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Issues and Ideas for Indian Agriculture



REAPING UNCERTAINTY 46

Report on the state of the Indian farmer

crops &



more...



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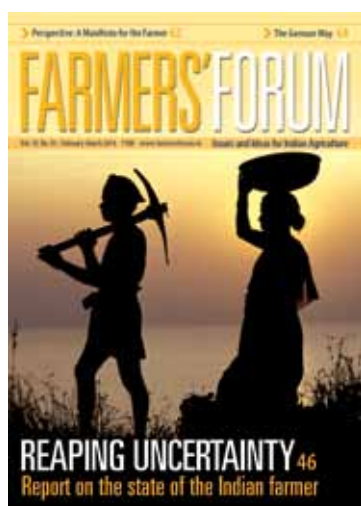
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Building a CLIMATE for Change

For an Indian farmer cocooned in his world of traditional cultivation, it is difficult to consider food security in global terms. With poor farmers generally suffering from hunger, food and nutrition deficiency, food security is essentially a matter of survival at an individual family farm level. Yet in an era of climate change food security is a matter of national and international attention and there is large scale transfer of grain across borders, be it across continents, nations or regions within a country itself. Even the United Nations has declared 2014 as the year of family farms.

There are some basic flaws in the thinking around grain transfers. Not only do they affect regional biodiversity, it is not practical to feed farmers by aid, trade or large-scale grain movements. Food security initiatives that distribute subsidized grains from elsewhere exacerbate the problem. Local food and varieties lose out and are sometimes lost forever. This is one of the prime causes of farming distress as prices of local farm produce in host countries get depressed, compelling farmers to engage in monoculture with excessive use of inputs.

Small farmers can be hand-held into growing vegetables in their own backyards along with some livestock rearing. This is a perfect combination to attain nutrition security, a much neglected but critical need. Regrettably, nutrition finds a small mention in the millennium development goals.

Many of these problems need out-of-the-box thinking. A family can grow its own vegetables over land measuring no more than a large-sized room. Combining the backyard garden with livestock rearing; with a small solar panel and a biogas unit for cooking gas and elementary electric power that lights a bulb and recharge phones is a feasible idea.

In the age of climate change, agriculture needs to be sustained. Surprisingly, at the January 2014 meet of the World Economic Forum (WEF) some skeptics dismissed the climate change threat. If only politicians gave as much attention to climate change as they give to genetically modified (GM) crops, the world would be a better place. Curiously, science is ignored in both cases of climate change and GM crops. Dealing with climate change needs a top down approach while achieving food security needs a bottom up approach.

The world faces the prospect of a 4°C rise in global temperatures, courtesy unsustainable development practices in the developed world, to

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begin with. The guilty should foot a part of the bill with a 10-year commitment of \$100 billion annually to mitigate environmental impact, especially in the developing world. That would be responsible behaviour. The world can ignore the climate change danger only at its peril.

The question is whether the earth is becoming hotter by four per cent and if it can be limited to two per cent? The imagery that comes to mind is that of a bus with faulty brakes hurtling down a steep slope, the passengers asleep, oblivious that the end is nigh. Cut to the reality of politicians driving that bus with citizens of the world as the passengers.

This is everyone's worst nightmare. Today, the world's people are not just interconnected, but inter-dependent as well. It is clear that the erroneous ways of the past will catch up with mankind. Matters are hardly helped with developing countries following the developed in terms of unsustainable industrial activity and lifestyles.

At the WEF, climate resilience was described differently by different people. To my mind it is the capacity to recover from shocks. Farms in Europe are more climate resilient while farmers in the developing world are more resilient to pain. If the climate keeps changing, everyone will fall but it will be harder for those who fall from a higher branch.

While the developed world is thinking of a 40 per cent emission reduction, the developing countries are more focused on misplaced economic growth indicators such as increased GDP and will not forego economic growth for the sake of environment impact mitigation on a large scale. Their priorities at the moment are different; development and employment generation make up the agenda. Returns on environment investment are a long way off; indeed too long term to attract investment from financially stunted governments.

Where does the farmer fit in all this? Environmentally sustainable interventions have to be economically viable in the immediate term for farmers to adopt and make scalable. Their parlous socio-economic condition does not allow adoption of environmentally sustainable practices whose benefits accrue over a period of time.

The world has other problems too with wheat, maize and rice supplying more than 60 per cent of the calories for global intake while other crops are underutilized. The world food supply is precariously reliant on a very small number of carbohydrate-rich crops resulting in overwhelming health costs.

This is where global research should step in. The CGIAR (formerly the Consultative Group on International Agricultural Research) must integrate newer crop varieties into its research agenda. Even the private sector restricts its agri-research investment to a few crops. More investment is needed in vegetables, fruits, fish, livestock and other agricultural products to deal with malnutrition. Horticulture contributes five times more jobs than other agriculture activity and puts useful food into empty stomachs and that should account for a lot. The bottomline is that feeding the world without nourishing it is not the consummation that one desires. ●



A handwritten signature in black ink.

Ajay Vir Jakhar
Editor

twitter: @ajayvirjakhar



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the Indian farmer 46

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To the Editor

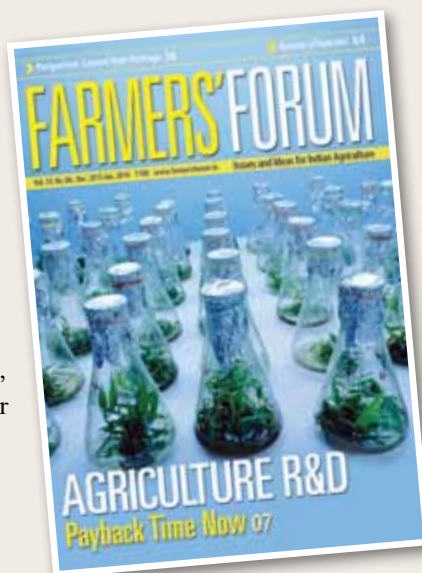
What about human rights?

Apropos of your article “March of the Open Pollinated Varieties: Retreat of Hybrids?” under ‘Green-Fingers’, (*Farmers’ Forum*, December 2013-January 2014), it was most interesting to read about this man-animal dynamics that leads to such serious economic issues for the farmers. The point is that even if domesticated animals are left unshepherded by their owners they become a menace as has been the experience of farmers all over the country. It is important that you not only talk about the problem but think of solutions. Killing such animals may not be a solution but surely the alternative cannot be leaving the farmers at the mercy of wildlife parks and marauding animals.

Rahul Singh,
Bathinda, (Punjab)

Time for educated negotiators?

You deserve to be complimented for your editorial “The Best is Rarely Popular” (*Farmers’ Forum*, December 2013-January 2014). The problem is that the goings on at the WTO are not even understood by the farming community and certainly there is a knowledge deficit amongst the negotiators representing India and so much is being pushed in between the lines. There should be far more discussion between the farming community and the bureaucrats to ensure that India gets a fair deal. Of



A balanced diet

As a keen agriculturist travelling all over the world I keep myself abreast of developments through personal visits and reading literature. *Farmers’ Forum* comes as a breath of fresh air with no lobby or vested interest. I was fortunate to hear you speak at TERI, New Delhi. It was heartening to see you put together such diverse views for observers and policymakers. Keep up this excellent work and inspire others to come up with quality information in the agriculture space worldwide.

Robert Smith,
United Kingdom

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earlier numbers.**

course, as you say, there must be a greatly enhanced scope for research. As things now stand, the agreement has become unfair due to considerable ignorance amongst the Indian government officials.

Dinesh Kumar,
Durg, (Chhattisgarh)

GM pros and cons

In the midst of all the confusing signals, I cannot but appreciate the position of Dr Swapan Kumar Datta, DDG, ICAR, “India not utilizing science to develop agriculture” (*Farmers’ Forum*, December 2013-January 2014) as he spoke in favour of technology and GM crops in the seminar “Research and Development in Indian Agriculture: Issues and Challenges” organized by *Farmers’ Forum*. We need people to understand that genetically modified (GM) technology can only benefit all people.

Lokesh Chauhan,
Meerut, (Uttar Pradesh)

Save farmers from GM

Rajesh Krishnan should be congratulated for his views in “What ails public sector GM research” (*Farmers’ Forum*, December 2013-January 2014) against the use of GM technology and standing up to the GM lobby. His articulation was very specific and clear and should be given the widest publicity along with those of others like him who are trying to save Indian farmers and are rightly opposing large companies.

Rajender Rawat,
Dehradun, (Uttarakhand)



**COVER
STORY**

QUESTIONABLE PROCESSES: **Troubled Food Processors**

Even as food processing acquires enhanced status in the agriculture firmament in India, the industry is challenged by a host of imponderables that erode its potential to benefit the farm and the government exchequer. It faces major challenges from procurement of farm products courtesy a multiplicity of taxes in different markets and confused policies. Despite being largely regulated, the food processing industry has to deal with the Agricultural Produce Marketing Committees across the country that constrain the smooth procurement of vegetables and fruits that can be processed.

The enormous potential for the industry in India notwithstanding, the industry accounts for barely two per cent of the total global market for processed foods and there is little possibility of the industry achieving its potential without a serious overhauling of policies and procedures that govern it.

Given the size and criticality of the industry, the Indian Institute of Management – Calcutta (IIM-C), in collaboration with Bharat Krishak Samaj and *Farmers' Forum* magazine organized a conference on 'Harnessing Indian Agriculture to Global Value Chain: Prospects and Challenges', at the India International Centre, New Delhi on February 7, 2014.

On the one hand, the food processing sector needs to diversify its cropping pattern that remains heavily weighted in favour of cereals like wheat and rice, especially in the Punjab. On the other hand, small land holdings and the inadequacies in transportation prevent farmers from moving up the value chain while collecting, sorting, grading and storing agricultural produce.

Besides, there are procedural delays, including the manner in which food products are approved by the Food Safety and Standards Authority of India under the Ministry of Health and Family Welfare and confusion over the government's Foreign Direct Investment (FDI) policies, especially on multi-brand retail, which have been changed frequently.

As a farmers' organization, the Bharat Krishak Samaj (BKS) advocates policies that favour farmer prosperity and inclusive growth. Goings on at the farm level are critical for the food processing sector to be empowered to make it to the global value chain, said Ajay Vir Jakhar, chairman, BKS and, editor, *Farmers' Forum*. Local problems assume global proportions as has been the case with pesticide residues at the farm level. This has affected exports



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to Europe. The Indian farmer has to reduce pesticide presence at the field level to be able to meet global needs around food safety.

The farm sector must also produce varieties that can be processed or else global investors keen to invest in India will not find the feedstock, pointed out the chairman, Bharat Krishak Samaj. The kinnow variety grown in India does not lend itself to processing and research is needed to find a solution. This research cannot be entirely handled by the public sector and there is need to collaborate with the private sector because, ultimately, it is the private party that will be processing these varieties.

There is also the problem of a blanket policy for everything, everywhere. The government needs to specify, for example, that it will give incentives for such production processing in these districts of Bihar. One cannot provide the same incentives for mango processing in Punjab because there are no mangoes there. One must try and localize because agriculture is localized, Ajay Jakhar said.

He also emphasized the need to clearly differentiate between FDI in retail and food-processing. Too



Production of agricultural commodities with primary processing is important, but secondary and tertiary processing and branding can only be ignored at India's peril



much political capital in this country has been lost because of the FDI focus in retail when the country should have focused on FDI in food processing. Foreign direct investment in food processing is the way forward, Ajay Jakhar said.

All these mean research and development inputs through extension services for the farm sector. Indeed, there are several areas where quality extension services can make a critical difference between a failed attempt at accessing the global value chain or a successful one.

The point is that while production of agricultural commodities is important, secondary and tertiary processing and branding can be ignored only at India's peril because that would mean the country will continue to export the agricultural commodities with primary processing and not benefit from the global value chain.

The keynote speaker at the conference was Siraj Hussain, secretary, Ministry of Food Processing Industries, Government of India, Parthapratim Pal, associate professor, IIM-C, who spoke of a research project on extracting value out of the global value chain for the Indian farmer.

The other panellists were Tarun Jain, vice president, Technopak Advisors, K. S. Chalapathi Rao, professor, Institute for Studies in Industrial Development, Raj Kumar Bhatia, secretary, Chamber of Azadpur Fruit and Vegetable Traders' Association, Arnab Kumar Hazra, director, Federation of Indian Chambers of Commerce and Industry (FICCI) and Jitesh Chandubhai Patel, a farmer from Gujarat. The discussions were moderated by Paranjay Guha Thakurta, independent journalist and educator. These are the edited excerpts. ●

ACCESSING THE GLOBAL
VALUE CHAIN:

Pros and Cons of Professional Food Processing

Siraj Hussain

If Chinese farmers can sell apples and American farmers pears to consumers in India, can India not sell bananas to supermarkets in Britain? If Indians can buy Swiss chocolates in an Indian supermarket, why is it that India cannot sell Indian cheese in E.U. markets even though the country is the largest producer of milk in the world? Indians can address many such questions to understand the issues and find possible solutions.

Consider a few simple questions before moving to more complex ones. Is India producing enough to meet the domestic needs of its population? What is India's potential for various crops? How much is it exporting and is it enough considering its potential? What is the level of processing of



SIRAJ HUSSAIN
Secretary, Ministry
of Food Processing
Industries,
Government of
India

India's agricultural products and how can it benefit from the global value chain?

India is number one in the production of milk, banana, guava, mango, cashew nuts, buffalo meat and a number of other smaller agricultural commodities. The country ranks second in the world in the production of rice, wheat, groundnut, onion, peas, sugarcane and such others. It has a climate that is suitable for year-round supply of diverse agricultural products in its 20 agro-climatic regions and nearly 46 soil types.

India, which can produce a wide variety of agricultural crops, has one tenth of the world's arable land and 20 per cent of the world's irrigated land. It has 57 per cent of the global buffalo population, the world's largest and the second largest sheep and



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goat population in the world. India has a vast 7,500 km coastline and huge freshwater reservoirs.

Thus India has the potential to not only feed its population of over a billion but also to become the food basket of the world. Over the years the country has become self-sufficient in foodgrain. In the last 10 years, India's foodgrain production has increased from 198 million tonnes (mt) in 2004-05 to 259 mt in 2011-12. There has been substantial increase in the production of wheat and rice; a far cry from 2006-07 and 2007-08 when there was a crisis and almost every economic newspaper in the country wondered what was so wrong with Indian agriculture that it had to import wheat. The government responded with a number of policies, including a handsome raise in the minimum support price (MSP). Wheat and rice production increased, especially that of rice, partly, as a result of the increased MSP. Two other initiatives were taken up – extending the Green Revolution to eastern India and the National Food Security Mission.

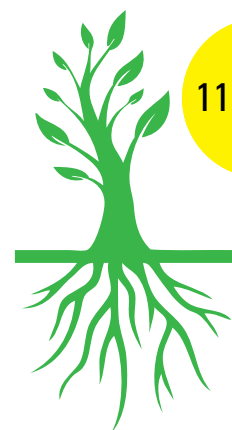
The production of rice in non-traditional rice-growing regions of India has increased substantially in Bihar, eastern Uttar Pradesh, West Bengal, Assam and Odisha. Yet, sometimes economic writers criticize the rise in the MSP which is held responsible for the increase in inflation, ignoring that this was essential for India to increase production of basic cereals domestically.

There are several issues of concern here. States have widely varying crop productivity. The highest global productivity of any cereal is corn at 10 mt per hectare (ha) in the USA. India's is at 3-5 mt/ha for wheat and clearly it has a lot of catching up to do. Instead, there is a plateauing in certain states. With the launch of the Green Revolution and the National Food Security Mission in eastern India, productivity will hopefully go up to 5-6 mt/ha.

In terms of value chain, it is logical to discuss the food-processing sector after agriculture, as it has emerged as an important segment of the economy in terms of value addition. It constitutes between nine per cent and 10 per cent of the GDP in agriculture and manufacturing. In the last five years ending 2011-12, the food processing industry (FPI) has grown at around 8.6 per cent, which is much higher than about 3.8 per cent growth in the case of agriculture and even the eight per cent growth rate in manufacturing. The manufacturing sector, generally, performed better than FPI till 2009-10.

The food processing space did substantially better thereafter, in 2010-11 and 2011-12, while manufacturing faced a significant downturn during 2012-13. This affected the food processing sector as well, though in a limited way. As per the Index of Industrial Production (IIP), in 2012-13 while the manufacturing sector registered a growth of 1.3 per cent, FPI grew at 2.9 per cent. This, despite the FPI being largely unregulated and the private sector being allowed to make investments and choose locations for its projects.

There is considerable investment interest in the food processing sector and India can do much better in what it has achieved. With the recent consensus on freeing agricultural markets from some of the controls of the Agricultural Produce Marketing Committee (APMC), there should be an opportunity to attract higher investment in the food processing sector including foreign direct investment (FDI); currently 100 per cent FDI is allowed in the food-processing sector through the automatic route.



Here are some achievements that one can narrate:

- India is amongst the leading exporters of rice, spices, sugar and tea.
- Guargum has been a major success story in the last few years but one does not know whether it will continue in the longer run.
- The value of India's buffalo meat production and exports, globally largest last year, has seen an annual growth rate of 20.4 per cent for five years ending 2012-13.
- The share of food processing exports in the total exports from India is 12 per cent. It used to be 9.6 per cent five years back.
- India's share in world exports has increased from 1.53 per cent in 2007 to 2.28 per cent in 2012.

It is quite evident that the country is nowhere near its potential with such a low share (2.28 per cent) and this is reason for worry. Those familiar with global fairs in food products know that there is hardly any Indian commodity that has gone through secondary processing. Rice, tea and coffee are available in almost every fair but most of the food products on the shelves of supermarkets of foreign countries are not really exported from India yet.

What value does India add before it exports and how much is its share in the overall value addition to the agricultural produce? Much of the value



Indian agriculture faces two major challenges, the crisis of water and reduction of water-intensive crops, especially in north-west India. Awareness of this crisis has to be built

addition happens in other countries even though India is the primary producer and exporter. Even in case of rice, a lot of Indian companies have set up subsidiaries in the Middle East. India exports rice, especially non-Basmati rice at a less than reasonable \$350-\$400 per tonne but branding, value addition and a little bit of repackaging overseas fetches the global seller a much higher price. In the process India is losing on an opportunity to add value.

Similarly, India is not able to export even a small quantity of wheat flour for which there is a substantial global market. Turkey is a major exporter of wheat flour. There are a number of constraints that the wheat flour industry faces because of which India has not done well in this space.

It is, therefore, evident that production of agricultural commodities is important but secondary and tertiary processing and branding

are equally important. Without these, India will continue to export agricultural commodities with primary processing and not benefit from the global value chain. This is a regrettable state of affairs because India has demonstrated that it can succeed, though such stories are few compared to what the global value chains have achieved.

In the last few years, farm-fresh banana from Theni (Tamil Nadu) has been exported to the Middle East. India is the largest producer of banana and a lot of the credit for that goes to Jain Irrigation that has done a wonderful job of providing tissue culture to Indian farmers. In some cases, despite the not-so-clear policies, there have been both formal and informal arrangements of contract farming between companies and the farmers.

Pepsi has a contract arrangement in West Bengal and buys certain varieties of potato for processing. It





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is a different matter that from time to time, certain restrictions are imposed by state governments. Recently, there was a ban on the movement of potato seeds from West Bengal and it took some efforts to have it lifted.

In Gujarat, McCain Foods, a subsidiary of the Canadian food processing company successfully used contract farming arrangements to source certain kinds of potatoes. Recently, the Punjab has enacted an act for contract farming, details of the experience are awaited. Seedless grapes are another success story in agricultural exports and Maharashtra has done a very good job with Maha Grapes as an initial promoter of grape exports. Now the farmers have been so well educated that traceability of a consignment of grapes is possible to a farmer's level.

The export of pomegranates from Maharashtra too is increasing with the disease-afflicted production having been largely controlled. There is a common factor in all of these successful initiatives, the first being the availability of farm technology: high-yielding seeds, supply of fertilizer, pesticide, availability of water and dissemination

of information on crop practices and such others. The Indian Council of Agricultural Research (ICAR) scientists have done a good job, despite a lot of challenges, of controlling certain diseases that affect India's horticulture crops.

There are two major challenges that agriculture faces in the longer term, which do not get the attention they deserve except in some very high scientific gatherings. The first is the crisis of water, which is going to confront the country, especially north-west India and even other parts. India has been talking about diversification for about two decades.

Last year the government provided about Rs 5,000 crore in the budget to promote diversification but the most important foodgrain growing state of India, the Punjab, says that it will take up diversification only if the government assures that the entire quantity will be procured by the government, as it does in the case of paddy.

That is not on the government's radar; nor is it recommended. The ministry would like the farmers of the Punjab to sell their maize or other diversified products directly to the private sector, as the farmers of Andhra Pradesh, Bihar and Karnataka and some others states

The other concern is that there is no major success in reducing the water-intensive crops in north-west India. This is extremely important because one has seen the euphoria over increasing agricultural production withering away in many countries. Saudi Arabia claimed, around 10-15 years ago, that it had become self-sufficient in wheat but even today has to import 50 per cent of its wheat requirements because it has no water.

The country was drilling out water from the lower strata using petroleum drilling technology but has run out of water and there is no way that it can find more. A similar fate awaits several other countries in the Middle East and Africa. It is the need of the hour that Indian academia, media and civil society create awareness about the critical nature of the water crisis that confronts the country.

There is also the challenge of climate change and even the ICAR system needs to be more focused and attentive to the likelihood of climate challenge because India is going to be adversely affected by it. A 1°C rise in temperature will reduce the wheat production by 10 per cent. Certain studies in the USA on corn suggest that this drop is an understatement and that the production loss could be even higher than 10 per cent. Therefore, much more is required to be done in terms of addressing



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the issue of climate change.

There is also the issue of beneficial collaboration between farmers and processors. Indian agriculture is characterized by small land holdings and a large number of farmers, even though the number of farmers in Punjab has gone down. The average size of land holdings has declined substantially over the years and has come down to 1.16 ha in 2010-11 from 2.82 ha in 1970-71. The latest agricultural census says that small and marginal holdings of less than two ha account for 85 per cent of the operational acreages. Small land holdings create adverse economies of scale, necessitating aggregation of farm produce.

Producers with small holdings face problems due to inefficiencies in transporting their produce, leading to increased dependence on middlemen. The small holdings also have less access to infrastructure facilities such as sorting, grading, farm pack houses and such others. Addressing these problems means aggregation, which hopefully will come through the Farmer Producer Organizations (FPO). The government has declared 2014 as the year of the FPO but there are problems in making this work because the FPOs will have to physically move the stock.

As former chairman and managing director of the Food Corporation of India (FCI) I know how difficult it is to physically move the stock. The FPOs

are really very small organizations, non-corporate in nature and face challenges. There have been successes in certain states and one hopes that state governments will provide sufficient incentives to the FPOs so that small farmers are benefited.

There is no way that the small farmers will benefit from the higher price that the consumers are willing to pay. Three months back in the middle of the Delhi elections, when the city's consumers were suffering high onion prices which were selling at Rs 3 to Rs 4 a kg in Gujarat and Maharashtra, there were no such reports in the electronic media. Small farmers are always at the receiving end and food processing will definitely provide them with a better price.

Another issue is the establishment of the supply chain facilitating collection, sorting, grading, processing, storing and transportation of raw materials and processed products. It is a matter of great concern that low level of processing, inadequate post-harvest infrastructure facilities in many states and lack of appropriate technology result in huge wastage of agricultural produce, particularly perishables, causing a massive loss to the national exchequer.

Not all studies are correct. A recent study by the Exim Bank that said the wastage in tomato is 98 per cent was questioned leading to a modification of the report. So the estimates vary and the country

believes that there is a 10 per cent loss in foodgrain. While grains are not perishables, there is no disputing that even in case of perishables, there is substantial wastage of between 18 per cent and 20 per cent and there is a need to bring it down.

The good news is that substantial investments are coming into the cold chain space. With adequate storage facilities much of the waste can be reduced and this would mean more remunerative prices for producers and also enable the country to export and participate more meaningfully in the global value chain. The key is to address the issues around modern infrastructure for collection, storage, marketing and for distribution. The process has been initiated and several schemes launched but India has a long way to go.

DEVINDER SINGH:

Farmer

I bought a 250 gram cake that cost Rs 80 and I calculated the value of the ingredients at Rs 50-60 for a kilogramme (kg). This is a matter of value addition. It is clear that India does not process

which they need a market in India. Take the example of chocolatier Ferrero Rochers or cookie maker Oreo. They decided to invest in India because of its market and since they knew that they could use India as an export hub.

However, they faced a lot of restrictions on importing raw materials and ingredients, which impacted them adversely. Sometimes, they like to test market their product and cannot get the product locally. The pasta example is frequently cited. The big retailers have now set up their sourcing offices in India although FDI is not allowed in retail. Most of them are not able to get a product like pasta. Even if they are able to give the technology, they are not able to get the manufacturing unit to produce and substantiate it.

One question that they ask is if they are doing the processing and outsourcing, will they be able to import at fixed tariff because tariff lines change with every budget and create a huge uncertainty for investors. The second issue is that the processing market cannot be export-oriented, moving from agriculture to exports in the first place. It has to

Invest India, a joint venture between FICCI and the government, is setting up a dedicated cell to advise foreign companies on government policies and procedures on investment

much of its foods, which can play a very critical role in improving incomes. Only when India has a big FPI will Indian people and companies develop skills to produce quality marketable products and export processed foods.

Fruits and vegetables are transported with all the non-edible commodities and go through so many stages of transport. Now, while the farmer gets only Rs 3 per kg for onions, the consumers get exploited and the nation loses out on nutrition. The point is that there is need for cleaning, grading and packing facilities at the farm itself. Take the example of cauliflower, in the USA, for instance, it is cut in half, packed in cellophane and sold.

ARPITA MUKHERJEE

Professor, Indian Council for Research on International Economic Relations, New Delhi

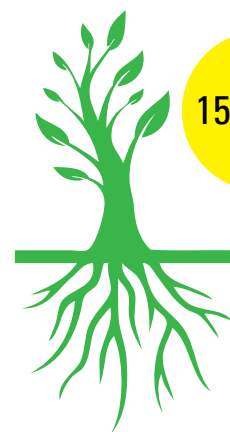
Purely from a processing angle, India has offered a lot of schemes for the processing sector and there is considerable foreign investor interest in this sector but such investors say that they often need to bring in technology to support their investments for

be domestic demand driven initially before the industry can grow and export. Finally, since the Ministry of Agriculture and Ministry of Food Processing are split and there is a food safety authority operating on the other side, who should the counterpart foreign embassy or an agency talk to in terms of agro-processing? Quite often there is a miscommunication and they actually end up talking to the Ministry of Agriculture for food processing. How is that to be resolved?

SIRAJ HUSSAIN

If any foreign company has questions about government policies or procedures on investment, it must contact the Ministry of Food Processing Industries. It has recently signed a memorandum of understanding (MoU) with FICCI and there is a company called Invest India, which is a joint venture between the Department of Industrial Promotion and FICCI. They are setting up a dedicated cell to guide investors.

There is also an investor's query facility on the ministry's website and anybody can post a



question there. As far as import of food products into India is concerned, it is quite streamlined and the government policies have been quite liberal. In some cases, the government is being called too liberal; we now have Chinese and American apples being imported into India.

When foreign companies realize the potential of investing into India, they do invest. Fortunately, the approval is through the automatic route in the food-processing sector. Recently, Cadbury announced an investment of about Rs 1,000 crore. Having said that, the domestic market must also be developed and I would like to hear the Azadpur *mandi* chairman, who is here today. The major issue, we are given to understand, the difficulties in buying agricultural commodities.

Take the case of Pepsi in Kolkata and in other states or of Jain Irrigation. If they are buying from five *mandis* (wholesale markets), they need a license from five. ITC Ltd wanted to buy wheat from Madhya Pradesh and Uttar Pradesh and had

Import of food products into India has been streamlined and government policies have been liberal, in some cases, too liberal – say the import of Chinese and American apples

to get the license from each *mandi* because there is no single license. If one is going from one *mandi* to another in some states, one has to pay fees in two places; deposit the *mandi* fee twice! People are complaining and there is a suggestion to do away with the APMC in many states though there is an opposition to it in Maharashtra.

PARANJOY GUHA THAKURTA

Moderator

Correct me if I am wrong but the APMC has been done away with in the Congress-ruled states. I understand that the vice-president of the Congress party, Rahul Gandhi has made a suggestion. Is this formal or is this just a suggestion?

SIRAJ HUSSAIN

I am given to understand that it is a suggestion that is being considered. There is a lot of opposition, especially in Maharashtra, where they were on strike.

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SANDEEP DAS

Assistant Editor, Financial Express

The amount that the FCI charges in states like Punjab and Haryana distorts the market. You say that if you remove the APMC all problems will be solved but look at Bihar, Odisha and Assam, where there is no APMC. Yet the entire market system has collapsed and there is no private investment coming in these states. How can you do away with the APMC?

SIRAJ HUSSAIN

We are not quite right in taking the example of Bihar because, for historical reasons, rural infrastructure has not been developed there. There are bad roads, poor connectivity and although the situation has improved in the last five years, there is a long way to go. In states where the rural infrastructure is in place, companies in the agro-processing sector say the APMC is a major problem. More than





anything else, it is the procedure. If one is buying pulses from five markets, one needs licenses from five places and if one is going from one market to another market, one pays again. For example, there is an eight per cent tax on apples in Delhi and it needed the chief minister of Himachal Pradesh to come and negotiate a solution. It does create a lot of hassles and it is matter of debate whether we need to continue with the same system.

PARTHAPRATIM PAL

Associate Professor, Economics Group, Indian Institute of Management – Calcutta

What are the barriers in terms of standards and safety measures that India faces when it exports its horticultural products and are those barriers acting as major export barriers for Indian exporters?

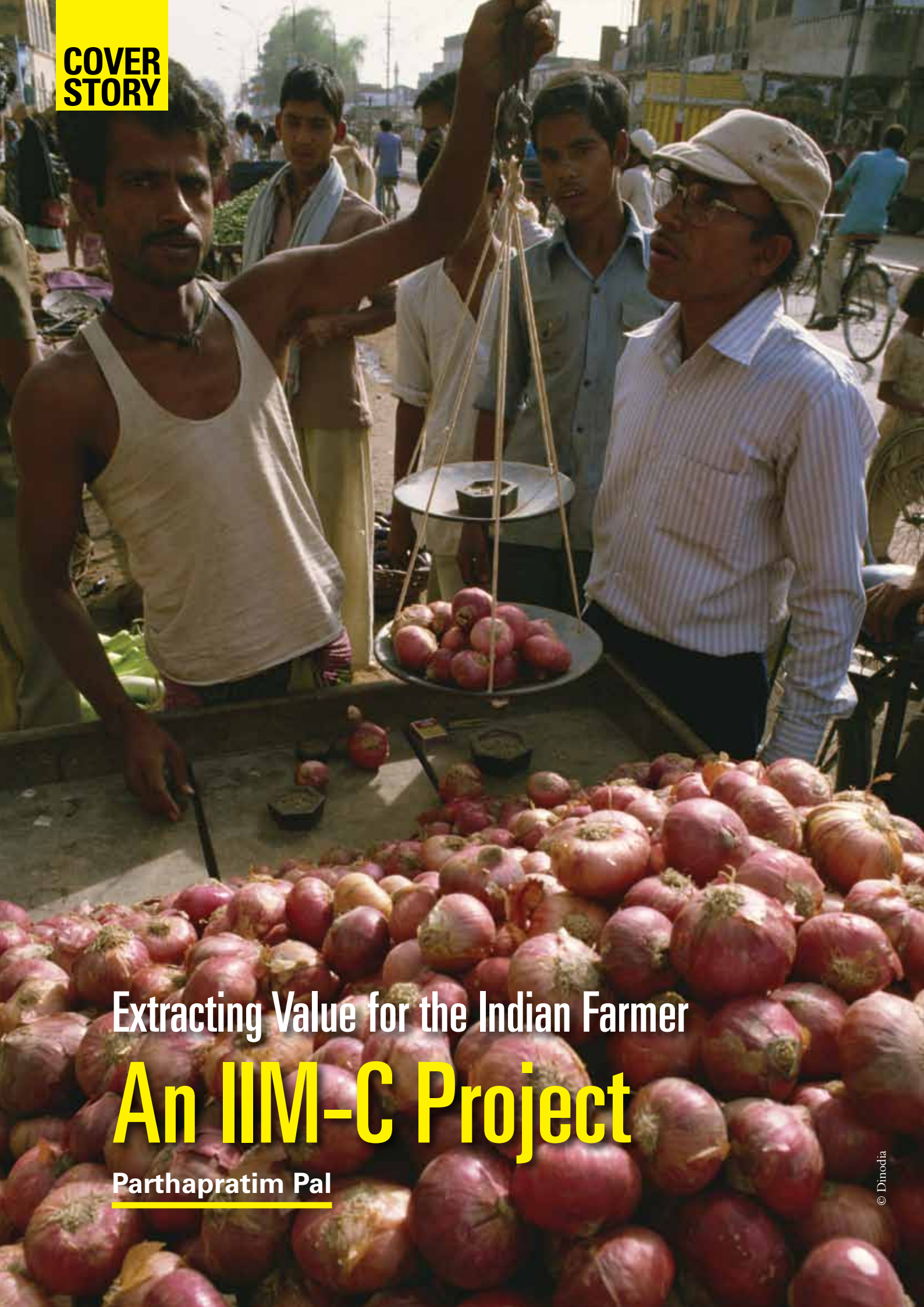
SIRAJ HUSSAIN

There are very serious barriers in the USA and

Europe as a result of which many agricultural commodities cannot enter those markets. Buffalo meat is a very good example. Last year, India exported buffalo meat worth Rs 17,300 crore but it did not go to USA or the E.U., where the price realization per kilogramme would have been much higher. There are barriers that are discussed in the bilateral discussions and sometimes resolved. India has its own barriers and tries to resolve them too as a result of which, apples are coming into India in substantial quantities. It is an ongoing process but the bottom line is that every country would like to protect its agriculture.

Having said that, it depends on how a country negotiates. In the initial years of the World Trade Organization (WTO), the understanding was not as thorough and in the whole business of Aggregate Market Support (AMS), the prices got linked to certain years. The point is that sometimes mistakes are made. ●

**COVER
STORY**



Extracting Value for the Indian Farmer

An IIM-C Project

Parthapratin Pal

Agriculture has become critical in India for various reasons. First, it has not been growing as fast as other sectors of the economy and its share in the gross domestic product has come down to 17 per cent, even though more than 50 per cent of the population is dependent on it. Second, the 12th Plan document focuses on an agriculture revival. Agriculture reached an annual growth rate of 3.7 per cent to 3.8 per cent during the 11th Plan and public investment is growing in agriculture giving rise to a hope for revival.

This is urgently needed because the last few years have seen a mismatch in the demand and supply of food and growth in the agriculture sector. Third, the state of affairs reflects a structural problem in the economy and, consequently, there has been a food price inflation in the economy.

From the farmer's point of view, even when onion prices reached Rs 100, the farmer received only a meagre amount. Someone else got the



PARTHAPRATIM PAL
Associate Professor, Indian Institute of Management – Calcutta

The change in the nature of the commodity, from perishable to non-perishable, creates an important role for food processing. If the nature of commodity is changed from perishable to non-perishable just after the harvest by using technology that the farmer can access, his ability to withstand the price volatility will improve. Here the role of both public sector and the private sector becomes important.

In agriculture, acknowledging the 'crowding in' effect of public investment is very important. Public investment in agriculture has led to little gross capital formation in the last few years. The money spent in the agricultural sector is largely in the form of subsidies, which does not create any long term development benefits for the sector.

It is important to highlight that public investment in agriculture will not only improve infrastructure and make it more profitable, especially through investment in research and development, it will also bring in crowds in private investment. Private

Both public and private investment play a major role in tapping the global value chain that, given the commodity price rise in the last few years, has a lot of potential for Indian agriculture

money and that has been the major problem. The final price that the farmers get has always been low. This is why food price inflation is not finding a supply side response that should have led to increased production. The sharing of the price itself is a problem because of several reasons.

First, the post-harvest periods have always seen a major supply increase while demand remains constant and prices get pushed down. The minimum support price (MSP) system is riddled with problems in its implementation. A survey of a West Bengal village showed that farmers received the cheque for rice sold in December in August of the following year.

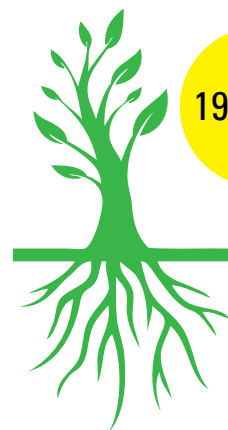
This is a long gestation period, especially when the farmers have to pay their loans and support their families. These lags become unacceptable and even though there is a policy in place here, sometimes its implementation makes it difficult for smaller farmers to actually take advantage of this policy.

Second, the nature of perishability of the agricultural commodity is important. For non perishables, the farmers can sometimes store the product after the harvest and wait for better prices.

investment is shy in this space because the market and the economy are not ready.

Both public and private investment have a major role to play vis-à-vis tapping the global value chain that, given the commodity price rise in the last few years, holds tremendous potential for Indian agriculture. India is a major manufacturer for many commodities and its produce is exported, added value to and sold at a much higher price abroad. This value addition must be internalized.

The aim of the IIM-C project is to see whether and how, private investment and public investment can come together and bring benefits to the farmers so that the advantage of value addition and the value of the global value chains and the advantage of the big foreign markets where the products are sold at a very high price, can reach the farmer. ●





Partnerships to Ensure Space for All in the Global Value Chain

Tarun Jain

There are two parts to any discussion on Indian agriculture vis-à-vis the global value chain. One, if it is at all required, and two what the pros and cons are. The other part is that irrespective of what the experts say, there is definitely a need to understand how efficiencies should be driven up and the farmer empowered to get the maximum out of his farmland.

India has about 2.5 per cent of world's



TARUN JAIN
Vice President,
Food Services
and Agriculture,
Technopak
Advisors

land, four per cent of world's fresh water reserves but a 1.2 billion people and about 15 per cent of the world's livestock. A lot of efficiency needs to be built up because agriculture contributes about 14 per cent of GDP, 11 per cent of all exports and supports upwards of 50 per cent of jobs in the country.

India produces a fair number of all commodities in the world and has some strong production capabilities. It



produces about 50 per cent of the world's mango, a large chunk of the buffalo meat and bananas. It exports most of its buffalo meat because India does not have a huge domestic consumption. It is very efficient in terms of what it is supplying to the world. (Box 1)

In terms of composition of India's food basket, it is still largely made up of foodgrain, pulses, oils and spices and such others though, over the years, there has been a tendency to upgrade consumption and the share of meat, fish, poultry, eggs and value-added commodities (Box 2)

Since this discussion is about retailing, there is need to understand why retailing is important in the whole value chain. Not only in food retail but in the overall retail market, India is evolving from an unorganized retail market towards an organized retail market. Currently, it has 92 per cent unorganized mom and pop stores running the show but 10 years from now, 24 per cent of the market is expected to be organized. That has huge implications for the way agriculture will be

Box 1: Indian agriculture production and global share

| | Production (MT), FY'12 | Global Share | Global Rank |
|-----------------|---------------------------|-----------------|----------------|
| Milk | 127 | 17% | 1 |
| Pulses | 7 | 18% | 1 |
| Buffalo Meat | 3 | 43% | 1 |
| Banana | 30 | 28% | 1 |
| Mango and Guava | 15 | 39% | 1 |
| Tea | 1 | 23% | 2 |
| Rice | 156 | 24% | 2 |
| Sugarcane | 278 | 24% | 2 |
| Wheat | 94 | 10% | 2 |

Source: IBEF, Technopak Advisors

practiced in the country with aggregation taking place and the value chains will tend to shrink over the years.

Currently, the value chain is very long and the farmer is unable to get a huge value of what is being sold; it is a small percentage compared to that in the developed countries. Indian farmers realize a very small percentage of the overall market price and the supply chains have to be made efficient. If foreign direct investment (FDI) is allowed in retail,



the losses will get reduced, the efficiencies in the linkages in the system will improve and the farmer will get more value while the consumer will get a good product at a good time and at good value.

The typical value chains consist of input companies, the farmers, the traders and retailers and consumers. The chains may vary in different parts of the country and at some places they are really long. What are the challenges in this value chain? First, there is the question of productivity. Indian land holdings are really small, at 1.1 ha per person, which makes it very difficult for any technology to come in and any organized set up to interface with the farmers and drive the farmers towards a particular crop or towards a particular usage.

In terms of mechanization, India still has about 17 tractors per 1,000 ha. The Indian farmers' choice of the crops is not market driven because the linkages with the markets are very weak. The farmer has no exposure to what is required in either the international markets or the local markets and continues to cultivate what has been traditionally

areas of the country such as the eastern region. Private money can help in this as with cold storages. A partnership between the government and private sector can help consolidate this area.

While there is a fantastic agricultural produce range for food processing, when it comes to value addition, only one third is sent for primary processing. When India exports products, it exports them at a very nascent stage of processing, which does not give the value that they should command. There is a lack of trained manpower in the food processing space. The very pillar of food processing is created by the availability of produce throughout the year for a particular crop at a sustained or constant price. If there are huge fluctuations in the input cost, it does not work out for the food processor.

There is also the question of lack of traceability that is the result of fragmented land holdings. For the processors who are exporting to provide traceability is a real challenge. Even so they account for about two per cent of the global processed food trade. On the retailing side, high food inflation is a

There is considerable opportunity for value addition in dairy farming. In terms of government support, around Rs 15,000 crore has been set aside in the 12th Five Year Plan

cultivated, which does not give him/her the best value for the land. Hence the role of technology and information are very important today. (Box 3)

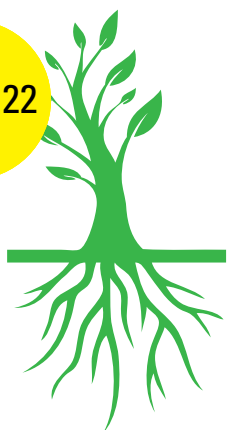
In the export market, there is concern about the quality of food, which is a global concern and not just limited to India. As consumers get more conscious, they want better quality, pesticide residue free food, with the nutrients intact when the product arrives, along with a good look and feel factor when it reaches the shelf. The quality has to match the expectation of the importing country, which is the challenge with long value chains that filter the efficiencies down the system. There is about 18 per cent wastage in fruits and vegetables valued at around Rs 13,000 crore, which is a huge waste.

Checking this waste means putting in a certain infrastructure. At the farm level, this refers to how food is collected, how the first level of processing is done and how it is sent to the ultimate processor. That system has to be developed and major infrastructure has to be put in by the government comprising roads or, for that matter, developing

challenge because of the inefficiencies in the value chain caused by the long linkages. The product sometimes reaches the shelf at an exorbitant cost, which affects consumption of the item. There is a fragmented market both in terms of how the retail works and the land holdings. There is a very high retail density in India.

Again for a sector that is becoming more organized, there is an inadequate pool of trained manpower in this sector. Training is needed down the line from product display, which drives demand. The real estate cost in at least the major markets is a big inhibitor. Traditional retail has people owning the shops and selling their produce that is very different from organized trade where one needs to take a minimum of 2,000-3,000 square feet putting pressure on the retailer to give value to the consumer. Since there is the maximum retail price (MRP) regime, the retailer cannot increase the price even if it is providing a good shopping experience. There is high credit in the system.

The inter-state transfer of materials, for example with potato seeds, is another issue. Because of





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octroi and excise duties, each state wants to safeguard the interests of its farmers, which affects the whole country in the long term. There are plenty of opportunities in the value chain in terms of infrastructural support, opportunities like backward integration, collection centres and sorting and grading facilities. There is an opportunity to increase the cold chain and wholesale market structure like the mandi structure so that the produce can come to the market in the most efficient way. There is also the opportunity of setting up mega food parks and in the cold chain system scheme that the government has.

Fortunately, there is sufficient interest in FDI, especially in the food processing sector in India, because the produce is available here and the foreign companies realize that it is efficient to establish factories next to the farmland. This interest has to be sustained by addressing their concerns around the imperative to import some part of their product or certain machinery. These companies must be encouraged to come and put in their money like Pepsico and Cadbury have recently done. The Confederation of India Industries (CII) estimates that \$33 billion can come in over the next 10 years but what obtains

right now is very small compared to the potential. Investments in the food processing sector have been growing at a very healthy rate of about 37 per cent compared to 2007-08 (Box 4). This sector is now a Rs 685,000 crore industry. (Box 5).

The last few years have seen a lot of interest in processed foods and vegetables. In the field of dairy, investments have come in from such companies as Danone and Lactalis. Dairy is one area where value addition makes a huge difference and there is considerable opportunity here. In terms of government support, around Rs 15,000 crore has been set aside in the 12th Five Year Plan. (Box 6)

The government alone cannot provide all the resources required to strengthen the system and both government and private support are required to build infrastructure and improve value chains in agriculture. There are some broad steps recommended. One is setting up of an Agriculture Technology Mission aimed at modernizing agriculture to help the country compete with global players in the global market. If India is sending its bananas to the E.U. or the USA, its price has to be very efficient. Efficient prices need good yields with good technological back-up for farmers so that they can realize those yields and compete in

Box 2: Food sector: composition of food basket**Best performers**

50 per cent of mango

24 per cent of cashew nut

30 per cent of cauliflower

43 per cent of buffalo

28 per cent of banana

10 per cent of onion

10 per cent of onion

17 per cent of goat

Best performers

50 per cent of mango

24 per cent of cashew nut

30 per cent of cauliflower

43 per cent of buffalo

28 per cent of banana

10 per cent of onion

10 per cent of onion

17 per cent of goat

| | |
|-----------------------------------|------|
| Bakery | 1 % |
| Beverages | 3 % |
| Food grains, pulses, oils, spices | 50 % |
| Milk and milk products | 18 % |
| Fruits and vegetables | 12 % |
| Meat, fish and poultry | 12 % |
| Packaged food | 4 % |

Source: Technopak analysis

the global market place.

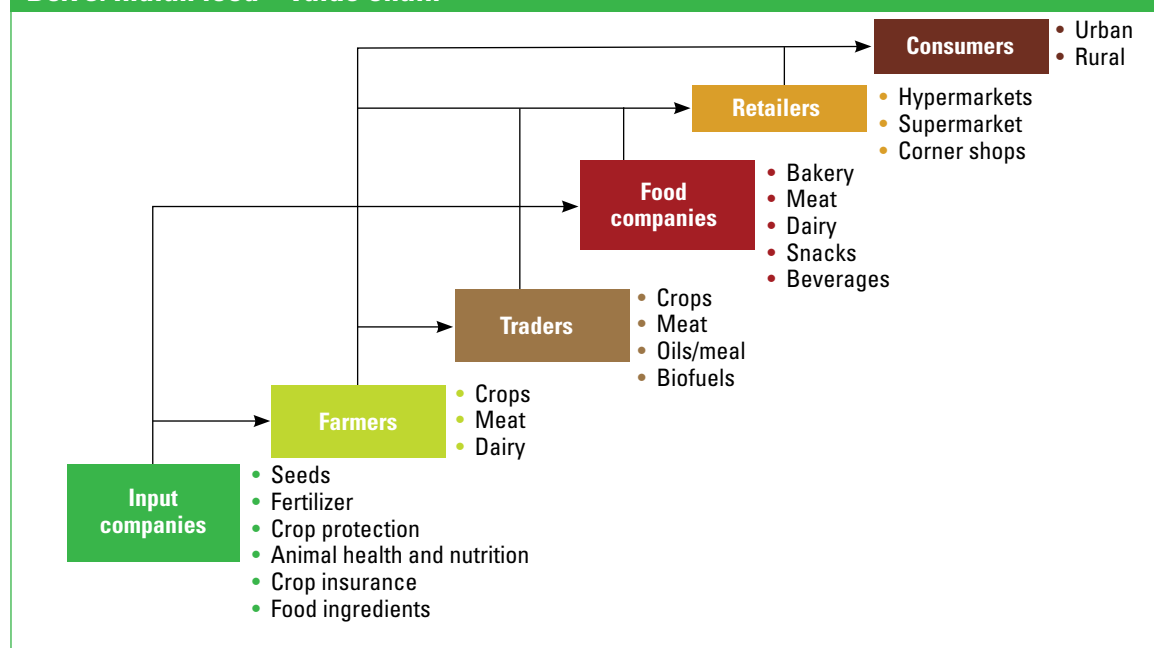
The linkages between the farmer and the marketplace are currently weak. If they are strengthened, the farmers get direct exposure to the market and get to understand what is required in the market. They can then streamline their

own production choices and processes. Capacity building and infrastructure are the two major requirements.

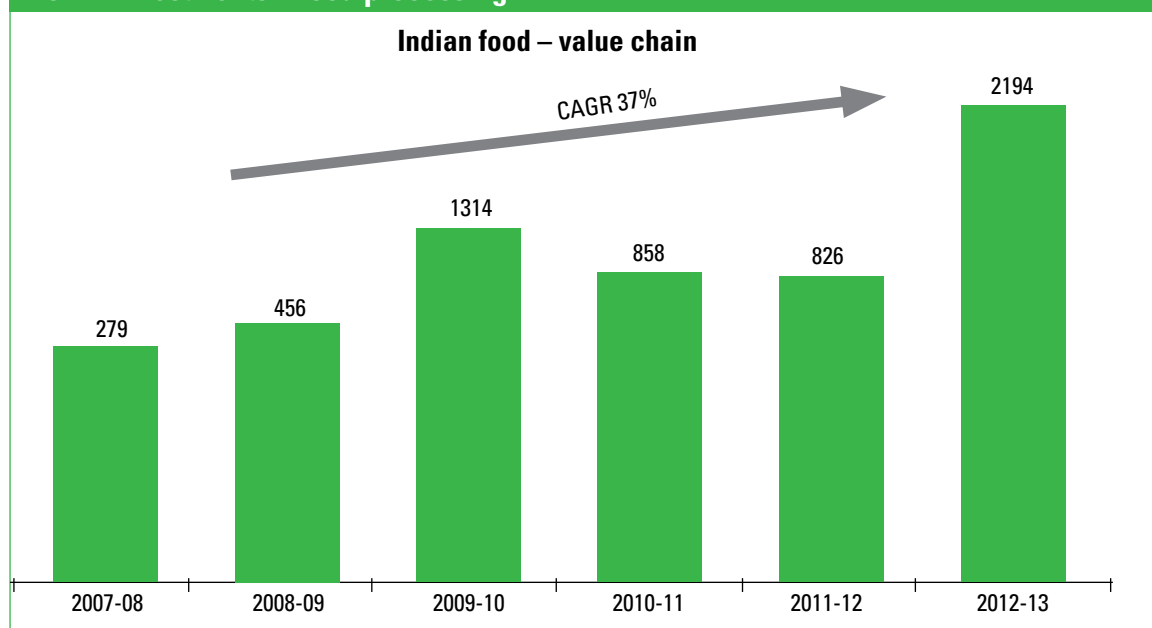
Project Unnati was launched by Coca-Cola India and Jain Irrigation in partnership with farmers for large-scale high-yield mango cultivation and shows how private participation can benefit all the stakeholders in the chain. Coke is the producer of Maaza, one of the largest mango drinks in the country. Totapuri mango pulp is the major ingredient for Maaza. Coca-Cola procures about 50,000 metric tonnes in a year of which about 60 per cent comes from the Chittoor region in Andhra Pradesh. In spite of producing 50 per cent of the world's mango, India's efficiencies and yields are not at par with the best in the world. Since the global demand for mango is increasing and since the area under cultivation cannot be increased beyond a point, how does one increase the efficiencies and yields beyond a point?

That gave rise to Project Unnati between Coca-Cola and Jain Irrigation and the idea was to have ultra-high density farming with the use of drip irrigation technology to increase yields. The objective was to increase the crop yield and productivity for farmers and save water since India is running out of water. The idea was also to educate 50,000 farmers in that region about this technology and help them increase their yields and revenues.

The first phase began with high-density mango

Box 3: Indian food – value chain*Source: Technopak*

Box 4: Investments – food processing – FDI

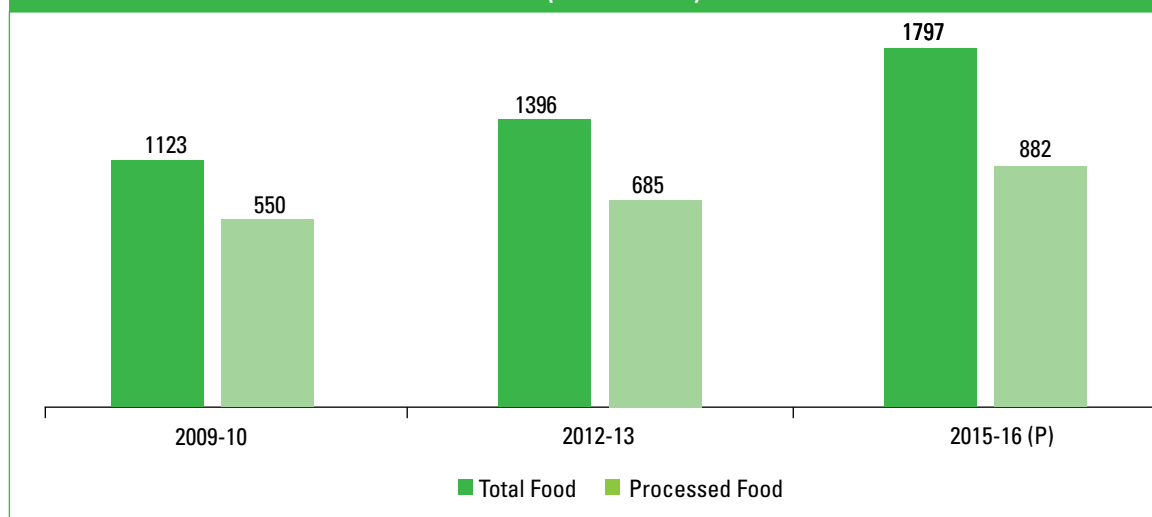


| Year | ~INR (cr) | USD (mn) | Annual Growth (%) |
|---------|-----------|----------|-------------------|
| 2008-09 | 456 | 102.7 | 46% |
| 2009-10 | 1314 | 278.8 | 172% |
| 2010-11 | 858 | 188.6 | -32% |
| 2011-12 | 826 | 170.2 | -10% |
| 2012-13 | 2194 | 401.4 | 136% |

Source: Department of Industrial Policy and Promotion (DIPP), Govt of India

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Box 5: Market size of Indian food sector (INR '000 cr)



Note: The food processing sector is a Rs 685,000 crore industry. Out of this, 2/3 is primary processing and only 1/3 is value added processing.

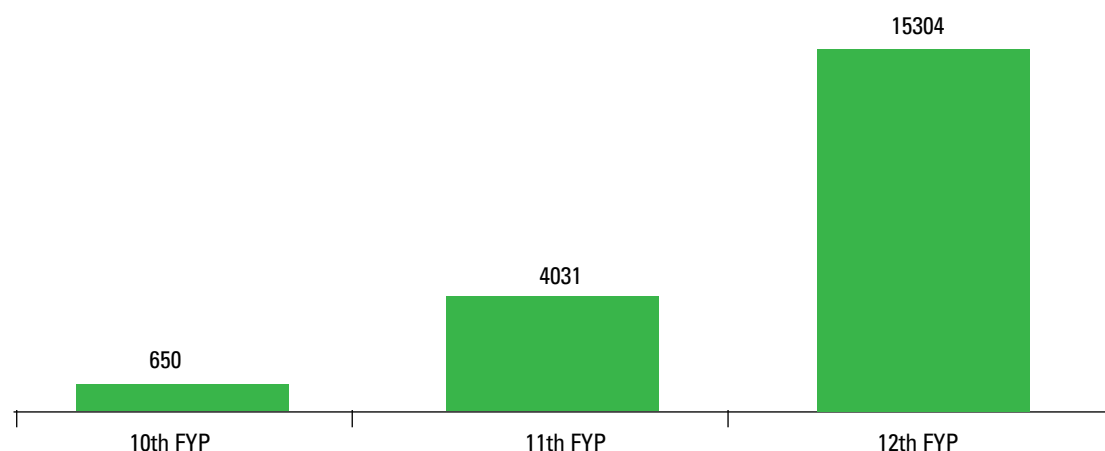
Source: Technopak Advisors P: Projected



Project Unnati was designed to increase crop yield and productivity by educating 50,000 farmers in Chittoor in the use of drip-irrigation technology

Box 6: Investments, government support

Planned Outlay by MoFPI (INR cr)



| Fiscal Year | Infrastructure Development | Amount Allocated (INR cr) | | | Total Plan Outlay for MoFPI |
|-------------|----------------------------|----------------------------|-------------------------|--|-----------------------------|
| | | Food Processing Facilities | R&D, Safety and Quality | | |
| 2012-2013 | 787 | 546 | 112 | | 1900.1 |
| 2013-2014 | 1075 | 959 | 132.5 | | 2820 |
| 2014-2015 | 1074 | 1506 | 160 | | 3258 |
| 2015-2016 | 1115 | 1723 | 183 | | 3563 |
| 2016-2017 | 1175 | 1799 | 203.5 | | 3763 |

Source: MoFPI

In the traditional system, the water consumption is about 490 litres per kg but drip irrigation technology has brought it down to 209-210 litres per kg

farming in select farms in Chittoor and Kaddappa districts of Andhra Pradesh. The project involved about 200 demo farms with sizes between one and three acres using this technology with an outlay of about \$2 million shared between Jain Irrigation and Coca-Cola India. The activities included 80 per cent subsidies on planting materials for farmers and 50 per cent subsidy on pits marking, digging, filling and various other processes and a subsidy on the additional costs of micro-irrigation system, which Jain Irrigation provided.

To compare what was happening before and what is happening now, in the traditional system, 50-70 trees were planted per acre but in this system, 670-700 trees were planted per acre. In the traditional method, the plant starts to bear fruits in the seventh, eighth or ninth year. Currently, the first crop is realized by the third year. By the fifth year, the trees are totally productive. The yield in traditional systems is about two to three tonnes per

acre while with use of technology it is about six to seven tonnes per acre.

The biggest difference has been in water consumption. In the traditional system, the water consumption is about 490 litres per kg but this method has brought it down to 209-210 litres per kg. From the sustainability, yield and best use of land perspectives, projects like these are really the way to go forward.

It is an example where everybody in the value system contributes and progresses. Farmers get higher productivity, more income, have a smaller gestation period – down from nine years to three – and use land resources efficiently. Jain Irrigation benefits from a broader use of a practice, which was standardized and commercialized by it. Coca-Cola has found a solution for its need for a product throughout the year and the environment has been given the gift of sustainability. These are the kind of inputs or partnerships required to take the industry to the next level. ●





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The Art of Sharing Created Value

Santosh K. Deshmukh



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Some 45 per cent of Indians will be living in urban spaces by 2020-25. The younger generation will change its foods habits; eat pizza and other fast food or much that is western or Chinese in origin. When food habits change, the quality of raw materials or the ingredients required must also change from the current basket of produce. This means changing farming practices.



SANTOSH K. DESHMUKH
(Chief Co-ordinator, Corporate Responsibility and Sustainability, Jain Irrigation Systems Ltd)

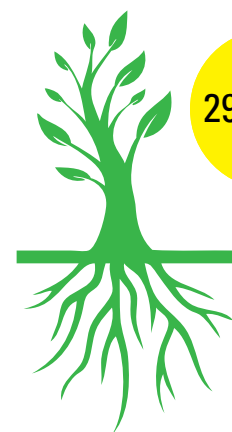
Again with the population growing, along with changing food habits and consumption patterns, there is an equally urgent need to increase productivity. This makes it very important to examine technological advances in agriculture and see what the private sector is doing. Jain Irrigation (JI) has a global presence and experience and expertise, which it is bringing to the doorsteps of Indian farmers.

One is particularly thankful to the farmers in Maharashtra who had ready markets in Mumbai and Pune, which were urbanized long back. This explains the presence of many innovative farmers from Nasik, Pune and Sangli, whose produce goes to the north, to the Azadpur *mandi* in Delhi as well as to south India, to cities such as Bangalore.

Farmers from these parts of Maharashtra are much ahead of farmers even in the green revolution patches in the Punjab and northern parts of Haryana or coastal Andhra Pradesh. India is now in the second phase of the Green Revolution because there is need to ensure supplies of fruits and vegetables to meet India's emerging consumption patterns. Indians consume not only *roti* and *dal* but much more and there is need to grow a variety of foods because nutrition is also very important.

Jain Irrigation is the biggest processor of mango in the world and the third largest processor of dehydrated onion in the world. It has three factories for onion dehydration and mango processing and an onion dehydrating facility in the USA. The company is the biggest processor of mango and the third largest processor of dehydrated onion in the world. It has three factories for onion dehydration and mango processing and an onion dehydrating facility in the USA.

As far as sustainability is concerned, there is a sharp contrast between the practices in India and USA. Around 30,000-40,000 farmers have to be



contacted for 100,000 tonnes of dehydrated onion in India. Jain Irrigation procured 44 per cent of its onion from contract farming in 2013-14 and the rest from the *mandis*. In the USA, Mercer Farms, owning 8,000 acres land, supplied 33 per cent of JI's total onion needs. The company has the similar processing facilities in Jalgaon, Maharashtra and Cascade in the state of Oregon in western USA.

The argument that working with farmers is a major stumbling block is thus negated. Jain Irrigation has conducted a lot research in collaboration with the farmers and works with not less than 5,000 farmers at any given time for contract farming.

Talking of onion prices, the price was Rs 100 per kg for the red Bombay onion that is not usually consumed by Indians. It contains more of water and less of solid matter. What Jain Irrigation processes is onion with less water and more solid matter. The internal rate of return (IRR) is not commensurate for other varieties and the company controls price volatility by defining the minimum support prices (MSP) for the current year at Rs 5.36 per kg even if the prices of onion go below Rs 5.30 per kg.

When farmers find the company honouring the negotiated price and commitment to agriculture, they stand by the company. Jain Irrigation has run this model since 1996. Despite problems, including a loss, there has been strong backing with the irrigation system running well and company support for food processing.

The problem is with the small processors who, like entrepreneurs, want a piece of this pie. If they face such problems they will run into bankruptcy, which is why government support is important. Indian agriculture has been called a gamble is the monsoon. Saudi Arabia and India are in the same latitude but the monsoon comes to India. Had it gone towards Saudi Arabia, there would have been striking difference. India is fortunate that the monsoon comes to India and also supports the food basket in South Asia. It is now very important to increase productivity but there is a striking difference between what others are doing and what JI is doing.

Jain Irrigation works with contract farmers to increase the productivity of onion. Earlier the productivity of onion was around 5-6 metric tonnes per acre. With drip irrigation and a lot more mechanization, amongst other things, the farmers have achieved up to 28 metric tonnes per acre and the average is 13-14 metric tonnes per acre. Farmers work conscientiously because they receive fair prices for their onion and banana from the company.

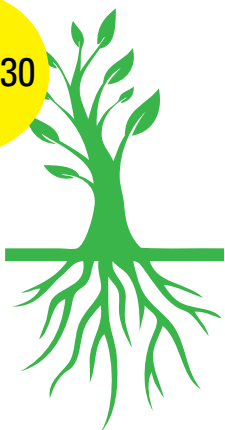


The Farm Fresh (JI's food processing brand) example at Theni has worked very well for the past five to six years and it has been able to export. Jain Irrigation's food processing business is worth Rs 500 crore in a global turnover of Rs 5,000 crore per annum. This will have to be increased with more value accruing to Indian agriculture.

It is very important to tap the global market also because the 11,000 metric tonnes of dehydrated onion that Jain Irrigation processes is exported. The company has overcome its teething problems and initial losses and is now a world class player with a presence in the E.U., Japan and U.S. markets and a factory in the US itself.

Project Unnati, also under JI, targets 50,000 hectares of land growing Totapuri mango. However, the Alphonso mango from Valsad and Alphonso Rajapuri (from Chittoor district of Andhra Pradesh and other parts in south India) varieties are also needed. The company works with farmers in Chittoor and other parts of south India along with Unilever for a sustainable agricultural code on issues such as pesticide residue.

Quality has not been a concern in the Indian food processing sector is concerned but it does need talented human resource. Most quality experts in





examples of produce that lend themselves to food processing and there is also need to ensure 100 per cent use of facilities already invested in. Many food processing plants across India face the problem of capacity utilization because the industry input is seasonal. Jain Irrigation is trying to increase the capacity utilization and currently is the largest exporter from India having secured the Agricultural and Processed Food Products Export Development Authority awards for three years.

The message is that for innovation to succeed, the farmer must realize better value and companies must ensure that they do. Otherwise, the Indian farmer will not be interested in supporting a value chain that does not make his own life more sustainable.

AJAY VIR JAKHAR

Project Unnati seems to be comparing traditional mango cultivation with current methods and saying that the yield will increase in five to six years. However, a full grown mango tree gives yields only after 10 years, rendering this comparison unfair. If at all one must compare, one has to compare the current produce with a 10 year old mango tree to calculate yield increase and not with a small mango

The farmer must realize better value for innovation to work, and companies must ensure that they do. Farmers will not support a value chain that does not make his life sustainable

JI come from a pharmaceuticals background that has groomed people over the years.

As far as productivity enhancement using technology is concerned, drip irrigation is an excellent route to take and has helped the initiative achieve an excellent value chain. The company has technology from Israel that is implemented at the small holder level to increase productivity, thereby sharing the created value. This also makes for long-term relationships and has helped the company achieve a base of around 30 million farmers in India.

Knowledge is imparted to them and experience says that it takes between five and six years to make the effort successful with farmers. Once farmers agree and find some farmer doing innovative work near their land, they adopt the practice after at least around five to six years and that is the time that companies must be prepared to give small holders with one, two or three acre land holdings. These farmers must be targeted for their sheer numbers.

Spices and medicinal herbs are other good

because the high value fruit is small; there is need for more trees for greater yield. Project Unnati is doing excellent work but needs to make fair comparisons.

SANTOSH K. DESHMUKH

Initially, the trees are planted at no more than at 10 x 10 metre spacing and the farmers grew mango and rice as well. Most of the mango is cultivated in south India's rice cultivation areas and the area covered by mango is between 30 per cent and 40 per cent.

For high density mango cultivation, only one acre is covered with mango and, in the initial period, one can cultivate rice as well. Rice cultivation is possible because there is trimming and pruning every year, just as is done for grape plantation to take care of issues like pesticide, fungicide and such others because the height of the plant is not more than two metres to 2.5 metres. Conventional mango trees are too high and one is unable to maintain flowering and such other phenomenon. All this is possible under Project Unnati. ●

Mandis are Market Makers; not Obstructers

Raj Kumar Bhatia

People ordinarily see huge advertisements about the state of Indian agriculture. The *mandi* represents a space that deals with agriculture 24/7. The Azadpur *mandi* (wholesale market) never sleeps. However, this sector has always been the accused and perceived as being guilty as per government acts and books and in the many remarks about it even in Parliament, which has created an undesirable image with a long-lasting impression. Yet the *mandi* follows all definition-based acts. Once an act is defined, it is accepted as such.

The prospect of harnessing Indian agriculture to a global value chain has to be understood over three factors. First, the Agriculture Produce Market Committee (APMC) Act. Second, the position of agriculture in the domestic market and the third in the global markets.

The act is the same for rice and wheat, for wet marketing and even for fish and eggs. However, while there is one definition, the approach to implementing the act varies. The crucial post of



RAJESH KRISHNAN
secretary,
Chamber of
Azadpur Fruit
& Vegetable
Traders'
Association

marketing officers is vacant in all APMCs and this is only one loophole. I am not criticizing the system just for like that. Posts like secretary, deputy secretary, security officers and sanitation officers were filled but not those of marketing officers.

The other point to emphasize is that *mandis* have never been a hindrance to exports. They have never set any special conditions for farmers and have always been self-sufficient. What happens to the radish grown in Sonapat or the cauliflower sold in Najafgarh that is neither exported nor processed? The *mandis* take care of

them and are thus an important part of the supply chain like anyone else. Only they have been there for a much longer time. The processing industries are new entrants in this space.

So, what are the standardization parameters in the domestic markets and how are the *mandis* matching up with the global parameters? Even after 60 years of Independence there are discussions around good agricultural practices. Even today global standards are only considered for exports and never followed

for the domestic market. This is a double standard. Why is there no insistence on the same standards for Indians and foreigners? When Indians sell bananas in Thailand, do they do so on Thailand's conditions?

Any move towards value addition and accessing the global value chain needs a vision development. What is India's vision and strategy? Has any mapping of international standards been done and for which commodities? What are the parameters against which Indian exporters will protest? There has been no mapping; not even database mapping. It was mentioned today that post-harvesting loss in fruits and vegetables in India is 18 per cent. That is incorrect. How much of that 18 per cent is sold in the *mandis*? What is sold in the *mandi* also provides additional support to the farmers.

Had it not been so, companies that have entered this field, Adanis, Reliance, Concor, Railway Corporation of India, Container Corporation of India would not have considered the Azadpur *mandi* as the only medium through which they could sell their products to consumers. Why do they not go

public-private partnership (PPP) model. Where will the existing players go? Which government will accept the blame for their loss of employment?

Instead, the PPP mode should be converted to a 'PPeP' mode, a public-private-existing partnership to include the existing players who would otherwise have nowhere to go. Today, the Azadpur *mandi* employs a lakh of people and a new *mandi* through PPP would need investment between Rs 9,000 crore and Rs 10,000 crore. Such funds will never come to the existing players. There is no level playing field.

An ordinary farmer avails of loans at between 12 per cent and 15 per cent but a big company can avail of the same loan at between three per cent and four per cent. Farming has always been treated as second class. In recent times, corporate houses have been exempted from Rs 5 lakh crore in bad debts that was hardly reported by the media. Yet a Rs 6,500 crore waiver for farmers has the media going to town. This step-motherly attitude towards farmers must change.

The *mandis* play an important role in the value chain; they do not represent middlemen; they are a part of the system. The multi-window system is actually the middleman

straight for institutional supply? The *mandis* play an important role in the value chain; they do not represent middlemen; they are a part of the system. The multi-window system is actually the middleman.

A market fee is paid at two places. If one changes the market area even within a state, for example, from Azadpur to Keshavpur, one has to pay double the fee. The government did not take enough steps to fix the loopholes. The Agriculture Produce Marketing (Regulation) Act has not been implemented in half of the states. Wherever it has been, the conditions are better known.

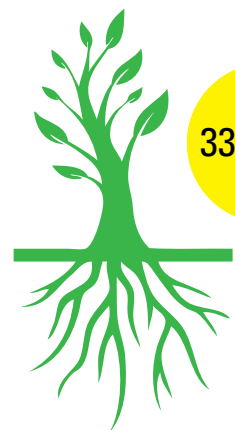
There are other problems as well. Some states have designated auctioneers to regulate auctions who only arrive around 10:30 am when the business is over. They tell the *aarthia*, "please write what you have to write and put the vegetables in my bag and let me go home". This is the actual situation out there that needs to be changed.

In 2003, India got the APMC Model Act that has not been implemented, because it was impractical. It resulted in a huge gap being created between private players and existing players. All over the country, there are discussions about building *mandis* on a

Getting private players also will not be a cakewalk. In Kolkata, Pepsi purchases potatoes at Rs 14 per kg from farmers but it purchases the same potato at Rs 9 per kg from those who are not contracted to it. In effect, it is levying a service charge. The *mandis* do the same thing but, when the money comes to them, it is treated as tax.

The private players entering this space with investment will also look for an assured model and charge transaction fees. They will also look for a business model with user charges. A proper business model can only be achieved through regulated markets.

Recently, in a few states, fruits and vegetables have been (or will be) delisted under the APMC Act, leaving no one to take care of the interests of the private players. The Azadpur *mandi* and its current business model provide the umbrella for giving integrated services to the farmers. This is what the private players will also have to do. The *mandis* will have to run on parallel lines and obviously this field has excellent prospects. The important thing is to give up the obsession with the past and maintain a balance between the present and the future. ●



Live from the Farm: Making Technology Work

Jitesh Chandubhai Patel

I am member of a group of 10 Gujarat farmers, from the traditional Patel farming community of Gujarat, growing processed potato, using drip irrigation on 1,000 acres land. When relevant technology was unavailable, farming was at a subsistence level with earning just enough to support farmer families. In years of deficient or erratic rainfall, the water table would be very low and farmers had to keep the land fallow or grow low-yielding crops and short-term varieties. Since income was insufficient, there were labour problems galore. These problems forced us to adopt high technology practices to increase production at our farms.

The use of drip irrigation technology for potato



**JITESH
CHANDUBHAI
PATEL**
(Farmer from
Gujarat)

crops was a pioneering effort for the group and resulted in increased water use efficiency and optimum use of fertilizers, helping save cost on the one hand and improve the quality of potato on the other, leading to increased income. In Gujarat, the average annual yield of potato is 30 million tonnes per hectare (mt/ha) and drip irrigation has enabled us to achieve 50 mt/ha per annum; the highest per day production of potato in Asia.

We used high-tech seeds and inputs in place of local seeds used earlier, when we did not know which generation of seeds we were acquiring. We had no idea about their genetic purity or whether they contained diseases and pests. Such ignorance led to lower production. Regular market studies,



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numbers of skilled and unskilled labour. Labour is scarce during peak periods leading to disturbed farming cycles. Therefore, we decided to use high-tech farming machinery like potato planters, potato harvesters, grading and packing units. These are quite compatible with existing farming practices and helped us grow quality produce for the user-processing companies like Balaji, McCain, ITC, Pepsi and such others at premium prices. The produce being good in terms of both quality and quantity, we do contract farming for these companies. We supply 20 per cent of the raw material requirement to the chips maker, Balaji, in Gujarat.

Some agencies and companies have helped us with these developments. The first is a drip irrigation company, Netafim Irrigation India Pvt Ltd, which understood our water scarcity problem. It helped by installing a good drip irrigation system over the entire land of the farming group and provided agronomical and after-shelf support.

The drip irrigation system is like the hardware in a computer system and good agronomical practices are like the software. Crop-oriented crop management technology has helped boost production and companies like Technico Agri Sciences Ltd, which provided the high technology seeds, are like the processors. Seeds developed by this company with techni-tuber technology are early generation genetic purity seeds that have increased our farm produce by 20 per cent.

Another German firm supplied the high-tech farm machinery like potato planters and harvesters along with full technical support and training. The use of this machinery brought down the time lag in

Labour is scarce during peak periods leading to disturbed farming cycles. Thus, we used high-tech machinery like potato planters, potato harvesters, grading and packing units

information from companies and internet searches provided us with information about techni-tuber seeds produced by Technico Agri Sciences Ltd.

These seeds are developed through the techni-tuber methods with early generation and high genetic purity that gives high yields. Therefore, it makes sense to use these varieties that are creating miracles in our farms. The production could be increased from 40 mt/ha to 50 mt/ha simply by shifting to high-tech seeds, high-tech agricultural inputs and use of farm machinery.

Potato farming is labour intensive and needs large

both planting and harvesting. The Bank of Baroda gave hassle free and timely credit facilities like crop loans, purchase of farm machinery and farm structure development to finance the capital investment in high-tech machinery and high quality inputs like seeds. This has enhanced both production and productivity. The government too provided huge support like good roads, irrigation facilities and electricity along with subsidies in drip irrigation, electricity bills, greenhouses and cold storage facilities. Besides, it launched an interest subvention scheme for timely repayment of loans to the farmers.





Under the working model, the entire farm operation is divided amongst the group as per individual skills. Some are experts in field operations, others in marketing, financial management or experts in handling government officials, mechanization and such like. Bulk purchase of farm inputs as well as bulk sale of farm produce gave the group good bargaining ability and led to further lowering of input costs and higher value. Thus there were higher volumes of quality material and the group could negotiate with anybody for better prices for its produce.

My brother and I are the technical experts in the group – with qualifications in plant pathology and plant entomology – and provide technical support to the group to achieve higher

The farm operation is divided as per individual skills. Bulk purchase of farm inputs and bulk sale of farm produce gives the group bargaining ability and lowers input costs and higher value-

productivity. Despite the high tech machinery, the group did not eliminate the role of labour for day-to-day operations. Labour is not given a daily wage but shares 16 per cent of group profit. The group also provide education facilities for their children along with residential and medical facilities and loans for overall development. These have ensured their loyalty.

The group updates its technical knowhow through agricultural universities, internet and private companies and other agricultural institutions. It has visited various countries like Holland, Germany, Israel and Egypt for consultancy and training purposes. It is also visited by more than 30,000 farmers and persons keen to see high-tech agriculture every year. Amongst others, management students from the Harvard University have visited the group to study its projects.

There are challenges of course. The government should allow farmers to sell their produce across the country and to import high-tech machinery from foreign countries without high duties. The government must work to provide good infrastructure like state-wide electricity. In Gujarat, if farmers want electricity connection, they must deploy drip irrigation. Those not deploying drip irrigation do not get new connections and those deploying drip irrigation get subsidies on the electricity bill. The government is also thinking of allowing only those farmers with drip irrigation facility to access water from canals. The Reserve Bank of India, on its part, should reconsider the pricing of agricultural loans to make cheaper funds available for agriculture.

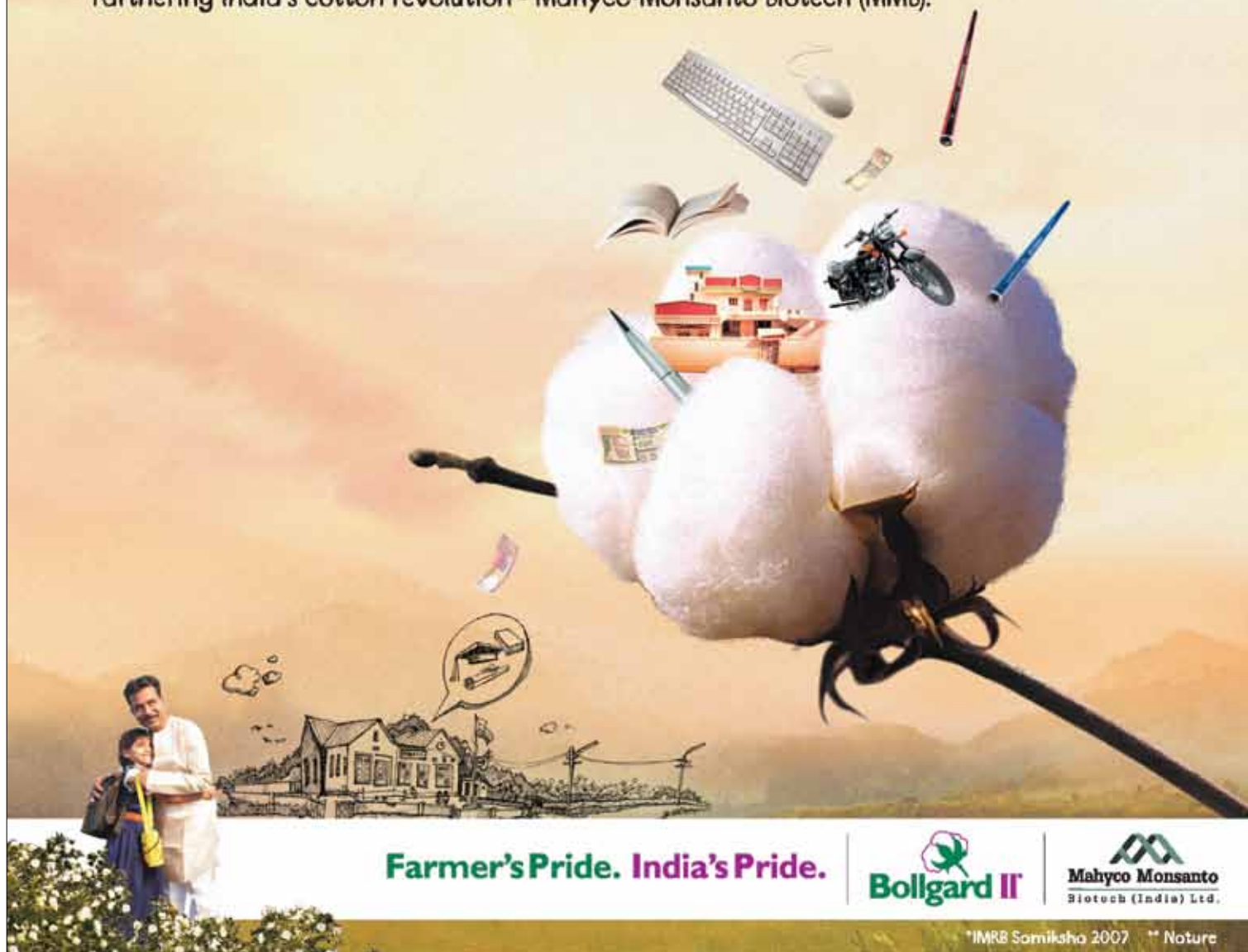
Our success with technology and seeds has given our village a good reputation in the farming sector and a decent status in society. Modern day Indian farmers need to be not just hard workers but smart workers as well by adopting modern- day farming technology to revolutionize India's agriculture. ●

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India's cotton farmers' lives transform for the better

Research indicated that 87 per cent of Bt cotton farmers enjoyed higher standards of living, 72 per cent invested in their children's education and life insurance, and 67 per cent repaid their long pending debts*. Many more built *pucca* (stone) homes, purchased farm equipment and motorcycles, leased additional land for cultivation etc. Further, women from Bt cotton households had higher access to maternal care services, while children had higher levels of immunization and school enrolment*. Additionally, female earners witnessed a 55 per cent gain in average income, and 42.4 cr. additional days of employment across the total Bt cotton area**.

Partnering India's cotton revolution - Mahyco-Monsanto Biotech (MMB).



Farmer's Pride. India's Pride.



*IMRB Somiksha 2007 ** Nature

• Bollgard® and Bollgard II® in-the-seed trait technologies provide cotton plants in-built insect protection against bollworms infestation leading to lower insecticide use, better boll retention, and higher yields. • Bt cotton is widely planted around the world as an environmentally friendly way of controlling bollworms, which are known to cause maximum yield loss and economic damage to the cotton crop. • Mahyco-Monsanto Biotech India Ltd. (MMB), a joint venture between Maharashtra Hybrid Seeds Co. Ltd. (Mahyco) and Monsanto Holdings Pvt. Ltd. (MHPL) has broadly licensed in-the-seed cotton trait technologies to several Indian companies so farmers can access technologies in the preferred hybrid seeds of their choice. • Bollgard II and Bollgard logo designs are registered trademarks and under the license from Monsanto Company. For information/career opportunities, contact www.mahyco.com or www.monsanto.com.

Time to Correct Misconceptions on Farm Stagnancy

Arnab Kumar Hazra

The Indian Institute of Management–Calcutta (IIM-C) project referred to by Parthapratim Pal is incomplete and there is need to determine how one can add value to it. There is also need to discuss the general feeling that agriculture is stagnating and nothing new can happen in this sector. A fallout of such thinking leads to some ideas on how agriculture functions and why it stagnated.

Even as one disagrees with the subsidy regime it is worthwhile to address the position that subsidy does not lead to gross fixed capital formation as Parthapratim Pal held. Sometimes it does, in a very strange way and indeed Indian agriculture is actually changing. One also disagrees with Tarun Jain's position that there are no linkages between the farmer's produce with national and international markets. Farmers are not idiots; they know their stuff and are smart. If they choose not to do certain things in the way that we think they should, there must be good reasons.



ARNAB KUMAR HAZRA
(Director,
Federation of
Indian Chambers
of Commerce and
Industry)

The farmer's purchase of drip irrigation constitutes his contribution. The companies giving extension services or providing soil testing facilities constitute the companies' contributions.

Jain Irrigation (JI) is a part of that programme and the government gives a subsidy for purchase of tractors and irrigation equipment. This one-time subsidy is justified even and does lead to gross fixed capital formation. Another JI project has been monitored and evaluated.

Santosh Deshmukh of JI spoke of urbanization and other things but missed

out on saying that the onion used in pizza is white onion. Pizzas are a rage in Pune and Nasik and there is a huge demand for this dehydrated onion. This is a very successful PPEIAD model that IIM-C has evaluated and monitored along with other projects like Rallis's pulses and so on. The core finding of the study it is that agriculture is changing.

In Gujarat, McCain has brought about phenomenal change in potato cultivation. Tarun

Traditionally seeds, garnered from a harvest, get genetically weakened. With seed companies coming in, India now has genetically robust hybrids. After all, yield needs to increase

In Maharashtra, in the Yavatmal and Chandrapur districts, farmers plant eucalyptus. In Chandrapur one is told that eucalyptus plantation will not be successful in Yavatmal because of its black cotton soil. The roots of eucalyptus break during summer in that soil and there will be no growth. There are, however, very successful eucalyptus plantations in Yavatmal with farmers using drip irrigation.

There is need for water only for the first year after which there is no need for water and one need not be concerned on this front. After the fifth year, this new method can be harnessed like a fixed deposit and to get a great deal of money. The farmers are actually using agro-forestry models and using drip irrigation systems. They spend their money and buy necessary equipment and there are certain programmes that bind these developments.

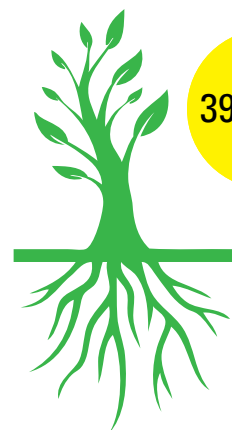
There is also the PPEIAD (Public Private Partnership in Integrated Agricultural Development) programme under proposals may be sent to the government. The process involves contribution from the farmer, from companies and from the government (less than 50 per cent).

Jain talked of the need an agricultural technology mission. Corporate and technological interventions in agriculture have been documented. This has thrown up amazing examples right from potato in Gujarat to bananas to mechanization. One can say with authority that India is on the threshold of the second Green Revolution.

Over time, these examples will help the process along and the news of success has been percolating. There is need for fresh look at how Indian agriculture is doing because many changes are in the offing.

Traditionally farmers used seeds that were a part of their harvest but these get genetically weakened because of natural pollination and such other phenomenon that in turn reduce yields. With a lot of seed companies coming in, India has hybrids that are genetically much better than the traditional seeds and they need to increase the yield. Without advocating hybrids or the seed companies, one must point out that the seed replacement ratio in Indian agriculture is very low.

In wheat it is about 30 per cent and on other crops



it is even lower and farmers today realize that they should think smart. They are doing their calculation and telling seed companies that they will not sell a part of the seeds that will be set aside for the next sowing season. Farmers are also being taught how to manage the seeds and realize that buying seeds is a one-time cash flow need but will yield much more. The biggest example is Bt Cotton.

When it was started in 2007-08, the best projections were that by 2017, India would have 80 per cent of farms under Bt Cotton. By 2012, Bt Cotton would account for 90 per cent. The farmers are not stupid and will adopt whatever would benefit them. There will be some time lag and market failures but this is because there is asymmetry in information.

There is asymmetry between the farmers and the technology providers. The search cost of that information is very high, leading to occasional market failures. Given these vast changes, one cannot focus only on the traditional market frame.

Arpita Mukherjee mentioned that 100 per cent FDI in food processing has been allowed but not in retail. It is important to channelize these investments in the space. For example, there are problems with



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Time lags and market failures come about because of information asymmetry, the search cost of information being high. One cannot focus only on the traditional market frame

product approval and some new entrants have not got approvals. The rule is that one cannot get even the ingredients without product approval.

Indian laws are very stringent but the problem is with their enforcement. If laws are enforced, many companies will stop doing business. The cocoa powder case comes to mind because there was a loss of Rs 1,000 crore before the last Diwali due to foggy policies as the produce rotted in the ports.

The main problem, however, is that the right product is not there. Questions were raised today about barriers to exports and about India having its set of norms. Why are the same norms not accepted in the E.U. or USA? India produces a huge range of vegetables and fruits but they need to be backed for excellent processing. Mangoes, litchis, pomegranates and grapes run into problems when exports to the USA are attempted.

There are other areas of concern too. Sulphur dioxide is added to the litchi to increase its shelf life. It turns yellow first and by the time it reaches USA, it

starts turning back to its original rust colour. The US does not allow that and there is need for a solution.

The Environmental Protection Agency (EPA) apparently does not have any norms for sulphur dioxide because it is only used for extending the shelf life and not for any safety parameters. Therefore, it has no manufacturing readiness level (MRL).

Indian companies were asked to discuss the problem with the American Food and Drug Administration (FDA) office in India. Discussions happened at the FDA office in New Delhi in 2010 and one was told that nothing could be done and that we needed to return to the EPA. The EPA is now working on a solution.

For mangoes, the EPA told Indian companies that it would allow mango imports into the USA but a trust fund had to be created first. This trust fund would finance supervisors to come to India for implementing the irradiation process to ensure zero pest levels.

The amount that has been paid by India and





the total value of exported mangoes is between 12 per cent and 15 per cent FoB (free on board). This makes exports unviable. Pomegranate exports face the same problem. Thus there are barriers to exports of a very different nature.

Rice, the most celebrated commodity, was found to have 11 kinds of pesticides in some varieties and the USA has zero tolerance for pesticides. The E.U. and Japanese markets accept it but not the USA. There are endeavours to work things out through negotiations. It would be worthwhile to examine how India can harness its agriculture vis-à-vis rice.

Indians can do wonders in Africa. For seeds too (a special area of interest), is it has been said today that there is inadequate investment in technology.

India's R&D spend was \$7 million in 1987 and, 25 years later, it is \$100 million now; a little less than 15 times. There are huge opportunities for the seed companies in Africa to leverage their low-yielding low-value crops make them move into high-yielding crops. Jain Irrigation has an African presence and there is a growing realization about the advantages of high tech and the need to do things differently.

In Nigeria, Indian Basmati rice sells at between \$600 and \$660 per tonne and it was learnt that the actual price was around a \$330 per tonne and the

rest goes into someone's pockets. Nigeria increased the import duty by 200 per cent and the traditional farmers there have moved from such crops as sugarcane to rice. The government there wants to give a fillip to indigenous rice production because it is a rice-eating country. The seed companies can have a ball because they can go and sell the seeds there.

There is a problem because the urbanized Nigerian is used to the fragrant rice from India and refuse to eat locally produced rice. There is a crisis and rice is now being smuggled into Nigeria. The point is that old things or traditional assumptions make the road ahead difficult.

Finally, there is the issue about the farm loan waiver and the loan waiver to corporates. Both need to be condemned. Extensive travels in Maharashtra, Karnataka and Madhya Pradesh over the past few months have told me that most farmers are waiting for a farm loan waiver because of the general elections in the offing.

Meanwhile, banks are having a very difficult time chasing farmers for their dues. These leads to confused mindsets but the bottom line is that it is not right to justify farm loan waiver by pointing at the corporates, who are even larger beneficiaries of subsidies. ●



Circumventing FDI in a 'Loop-Holed' World

K. S. Chalapati Rao

As a professor, I am not a direct stakeholder in agriculture; I am not an expert on agriculture but I was asked to speak on FDI, especially multi-brand retail but I am not an expert on multi-brand retail either. Even so, experience informs that it is good to be optimistic about new policies and ideas but one has to be realistic. Otherwise one starts with something and ends up with something else. In the process, one might lose the initial expectations completely.

Today's discussion has barely touched on the FDI issues. It may be pointed out that what Jain Irrigation did was not through FDI but through import of technology and using the embedded



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for Studies
in Industrial
Development

technology in the machinery and other things. Coca-Cola and others work with Project Unnati. However, the key factor in this model is the technology. Even if Parle worked in this space it would be a success. An overemphasis on FDI in India concerns us as desk researchers. The perspective from the field is different and users will have yet another point of view. Policy has to take everyone on board.

Policymakers need to strategize about implementing policies. While administering a bitter pill, one needs to be careful and the government seems to be serious about clearing up the cobwebs of confusion and inaction.

Under the FDI policy, investment in a company



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that is into retail may or may not get clearance but the players continue nevertheless with the business and one turns a blind eye to it. This one circumvents domestic laws on the one hand while the decision on the project takes a while coming; sometimes for more than two years because of the nature of this investment.

The RBI could not include it in their FDI inflows because it could not decide whether it was in conformity with the domestic FDI policy or not. It referred the matter to the Department of Industrial Policy and Promotion (DIPP). Circulars were doing the rounds and finally the Central Bureau of Investigation (CBI) and the Enforcement Directorate (ED) had to enter. There were also allegations that some cash and carry wholesales (CCWs) were directly or indirectly selling to the small consumers – which they do – but no action was taken.

Going into the business of selling to group companies, it is a little curious that despite all the legal expertise available, one does not determine if an entity is a group company for more than two years. Something is wrong with the way the country functions. A new policy was introduced in September 2012 and contested in the Delhi High Court. That led to a change in policy and the PIL was withdrawn. Clearly, the exercise was not thought through and the government had to go to the Delhi High Court. The question is was the visit to the court meant to tackle the immediate problem.

One needs to understand what FDI is and what determines that a company is domestically controlled and owned. The change was initiated in 2012 but not notified till June 2013 by the RBI even as the status of the investor was in suspended animation. The other question is if either the CBI or the ED can take a view on such investment. These examples show how India's policy gets formulated and there is need to correct the course with a focus on their implementability.

Even today, one does not quite know what a single brand is? There has been a policy from 2006-07 and it is difficult to accept, for example, that all Ikea products come under a single brand. Otherwise Ikea would not have got entry at 100 per cent but would have been stopped at 51 per cent. This is all related to some of the so called safeguards put in place to help India's small scale sector get access to the value chain.

What is a small and medium enterprise (SME) today? There is no relation with ownership. A large company can float a small scale unit today and say that since it is a small scale unit, it is qualified to supply to these chains and meet their requirements. This is a very important issue. Since a foreign company can set up a small scale unit with 100 per cent foreign equity, why this worry whether the criteria are met or not?

There has been talk about this for many years and, all of a sudden, it was introduced in September 2012 but it took nine months to give clarifications because there were self doubts around whether the policy was a good one or whether it would allow the country to get out of the mess along with other tricky questions.

Even the press note on the matter does not speak of the clarifications. (*Box Climb Down*). It was Walmart that said that it would not go beyond 20 per cent. What does it imply? The policy has



The Climb Down

| Safeguard | Press Note of September 2012 | Press Note of August 22, 2013 |
|--------------------------------|--|--|
| Backend Infra-Structure | At least 50% of total FDI brought in shall be invested in 'backend infrastructure' (BI) within three years of the first tranche of FDI, ... | At least 50% of total FDI brought in the first tranche of US \$ 100 million, shall be invested in BI within three years... Subsequent investment in the BI would be made by the MBRT retailer as needed, depending upon its business requirements. |
| Sourcing | At least 30% of the value of procurement of manufactured/processed products purchased shall be sourced from Indian 'small industries' which have a total investment in plant & machinery <= US \$ 1 million... Further, if at any point in time, this valuation is exceeded, the industry shall not qualify as a 'small industry' for this purpose | At least 30% of the value of procurement of manufactured/processed products purchased shall be sourced from Indian MSMEs, which have a total investment in plant & machinery not exceeding US \$ 2 million... The small industry status would be reckoned at the time of first engagement with the retailer and such industry shall continue to qualify as 'small industry' ... even if it outgrows the said investment of US \$ 2 million, during the course of its relationship with the said retailer. Sourcing from agriculture cooperatives & farmers cooperatives would also be considered in this category. |
| Location | Retail sales outlets may be set up only in cities with a population of > 10 lakh as per 2011 Census and may also cover an area of 10 kms around municipal/urban agglomeration limits of such cities;... In States/UTs not having cities with population of > 10 lakh as per 2011 Census, retail sales outlets may be set up in the cities of their choice... | Retail outlets may be set up only in cities with population of more than 10 lakh as per the 2011 Census or any other cities as per the decision of the respective state governments, and may also cover an area of 10 kms around the municipal/urban agglomeration of limits of such cities. |

Source: Presentation by K. S. Chalapathi Rao at the Farmers' Forum seminar

been around for a while and one knows what Indian manufacturers can or cannot do. To my mind it implies that India could not find a suitable manufacturer to come up with products that would be needed.

These are the pillars of the FDI policy notified in June 2013 with safeguards built in. One, 50 per cent of FDI brought in shall be invested in backend infrastructure within three years. Everyone thought this would help Indian agriculture; minimize wastages and what not. In August 2013 the policy talked about a first tranche of \$100 million.

What does it mean? If \$50 million is put into all the items supposed to be covered under backend infrastructure, it would amount to around Rs 300 crore. How would Rs 300 crore, covering all the backend items, help Indian infrastructure even if 10 such retail companies come in? It has been pointed out that the real requirement in backend infrastructure is about Rs 50,000 crore and one wonders whether this current policy can solve the problem or not.

For sourcing, it was said about 30 per cent of the value of procurement should be from smaller industries with less than or equal to \$1 million for FDI investors. The limit has been raised to \$2 million but the investor can exceed the limit and yet remain qualified for supply under small scale units. It can source from agriculture cooperatives and farmer cooperatives under this category.

In spite of these changes, if Walmart does not accept the rules it would mean that India is not capable of producing or supplying at that level and that imports would be necessary. If they import, Big Bazaar or Reliance and such others have to compete with them for imports.

While trying to buy a geyser for the kitchen with a six-litre capacity, I found some brands to be quite costly but, obviously, as a consumer, I would want to go for quality at a reasonable price. I went to Venus, a domestic brand and found that it uses imported units. If this be the reality, one must consider the expectations from the retail sector to produce or procure or import. These are real problems and



one cannot rely on foreign companies or FDI to solve India's problems; Indians must find their own solutions.

Locating the retail outlet is another issue because they may be set up only in cities with a population of more than a million or in cities as per the decision of the respective state governments. Where is the restriction? It is up to the state government to locate the industry in a village or any other place.

When the policy was contested in the Supreme Court, the government said that only 13.3 per cent of the population will be affected but it did not sound credible. One cannot believe that the government staked its existence for just this 13.3 per cent of the population. This was a step towards something else and everyone can see the implications of the new relaxations.

Something happened just two months earlier. There were to be very stringent conditions in the 2012 policy declaration with many rounds of discussions with the representatives of the U.S. government. The conditions were:

1. Investment would only be in greenfield investment so that at least some capacity addition

conditions. Meanwhile, Tesco has entered through the procurement route. This sums up what has been achieved thus far.

Finally, the problem is the 'TINA' (There Is No Alternative) syndrome that makes for executive paralysis. At a seminar, Professor Deepak Nayyar said it is like a school boy who gets someone to write his examinations every year but, even after graduation, is reluctant to learn anything. This needs to be borne in mind when one talks about violations.

There is equal need to bear in mind that there are domestic companies capable of exporting without any technology where the brand name is important as in the spices/readymade food items space, for example. These are not expected to be sustained over time though.

India fights about patents, geographical indicators and what not but 100 per cent FDI is being allowed through the automatic route. MTR, AV Thomas McCormick or Eastern Condiments are Indian brands. Yet there is greater focus on the television over the foreign players: cheese making of Danone was on a morning show. There is no problem with Indian brands and it is important to

India fights about patents and geographical indicators but 100 per cent foreign direct investment is being allowed through the automatic route

takes place. Acquisition of existing companies and facilities was explicitly ruled out.

2. The acquisition route was also barred for front-end stores set up by multi-brand chains and investment in cash and carry was exempted for this purpose. So one had to start everything afresh and they wanted to keep this separate so that they could be better monitored.
3. The front end stores set up by multi-brand chains will have to be company-owned and managed, ruling out the franchise route. This was to avoid the possibility of a company going to a state that does not allow FDI in retail to use the franchise route. It was reiterated that procurement of fresh produce would not be counted against its sourcing requirement.

Grey areas remain. Clarifications on a company developing additional infrastructure, plugging loopholes and facilitating monitoring were missing in the August 2013 press note. The government has the discretion to apply or not to apply the

realize that India does not need these companies for their technology or brand name.

The working of some of these companies shows that they import but, more importantly, they pay in different forms: in terms of royalty fees, shared expense and such others. Some companies, particularly Bharti Walmart, not only used the Rs 1,000 crore bank loan but paid higher fees for imports, which was much more than what they brought in under the joint venture. There are other similar cases.

Another company, Amway, known for its multi-level marketing with just Rs 20 crore in paid up capital, sent out Rs 700 crore in three years. These examples can be multiplied and one is familiar with the route. What needs to be asked is whether finance is coming directly from banks or other financial institutions or supplier credits or such other sources. What one is left with is a liability with no real capital gains that can take place when financial institutions are in place. ●

**COVER
STORY**

Reaping Uncertainty

REPORT ON THE STATE OF
THE INDIAN FARMER

The Centre for the Study of Developing Societies (CSDS), Delhi conducted a survey of farmers in 274 villages spread over 137 districts of India between December 2013 and January 2014 (Figure 1, Figure 2, Table 1, Table 2). The bitter outcome: Indian farmers are in a state of penury and are disillusioned with farming. The survey provides interesting insights into their socio-economic background.

Farmers in India are today threatened on a scale without precedent in history. The country's capacity to neglect farmers is phenomenal. This study was commissioned to document the farmer's voice, perceptions, aspirations, why he felt that way and also to capture the picture of the prevailing farm distress. Such surveys are a must and should be able to compare the changing opinion of the farmers every few years.

Human beings have wants; even addictions and farmers are just as aspirational as anyone else. Capturing happiness at the farm level is not easy and the many measures, including growth or education, are not the right links to the happiness quotient. Even though governments keep proclaiming that the country is prospering as a consequence of GDP growth, the farming community has been experiencing an erosion of confidence. Indeed, farmers believe that they are worse off than ever before for a variety of reasons that may differ between individuals and regions. The bottomline is that in most places the farmer wants his child to follow a different vocation.

Since the returns are inadequate, farmers would rather have their children opt out and migrate to cities. The sentiment against progeny continuing with farming is strongest among the landless and small farmers (39 per cent) and lowest among big farmers (28 per cent).

There are concerns over housing, finance, infrastructure, electricity, and the dismal economic scenario that clouds the farm sector.

- 36 per cent of India's farmers live in a *kutcha* (hut) house; 44 per cent in a *kutcha-pucca* (mixed) house and only 18 per cent in *pucca*, independent houses.
- 28 per cent is non-literate; 14 per cent had cleared class X and only six per cent went to college.
- Overall, for 83 per cent, agriculture is the main occupation (varies from 62 per cent in Tamil Nadu to 98 per cent in Gujarat).
- 32 per cent are engaged in non-farm work for additional income.

Figure 1: Geographical distribution of selected samples
Sample Distribution of Farmer Households

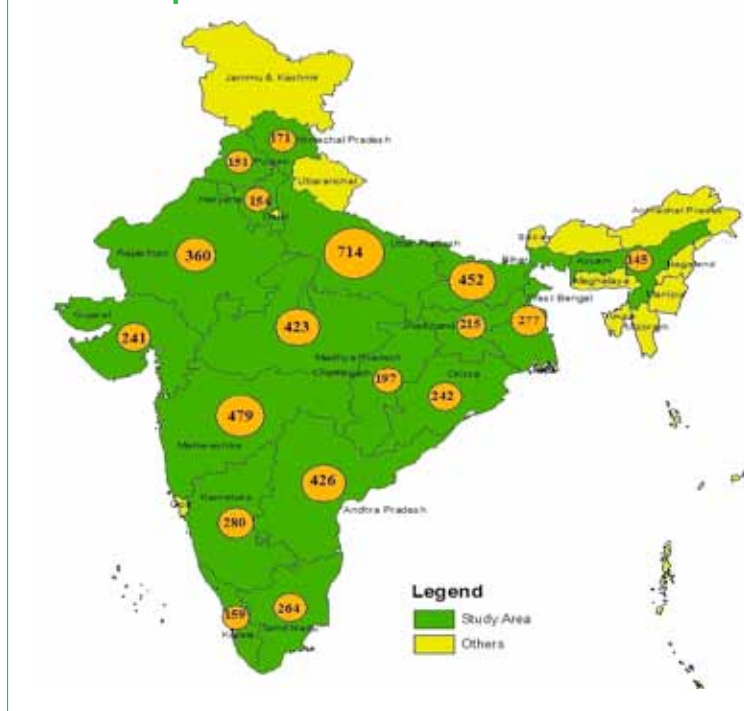
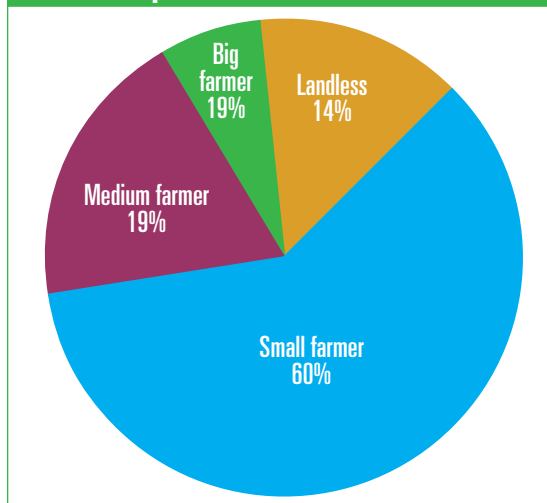


Figure 2: Distribution of sample by land ownership



- In the past year, around one in every 10 farmers has seen their family going without food on occasions.
- Most farmer households (61 per cent) had two meals a day. Only two per cent had one meal a day and 34 per cent ate more than twice a day.
- Only 39 per cent had three meals a day and 44 per cent had lunch and dinner only.
- 65 per cent had others in the family engaged in farming.
- 75 per cent has been engaged in farming for more than 10 years.



Table 1: Distribution of total sample across states

| State | Surveyed household | District | Tehsil/Village | No. of agricultural workers (million)* |
|------------------|--------------------|------------|----------------|--|
| Uttar Pradesh | 714 | 19 | 38 | 37.4 |
| Maharashtra | 479 | 13 | 26 | 24.9 |
| Bihar | 452 | 12 | 24 | 24.8 |
| Andhra Pradesh | 426 | 11 | 22 | 22.4 |
| Madhya Pradesh | 423 | 11 | 22 | 21.2 |
| Rajasthan | 360 | 09 | 18 | 18.1 |
| West Bengal | 277 | 07 | 14 | 14.8 |
| Karnataka | 280 | 07 | 14 | 13.1 |
| Tamil Nadu | 264 | 06 | 12 | 12.3 |
| Gujarat | 241 | 06 | 12 | 11.7 |
| Odisha | 242 | 06 | 12 | 10.6 |
| Chhattisgarh | 197 | 05 | 10 | 8.8 |
| Jharkhand | 215 | 05 | 10 | 8.1 |
| Assam | 145 | 04 | 08 | 5.8 |
| Haryana | 154 | 04 | 08 | 3.8 |
| Punjab | 151 | 04 | 08 | 3.3 |
| Kerala | 159 | 04 | 08 | 1.7 |
| Himachal Pradesh | 171 | 04 | 08 | 2.2 |
| All India | 5350 | 137 | 274 | 248.7 |

* Source: Primary Census Abstract, 2011

- Only 10 per cent were members of any farmer organization.
- 86 per cent of the farmers/families owned land.
- 14 per cent was landless (no owned land); 60 per cent comprised small farmers (owning 1-3 acres); 19 per cent fell in the category of medium farmers (own 4-9 acres of land) and seven per cent in the big farmer (own 10 or more acres of land) category.

Significantly, the survey reveals that 90 per cent of the farmers continue with farming because it is the ancestral occupation, while new entrants account for only 10 per cent. According to the 'NSS 59th Round on the Situation Assessment Survey of Farmers, 2003' at the all-India level, only 60 per cent of farmer households admitted to being happy with farming as a profession and the remaining, if given a choice, would opt for another career.

The survey across 18 states has similar findings: nearly three-fourths of the farmers like the profession. Asked if they liked farming, 72 per cent answered in the affirmative while 22 per cent did not (Figure 3). A regional analysis indicates that 84 per cent of farmers in central India liked farming while in the north and east of India the figures are much lower at 67 per cent and 69 per cent respectively.

For around 83 per cent of farmers interviewed, agriculture is the main occupation and for 79 per cent the main source of household income. For the remaining 21 per cent a large part of the household income came from work other than agriculture (Figure 4).

Table 2: Distribution of sample across geographical regions

| | Farmer household | Youth | Female |
|------------------|------------------|-------------|-------------|
| North | 1190 | 633 | 1026 |
| East | 1116 | 277 | 946 |
| Central | 835 | 432 | 731 |
| South | 1129 | 399 | 756 |
| West | 1080 | 375 | 839 |
| All India | 5350 | 2116 | 4298 |

Interest in farming is also determined by the social class of the farmers. Landless farmers show the least interest/fondness for farming. As one moves up from landless to big farmers, liking for farming grows gradually (Figure 5).

Asked why they liked farming as an occupation, 60 per cent attributed it to farming being their ancestral occupation, 15 per cent felt a sense of pride in being a farmer, while 10 per cent said that farming gave them a good income. Another 10 per cent said that they just enjoyed farming (Figure 6).

The 22 per cent that disliked farming complained of the inadequate income. Of this category, 36 per cent was unhappy with the returns; 18 per cent said that they were farming because of family pressure; 16 per cent saw no future; nine per cent wanted to do another job; eight per cent considered farming stressful or risky (Figure 7).

More than two-thirds (66 per cent) of respondents said that women family members were also engaged in farming. The figure was much higher, at 73 per cent, for big farmers and quite low, at 42 per cent (Figure 8), amongst landless farmers.

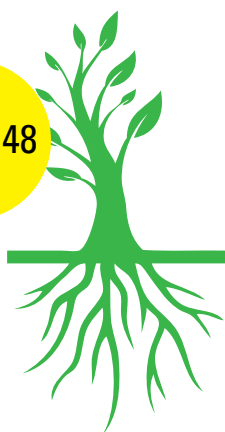
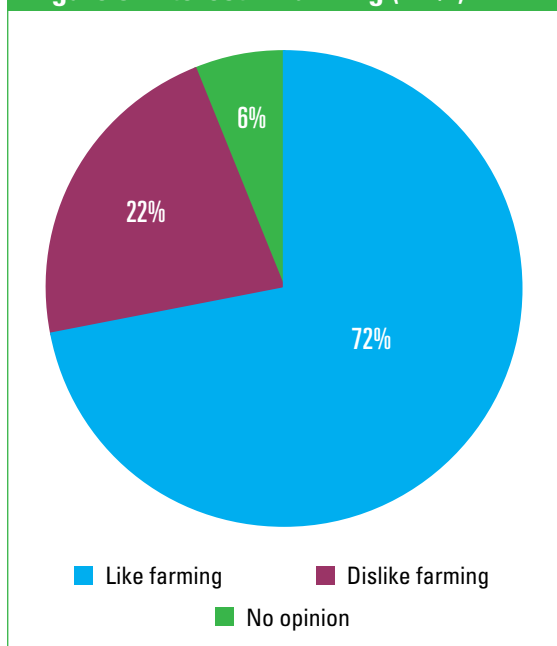


Figure 3: Interest in farming (in %)



Question (Q): Do you like farming?

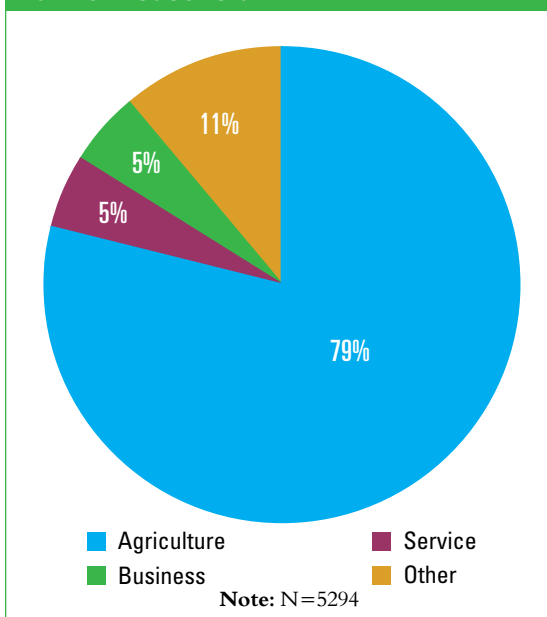
One-fifth of the respondents had their school-going children involved in farming.

The survey investigators interviewed (wherever possible) one female and one young member of the respondent's household on the issue of farming. Some of the key findings from what they had to say:

- 66 per cent of the women in farmer households helped in the farm.
- 18 per cent did non-farming work to contribute to the family income.
- For 67 per cent income from agriculture was insufficient to meet the needs of their family. Only 20 per cent found it to be sufficient.
- 43 per cent believed that had the main bread earner of the family been in some other business, the quality of life would have been better.
- 21 per cent held price rise as the biggest problem.
- 13 per cent said poverty was the biggest problem.
- 63 per cent youth in farmer households helped with the farming.
- Only 24 per cent youth were interested in continuing with farming while 76 per cent preferred to do something else.
- Most of the interested youth would continue with farming since it was their traditional occupation and they wanted to take it forward.

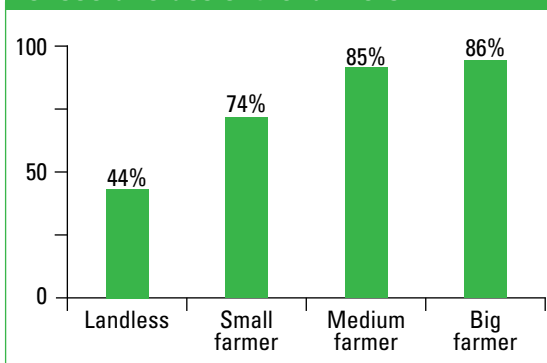
In terms of assets, seven out of 10 farmers owned a mobile phone, and more than one in two farmer households had television (Figure 9). The proportion of farmers with mobile phones and TV sets was lowest in eastern India. North India had the highest penetration of mobile phones and

Figure 4: Main source of income of the farmer household



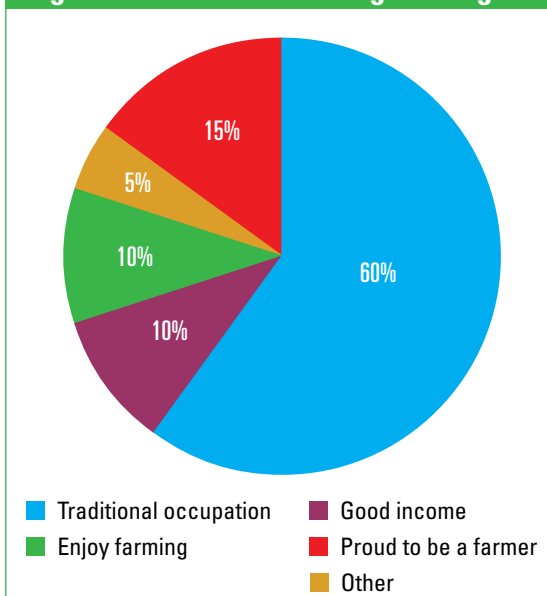
Q: What is the main source of income in your household?

Figure 5: Interest in farming on the basis of social class of the farmers

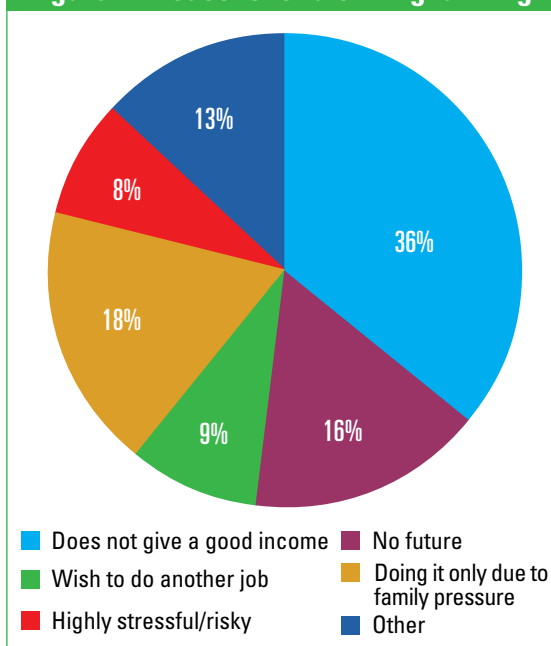


Q: Do you like farming?

Figure 6: Reasons for liking farming



Q: Could you tell me the main reason for liking farming?

Figure 7: Reasons for disliking farming

Q: Could you tell me the main reason for disliking farming?

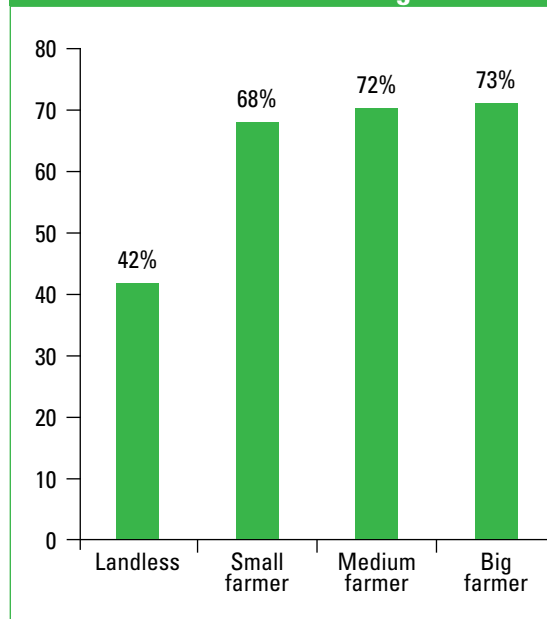
south India the highest proportion of television owning farmer households (Figure 10).

Nearly three fourths of Indian farmers had a bank account or a post-office account. However, the penetration of the Aadhar card among farmers is much less at 50 per cent (Table 3).

South and north India have the highest proportion of farmers with a bank/ post office account followed by central and western India. The lowest is in eastern India. Aadhar card penetration is highest in southern India followed by western and central India. About half the farmers in north India have Aadhar cards. In eastern India, only one in 10 farmers had an Aadhar card (Figure 11).

The survey looked at penetration of bank accounts amongst farmers in terms of their social class and found that 61 per cent of landless farmers had a bank or post office account, compared to 73 per cent of the small farmers. The Aadhar penetration is greater among landless farmers than small farmers. Big farmers seem to have both bank accounts and an Aadhar card (Figure 12). The survey showed that 92 per cent of farmers had ration cards; 45 per cent had BPL ration cards and 42 per cent APL cards (Table 4).

The survey looked at the different practices adopted by farmers in terms of inputs they used; the crops they produced and how many times in a year; whether they produced the same crop throughout the year or different types of crops; how varied the production was from region to

Figure 8: Participation of women from farmer households in farming

Q: Are the following members of your household involved in farming? A. Women, B. School going children

region, amongst others. The findings suggest that nearly half the farmers (46 per cent) grow up to two crops in a year; 28 per cent produced more than two crops annually and 26 per cent only one crop in a year (Figure 13).

These figures differ regionally due to quality of soil, irrigation facilities, climatic conditions and because some regions are more prone to floods and droughts than others. The survey found that 96 per cent of north Indian farmers grew two or more crops annually. In the east and south India, the figure falls to 62 per cent and 58 per cent respectively.

In India, the cropping pattern is characterized by paddy-wheat, which is unique in the world. The survey data confirms this with more than 60 per cent practicing this rice-wheat pattern. While 41 per cent of the farmers identified paddy as the main crop grown, for 21 per cent it was wheat (Table 5).

The survey found that at least 70 per cent of farmers used local or traditional seeds though hybrid seeds were used by 63 per cent. Very few (four per cent) use genetically modified (GM) seeds.

Local or traditional seeds are preferred in central, eastern and northern India. Western and southern India had a relatively lower response for local seed varieties. There is little regional variation in the use of hybrids (Table 6).

Many farmers (36 per cent) considered hybrid seeds to be more profitable than local seeds while 18 per cent felt otherwise and 32 per cent said both

Figure 9: Assets owned by farmers

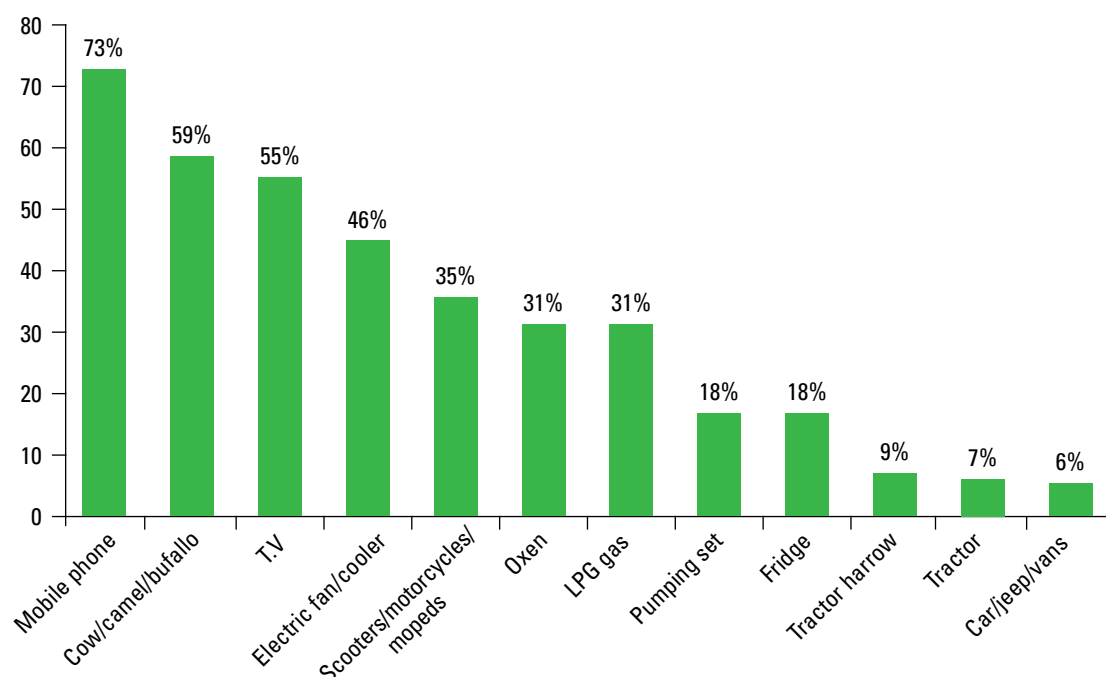
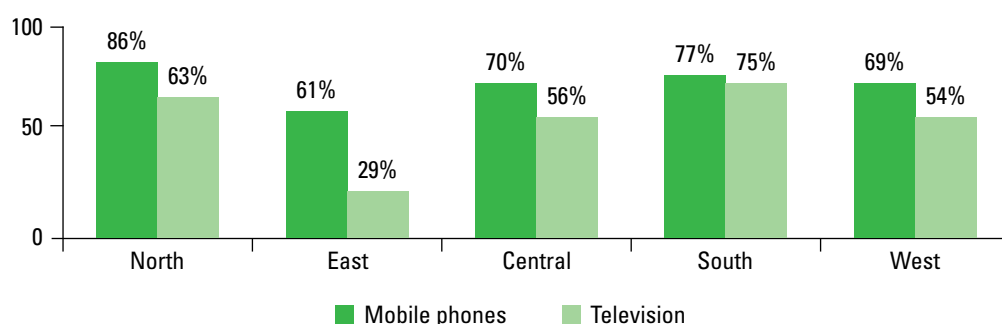


Figure 10: Penetration of mobile phones and television among farmers by region



hybrids and local seeds were profitable (Figure 14).

Asked if GM seeds were good for profitability, 20 per cent said that it should be used for higher farm profitability; whereas 42 per cent did not want hybrids to be used and 38 per cent had no opinion.

Most farmers use both organic and chemical fertilizers; 40 per cent used both chemical and organic fertilizers; 35 per cent only chemical fertilizers and 16 per cent only organic fertilizers (Table 7). Chemical fertilizers are used the most in eastern India. Farmers in south India seem to be using more organic fertilizer than the rest of India.

Pesticides are occasionally used; only 18 per cent used it regularly, 28 per cent occasionally, 30 per cent on a need-to-use basis and 13 per cent never used pesticides (Table 8).

Small farmers used more pesticides; 54 per cent used pesticides regularly. The use amongst medium and big farmers is less at 27 per cent and 10 per

cent respectively. One-fourth of the pesticide users apply it for all crops; 32 per cent used it for some crops; and an equal proportion used it whenever the need arose.

Irrigation is one of the most important inputs in farming. Only 40 per cent of farmers had access to irrigation for their entire farming land. The most common source for irrigation is private pumps, borewells/boring and tubewells and 45 per cent used these as the main source of irrigation. No more than 38 per cent had access to canals in their villages for irrigation. Traditional sources of irrigation like pond and well continue to be important and 34 per cent depends on wells while 30 per cent depends on ponds for irrigation. Only 18 per cent had access to government tubewells for irrigation (Figure 15).

Irrigation facilities are largely dependent on the availability of electricity. However, more than half





Table 3: Proportion of farmers with bank/post office accounts and Aadhar card

| Farmers who have... | Per cent |
|--------------------------|----------|
| Bank/Post-office account | 74 |
| UID/Aadhar card | 50 |

Q: Do you or members of your household have a bank/post office account, UID/Aadhar card?

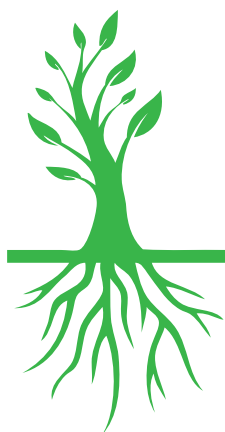
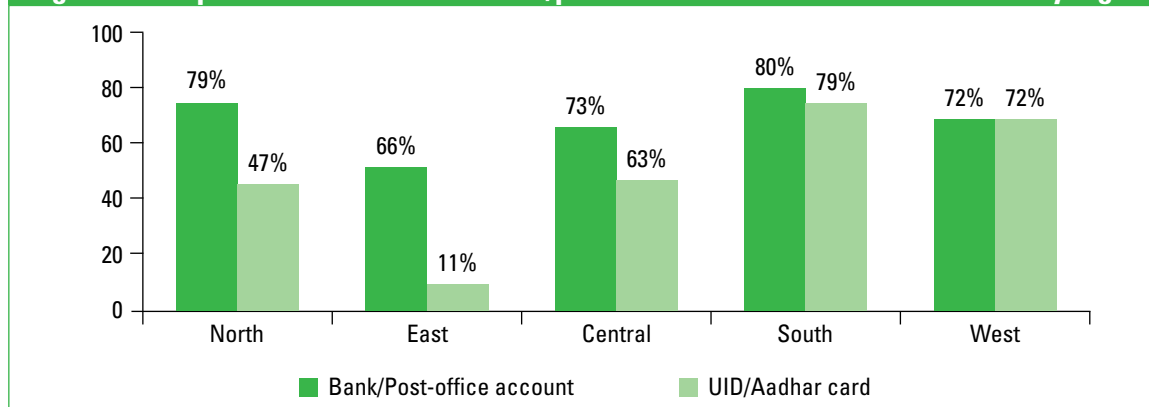


Figure 11: Proportion of farmers with bank/post office accounts and Aadhar cards by region



Q: Do you or members of your household have a bank/post office account, UID/Aadhar card?

the farmers had no electricity for farming (51 per cent) in their area in the week before the survey was conducted. The region-wise distribution shows that 87 per cent of eastern India farmers got no electricity for farming. The figures for north and central India are 46 per cent and 42 per cent respectively (Table 9).

Asked if they would pay more for uninterrupted power supply, 46 per cent of farmers rejected the idea while 31 per cent was willing to pay more. The rest had no opinion on this question. In the absence of electricity, most farmers depend on rainfall (35 per cent) followed by generators/engines (25 per cent) and canals (14 per cent) to irrigate their fields.

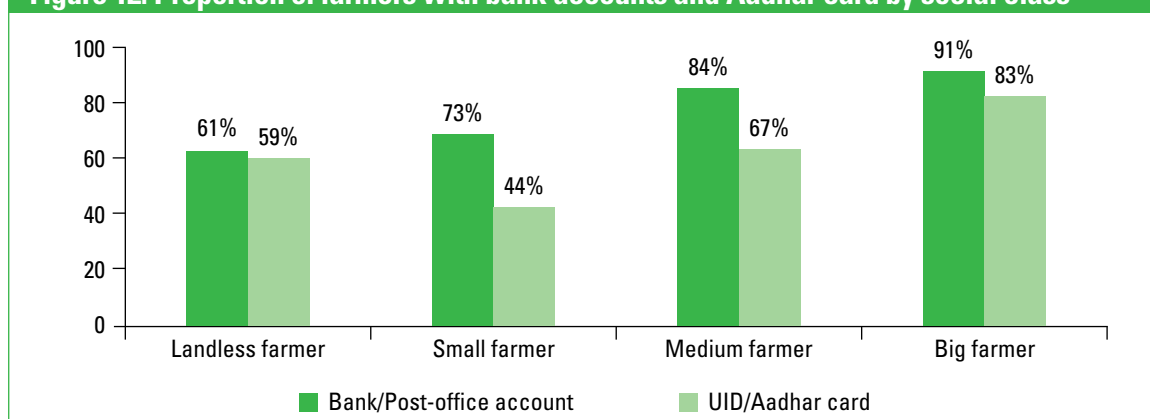
The survey went into the challenges that confront farmers and their overall condition including the crop failures and suicides; issues related to housing, marriage, education, employment health and loans. Around 47 per cent said that the overall condition in the country was bad while 15 per cent said conditions were good.

Eastern and southern states are more worried about the condition of farmers. The self assessment of the general condition of farmers is most negative in West Bengal followed by Kerala while, overall, farmers from western and central India are the least unhappy with their condition (Figure 16).

Around 67 per cent of women members found income from agriculture inadequate to meet expenditure and held that the quality of family life would improve with additional income from other sources. Only 20 per cent found farm earnings sufficient to meet household expenditure.

Indian farmers perceive natural calamities as one of the biggest problems followed by low productivity (Figure 17). The disaggregated data shows interesting regional variations (Table 10). Irrigation emerged as the most important problem

Figure 12: Proportion of farmers with bank accounts and Aadhar card by social class



Q: Do you or members of your household have a bank/post office account, UID/Aadhar card?

Table 4: Farmers with ration cards

| Ration card | Per cent |
|----------------------|----------|
| Above poverty line | 42 |
| Below poverty line | 45 |
| Antyodaya | 04 |
| Annapurna | 01 |
| Do not have any card | 08 |

Q: Which ration card do you have?

in east and central India and low productivity in south and western. In north India, labour-related issues were the most important problem.

A majority of farmers (58 per cent) think both the central and state governments are responsible for their problems. Another 22 per cent hold only the central government accountable and another 20 per cent just the state government.

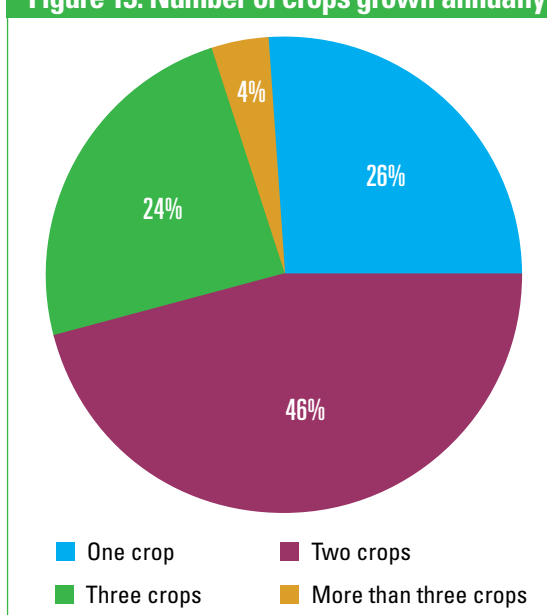
Around 70 per cent of farmers had experienced crop destruction in the last three years. The main reasons for crop destruction are uncertain rainfall; droughts and floods; diseases and birds/animals; and lack of irrigation (Figure 18)

The survey probed if the respondent knew anyone who had committed suicide in their locality in the last five years. Around one in every seven respondent (15 per cent) had heard about suicides in their area. Central India seems to have a higher incidence of suicides compared to other regions. A large number of respondents said that domestic problems (41 per cent) were the most important reasons for suicides, followed by credit/loan (35 per cent) and crop failure (14 per cent) (Figure 19).

Minimum requirements like education, health and employment are a major cause for worry for Indian farmers with only a small proportion worried about repaying loans. As much as 39 per cent of the respondents did not worry about loan repayment. Housing and marriage in the family were worrying factors (Table 11).

Agriculture is not a happy field for Indian farmers

Figure 13: Number of crops grown annually



Q: How many crops do you grow in a year?

and they do not want their children to continue farming. Low income and productivity, irregular weather cycles and low levels of support from the government are the most important reasons for such dissatisfaction. Even so, around 50 per cent of the farmers were satisfied and 40 per cent dissatisfied with their present economic condition.

The regional pattern suggests that farmers from central India are more satisfied while their counterparts in eastern India seem to be most dissatisfied with their economic condition (Figure 20). Not surprisingly, landless farmers are least satisfied with their economic plight and the big farmers are comparatively more satisfied with the present.

Asked to compare the present economic conditions with those obtaining five years ago, 40 per cent said that economic conditions had improved, 37 per cent saw no change and 15 per cent found conditions worsening. Nevertheless,

Table 5: Crops mainly grown

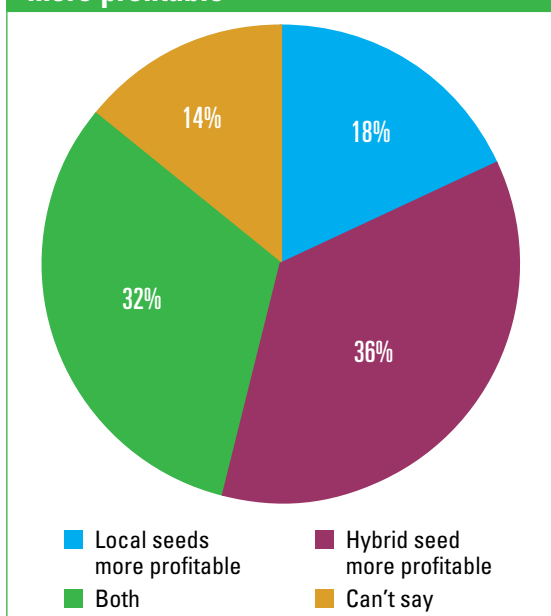
| Crop type | Per cent |
|-----------|----------|
| Paddy | 41 |
| Wheat | 21 |
| Bajra | 05 |
| Maize | 04 |
| Gram | 04 |
| Sugarcane | 02 |
| Soyabean | 02 |
| Cotton | 03 |
| Other | 18 |

Q: Mainly which crops do you grow?

Table 6: Regional picture of use of seeds

| Region | Use local seeds | Use hybrid seeds | Use GM seeds |
|---------|-----------------|------------------|--------------|
| North | 77% | 68% | 5% |
| East | 76% | 56% | 2% |
| Central | 80% | 60% | 4% |
| South | 59% | 61% | 5% |
| West | 62% | 68% | 4% |

Q: Which kind of seeds do you use for farming?

Figure 14: Hybrid seed viewed as being more profitable

Q: Which type of seed is more profitable, local or hybrid?

Table 7: Kinds of fertilizers

| Type of fertilizer | Per cent |
|--------------------------|----------|
| Use organic fertilizers | 16 |
| Use chemical fertilizers | 35 |
| Use both fertilizers | 40 |
| Can't say | 09 |

Q: Which kind of fertilizer do you use for farming, organic or chemical/urea?

Table 8: Use of pesticides by farmers

| Use of pesticides | Per cent |
|-------------------|----------|
| Regular | 18 |
| Occasional | 28 |
| Rare | 10 |
| If need arises | 30 |
| Never | 13 |

Q: How often do you use pesticides in your farming?

some farmers are optimistic about the future and around half of the respondents (42 per cent) felt that economic conditions would improve, 19 per cent expected them to remain the same and 10 per cent expected economic conditions to worsen in the next five years. However, the bigger farmers were happier with the present conditions and more optimistic about the future in comparison to landless and small farmers.

The dissatisfaction with the economic conditions lies at the heart of why a majority of farmers (69 per cent) thinks that city life is much better than village life. Very few farmers (19 per cent) thought that village life was better than city life (Figure 21).

The survey revealed that farmers with no land (landless farmers) show much stronger preference for city life over village life (Figure 22). One possible explanation was better employment opportunities in cities than in villages.

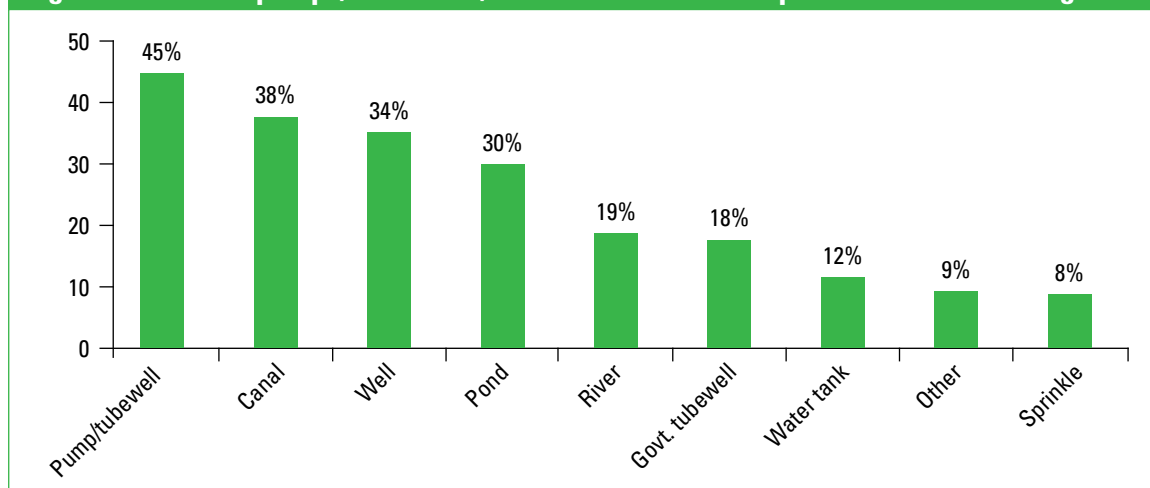
Asked if they would quit farming if they got an employment opportunity in the city, 61 per cent answered in the affirmative and 26 per cent said they would not. Half the farmers said that they would quit farming if given an employment opportunity in the city, provided the job was a good one (Figure 23). Farmers without land or with a small piece of land were more open to the idea of quitting farming and migrating to cities for jobs that gave a higher income. Big farmers (with big landholdings) are much less willing to quit farming for a city job.

Most farmers (60 per cent) do not see a future for their children in farming and would like to see them settle in the city; 14 per cent do not want their children to settle in the city and 19 per cent wanted their children to make the choice. Better education was one of the most important reasons prompting farmers to send their children to settle in cities, followed by better facilities and employment opportunities (Figure 24).

For most farmers, farming has been the ancestral occupation that they liked but when it came to their children engaging in farming, only 18 per cent responded positively; 36 per cent did not want the children to remain in farming; 36 per cent wanted the children to choose.

Not only do most farmers want their children to quit farming and do some other jobs, young members of a farmer household also seem to be less interested in farming. Of the youth surveyed about their keenness to stay in farming, most (60 per cent) would prefer to do some other job,

Figure 15: Private pumps/borewells/tubewells are most important sources of irrigation



Q: What are the means of irrigation present in your area?

whereas only 20 per cent was keen to continue (Table 12).

Only five per cent of respondents had sold land in the past five years because of poor financial conditions (27 per cent) and to get money to finance marriages in the family. Some farmers sold land due to the pressure of land acquisition (Table 13).

In the last five years, only two out of 10 farmers had taken loans for farming related activity, essentially to purchase fertilizers, seeds, pesticides or buying farming equipment like tractor, thresher and such others (Figure 25).

Clearly farmers are not happy with their overall condition in India despite the many central schemes and policies to improve their condition. Most respondents (50 per cent) felt that only rich farmers were benefitted by farm-related government schemes and policies. Only 10 per cent believed that poor and small farmers have benefitted from farming related schemes and another eight per cent saw no benefit whatsoever either to big farmers or marginal farmers (Figure 26).

Some people believe only rich and big farmers have benefited from these policies while others say that poor and marginal farmers have also benefited. What is your opinion?

The feedback on the central schemes and current political issues was very significant. As far as the MGNREGA and cash transfer schemes are concerned, around 85 per cent of the farmers had heard about the rural employment guarantee scheme. The farmers from central and south India were more aware about MGNREGA and farmers from the western states were comparatively less aware about them. Of those who knew of MGNREGA, only 44 per cent had a family member

Table 9: Regional picture for no electricity for farming

| Region | No electricity for farming (%) |
|---------|--------------------------------|
| North | 46 |
| East | 87 |
| Central | 42 |
| South | 39 |
| West | 40 |

Q: In the last seven days, for how many hours did you get electricity for farming?

working under the scheme and 51 per cent said that it had brought no succour to the family.

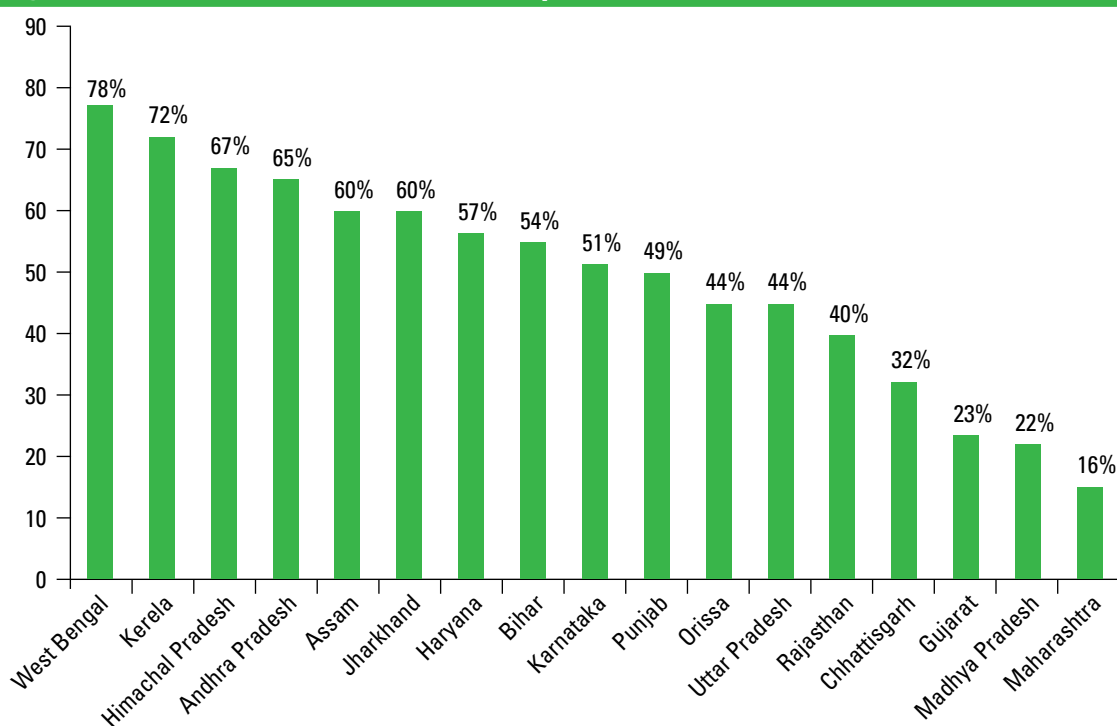
Should MGNREGA schemes be implemented round the year or only when there was no demand for agricultural labour? The opinion was divided and most of the landless labourers wanted MGNREGA work throughout the year compared while the big farmers, support MGNREGA work only when there is no need for agricultural labour (Figure 27).

Most farmers (70 per cent) had not heard about Direct Cash Transfer scheme. Only 13 per cent of the landless farmers had heard about it and 54 per cent of the big farmers was aware of it. Besides, there is a regional variation in awareness levels (Figure 28).

Asked about the Direct Cash Transfer scheme and whether they preferred subsidy for agricultural inputs like seeds, fertilizers and such like to be directly deposited in their bank account so that they could use it as the need arose, their responses seemed unclear and 40 per cent did not express any opinion on this issue, especially the landless farmers. Around 34 per cent of the farmers supported the idea of subsidy benefits going directly to the bank accounts. Only 19 per cent wanted subsidy as before; seven per cent spoke about the probability of corruption in both the methods (Figure 29).

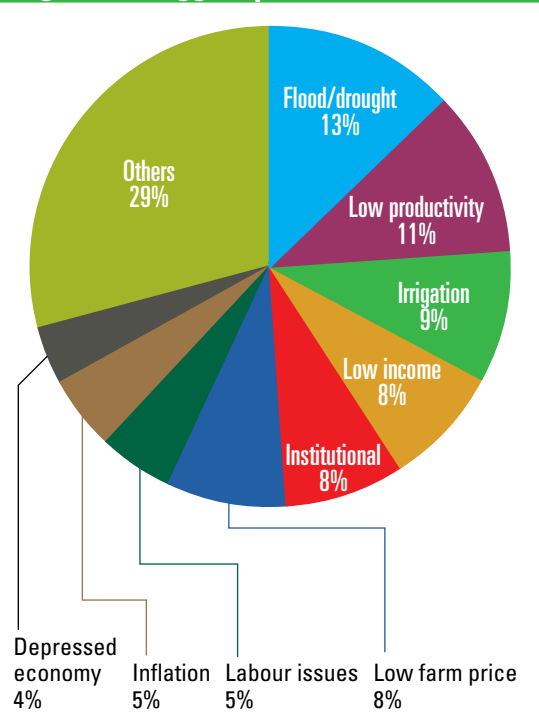


Figure 16: Overall condition of farmers is perceived to be bad in most states



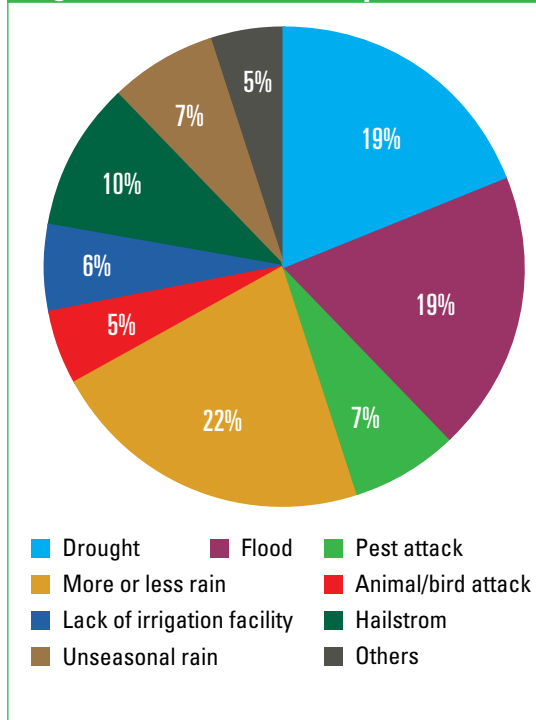
Q: How would you rate the overall condition of the farmers in this country, is it very good, good, somewhat good, bad or very bad?

Figure 17: Biggest problem of the farmer



Q: What is the biggest problem faced by Indian farmers today?

Figure 18: Reasons for crop destruction

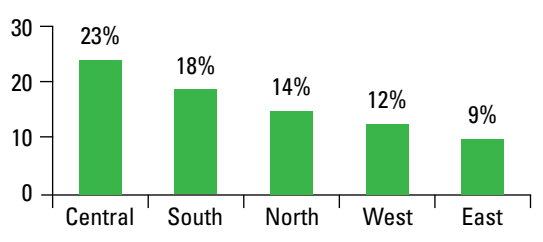


Q: If destroyed, what was the main reason for crop destruction?

Table 10: Regional variations in problems faced by farmer

| Region | First major problem | Second major problem | Third major problem |
|---------|---------------------|----------------------|---------------------|
| North | Labour issues | Low productivity | Low income |
| East | Irrigation | Flood/drought | Low productivity |
| Central | Irrigation | Labour issues | Inflation |
| South | Low productivity | Depressed economy | Irrigation |
| West | Low productivity | Low income | Flood/drought |

Figure 19: Knowledge of someone committing suicide in the area by region



Q: Has anybody in your village/area committed suicide in the last five years?

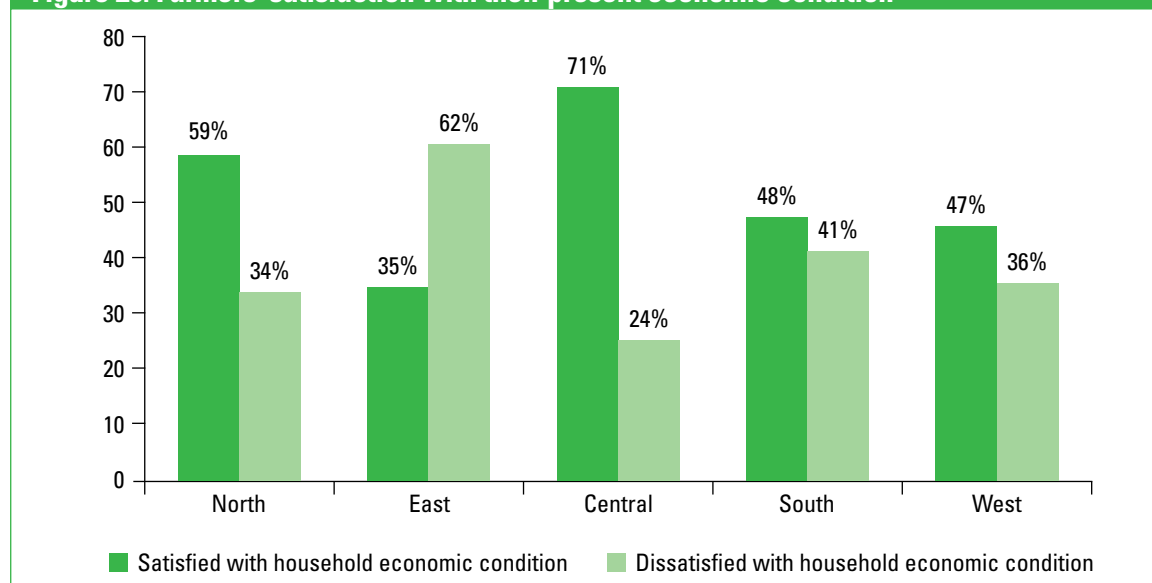


Table 11: Worried over major responsibilities in life

| Life responsibilities | Very much | Some extent | Not at all |
|-----------------------|-----------|-------------|------------|
| Education of children | 60% | 30% | 10% |
| Farming | 59% | 33% | 8% |
| Employment | 58% | 35% | 8% |
| Health | 53% | 39% | 7% |
| Marriage in household | 47% | 40% | 14% |
| Buying a house | 33% | 39% | 28% |
| Repayment of loan | 31% | 30% | 39% |

Q: How much do you worry about major life responsibilities?

Figure 20: Farmers' satisfaction with their present economic condition



Q: Compared to five years ago, how is the economic condition of your household today? Would you say it has become much better, better, remained same, become worse or much worse?

Only 27 per cent of the farmers had heard about the land acquisition law and amongst this category, only 21 per cent thought benefits would accrue from the law; 57 per cent thought that the farmers stood to lose from the law; 22 per cent did not express any opinion. Also, 83 per cent of the farmers had not heard about Foreign Direct Investment (FDI).

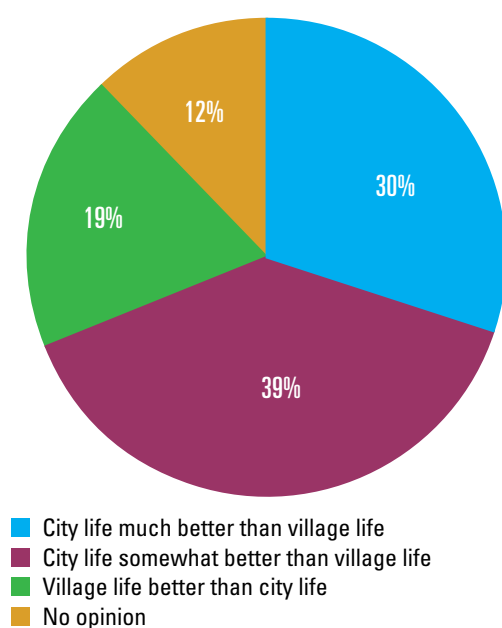
Among those who had, a majority (51 per cent) did not want FDI in the agriculture sector because it would hurt their ability to bargain; 28 per cent said that FDI should be allowed in the agriculture so that farmers could sell their crops directly to the big companies. Another 21 per cent expressed no

opinion on this question.

Interestingly, 40 per cent of the landless farmers supported FDI in agriculture because they believed that FDI would allow them to sell directly to the big companies. The big farmers with large land holdings do not support FDI in agriculture because they believed that it would harm the bargaining capacity of the farmers.

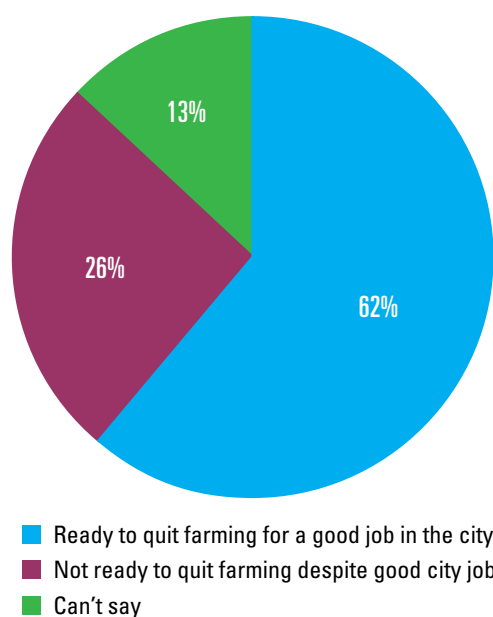
Most farmers are unaware of such schemes as Rashtriya Krishi Vikas Yojana, Gramin Bhandaran Yojana, National Food Security Mission, National Agriculture Insurance Scheme, Agriculture Technology Management Agency, Gramin Beej

Figure 21: Most farmers think that city life is better than village life



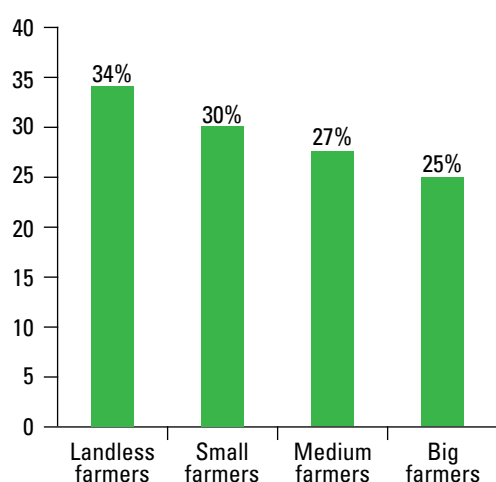
Q: How good is city life in comparison with village life?

Figure 23: Would you quit farming if you get employed in the city?



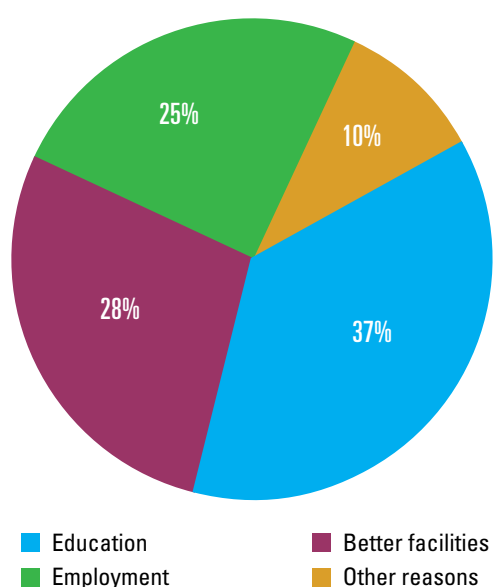
Q: If you get an opportunity, would you leave farming and take up employment in a city for a better income?

Figure 22: Preference for city life by social class of farmers



Q: In your opinion how good is city life in comparison with village life. Is it very good, somewhat good or not good at all?

Figure 24: Why do farmers want their children to settle in the city?



Q: What is the main reason for which you would want your children to settle in the city?

Table 12: Why do the young not want to pursue farming?

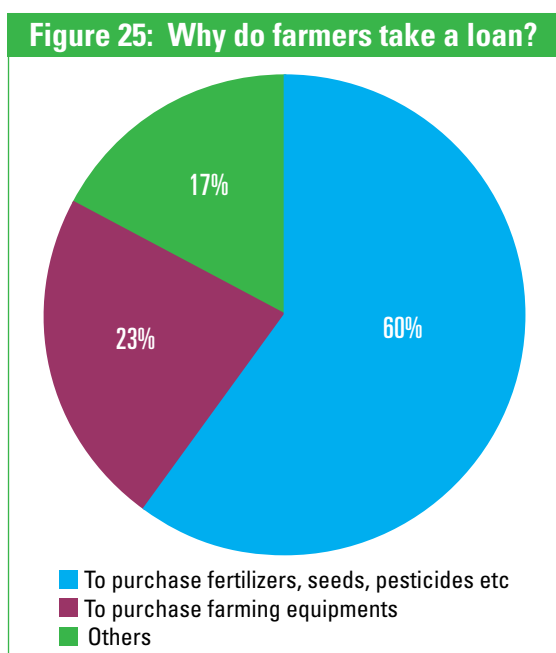
| | Per cent |
|---|----------|
| Interested in other job or work | 36 |
| Earning is not good | 22 |
| I am highly educated so this work is not for me | 08 |
| Risky/mental tension | 07 |
| Agriculture is a ruined area | 05 |
| Others | 06 |

Q: What is your main reason for not opting for farming?

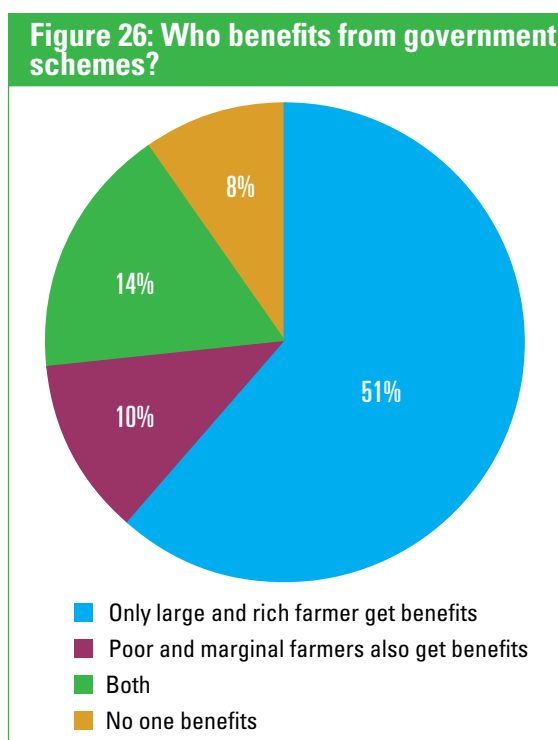


| Table 13: Reasons for selling the land | |
|--|----------|
| | Per cent |
| Poor financial condition | 27 |
| Money required for family marriage | 15 |
| Pressure of land acquisition | 09 |
| For business/education of son/daughter | 09 |
| Had to return money to the money lender | 07 |
| Got a good deal | 07 |
| For medical expenditure/treatment | 06 |
| Property was disputed and there was pressure to sell | 04 |
| Poor earning form the land | 03 |
| Pressure from private company | 02 |

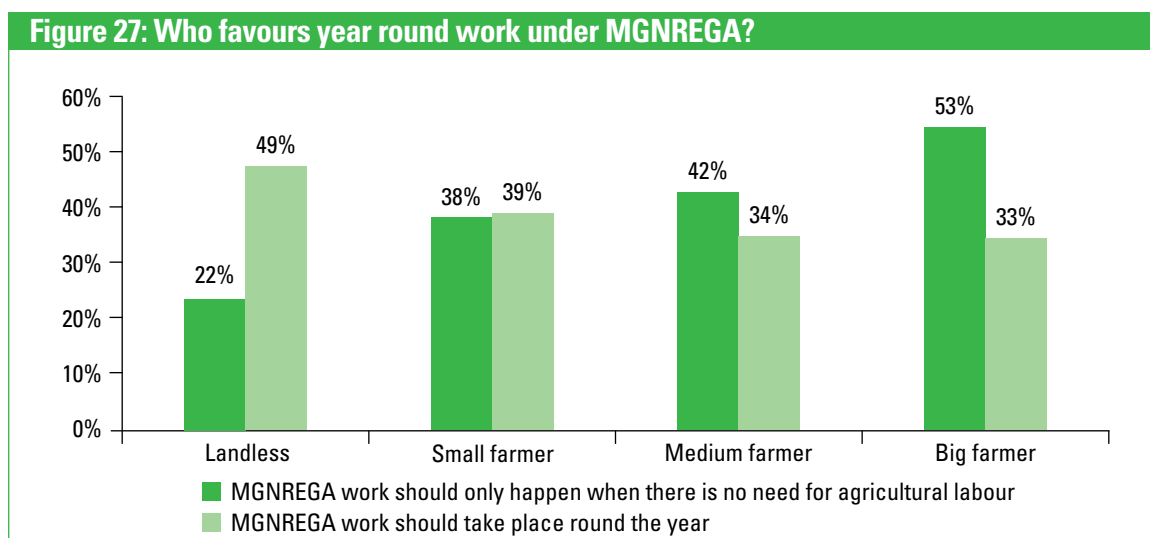
Q: Why did you sell your land?



Q: If taken loan, then the loan you took for farming was used mainly for which purpose?



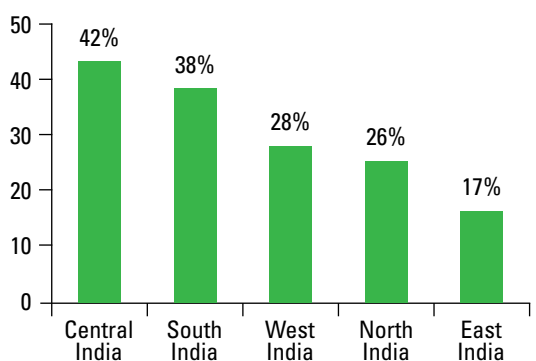
Q: Who in your opinion has benefited from agriculture related policies of the government, rich and large farmers or also poor and marginal farmers?



Q: Should work under MGNREGA be allotted when there is no need for agriculture labour?



Figure 28: Regional variation in awareness about Direct Cash Transfer



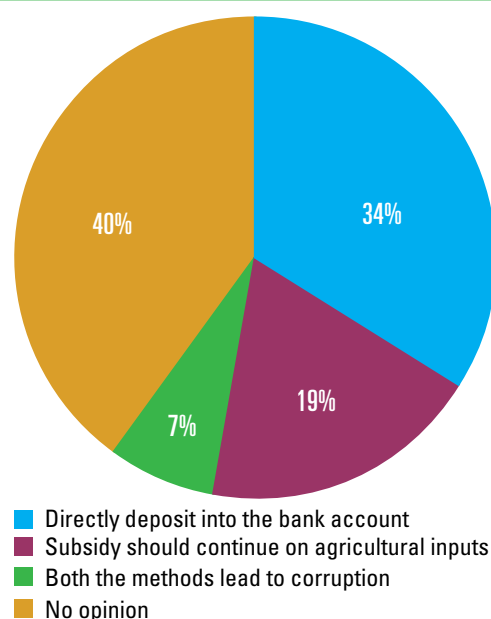
Q: Have you heard about the Direct Cash Transfer scheme according to which money for subsidy will go directly to your bank account?

Table 14: Opinion on demonstrations, strikes...

| Demonstrations, strikes, gheraos are..... | Per cent |
|---|----------|
| Acceptable | 32 |
| Acceptable, as per the situation | 35 |
| Unacceptable but the only way out | 10 |
| Unacceptable | 07 |

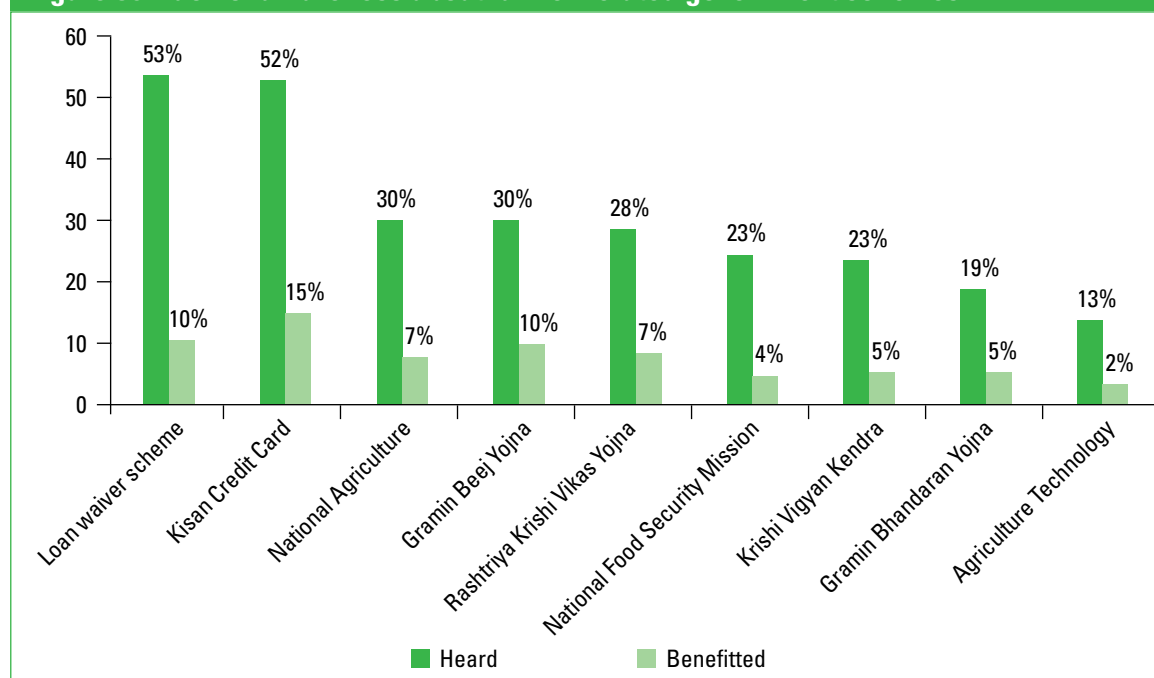
Q: Are demonstrations, strikes, gheraos the appropriate way through which farmers can fight for their rights?

Figure 29: More support for Direct Cash Transfer than subsidies



Q: Should subsidies for agricultural inputs like seeds, fertilizers etc be directly deposited in a farmer's account so that they can use that money as per their needs?

Figure 30: Lack of awareness about farmer-related government schemes



Q: Have you or your family heard or benefitted from any government schemes related to farming?

Yojana, Krishi Vigyan Kendra, Kisan Credit Card and the loan waiver scheme. Being unaware of these schemes most farmers did not benefit from them (Figure 30).

There was meagre awareness about Minimum Support Price (MSP), under which purchases are made from the farmers at the rates declared by

the government of India. Around 62 per cent of the interviewees were not aware about MSP; 38 per cent had heard about MSP. Of those who had heard, most (64 per cent) were dissatisfied with the rates determined by the government and only 27 per cent was satisfied with MSP rates.

On the one hand, the farmer did not benefit





for lack of knowledge about the scheme and, on the other, the facility provided to farmers, to access information or help related to agriculture from officers of the agricultural department, is not working well. Three-fourths of the farmers got no information or help from the agriculture department on these matters.

Asked whether demonstrations, strikes, gheraos and such other pressure tactics were appropriate ways for the farmers to fight for their rights, 67 per cent said they were appropriate and seven per cent considered them to be inappropriate means (Table 14). However, no more than 18 per cent of the farmers had actually participated in such demonstrations/strikes in the last five years. Three-fourths of the farmers interviewed said they had not taken part in any demonstration or strike in the last five years.

Farmers were asked to talk about the most important issue for the 2014 Lok Sabha elections in an open ended question and 17 per cent of the respondents said that price rise would be the most important issue for them when they voted in the 2014 Lok Sabha election. Other issues were unemployment, irrigation, corruption. ●

Form IV (See Rule 8)

Ownership Statement of Farmers' Forum English Bi-Monthly

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I, Ajay Vir Jakhar, do hereby declare and confirm that the above particulars of Farmers' Forum English Bi-monthly are correct and true.

Place: New Delhi
Dated: 1st March, 2013

Sd/-
Ajay Vir Jakhar
Signature of Editor, Printer & Publisher



A Manifesto for the Farmer

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A Farmers' Forum Report

Come election time and farmers become an important constituency for all political parties. Clearly, this is the time for the farm sector to drive home its messages to all contesting parties. The idea is to have them understand what the farmers want and then include them in their election manifestos.

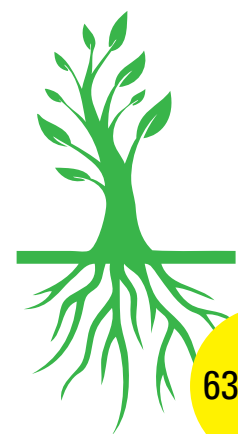
Bharat Krishak Samaj has prepared a list of suggestions for the political parties to consider so that the new government comes in with an understanding of the real issues at the grassroots level:

1. Make subsidies inversely proportional to size of land holding.
2. Construct a million water storage reservoirs and repair another million such reservoirs.
3. Allow farmers to own and operate downstream water canals network and transfer funds needed for that to them.
4. Repair all existing irrigation infrastructure projects and provide drainage for water logged areas.
5. Distribute soil moisture measuring sensors to all farmers.
6. Double the number of loans of up to Rs 1 lakh given to farmers and charge a one per cent

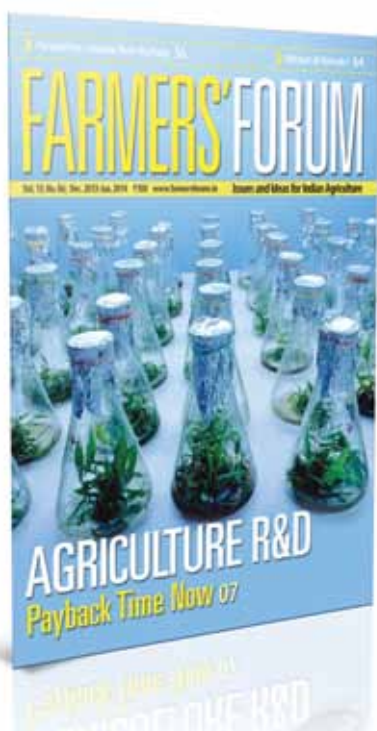
This list is economically conservative & politically correct, but is not exactly a wish list. Time running around policymakers has taught us it's better to settle for lesser inconveniences

interest on them. Use the cooperative bank and postal department networks to increase access.

7. Set up a debt recovery tribunal type of authority for farmers to resolve loan disputes.
8. Order a CAG audit of the agriculture lending portfolio of all public sector banks.
9. Give interest free loans to cooperative societies for purchasing farm machinery at zero interest repayable over three years to lease services to farmers.
10. For farmers insuring their crops, pay a matching 50 per cent of the premium.
11. Spend two per cent of GDP on agriculture R&D.
12. Appoint one agriculture graduate as an extension worker for every six villages; create a lakh of jobs.
13. Provide a soil card for every plot of land in the country.
14. Provide for 10 times more funding for propagating organic practices, integrated pest management and research in millets and bio technology.
15. Double expenditure on diversification to allied activities like horticulture, fisheries and livestock rearing.
16. Distribute a pair of quality livestock to all farmers depending on local conditions, farmer's choice and provide vet advice at door step.
17. Review the mandate of the Commission on Agriculture Cost and Prices for recommending MSP.
18. Guarantee purchase all over the country at the announced MSP.
19. Increase funding for data collection by 10 times.
20. Increase market yards by 50 per cent and provide full infrastructure in all existing yards.
21. Incentivize FDI in food processing industry.
22. Make space for 10,000 farmer markets in cities across India.
23. Introduce a law to limit maximum commission chargeable on agriculture produce sale at two per cent.
24. Remove all restrictions on export of agriculture produce.
25. Introduce a law for compulsory presence of trained agro chemist/graduate in every shop selling agriculture inputs like in a pharmacy.
26. Suspend the 100 days of guaranteed work under MGNREGA during sowing and harvesting for 117 days in a year. The 100 days of work scheme can be availed in any of the other 250 days.
27. Converge agriculture, rural development and irrigation and make it one powerful ministry. ●



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THE GERMAN WAY

ENRICHING FARMERS Embracing the Environment

Ajay Vir Jakhar

Germany is a historical country, right from resisting and taking down the expansionist Roman empire, the world wars to its own reunification. These are all path-breaking developments in their own times. I arrive in Berlin to speak at the International Green Week.

Always a colourful celebration of farm producers from across Europe, this year's event had greater participation from the east European states. The debate too is surprisingly balanced and diverse views are encouraged; much like the Bharat Krishak Samaj seminars back in India.

While deliberations take place inside, there are demonstrations outside. One set of demonstrators

wants more physical space for chicken in coops, pigs in pens and cows in enclosures while another wants a ban on export of agriculture produce from Germany. I enquire what this is about and am astounded by the response. Why produce more food or more meat than the country needs, the demonstrators ask. This position emanates from the well argued position that agriculture for export destroys the local environment.

Another set of protestors wants a ban on genetically modified (GM) crops but times have changed and GM corn is being approved for sowing in Europe. With such a disparate group of protestors, farmers here are obviously feeling uneasy. A self-sufficient society might afford such

eccentricities, India certainly cannot.

The day is sunny and warm but I am stuck indoors in the large conference centre. I get to meet the president of the Deutscher Bauernverband (DBV) Joachim Rukwied. I hear him speak at the state reception in the evening and though I do not understand a word of German, I can sense his enthusiasm; he evokes emotions and passion and is cheered by the audience.

Joachim is also fighting the urban bias in policies that are influenced by an increasingly vocal urban population. He is a worried man for he is responsible for most of Germany's farmers. I also get to meet the formidable and respected Franz-Josef Feiter, former state secretary and secretary general, who inspires me to join other international farmer organizations.

The next day Steffen Pinggen, Umweltpolitik, Deutscher Bauernverband, takes me to visit a farm. After a two-hour drive we arrive to meet farmer Peter Kaim, who lives in Behnitzer Weg in Buandenburg, Germany. Peter's father had an 11 hectare (ha) farm in Bavaria in front of the Alps and 11 cows. Sensing an opportunity arising out

energy generation commitment of the country. This too is criticized by many as being economically unsustainable. The drive for alternate energy has even incentivized bio gas co-generation. These incentives are not called farm subsidies though!

In my village there is a saying, 'you can catch an ear from any side, it is still called catching an ear.' Whatever you may call it; incentive, mitigation expense or subsidy, it is still a subsidy. Definitely in a more productive form, it is but still a subsidy.

I am surprised again when Peter takes me see the biogas plant that has cost him Euro 5 million and he has spent Euro 1.5 million because the government has agreed to a buy-back of electricity generated at 20 cents of a Euro per unit for 20 years. Peter produces 380 kilowatt (kw) of energy; sells electricity to the grid and provides heat to 800 houses in the village. The banks are happy to fund the investment for they are assured fixed returns for 20 years.

The investment on the biogas unit is more than the cost of land and the profit from it appears to be more than that from agriculture operations. Agriculture thrives on the backbone of the

The investment on the biogas unit is more than the cost of land and the profit from it appears to be more than that from agriculture operations

of reunification, Peter came from Bavaria 21 years ago to these parts of what was earlier East Germany, worked on a farm for three years, and later bought 60 ha of land.

Bavaria has 80,000 farms of an average size of 20 ha. The average land holding in regions that were part of the former East Germany are still far larger though and not only because of pre-unification laws. The quality of land is different too and the land is valued as such.

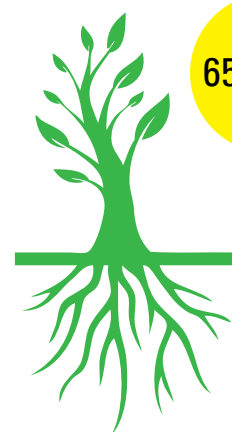
Hard working Peter today owns 500 ha and leases the rest of the 850 ha land that he cultivates. He has 600 ha under cultivation (150 canola, 150 maize, 30 ha for kernels and 120 whole plant silage) and 300 ha with barley, rye and wheat combination. He owns 150 cows that give 9,100 litres of milk per cow average year. The cost of milk is up to 40 cents of a Euro per litre from 19 cents four years ago. Milk is collected every two days by DMK (German Mobile Counter).

The landscape at places is literally littered with windmills. This is a consequence of the alternate

environment mitigation impact policy investment that has been incentivized by the government.

Peter has to store manure for six months by law and has to apply it on the land from February onwards when it gets warmer and plants required nitrogen. After all, theoretically, all this is about saving the land from nitrogen leaching too. Some 300 cows give enough manure for such a size biogas plant. Maize silage gives even more gas and is more profitable. A tonne of maize silage gives the same amount of gas as four tonnes of manure. Therefore the cost of electricity buy-back falls when the ratio of manure used in biogas produced is reduced.

Peter's is an integrated farm with a complete nitrogen cycle: cow-biogas-field-cow. Is that enough to justify billions of Euros of investment by the government? This does not make economic sense to me but I am happy for Peter. Cows are fed a combination of 11 products; maize silage, maize kernel, gram silage, sugar beet, canola, straw, hay and such others. Peter also sells grass to other farmers. Besides, he is growing soyabean over 5 ha





Peter in front of the biogas unit

different sheds and the sophistication of operations. Peter employs eight people who get paid Euro 1,700 per month of which Euro 500 is deducted for insurance and medical policy. The take home wage is Euro 1,200. Peter also has two apprentices who have come to learn and get paid Euro 400 each.

After an extended tour of the farm we drive to Peter's house where his wife asks me what I want to drink. I ask for milk not only because I am in dairy farmer's house but also because milk is my favorite drink. My family and I savour milk just like the Germans savour beer. Germany surprises me again. Peter tells me that he cannot offer his guests his own cow's milk if it is not processed, which he does not do. Therefore, I drink milk purchased from the market.

India has no such laws and had there been one no one would follow. Peter's wife tells me that their eldest son is learning to work on a farm. She serves us nice sandwiches with warm milk and I am tempted to ask her to pack some more for me but I resist. I have already imposed on their time and their warm hospitality that I shall

Peter's is an integrated farm with a complete nitrogen cycle: cow-biogas-field-cow. Is that enough to justify billions of euros of investment by the government?

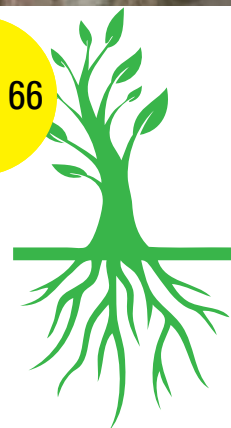
this season to understand the economics.

While Peter is explaining the workings of the fully-automated bio gas unit, the computer screen shows the outside temperature at (-)4.3°C. I was already feeling very cold in the cloudy windy weather outdoors but now I start to feel colder knowing the temperature outside is so low. Peter tells me that this winter is very mild and normally the temperature dips to (-)10°C to (-)15°C.

It is a tough life in spite of the zero tillage machinery, the size of small houses, scattered over

always remember. I invite them to come visit me on my farm in my village and experience a different world.

Back in my village, my friends ask me if I would prefer to farm in Germany since I am so impressed with the government support for farmers and as I rave about their advanced farming practices. I do not hesitate to say no; India is too good to leave. We have taken this the long road to progress not to run away for greener pastures elsewhere but to change the nation to one where farmers prosper. ●



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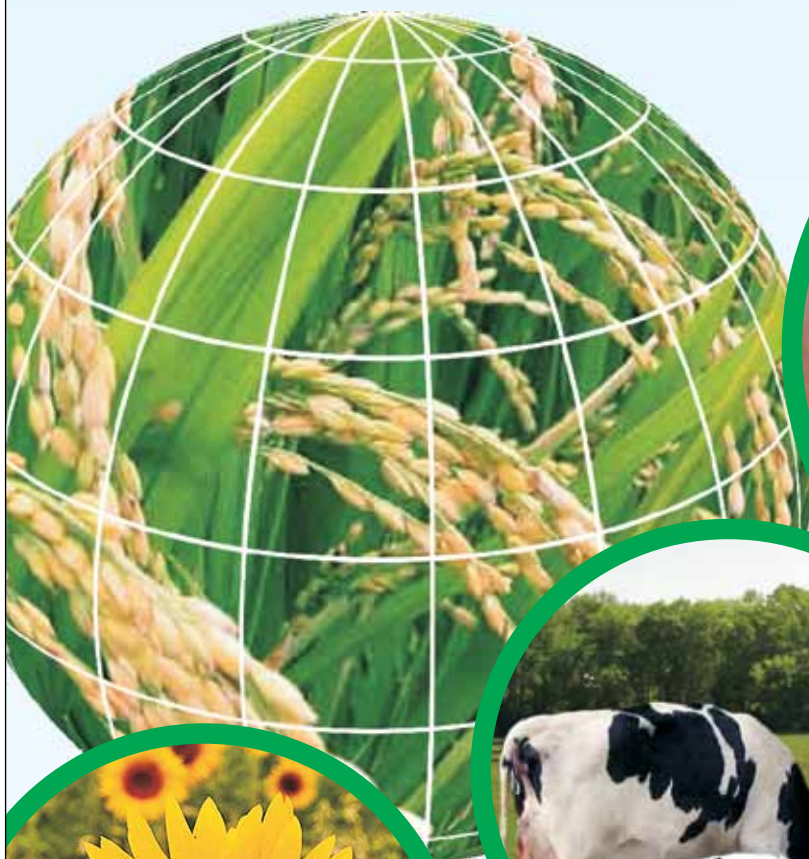
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