Ganjam district of Odisha has formal education up to Class VIII. This has not hindered his knack to design new agricultural appliances or to add innovations to existing ones in accordance with local needs.

Skills in forging and welding he had picked up during his stint as a labourer while he was abroad for a few years has helped him in his endeavour.

Apart from pursuing agriculture, he runs a small welding unit at Gobara for his livelihood.

At this workshop, during free time, he continues to pursue his passion of designing new agricultural appliances.

He had designed a small power tiller named 'nano power tiller' as well as a mechanical digger to plant sugarcane seedlings. He has invented a multi-seed

sowing machine for System of Rice Intensification (SRI) method of cultivation, which can also be used for some other crops like moong dal.

His recent innovations include a manually operated weeder and a mechanical weeder. Both these weeders are specifically designed for small and marginal farmers as their production cost is between 1,000 and 4,000 rupees. The production cost of his sowing machine is less than 10,000 rupees.

Subash said that his innovative appliances save time and money of small farmers. With his new sowing machine, only three kg of seed is required for one acre of land instead of 30 kg used in the traditional sowing method.

Subash's innovations have been demonstrated in different exhibitions in Odisha.

Yet he laments that the government has not initiated efforts to increase the use of his cost-effective innovations among farmers. "I want my appliances to reach out to farmers like me in other parts of the State, which has not happened till date," he said.

Parties told to prioritise biodiversity conservation

The third Indian Biodiversity Congress (IBC 2014) held in Chennai earlier this month has urged political parties in the country to prioritise biodiversity conservation in their political agenda.

The congress organised by the Centre for Innovation in Science and Social Action (CISSA), Thiruvananthapuram; Navdanya; and C.P.R Environmental Education Centre called for steps to utilise the rich biodiversity in India for the country's food and nutritional security. It recommended the establishment of a network of biodiversity food baskets across the country to sell and procure biodiversity products to counter the influence of industrial farming and junk food. The event attended by 500 delegates from 21 States called upon agricultural research institutions to take up the documentation of agro biodiversity and focus on genetic improvement of local crops.

Baseline data

It also stressed the need to develop baseline data on the nutritional status of local crops and livestock products and take steps to document and protect traditional knowledge systems.

Speakers at the theme session on “India’s Food Security Bill” mooted the idea of strengthening the public distribution system and making it participatory. Pointing out that international free trade agreements should not be allowed to play havoc with domestic agriculture and food security, they called for a new approach integrating agriculture, food processing and rural development with food security and international trade.

“For developing nations such as India, it is important to shift from corporate-driven farming and dependence of inputs to community-based self-reliant systems incorporating high yielding and climate resilient crops and eco-friendly farming practices. Small holder food crop yield could be enhanced with climate-smart agro ecological practices,” the package of recommendations adopted by IBC 2014 said.

Banks told to provide loans for agriculture

Prasad Rao, Assistant General Manager, Nabard, on Monday advised bankers to concentrate more on lending to the agriculture sector, especially term lending. He was speaking at the meeting of District Level Committee for Banking Development, here.

Mr. Rao emphasised the need to improve the performance in the Secondary and Tertiary sector lending. The bankers needed to lend more to the priority sector so as to reach the stipulated Credit Deposit (CD) ratio of 60 per cent in the present fiscal. The banks should give importance to area-based schemes in the next fiscal year, he said.

Earlier, H.V. Bharmgoudar, Regional Manager of Syndicate Bank, said the total deposits in the banking sector in the district stood at Rs. 14,934 crore, registering a year-on-year growth of 15.92 per cent as on September 30, 2014. The total advances stood at Rs. 7,688 crore with a year-on-year growth of 21.97 per cent. During the second quarter of 2014-15, banks disbursed loans to the extent of Rs. 2,067 crore against the annual target of Rs. 5,066 crore. Of this, Rs. 444.2 crore was disbursed to the agriculture sector as against the annual target of Rs. 1,678 crore, recording 26.32 per cent achievement.

An amount of Rs. 284.41 crore was disbursed to the Tiny and Small Scale Industry sector against an annual target of Rs. 1,193.53 crore – a 23.8 per cent achievement. Rs. 491.71 crore had been disbursed to Tertiary sector against an annual target of Rs. 1,435.33 crore with 34.25 per cent achievement.

Where is the market?



Small-time organic and hobby farmers struggle to sell their excess produce in the city. They speak to SUBHA J RAO about the possible way forward

Some years ago, Manoj Rajagopal planted green-red anti-carcinogenic wild greens, rich in Anthocyanin and anti-oxidants. He raised them on Siruvani water and produced 25 tonnes. Though his test customers loved it, he could sell just 500 kg; the rest became cattle feed. People had issues with the twin colours! This year, every day, his field yields about 200 tasty papayas, raised

organically. Each weighs between 2.5 and 4 kg, but Manoj was told they were too big for the market. He finally found a trader to buy them.

This lack of marketing muscle depresses farming enthusiasts. “You never know why the market rejects you. The reasons are frivolous,” rues Manoj.

The chilli shrubs in Jayanthi Rabindranath’s organic kitchen garden fruited excessively this year. She was left with about three kg even after distribution among friends. “The local grocer offered me just Rs. 25 a kg, but I had to sell because what could I do with so many chillies,” she says. She has planted naatu tomatoes, red pumpkin and brinjal in her backyard and says there are days when the plants yield a bounty. “I wish we had a system where hobby farmers can sell their produce, even if it is at cost price,” she says. Jayanthi has now rediscovered the barter system. She gives the grocer her excess produce and gets other vegetables of equal value.

Bartering is the way forward for small farmers, insists K. Bhaskar of Arya Organic Store on Nanjundapuram Road. Bhaskar sells produce from his farm through his store and in the open market. “Forget giving you a premium because you’ve raised the vegetables organically, sellers club them with regular vegetables,” he says. “To survive, hobby farmers must join hands, form a network and meet often to share ideas and exchange produce!”

Farmer Saravanan Varatharajan says he started Iyal, near Lakshmi Mills, only because he could not find avenues to sell his produce. “Now, I sell some stuff directly in apartment complexes. At the same time, when regular customers tell me they have excess produce at home or the farm, I inspect if it is organic and stock their stuff too. I have sold urad dal, tomato, papaya and star fruit this way,” he says. “But, you have to know the difference between home-grown and organically home-grown,” he says.

Saravanan plans to put in place a system where home farmers don’t have to worry about marketing. “We are looking at door-to-door collection or a common collection centre,” he says. That, Jayanthi says, is a doable solution. “We don’t cultivate this with commercial intent; we do it for passion. But, being able to sell will be a huge encouragement and also prevent wastage.”

Jayamohan, an advocate, has been doing something similar for two years now. He raises vegetables on the terrace of his house on Chettipalayam Road. “The vegetables are used at home or given to friends but the raw bananas go to the

local grocer, who tells customers they are home grown. It works well for me,” he says. He is looking at expanding his garden in some time, and says he will have to figure out a distribution channel then.

Manoj, who is chair-environment at Young Indians, Coimbatore chapter, says people must learn to deal with initial setbacks and focus on the larger picture to sustain. “What I’m doing now is a pilot for a long-term project. I must be patient.”

115 paddy purchasing centres opened

The district administration has set up 115 purchasing centres to procure paddy from farmers and ensure remunerative price for them in the open market.

The government has fixed Rs.1400 per quintal as the minimum support price (MSP), according to Srikakulam Collector Gaurav Uppal and Joint Collector Vivek Yadav. Farmers will get Rs.1,360 per quintal for the produce of lower grade. The government has decided to procure around 84,000 quintals paddy from farmers this season. The district Civil Supplies Department and District Rural Development Agency have been assigned the task of procuring paddy with the help of women groups. However, public representatives from the Opposition parties expressed deep concern over the meagre procurement.

Patapatnam MLA Kalamata Mohana Rao alleged that the district farmers had produced 10 lakh metric tonne of paddy, but the government was procuring below one lakh metric tonne. He asked the officials to set up more purchasing centres and help farmers in lifting the paddy from fields immediately.

Srikakulam administration has set a target of procuring 84,000 quintals paddy from farmers

Online NHM beneficiary tracking system introduced

To ensure complete transparency in implementation of the National Horticulture Mission (NHM) in the district, the Department of Horticulture has introduced e-registration of applications from aspiring beneficiaries.

Beneficiaries identified under the NHM this fiscal are being registered online at www.hortnet.gov.in, created exclusively for the NHM. “A total of 465 of the 1,233 beneficiaries identified in the State under the NHM during 2014-2015 have so far been registered online in the district and given IDs. This is the

highest number for a district in the State,” said S. Raja Mohamed, Deputy Director of Horticulture, Tirunelveli.

‘Hortnet’ was an innovative project designed to accomplish e-governance in the National Horticulture Mission to ensure total transparency at all stages such as filing of application online, authentication, processing and online payment of subsidy to the beneficiary’s bank account.

“The objectives of this system include creation of a centralised database of farmers getting subsidies under the NHM and allied sector schemes. With the available web-services, the registrations get processed immediately. Transparent field verification and authentication, using mobile, GIS and GPRS technologies, would be done to restrict bogus entries,” Mr. Mohamed noted.

Top-level changes at Tata Coffee

The board of directors of Tata Coffee has informed the BSE (Bombay Stock Exchange) that it has approved the appointment of Sanjiv Sarin as the ‘CEO designate’ of the company with effect from January 8, 2015. Mr. Sanjiv Sarin will assume charge as Managing Director and CEO after the retirement of Hameed Huq, the current MD and CEO. Hameed Huq will retire on March 31, 2015. He has been with Tata Coffee for over 15 years and held the position of Managing Director since 2010.

Mr. Sarin is currently the Regional President for South Asia in Tata Global Beverages (TGB), the holding company of Tata Coffee.

Appointments at TGB

In another announcement, TGB appointed Sushant Dash as the Regional President – India with immediate effect. He will take over from Sanjiv Sarin, and will be based out of Bengaluru.

In his most recent role, he was the Global Brand Director of TGB.

The company also announced that Vikram Grover will be taking charge as Deputy Head of TGB’s water business, with immediate effect, based out of Mumbai. In addition, Vikram will also have overall responsibility for TGB’s businesses in Pakistan and Bangladesh.

Set the table for 2015



Vegetable fries? Fleur de sel cookies? Quinoa? Oh please. That's all so 2014. Unless you're partaking of them in an appropriately ironic, hipster way, of course. Which is why cupcakes never seem to die. First they were chic. Then they were retro. Then they were retro chic. Thankfully, 2015 promises new ideas instead of recycled trends. Since 2014 was all about clean eating, super foods and ethical, organic ingredients, it's safe to assume that 2015 will bring indulgence and excitement back to the dinner table. Of course, in a suitably environment-friendly, reasonably healthy way; which means that this is going to be the year of imaginative cooking and innovative culinary ideas. SHONALI MUTHALALY predicts 15 food trends for the year ahead.

Since 2014 was all about clean eating, super foods and ethical, organic ingredients, it's safe to assume that 2015 will bring indulgence and excitement back to the dinner table. Of course, in a suitably environment-friendly, reasonably healthy way; which means that this is going to be the year of imaginative cooking and innovative culinary ideas.

Drink Your Vegetables

With green smoothies getting increasingly popular, thanks to the popularity of Kale in America, Indians are concocting their own version of the drink incorporating traditional power foods such as bitter gourd, gooseberries and

aloe vera. Expect to see more liquid greens on not just restaurant menus, but also in bars where fresh vegetable juices are being made into cocktails.

Smoke Through Dinner

No more having to hide in a smelly alley to get your hit. Now all you need to do is sit down for dinner as chefs pour liquid smoke into your food. As the name suggests the liquid tastes like smoke, replicating the flavour. So add a drop to your barbeque sauce instead of spending hours over a wood fire.

Hand Over The Dough

Expect to pay more for bread as gourmet bakeries spring up offering a slew of fancy options for everything, starting from your morning toast. Revel in meticulously-made sourdough, ciabatta and bagels. Just don't ask for chocolate cake.

Goodbye Chocolate

Admit it. It's getting a little tiring: every dessert, every snack, every birthday party — you just can't dodge chocolate. Well, here's some good news. Both home cooks and bakers are going to expand their repertoire. Expect classics like lemon cakes, orange chiffon sponges and classic banana bread. But also experimental desserts like passion fruit cake, berry mille feuille and croissant pudding.

Pinterest Cooks

We moved from recipe books to food blogs. Then back to recipe books, when an explosion of food blogs made it tough to weed out the good from the bad. This year, with the help of Pinterest, a social networking site that describes itself as a 'visual discovery tool,' you'll be finding, filing and trying more recipes than ever before, because it's never been easier to aggregate good ideas.

Chicken Chettinad Pie

Regional food got stylish last year as everyone dug out their grandmothers' recipe books and recreated old family recipes. Now watch these recipes get a modern twist as they're baked into pies, folded into cakes and twisted into bread rolls.

Sparkling Water

All the fizz without the calories. As people continue to stay away from sugar, artificial sweeteners and chemical colours, water will make a comeback. Pick mineral water, club soda or — if you want something more indulgent — home made fruit-infused water.

Paleo-influenced Cooking

Clean eating continues, but with more complex recipes. Learn how to use the likes of almond flour, coconut sugar and xanthan gum quickly — you'll be seeing them in a lot more recipes.

Responsible Eating

You know the drill by now. Eat more locally grown food, buy organic and consume a variety of vegetables.

The Buzz About Honey

This year will celebrate the diversity in honey. As bee-keeping gets more popular, a range of new honey will emerge from the cities, forest and even agricultural fields, each with a distinct terroir. In India alone, try eucalyptus, mustard and acacia honey.

Cutting The Mustard

The world's first 'mustard sommelier' has emerged in New York. Expect this to result in a rash of innovative and pricy mustards. Nevertheless, one good thing emerges from this flurry: a reminder that it's rewarding to experiment with the condiment. Try French, try Dijon and — by all means — try the powerful Bengali kasundi.

A Lot More Fish In The Sea

Consumers will get more adventurous this year, looking beyond obvious varieties of fish, led by adventurous chefs. Forget basa for starters. Realise there is more to the oceans than salmon, tuna and seer. Go to the local fish market and ask questions.

Fervour For Fermentation

India's always championed yoghurt. Now as the world embraces probiotics, kimchi and kombucha, we'll be experimenting with new forms of fermented food, in order to harness all their healing powers.

Matcha

This is one flavour to watch out for in 2015. You will see this finely-powdered, high-quality green tea in a profusion of unexpected products from noodles and ice creams, to sodas and whey protein.

Grocery Tech

Say goodbye to the drudgery of grocery shopping as more and more super markets go online. Now, ensconced in your couch, buy the week's vegetables, select your washing powder and — if you're in the mood to show off — order an Indian/Thai/Italian/Japanese ingredient box to make a quick and easy dinner.

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weather

INDIAN CITIES

INTERNATIONAL CITIES

Chennai

Chennai - INDIA

Today's Weather



Rainy

Tuesday, Dec 30

Max Min

25° | 22°

Rain: 0

Humidity: 94

Wind: normal

Sunrise: 06:30

Sunset: 05:52

Barometer: 1009

Tomorrow's Forecast



Cloudy

Wednesday, Dec 31

Max Min

27° | 23°

Extended Forecast for a week

Thursday
Jan 1



28° | 21°

Cloudy

Friday
Jan 2



27° | 24°

Partly
Cloudy

Saturday
Jan 3



26° | 24°

Partly
Cloudy

Sunday
Jan 4



27° | 24°

Partly
Cloudy

Monday
Jan 5



27° | 25°

Partly
Cloudy

Recipe: Crunchy lemon herbed chicken

The flavours of your favorite herbs add to the taste of this crunchy chicken.

Preparation time: 25 minutes

Cooking time: 20 minutes

Serves: 4

Ingredients:

4tsp unsalted butter (half chilled), divided

¼ cup of Lemon juice, plus zest of one Lemon

1tsp fresh chopped oregano

1tsp fresh chopped basil

1tsp fresh chopped thyme

½ cup bread crumbs

1 egg yolk

3tsp water (1 T for the egg wash, 2 T for the finishing of the sauce)

6 (2-oz) boneless chicken pieces

To garnish

Diced red bell peppers

Lemon slices

Bunches of parsley

Finely diced shallots

Finely sliced scallion

Method:

-Preheat 2tsp of butter on medium - low heat. Add zest of one Lemon and half the herbs to bread crumbs, save the rest for lemon sauce. Beat egg yolk with 1tsp water.

-Place chicken tenders between two pieces of plastic wrap and pound with small groove side of mallet unit thin, but not ripped. Dip chicken in egg was mixture then in herbed bread crumb mixture until coated. Place breaded chicken in saute

pan with melted butter only after increasing heat to medium. Cook chicken, approximately 2 to 3 minutes each side. Remove chicken and place on sheet tray to rest.

-In same pan, add remaining herbs, water, and lemon juice, then heat until simmering. Turn off heat; cube remaining 2tsp chilled butter and add to sauce (stir vigorously). Slice the chicken on the bias. Place sliced chicken on a plate, pour the sauce over the top, and add garnishes.

How to make yummy til laddoos at home

Tomorrow is one of the most auspicious days of the year, that is celebrated in myriad hues across communities.

Known as Makar Sankranti in Maharashtra, the festival is a harvest festival. Til laddoos are the most sought after savouries during this fest. Here's how you can make yummy til laddoos at home.

Ingredients:

Sesame seeds : 1 cup

Jaggery: 1 cup

Ghee (clarified butter): 3 tbsps

Cardamom seeds removed and ground into a powder: 6-8 pods

Water: 1/2 cup

Preparation:

- Dry roast the sesame seeds in a flat pan on medium heat. Do this till they are a very pale golden colour and aromatic.
- Put the jaggery and water in a pan and melt to form a thick syrup.
- Add the toasted sesame seeds to the syrup and mix well, add the ghee. Add cardamom powder and mix well. Take off from the stove.
- Grease your palms. When the mixture is still hot (but cool enough to handle) take enough in your hand to form a golf ball-sized lump.
- Roll between your palms till smooth. Lay on a greased plate to cool. Repeat till all the mixture is used up. The laddoos will soon harden to candy-like texture.

Recipe: Chocolate lassi

Beat the heat with this refreshing preparation.

Ingredients: 250 grams curd, about 100 gram sweetened dark chocolate, roasted almonds, half glass water.

Method: Hang the curd the night before so that the water gets strained. Melt the chocolate, add it to the curd and add water. Mix it thoroughly, then add the almonds and serve.

Drinks Recipe: Pudina chai

Nothing beats cup of chai when you have to refresh yourself in a daily routine.

Tea is the most essential beverage most of us indulge into. Even as the temperature is rising, chai is not out of circulation. This chai recipe will not only refresh you but work wonders to your mood in summers. Here's the quick recipe:

Ingredients:

- 1 cup milk - 1 and half cup water - 2 teaspoons tea leaves - 3 spoon sugar - 5-6 fresh mint leaves - 2-3 lemongrass leaves

Recipe:

1. In a tea pan, boil water and add tea leaves, mint leaves, lemon grass and sugar. Allow it to boil.
2. Now, add hot milk to it. Bring it to boil but, ensure the chai to brew at a medium flame and not high flame. It will help the mint flavour infuse properly in your chai.
3. Strain the tea in two cups and serve it with your favourite tea time snacks or cookies.

6 foods to increase your metabolism

Include these foods in your diet to detoxify your body and boost its metabolism.

Ginger: This pungent spice improves body metabolism by flushing out toxins. It contains gingerols that are known to help in digestion and detoxification by speeding up the movement of food in the intestines. Add ginger to your morning

tea, it is both tasty and even helps in treating sore throats.

Beetroot: This brightly coloured root vegetable is a good source of betacyanin and minerals like iron, zinc, magnesium and calcium. Rich in vitamins B3, B6 and C, and beta-carotene, beet is good for the liver and gallbladder.

Garlic: One of the most potent detoxifying agents, garlic protects your body against common colds and other viral infections apart from being a powerful antiseptic agent.

Broccoli: While you might not like to gorge in broccoli, it is one of the healthiest foods to consume while on a diet. Including it in your pasta recipe is a good way to introduce broccoli in your diet.

Cabbage: Rich in sulphur, which is known to be a cleansing agent, cabbage helps the body get rid of pesticides and other toxins. The veggie is largely composed of water and acts as a natural diuretic that expels excess fluids from the body.

Cinnamon: This spice contains good quantities of manganese that not only helps to manage symptoms of pre-menstrual stress but is also an effective detox agent. It helps the body process fatty acids and maintains blood sugar levels.

Home remedies to cure constipation

Constipation is an uncomfortable feeling and can lead to colon cancer.

An unhealthy lifestyle, lack of a balanced diet and a diet rich in refined or artificial food can cause constipation. Nutritionist, Neelanjana Singh from Heinz Nutri Life Clinic and Dr Nripen Saikia, Consultant Gastroenterologist and Hepatologist with Pushpawati Singhania Research Institute share some home remedies that promise to cure constipation.

When it comes to food, Neelanjana Singh, Nutritionist with Heinz Nutri Life Clinic from Delhi informs us that constipation does not only affect the elderly. She says, "One may be surprised to learn that a majority of the stomach ache complaints associated with children in the age group of 1 to 18 years is related to constipation. Faulty diets are a major cause of constipation. Keeping this in

mind, here are a few home remedies to cure constipation.

Raisins(Monakka) are a very effective cure for constipation. The recipe for this is as follows:

Take 10 to 12 pieces of Monakka (wash, slit open and remove seeds) and boil in milk. Consume the raisins that have been boiled in milk, followed by the milk as well. This should be followed for three consecutive days.

Triphala is yet another tried and tested remedy for constipation.

Take approximately 1 tsp (4-5 g) of triphala powder with a glass of warm water or warm milk just before bedtime. This recipe is very helpful in relieving constipation.

Consume approximately 1 tsp of safflower (karadi) seeds along with 6 almonds (with skin) and 1 tbsp of honey to help ease constipation. The famous Unani laxative Twarishe Qhurtum incorporates these seeds in its list of ingredients.

Isabgol (Ispaghula) seeds are very helpful in relieving constipation. The best way to ingest isabgol is to soak 10g or 2 tbsp of the husk in a glass of warm milk for about 5 to 10 minutes. Soaking the ispagulla will cause a jelly like thickening of the milk which is essential for effective therapy. This should ideally be consumed at bedtime.

Linseed or Flaxseed should be powdered and added to chapatti flour or to porridge to get rid of constipation. Approximately 2 tsp of the powder should be taken once or twice a day as required.

In addition to the above, the incorporation of certain fruits such as apricots (Khubani) and wood apple (bael) in your daily diet will help get rid of constipation.

Dr Nripen Saikia, Consultant Gastroenterologist and Hepatologist with Pushpawati Singhanian Research Institute, New Delhi says, "A person who says, "I am constipated" is either conscious of an unpleasant sensation related to bowel movements or believes that the bowel function is abnormal."

Symptoms of constipation

To medically say that someone is constipated at least two or more of the following should be present for 12 weeks in the last 12 months: Straining, hard stool, feeling that you have not excreted completely, sensation of anorectal obstruction/blockage, less than three motions per week.

Causes of constipation

Constipation is generally caused by one's lifestyle, drugs, endocrine and metabolic, neurological and psychological conditions. Management of constipation: Depends on identifying the most likely cause. Try to find out the possible cause and treat it accordingly.

These are a few tips which can be followed at home

Life style changes

Diet: Inadequate fibre is one of most important cause of constipation, so a high fibre diet is recommended. We can increase our fibre intake by incorporating plenty of green leafy vegetables, salads, fruits and cereals.

Wheat bran 20 gm/day will increase your average daily stool weight by approximately 30-60gm a day

Avoid excess red meat

Drink at least 2-3 litres of water per day

Life style changes

Regular exercise: Either isometric or isotonic exercise is good (you can jog, run or simply practice yoga).

Laxatives

Bulk forming laxatives are the most popular laxatives and are easily available.

Wheat fibre: Concentrated wheat husk, can be taken (one to three sachets)

daily as each sachet contains around 3.5 gm of fibre.

Ispaghula (Psyllium): Available as suspension, granules and powder. Suspensions which are popular need to be drunk quickly before the husk absorbs water. Granules can be dissolved in half a glass of water and can be swallowed at once.

There are other forms of laxatives such as senna, castor oil, bisacodyl and sodium picosulfate, which should not be used regularly. Enemas and suppositories should be avoided at home as they can injure the rectum.

THE HINDU BusinessLine

Cardamom rules firm on buying support, lower arrivals



Kochi, December 29:

Cardamom prices ruled steady on good buying support even as arrivals declined last week at the auctions.

Christmas holiday and the ensuing New Year festivities have slowed down picking, market sources said. Meanwhile, active covering by upcountry dealers continued with prices moving up at the KCPMC auction on Sunday. Total arrivals were 378 tonnes last week, whereas it was at 645 tonnes the previous week.

Empty pipelines in the consuming centres, coupled with low carry-over stocks in the primary and terminal markets continued to support demand.

Besides, likely non-availability of the material this year from the other main source, Guatemala, is also being pointed out as the reason for the strong buying support, trade sources said.

Exporters are not actively buying as current prices are higher. However, they bought an estimated 30-35 tonnes last week.

At the Sunday auction held by the Kerala Cardamom Processing and Marketing Company, arrivals dropped to 29.3 tonnes from 118.5 tonnes the previous Sunday and the entire quantity was sold out. The maximum price was Rs. 997 a kg and the minimum Rs. 664. The auction average increased to Rs. 829.68 a kg from Rs. 801.56 a kg the previous week, PC Punnoose, General Manager, CPMC told *BusinessLine* .

Arrivals this season are so far 10,250 tonnes against 11,210 tonnes during the same period a year ago. Sales were 10,058 tonnes against 10,844 tonnes .

The individual auction average as on Sunday was Rs. 793 a kg and on the corresponding date last year was Rs. 554 a kg.

Prices of graded varieties (Rs. /kg): 8mm bold-1,025; 7-8mm-850; 6-7mm-750; below 6 mm-700.

Short covering buoys spot rubber prices



Kottayam, December 29:

All rubber grades except RSS 4 made moderate gains on fresh buying and short covering on Monday. This was despite a weak closing in domestic rubber futures.

According to observers, transactions were in a low key as major traders were unwilling to enlarge their commitments.

RSS 4 was quoted at Rs. 130 a kg, by the Rubber Board and traders. The grade closed steady at Rs.128.50, according to dealers.

January futures weakened to Rs. 125.73 (Rs. 126.25), February to Rs. 125.85 (Rs. 126.70), March to Rs.125.87 (Rs. 126.78) and April to Rs. 126 (Rs. 127.80) on the National Multi Commodity Exchange. RSS 3 (spot) improved to Rs. 108.27 (Rs. 107.65) at Bangkok.

January futures closed at ¥190 (Rs. 100.45) on the Tokyo Commodity Exchange.

Spot rubber rates (Rs. / kg) were: RSS-4: 130 (130); RSS-5: 122 (120); Ungraded: 112 (110); ISNR 20: 111.50 (110) and Latex (60% drc): 88.75 (88).

Farm sector ploughs thru a tumultuous year

Bearish price trends in the global market, poor rainfall took toll on farmers in 2014



Bengaluru, December 29:

Farmers in the country were hit by a double whammy in 2014. Even as poor monsoon affected kharif output, lower commodity prices, largely influenced by a bearish trend in the global market, aggravated the agrarian crisis this year. In addition, the uncertainty over the vagaries of nature, largely through frequent unseasonal rains, compounded farmers' woes.

The South-West Monsoon, the lifeline of the country's agriculture, was not only delayed this year but the overall quantum of rain across the country was lower by 12 per cent for the four-month period. The monsoon was the weakest in the last five years and the country received a total rainfall of 775.7 mm against the normal of 883 mm. About a third of the 36 metrological sub-divisions received

deficient rains facing drought-like conditions, while 23 of them received normal rainfall and only one sub-division - South Interior Karnataka received excess rainfall during the season.

This poor rainfall not only affected plantings, but the productivity of almost all major crops. After a progressive increasing trend in foodgrain production over the recent years, the country is staring at the prospect of a decline in output in 2014-15. According to the Government's first advance estimates or the early estimates, kharif foodgrain production this year is expected to be lower by 6.9 per cent at 120.27 million tonnes over the previous year.

Rock-bottom prices

But a lower output did not necessarily mean higher prices for farmers. A global glut in key agri commodities such as maize, soyabean, cotton, sugar and wheat, among others, continued to influence domestic prices, thereby hurting farmers' realisations. Prices of a bulk of these commodities continued to hover below or around the minimum support price (MSP) levels.

Farmer suicides made a comeback in the drought-prone regions of Vidarbha in Maharashtra and even the newly-formed state of Telangana reported the trend as crops, such as cotton and soyabean, failed on account of poor rains.

Lower exports

A study by the National Sample Survey Office (NSSO) revealed that about 52 per cent of an estimated 90.2 million agricultural households in India are indebted, with Andhra Pradesh reporting the highest share of such indebted agri households at 92.9 per cent, followed by Telangana at 89.1 per cent and Tamil Nadu at 82.5 per cent.

Also, exports of agri commodities, after scaling a new high in the last couple of years, took a beating this year, largely on account of lack of price parity for a majority of products and also due to poor demand for some products, such as cotton. Prices of corn, soyameal, wheat, sugar and even dairy products, among others, ruled higher domestically than the global prices, thereby making them unviable in the international markets. As a result, exports of agricultural produce are set for a slowdown in the current financial year.

Though the late rains during September in several parts of the country did rekindle hopes of a better rabi (winter) season, the latest trend in sowings reflect

the impact of the poor monsoon as acreages are trailing by about five per cent over the corresponding period a year ago.

Also, the lack of adequate water availability is seen influencing crops, such as mustard, among others. A potential drop in rabi output could add to the overall decline in foodgrain production, thereby curbing the overall growth in agri and allied sectors, which accounted for 13.9 per cent of gross domestic product (GDP) during 2013-14.

Can 2015 usher in price stability and alleviate the woes of India's farmers? It remains to be seen.

Making small dairy farming globally competitive: myth or reality



Farmers' livelihood Milk is one of the allied agricultural produces that fetches comparatively higher returns, making dairy farming a lucrative option for small and marginal farmers.

Rising fodder cost, low production, poor infrastructure among major challenges

Dairy farming is an important secondary source of income for 70 million rural households in India that produce an estimated 139 million tonnes of milk annually. The country is also one of the largest consumers of milk and milk products with the industry size estimated at \$70 billion. The average milch cattle holding is between 1 and 2 animals, and the milk production system is

scattered over a large number of dairy farmers, producing an average of less than 4 kg milk per day.

Milk consumption is growing at around 6 per cent, outpacing the supply – with milk production growing at around 4 per cent only. With enhanced level of private sector participation, improved breeding and innovative alternative dairy farms models are being introduced in the country. The smallholder milk production system needs adequate support and strength to compete in such an evolving market as it is one of the primary livelihood sources for millions of dairy farmers.

Over the last three decades (1982 to 2012), the average productivity of Indian cattle and buffaloes has grown from 1.9 to 3.9 kg, and 3.7 to 6.2 kg per day, respectively. The average daily milk yield for crossbred cattle is better at 7.1 kg per day, but still significantly lower than the best of global standards — UK, USA and Israel are at 25.6, 32.8 and 38.6 kg per day, respectively. The cost of production for milk in India is around 30 per cent lower than major milk producing countries which amounts to a difference of \$10 per 100 kg of milk production.

Furthermore, despairingly, a large share of the production in India still does not conform to domestic and global food safety standards. This is due to adulteration, lack of adequate infrastructure and inadequate awareness. India contributes about 17 per cent of the global milk production but the share in global exports is abysmally low at 0.4 per cent only.

Lack of manpower

The country also lacks trained manpower and quick service delivery for providing adequate extension and veterinary services. Artificial Insemination (AI) service covers only 35 per cent of the dairy animals. The government is supporting the industry through various schemes and programs like National Dairy Plan (NDP) which aims to increase productivity and access of milk producers to the organised dairy market with an investment of around \$2.9 billion.

Small and marginal dairy farmers in India are lagging behind advanced nations with respect to cattle productivity and technological interventions towards efficient milk production systems. It is imperative that the smallholder milk production system becomes sustainable by way of well adapted crop-livestock

production cycle and resilient characteristics (such as tick resistance, heat tolerance and the ability to flourish even with inadequate feeds) of indigenous breeds meeting ecological, economic and social parameters.

In order to enhance smallholders milk production system competency, concerted efforts are required for an array of parameters such as focus on productivity of the cattle, research and development towards quality and safety of milk and milk products, aggressive rolling-out innovative dairy farming models, increasing efficiency in the dairy marketing chain and efficient market access for farmers.

Additionally, dairy services including veterinary care, extension, institutional credit and risk mitigation tools are also essential for enhancing incomes of small and marginal dairy farmers.

To enhance the productivity level, better breeding infrastructure, optimum utilisation of the feed and fodder resources, better health care and enhanced farm management practices are some of the essential action points. Also, to make the production system sustainable, intensive improvements are required in indigenous breeds. Under NDP, emphasis is being given on production of high genetic merit (HGM) cattle along with import of high quality semen. At the same time, it is commendable to note that the new government has launched 'Rashtriya Gokul Mission' and made a modest beginning to revitalize the indigenous milk production system with an outlay of Rs. 500 crore, to be implemented during the 12th Plan itself.

The cost of milk production involves cost of feed and fodder, opportunity cost of family labour, healthcare and farm management cost. Indian milk producers are competitive in global space with low cost of milk production, primarily due to cheap labour. Inclusive measures for enhancing fodder and milk productivity will help in further sustaining low cost of milk production.

Availability and quality of feed and fodder is increasingly becoming a challenge due to urbanisation and shrinking natural resources. The current deficit level of green fodder and concentrates is up to the tune of 34 per cent. Further, there is a supply demand gap for quality forage seeds as well. The government has launched "Accelerated Fodder Development Program" and a sub-mission "Feed and Fodder Development" for undertaking R&D towards enhancing fodder productivity and availability along with multi-cropping systems and adopting improved farming technologies.

Innovative models

Low scale of production, rising cost of feed, fodder and labour, inadequate logistics infrastructure such as roads, power and cold chain, and inconsistent as well as low quality of raw milk are some of the major challenges faced by smallholder dairy farmers. Inclusive dairy farming models need to be introduced in order to curb these challenges.

Models like large scale dairy farms with ownership of cattle remaining with the farmers, model where large scale dairy farm is the hub & satellite farms are spokes, medium scale dairy farms with anchor processors, community dairy farms with 'cow hostel' models are some innovations which may give dairy farming system the required scale and at the same time integrate the small and medium dairy farmers. Public – private partnership (PPP) models need to be developed for the areas which are yet to be sufficiently attractive for private investments. Milk is one of the allied agricultural produces that fetches comparatively higher returns, making dairy farming a lucrative option for small and marginal farmers. This has been achieved by transparent pricing model in the system, especially by large cooperatives, which is now being followed by private sector.

But further interventions are required with respect to creation of supporting infrastructure like cold chain network at the farm level which can result in a win-win arrangement for the farmers, agents and processors as well.

Institutional arrangements such as Farmer Producer Companies (FPOs) should be encouraged to increase bargaining power of the farmers. Under NDP, village level infrastructure will be created for milk procurement along with testing equipments for further strengthening the supply chain.

On-farm technical trainings and extension services should be enhanced including trainings on veterinary health care, clean milk production, improved feeding practices involving local feed resources, better breeding and animal husbandry integrating the helpful traditional practices. Regional Feed-Fodder banks needs to be encouraged for milk production in summer months when most Indian cattle and buffaloes go dry.

Private participation

This can be achieved by efficient fodder production through farm mechanisation and making silage. Baled silage and dry haylage (Lucerne) should be made

available across the country throughout the year and especially in summer months. Private sector participation in extension services should be aligned with the public schemes and market-led practices should be encouraged to increase resilience in the smallholder dairy farming ecosystem.

Along with the above mentioned essential parameters, deliberate efforts are required for establishing PPP for regional animal breeding centres for supply of climate resilient and quality animals for a particular agro-climatic zone and feed-fodder systems available locally. The government should further focus on promoting vigorous animal husbandry activities by bringing it under the CSR1 ambit.

Further, there is a dire need to create a robust veterinary services network where services reach the consumer unlike human health service where it is the other way round. Institutional credit in the dairy production system may be intensified as dairy is one of the remunerative activities where cash flows are fairly positive for farmers. The “Pradhan Mantri Jan Dhan Yojana” can play a pivotal role in achieving this target.

Progress of the Livestock Insurance Scheme has not been very encouraging. Cattle insurance should be structured more efficiently, involving product innovations and effective delivery through farmer organisations.

Conclusion

Traditionally, co-operatives have been the major procurement and processing agents in the country working in tandem with smallholder dairy farmers. Private sector participation has induced efficiencies and investments in the milk supply chain by standardizing quality and stringent measures.

But smallholder dairy farms have not been able to keep pace with these requirements. With changing dietary preferences and lifestyle, it is essential to revamp the vitality of smallholder dairy farms. The road ahead for the small and marginal dairy farmers is quite challenging and innovative measures in farming models, technology and value addition are required for adapting to evolving scenarios pertaining to scalability and quality.

While creating an efficient supply chain network through investment in infrastructure will take its own time, we can enhance our global competitiveness by sustaining the cost of milk production, augmenting R&D towards rise in milk and fodder productivity, improving quality and adopting innovative

farming models. Linking the production system to the consumer demand, better quality and processed products require a robust value chain, strong research and technology infusion for productivity enhancement and risk mitigation.

These strengths can be further leveraged with a balanced growth of crop-livestock production system making globally competitive smallholder dairy farming a reality.

The writer is the Strategic Global Advisor of YES Bank

The cost of milk production in India is around 30 per cent lower than in major milk producing countries, which amounts to a difference of \$10 per 100 kg of production.