

➤ Thought Leader: Delivering on the Promise

➤ Case of the Missing Government

# FARMERS' FORUM

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Issues and Ideas for Indian Agriculture

A woman in a red sari and floral shawl is shown from the side, pouring grain from a large earthen bowl. The grain is falling in a wide, golden stream. The background is a soft-focus field under warm, golden light.

## DOUBLE OR QUIT

### STRATEGIES FOR A TWO-FOLD RISE IN FARMER INCOME

RADHA MOHAN SINGH | ARJUN RAM MEGHWAL | S. K. PATTANAYAK  
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# Double or Quits

**D**oubling farm incomes is a planned gamble where the odds are stacked against the farmer. For the farmer, quitting is not an option; his life depends on it and he is quite ill equipped to change occupational tack. Yet, his own occupation is not a matter that he quite controls; he is what government policies allow him to be in a world where failures of policies to achieve objectives are legion.

More importantly, such failures are commonly attributed to implementation hurdles. This attribution is broadly misleading and only narrowly true. Policies primarily fail to deliver because of flawed design. The proposed beneficiaries — the farmer — and those who are to actually implement the programmes, like patwaris, block development officers and such other members of the administrative system, are not taken into confidence at the drawing board stage.

This is best exemplified by the GST Constitutional Amendment Bill, India's biggest tax reform. The model GST law draft will leave one laughing, literally in splits; before the horror of how utterly ruinous it will be for farmers and vis-à-vis farm policy actually sinks in, especially when a doubling of the farmer's income is a starred government agenda.

Doubling farm incomes requires the government to at least deliver on its basic promises. The MSP for pulses was raised significantly to incentivize farmers to grow more pulses. The farmers responded and the acreage has increased substantially. Yet, even before harvest, the prices of moong are hovering below the MSP of ₹5,225 per quintal, the government has reneged on its promise and has not yet begun purchases. If the government continues to remain indifferent, the price will fall further and each small farmer family could suffer a loss upwards of ₹20,000. The options for farmer are limited and he is further burdened with the need to understand the GST.

As per the model GST law, "agriculture" includes floriculture, horticulture, raising of crops, grass, grazing and such others but excludes dairy, poultry, gathering of fruit, raising of man-made forest or rearing of seedlings and plants. For all practical GST purposes, therefore, eggs or cow's milk may be taxed though selling meat may escape the GST because grazing is considered an agricultural activity.

Growing grass is not in the tax bracket (cutting grass is) but tribals collecting forest produce surely are. Growing flowers is exempt from GST but growing a man-made forest, which is environmentally friendly (to save cutting down of forests), is under the ambit of GST. Possibly, half of all land leasing transactions work is on a crop-sharing basis; where the land owner and the cultivator share costs, inputs and labour in an agreed ratio. Such agreements will be taxed now even though it is impossible to differentiate between agreements on how crops are grown.

One needs to reserve the laughter for later because

**ATTRIBUTING  
POLICY FAILURE TO  
IMPLEMENTATION  
HURDLES  
IS BROADLY  
MISLEADING  
AND ONLY  
NARROWLY TRUE**



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## THE INSIDIOUSLY WORDED BILL CANNOT HIDE THE INTENT TO TAX FARMERS. IF KEY CHANGES ARE NOT MADE, THE GST AMENDMENTS WILL CAUSE UNIVERSAL MISERY

04

all this is a legacy of the British Raj and the policy maker does not believe in letting go so easily. Reading the GST will also remind one of the guillotine in France. GST defines “goods” as inclusive of growing crops attached to the land that ‘are agreed to be severed before supply’. It almost reads like decapitating the head from the neck where the sale of the tomato sapling, for instance, is subject to tax but selling tomatoes is not.

The government’s farm sector reforms are founded on the proposed land leasing law. As per the model GST law, the “agriculturist” will not be a taxable person. The definition of “agriculturist”, however, is limited to a person who cultivates the land personally. The implication is that any entity that enters into a contract will be taxed. In one stroke, contract farming and land leasing have been dealt a fatal blow.

Not one parliamentarian raised a voice of caution about such lunacy. Farmers watching the Rajya Sabha debate must have wondered why they could not spot a single farmer in the ranks.

So many personalities have been nominated to the Rajya Sabha;

experts from various disciplines from films to sports: the likes of Sachin Tendulkar (sports) or Rekha (film star), who choose not to attend.

An even more fascinating example is that of cricketer turned comedian Navjot Sidhu, who was nominated for sports, having acquired notoriety earlier for having lost his cool with a motorist and striking him a fatal blow, who preferred to use his position as a stepping stone to furthering his political fortunes.

Many have contemplated the rot in Indian democracy but are unable to suggest a better path. The biggest failure of farmer organizations (including the Bharat Krishak Samaj) has been their inability to galvanize farmers into realizing their true power.

Returning to the GST and other related issues, if only the parliamentarians read what they pass as a law, Indians would not face this interpretation conundrum. The hullabaloo centres on the rate of taxation though logically the specifics of the model GST law should have been questioned first. Politicians conveniently kept liquor out of GST because the trade generates the largest quantum of slush funds for state politicians. If the government’s true intent was to double incomes and enhance revenues, it should have started by simply taxing liquor more.

Many states believe that the mandi tax is not excluded but, in all probability, the GST will subsume the mandi tax and the states are yet to fathom the cascading ramifications. The GST can turn to be as good as it being projected to be but unless key changes are made, the amendments will institute universal misery instead of simplifying and unifying tax rates.

The policy maker’s insidiously worded GST cannot hide the one clear intent to tax farmers. The Bible says: “Beware of false prophets, who come to you in sheep’s clothing but inwardly are ravenous wolves”. ●



*Ajay Jakhar*

Ajay Vir Jakhar  
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# To the Editor

## Organizing the farmer's voice

Sir, Apropos of your editorial, "Yet Again; Time to Reap A Bitter Harvest" (*Farmers' Forum*, June-July 2016), it is curious that the government, season after season, year after year, makes a mess of MSP management but things seem to have been taken to absurd lengths this time. As you so rightly mention, "rather than incentivizing the farmer with higher MSP, the government explores possibilities of growing pulses in Africa to meet domestic demand. How best to support Indian farmers should be the question; not those in Africa!". I do believe that farmers must look at innovative ways of communicating with the government and do so with authority so that the farming community hits the bull's eye and gets the government to start focusing on the issues that matter.

**Rajender Rawat,**

*Solan, Himachal Pradesh*

## Valuable seminars

I would like to congratulate *Farmers' Forum* for successfully organizing a string of seminars including one on "Solving the Crisis in Rural India" and the lecture on "Resurrecting Farmer Livelihoods". The choice of the speaker/resource person has been consistently impressive. Your Thought Leader, "Resurrecting Farmer Livelihoods" (*Farmers' Forum*, June-July 2016) featuring India's chief economic advisor, Arvind Subramaniam, was quite exceptional. His moot point was that agriculture has transitioned from a business of putting in more to get more out of — more



## Three cheers for Greenfingers

Your Greenfingers column rings true for all of us who are farmers and it would be excellent if you focus on farming successes based on the experience of simple farming folks like ourselves. While other issues are important, it would be good to have exclusive farm sector interviews by you in Greenfingers in every issue of *Farmers' Forum*. That is amongst the most inspirational columns that the magazine runs.

**Vikas Solanki,**

*Faridabad, Haryana*

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is now up and running.  
Log in to check out all  
the earlier issues.**

fertilizer, more water, more power — to get more output to the new environment in which one has to get more from less; by rationalizing input use — whether its power, fertilizer or land.

**Anand Kumar,**

*New Delhi*

## Needed leadership

"Whither Commitment to Keeping Promises?", Satnam Singh Behru's essay under your cover story, "Inherited Problem; Indifferent Solutions" (*Farmers' Forum*, June-July 2016), makes the very important point that all governments, irrespective of their stated positions have been indifferent to farmer's problems and the many commissions looking into farm sector woes have ended up betraying the farmers. Ministers and policy-makers make things look so simple but only farmers will know what will make a difference. Hence, as Mr Behru suggests, we must identify and send good farmer representatives to state assemblies and Parliament so that effective laws are framed to safeguard farming interests and justice is delivered to all.

**Mankumar Sen,**

*Kolkata, West Bengal*

## Think farmer; act farmer

My compliments for so faithfully adhering to the business of promoting the farmers case. I wish there were more such publications forcing the government to 'think farmer; act farmer'. Failing that, ours is a hopeless case.

**Manish Sodhi,**

*Kanpur, Uttar Pradesh*



DOUBLING THE FARMER'S INCOME:

# Delivering on the Promise

Radha Mohan Singh



The theme for the day's discussion, 'Doubling of Farmers' Income by 2022' implies that it is foremost on the nation's mind and that there is conviction that something can be done about it, notwithstanding the many sceptics who believe that the plans of the Prime Minister and the government will come to naught.

In a manner of speaking, the sceptics belong to that group of people who do not know the difference between wheat and barley, though it is legitimate to be surprised because it is a difficult task to double the farmer's income. Yet, one needs to keep in mind that this country once enabled farmers to prosper within a decade or so to growth rates of around 12 per cent in the state of Gujarat.

In Madhya Pradesh too, working with commitment and in an integrated manner, the state's farmers' development index (Krishi Vikas Dar) is upwards of 20 per cent and the Prime Minister knows that this growth can be achieved because, contrary to what many believe, increasing farming incomes is not just a matter of increasing support price.

Admittedly, support price is an important component but increasing income must first mean increasing productivity. This means assured water. Those who have been without water for ages may wonder how water will reach the farms. For the past 25 years, some 89 projects in this country that can provide 86 lakh litres have remained stalled. The government decided to allocate ₹50,000 crore out of the ₹30,000 crore required to get them completed with plans to complete 23 projects within this year. ₹12,500 crore were released for the states.

State governments that thought it would take 10-20 years to implement them believe that they can now complete them within this year or within a year and a half. Nabard too has helped to create a corpus of ₹20,000 crore to complete different projects. Production has to increase, so must productivity and not just of land but of water, fertilizer and other inputs.

Increasing productivity of water means micro-irrigation using drip and sprinkler and the government has been working to this end. In 2015-16, there has been a 1.5 per cent increment and this will improve further. Even in Maharashtra, where the farmers are in a state of distress, the Prime



**RADHA MOHAN SINGH**  
Union Minister of  
Agriculture and  
Farmers Welfare

Minister is incentivizing micro-irrigation for sugarcane farming. In Gujarat, 75 per cent of the farmers are using micro-irrigation.

Increasing fertilizer productivity will entail introducing neem-coated urea and bringing down the quantity of urea needed for the same piece of land. This will also control urea prices that were becoming exorbitant with artificial shortages and the benefits of fertilizer use going more to the producer factories than to the farmers. As a result of the Prime Minister's exhortations and increased use of neem-based urea, the fertilizer shortage disappeared.

Parliamentary and legislative proceedings have been showing urea related demands every year. These have stopped now. The farmer's expense has also decreased; first on account of the neem-based mix bringing down costs by about 20 per cent and fertilizer no longer being sold in the black market at higher prices.

The worry is about the continuing fragmentation of farm holdings as families divide and farmers are on the verge of becoming landless while many are becoming farm labourers. They are being converted into joint liability groups, which is a huge development with the last two years seeing more than 10,000 lakh committees being formed and allocated more than ₹10,000 crore. States are now co-operating in promoting this concept too. Such groups have helped bring down the farmer's expense.

The idea is also to reduce input expense by increasing productivity. The support price increment will continue to benefit farmers but there is more concern with supplying water to the farmers and about ensuring that he gets his inputs at the right price. Lab to land solutions are also being worked on. The last two years have seen Indian agricultural scientists develop drought and flood resistant varieties of seeds, the effects of which are now becoming obvious.

The farmer must also receive a good price. He takes his produce to a market 40 km away where 8-10 licensees decide the price that he will get. They even judge the quality of the produce. The farmer having come all the way cannot take his produce back and is compelled to sell at the price that the licensees/dalals decide. It is for the government to ensure that the farmer gets a good price for his produce.

The Prime Minister has thus announced the National Agriculture Market that entailed changing





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## While calamities may be unavoidable, the response readiness must be such that relief should be available to the victims whenever they are struck by a calamity

laws. There was resistance but agriculture ministers from all the states were taken to Karnataka to show how the system worked in an e-mandi by using technology, e-marketing, with sale of produce allowed anywhere. A lot of markets had been brought together. Many states were convinced and changed their APMC Acts. Ministers from 12 states have sent in their proposals; a fixed amount has been allocated for the markets and IT engineers appointed.

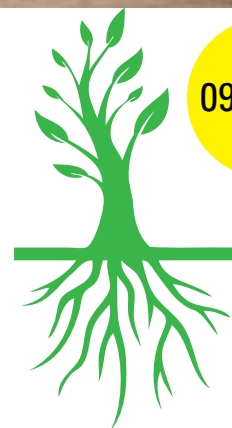
The National Agriculture Market (e-Mandi) Scheme was started in around 23 mandis of eight states. States have been asked to participate in the e-Mandi process in the interest of the farmers. Sales worth thousands of crores of rupees have taken place, 200 markets have joined and by March 2017 another 200 markets will join. The goal is to have 585 markets join in by March 2017 with the co-operation of all states. A farmer can go to any market; so can the buyer. Recent reports from connected markets show that the farmer is receiving a good price.

Such strides must be made if the farmer's income is to be doubled and perhaps even the sceptics will

stop being surprised. The farmer must also be protected from weather uncertainties and natural calamities. While these may be unavoidable, the response readiness must be such that relief should be available to him whenever he is struck by a calamity. Admittedly, relief can only ease the burden.

The state is responsible for taking care of the farmers during natural calamities by providing immediate relief. In the last five years the Indian government allocated ₹33,000 crore for calamity relief but the Prime Minister has increased it to ₹61,000 crores for the next five years. The amount released to states has also been increased from ₹12,500 crore in the five years before the government came to power to ₹9,000 crores in one year, 2014-15, to the states.

Besides, farmers got ₹13,500 crore in 2015-16 through the National Fund for Calamity Relief to the farmers. Even this is not enough and the government has the Pradhan Mantri Fasal Bima Yojana in place. The Prime Minister took great interest in the matter and decided to do away with arbitrary rates of insurance and premia charged for different crops.



09





## Manual crop loss assessment system is being changed with the use of technology so that 25 per cent of relief funds are released as soon as calamity strikes; the rest in a month

Today, irrespective of the crop or where it is grown, the rabi crop will have a premium of 1.5 per cent and the kharif crop two per cent of sum assured. Anything above this would be allocated from the national exchequer without any capping system. Capping meant that if the need was for ₹30,000, the farmer would get ₹10,000 to ₹20,000, depending on the cap. The Prime Minister said that irrespective of the pressure on the exchequer, there will be no cap and complete reimbursement of the expense. This was a drastic change in policy.

The manual system of crop loss assessment is also being replaced. In Nasik last year, a grape farmer was crying because he did not know when he would get the insurance money. Traditionally, crops are cut manually, a lekhpal writes out the quantity that is lost, which is brought to the block

office, then sent to the concerned state department after which it goes to the insurance company. In some zillas, there is an anomaly between the area insured and the crop coverage at the panchayat level, which must be investigated before the claim is processed and it takes years. There are cases of the insurance money being cleared in 2009 but received by the farmer only last year.

The system is being changed with use of technology, smart phone mobile applications and even drone technology whereby, if calamity strikes, there is immediate release of 25 per cent of the relief funds and the rest is allocated within a month because, in the past, many families have been ruined because of almost a year's delay in receiving claims. This problem should have been dealt with earlier. Allocations would be made





₹10 crore for production of honey in 2015-16 and output increased by 1.5 per cent to two per cent. The government is trying to make all these allied sectors more profitable to enable the farmers to increase their incomes.

Farmers are also leaning towards integrated farming. A family of five living on a hectare of land can save ₹3.5 lakhs or ₹4 lakhs and there are thousands of such families whose incomes have increased in the last two years. The Krishi Vigyan Kendra and other institutions are being funded at the state level and farmers are being encouraged to adopt integrated practices so that, even on 1½-2 acres, the family grows not just wheat but engages in other horticulture activities too. FPOs are another important focal area for the government.

There must be focused efforts to make online markets more accessible and to make loans accessible. With digitization of land records it should be possible to sanction loans to farmers expeditiously. Online mortgage is also being facilitated. Simultaneously, the schemes related to interest subvention and relaxations on timely repayment of the loan are being extended so that farmers might obtain agriculture loan at four per cent interest. Recently, ₹18,000 crore has been approved for interest subventions. Besides, the government is seeking to free the farmer from the clutches of the money lender for which it allocated ₹9,00,000 crore in the current budget.

Banks must also change their approach to servicing the farmer who is still afraid to enter a bank. Even if he does enter the bank, his work is not done within a day. He has to come back at least three to four times. Yet bank accounts have been opened for more than 22 crore people. When banks were nationalized 40 years ago it was done for the purpose of empowering the common man but no more than between 1.5 crore to three crore accounts were opened in the last 40 years.

As a villager, an MP and a minister, I go and sit at the tea stalls and see things for myself. Farm loans must be sanctioned efficiently so that the farmers do not face too many problems. There must be standardized documents available on line. Application forms can also be available online and farm loans should be given within a predetermined time frame. The Jan Dhan scheme, the Aadhar card can all be implemented through mobile banking. If a gas agency can do it why can banks not do it? This is one task that should make brisk progress over the current year. ●

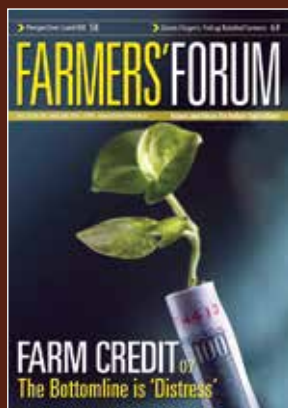
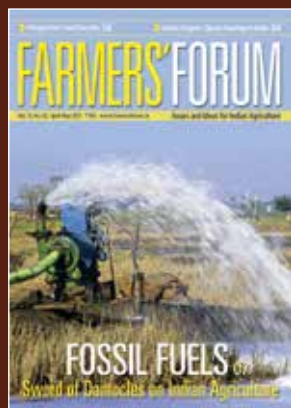
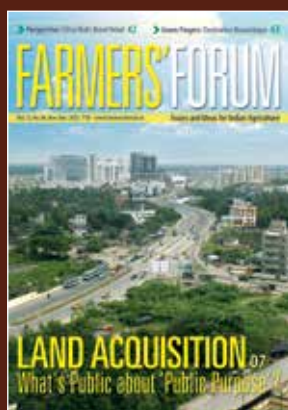
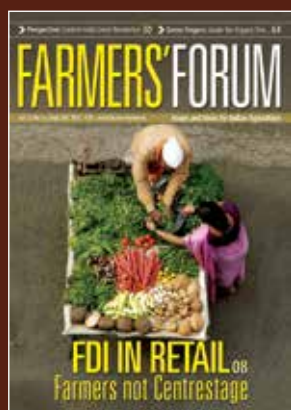
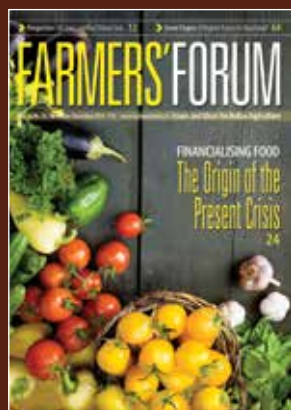
only when the entire panchayat was affected. For instance, if only 20 farms in the panchayat were affected, they would get no relief. This has been changed to a per farm allocation.

The Pradhan Mantri Fasal Bima Yojana has been a major step. It has been well received by farmers, the media, people associated with education and agricultural scientists. This augurs well for farmers.

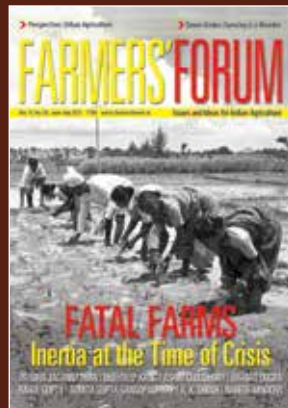
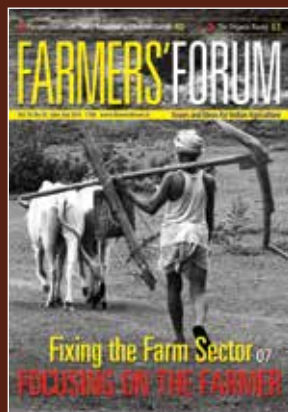
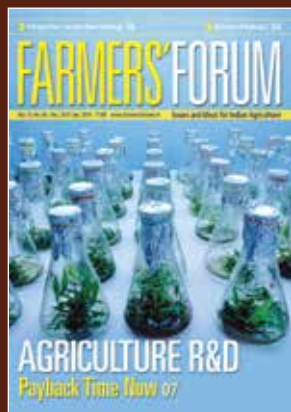
There is also a larger question around agriculture in a country where almost everyone was engaged in farming directly or indirectly. They would have their farm and alongside they would grow vegetables, fruits, rear goats and cows, sell firewood and their incomes were higher. This sector needs to be strengthened.

India has made strides in production of milk, fish, honey, eggs and such produce. In the last two years, big strides have been made in the production of milk, estimated to increase by 6.3 per cent to 146.31 million tonnes in 2015-16 against the international increment of 2.2 per cent in the same period. The Prime Minister has allocated



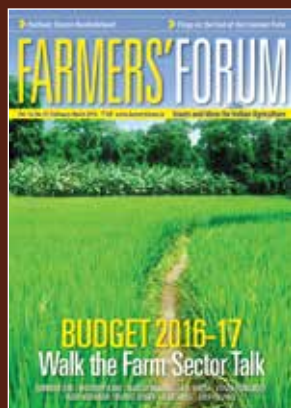






# BRINGING THE FARMER TO THE FORE

Six Insightful Years: 2010-2016



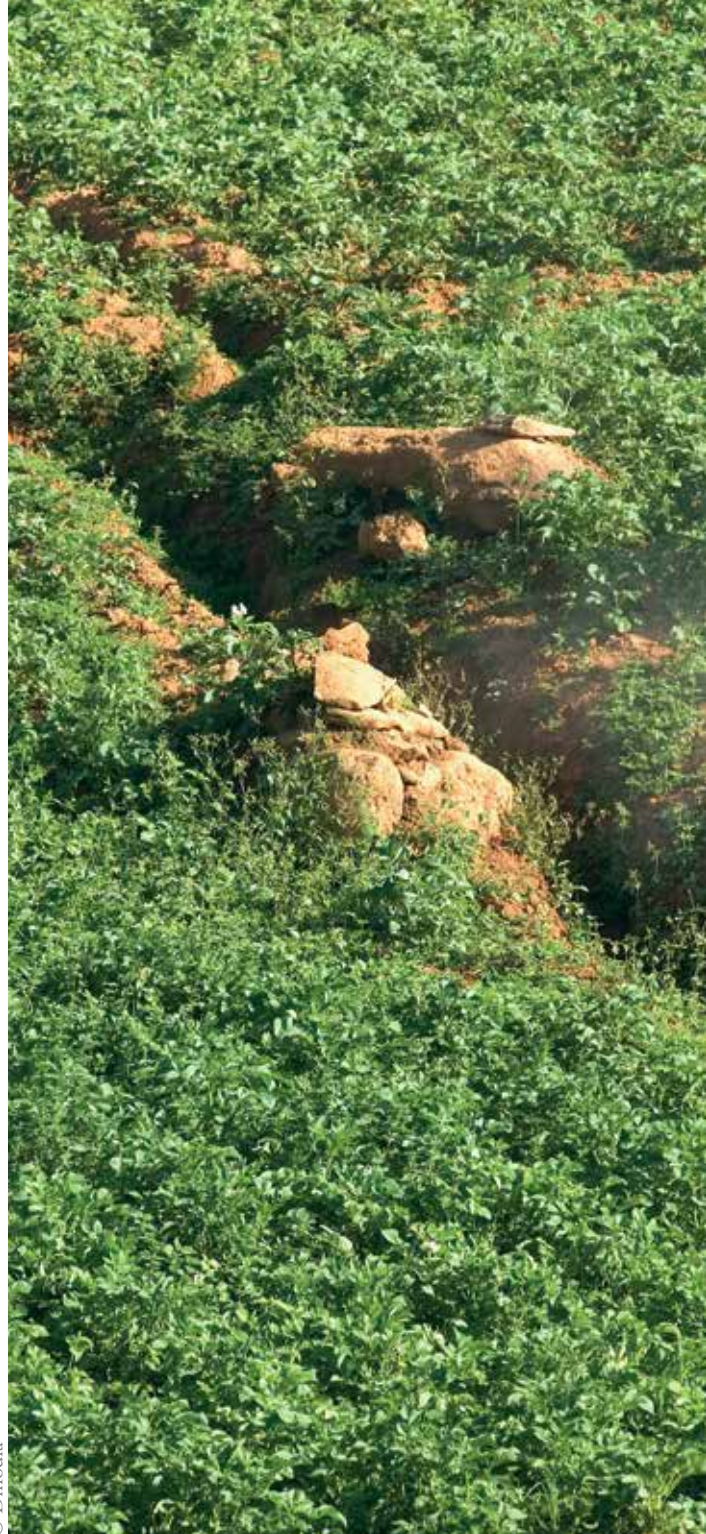


# Time to Double the Farmer's Income

## *A Farmers' Forum Analysis*

Given that the share of agriculture in India's Gross Value Added (GVA) is just above 17 per cent (2014-15), which is shared by more than half of the population, it is important that agriculture growth pick up pace to achieve inclusive growth. The per capita income of those involved in agriculture is as low as one-third of an average Indian. Further, within the agriculture sector, the inequitable distribution of landholdings (85 per cent of small and marginal farmers cultivating in 45 per cent of area) makes the small and marginal farms the poverty hotspot of the country. Hence, every effort towards inclusive growth has to address the income enhancement issue in agriculture and those weak within the sector.

Given the criticality of the issue, especially with the centre promising to double farmers' incomes by 2022, Nabard focused its Foundation Day Seminar on "Doubling Farmers' Income by 2022", with a host of experts analysing the multifaceted issues threadbare. Clearly today, the paradigm has changed from food security to eventual income security for the farmers in a specific time frame, which calls for creating enabling environment for policy measures to work.



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The speakers at the Nabard seminar included Radha Mohan Singh, Union Minister for Agriculture and Farmers Welfare, whose speech appears under Thought Leader (page 07) in this issue, Arjun Ram Meghwal, Minister of State for Finance and Corporate Affairs, U. S. Paliwal, Executive Director, Reserve Bank of India, S. K. Pattanayak, Secretary, Union Ministry of Agriculture and Farmers Welfare, Ramesh Chand, Member, Niti Aayog, Vijay Paul Sharma, Chairman, Commission for Agricultural Costs and Prices.

Other leading speakers were Suresh N. Patel, Managing Director and Chief Executive Officer, Andhra Bank, Bhagwan Sahai, Additional Chief





Nabard was represented by Harsh Kumar Bhanwala, Chairman, R. Amalorpavanathan and H. R. Dave, Deputy Managing Directors, R. N. Kulkarni and Naresh Gupta, Chief General Managers, K. J. S. Satyasai, Nirupam Mehrotra and Gopakumaran Nair, Deputy General Managers. The inaugural session was followed by three working sessions, the first on Enhancing Farmers' Income, chaired by Ramesh Chand, with the lead paper presented by K. J. S. Satyasai and Nirupam Mehrotra, Deputy General Managers, Nabard.

The second session on Enabling Environment was chaired by Ashok Gulati, Indian Council for Research on International Economic Relations, with the lead paper presented by Gopakumaran Nair and R. N. Kulkarni, Deputy General Manager and Chief General Manager, Nabard, respectively. The valedictory session had Radha Mohan Singh, Union Minister for Agriculture and Farmers Welfare, U. S. Paliwal, Executive Director, Reserve Bank of India with the Nabard Deputy Managing Director, R. Amalorpavanathan, summing up the proceedings. These are the edited excerpts.

Flagging off the discussions, the Nabard chairman said that the seminar was focused on deliberating on “what it takes to double the farmer’s income; in what way policy, strategy and implementation need to undergo a change, who are the stake holders, what will be the sectoral plans, how do we proceed, how do we see the interconnectivity”.

## Agenda for action: Supportive ecosystem and policies to double the farmer’s incomes

Secretary, Government of Maharashtra, Dinesh Kumar, Joint Secretary, Union Ministry of Agriculture and Farmers Welfare, Ajay Vir Jakhar, Chairman, Bharat Krishak Samaj, R. S. Sodhi, Managing Director, Gujarat Co-operative Milk Marketing Federation, P. S. BIRTHAL, Director, Institute of Development Studies, Jaipur, Sanjay Kaul, Managing Director and Chief Executive Officer, National Collateral Management Services Limited, P. J. Joseph, Member (Non-Life), Insurance Regulatory and Development Authority of India, Ajaybhai H. Patel, Chairman, Gujarat State Co-operative Bank Ltd, Amarjeet Sinha, Additional Secretary, Union Ministry of Rural Development.

How the farmer earns his income is public knowledge, he pointed out — various sources like crop cultivation, raising horticulture crops on peripheral areas, activities allied to agriculture like fisheries, dairy, poultry and also non-farm sector employment or even wage employment — but there is “a lot of disguised unemployment in the agriculture sector because it is one of the largest employers in the economy today. As a result, we need to shift a significant portion of this population from agriculture to non-agriculture areas as well, which will require investment in rural areas and a supportive ecosystem by reorienting policy and strategy for achieving the same”. ●





# Development Finance: Nabard Style

**Harsh Kumar Bhanwala**

**T**he past two years have seen many initiatives being launched under the aegis of the government with the resolve to double farmer income in six years: the Pradhan Mantri Krishi Sinchayee Yojana, with the vision of extending irrigation to every farm — ‘*har khet ko pani*’ — and increasing the water use efficiency — ‘more crop, per drop’ — *paramparagat kheti* (traditional farming) for sustainable agriculture, focus on food and agro processing, regenerating soil health in general through the cards maintained at individual farmer levels, possible increase in returns to farmers



**HARSH KUMAR  
BHANWALA**  
Chairman, Nabard

through the national agriculture market and the new crop insurance scheme in the form of Pradhan Mantri Fasal Bima Yojana, amongst others.

Nabard has been focusing on Farmer Producer Organizations (FPOs) in particular. These FPOs need to be formed, operationalized and made sustainable given the large number of small and marginal farmers in this country and the declining average land holding size. Measures for characterization and focus on producer organizations are important and state governments, which are working on this, have operationalized many such entities. Nabard has





Nabard, started on July 12, 1982, and now in its 35th year as India's apex developmental financial institution, has a balance sheet of ₹3,10,000 crore, which has increased 68 times in the last 34 years while its net owned funds have increased 123 times.

Nabard's per employee productivity has tripled during the last five years in which period it focused significantly on investment in agriculture sector. Nabard's refinance has grown at 33 per cent on an annual average and it has made sustainable interventions in rural development and for the growth of agriculture.

been charged with forming at least 2,000 FPOs in the next couple of years and has formed 2,200 new FPOs.

Nabard has also had very fruitful collaborations with NGOs, multilateral and bilateral funding entities, corporates and research institutions and all these collaborated efforts have helped it launch the SHG bank linkage programme and build a project management approach for delivering rural infrastructure. It has introduced the Kisan Credit Card, joint collaborative groups funding for the landless tillers and marginal farmers, developed tools for adaptive livelihoods and engaged in natural resource management to meet the challenges of climate change. ●



# Five-point Focus to Double Farmer Incomes

Ramesh Chand



**T**he foremost reason to double farmer incomes is the rising agrarian distress. It is as stressful and severe as it is sobering. In the mid 2000s it was limited to rain-fed areas and dry land areas that were growing cotton crops but the unfortunate news of farmer suicides and unbearable farmer debts burden keeps pouring in even from the most agriculturally productive states like Kerala and Punjab.



**RAMESH CHAND**  
Member, Niti  
Aayog

income of a worker in the non-farming sector is more than the income of three farmers in this country.

The farmer feels distressed when he finds his neighbour getting prosperous while he does not. He feels left out of the development process and this leads to problems of various kinds. The big question is how the farmer's income can be doubled and his distress reduced.

Mathematically, there are two possibilities: increase the size of the cake or reduce the numbers to whom this cake is to be distributed. Either reduce the number of farmers or raise farmer incomes or achieve a combination of the two.

There are five major areas to be concentrated upon — each possibly with several allied issues — but, if these areas are focused on, the goal of doubling farm income in the next seven to 10 years becomes an achievable one.

First, increase productivity, not only per unit of land (that has been rising) but also per unit of

## Farming incomes, at absolute and relative levels, send out bad signals. The absolute income picture shows that 53 per cent farmers cannot keep themselves above the poverty line

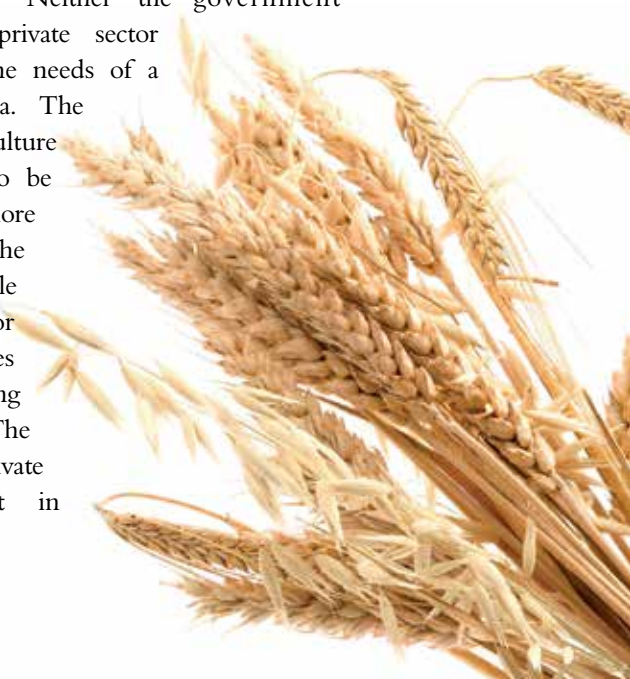
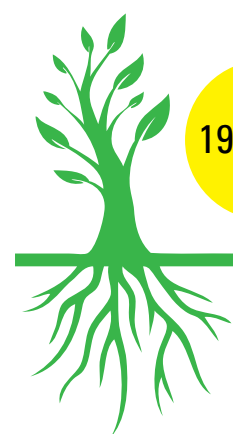
The frustration is obvious in some states; people do not even allow politicians to enter their villages and all pointers show that this agrarian distress and disinterest in farming is mainly because of the nature of income from farming. Farming incomes from agriculture, both at the absolute and relative levels, send out bad signals.

The absolute income picture shows that 53 per cent of the farmers cannot keep themselves above the poverty line based on their farming incomes. Doubling farming income will lead to a sharp drop in this percentage and only farmers with very tiny holdings will be below the poverty line. A farmer with 500 square metres of land cannot expect a decent income from agriculture.

An examination of relative income shows that in the last 30 years the disparities between farmer and of non-farmer incomes has widened. An NSSO survey shows that in 1983-84 (year 1), a farmer earned one-third of what a non-farmer household did. By the year 2004-05 it had dropped to one-fourth. From 2005 to 2012-13 the growth rate in agriculture was good and prices also increased relatively at a higher rate leading to a slight improvement. Even so, the

water, per unit of fertilizer and per unit of other investments. Appropriate technology can enable productivity increase of such other inputs as fertilizer and agriculture chemicals, machinery, energy, workers and will help raise the gross return and also reduce the cost of production.

This would need the deployment of available indigenous technology and new agriculture technology, which in turn requires a strong agricultural R&D. Neither the government sector nor the private sector alone can meet the needs of a country like India. The public sector agriculture R&D will need to be supplemented by more resources from the government, while the private sector that has the resources will need an enabling environment. The ecosystem for private sector investment in





agriculture R&D has been discouraging of late and this has to be addressed.

Productivity refers to how much is produced from one unit of land and given resources in a given timeframe, 365 days. Surprisingly, in India's crop industry, not only rain fed land, even irrigated land does not take a second crop on 60 per cent of the land, which means that 60 per cent of the land produces one crop only that grows over three to four months and remains fallow for the remaining eight to nine months. There is need to increase crop intensity to raise this productivity.

The second source of growth to the farmer's income can be new crop cultivation and prices. Diversification talk generally concentrates on high value crops but the country needs three types of diversification. Product diversification, process diversification — growing crop in an alternative way for higher returns than through conventional practice — and time diversification. In many cases even if the season of production is diverted a little bit it may give additional returns because

## Most states have shown scant concern in doubling the farmer's income. The agriculture ministry must address this urgently

of seasonality factors. When a bumper production comes in, prices get depressed and when market arrivals are less, prices go up. Changing seasons can help in better price realization.

Third, expansion and use of quality seeds, irrigation and plant nutrients. Some of this is taking place but more attention should be paid to the supply of quality seeds. Fourth, higher prices for farmers that is possible only with agriculture market reform, much written about but that failed to progress at the rate expected. It needs to be borne in mind that the Prime Minister's call is for doubling the farmer's income, not doubling of farm income and the two are different. The farmer's income can be doubled even without doubling farm income.

Fifth, is a gradual shift of farmers towards suitable non-farmer professions. This has started happening between 2001-2011 to go by the Agriculture Census data. Every year about nine lakh farmers have been leaving farming. The NSSO data shows that the process got accelerated after 2004-05 and that 28



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lakh farmers have left agriculture every year between 2005 and 2012. This pace has to be sustained and the process hastened. It is very important that those that find it unviable and unable to make their livelihood — or those who choose to leave — are helped to leave farming so that agriculture is less crowded.

A lot of initiatives have been launched, land lease reform is being pushed, there is the eNAM — electronic National Agriculture Market — initiative of the centre. However, the central government can only create an enabling environment or start initiatives that have to be adopted by the states. Unless the states adopt them, no amount of discussions in New Delhi will help. If states are not enthusiastic about adopting those measures, doubling of farmer income becomes very difficult to achieve over the next seven to 10 years.

Except for a few, states do not seem to be showing proactive interest in doubling the farmer's income and the Ministry of Agriculture needs to do something about this on a mission mode basis and sensitize and persuade the states; incentivize states or pressurize them; whatever it takes to make them proceed on these lines. Some states are backtracking in agriculture reforms and not all are serious about this doubling of farmer incomes and they have to be addressed.

Nabard and such development organizations have an important role to play in doubling of farmer incomes. Institutional agriculture credit in this country has grown but it is to be better distributed across all states. Some states do not receive credit even to cover their input costs while others are not even financed 10 per cent of input costs. This skewed distribution of credit needs to be corrected.

In eastern India, per hectare credit is not even one-fourth of the per hectare credit in some other states. In many states, the agriculture credit is going for non-agricultural purposes. These issues are to be addressed and states that are credit starved need to be paid more attention rather than more credit being pushed to the credit saturated states.

Nabard has also played a role in technology dissemination in farmer's schools and is trying to organize small holders into FPOs. Besides, it has played an important role in rural infrastructure development and, hopefully, it will play a similar role with the Pradhan Mantri Krishi Sinchayee Yojana. The funding need is enormous and central government allocations can meet the requirements partially. Agencies like Nabard can step in here too. ●



**COVER  
STORY**

# Taking Up the Gauntlet

**S. K. Pattanayak**







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*“I have laid this out as a challenge but this is not really a challenge, with good strategy, well designed programmes, adequate resources and good governance in implementation, this target is achievable”*

– Prime Minister Narendra Modi  
on the target to double farmer incomes

Farmers being the backbone of India's food security, it is important to go beyond food security to reach farmers and address their sense of income security. The government is reorienting its interventions in the farm and non-farm sectors to double farmer incomes by 2022.

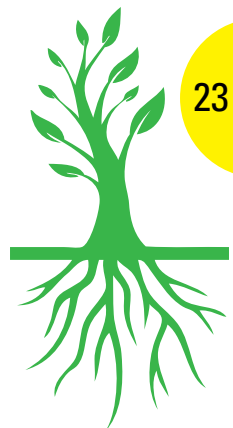


**S. K. PATTANAYAK**  
Secretary, Union  
Ministry of  
Agriculture and  
Farmers Welfare

The Prime Minister's call to this end has been supported by a wide range of initiatives focused on transforming the ecosystem for the farmer from water to seeds; from insurance to soil health to promoting ancillary activities like poultry, beekeeping and fisheries.

Information on income of farmers is based on situation assessment surveys done by the National Sample Survey Office (NSSO) in 2002-03 and 2012-13. They showed that, on an average, the total annual income of agriculture households grew by 11.75 per cent, from ₹25,380 per annum in 2002 to ₹77,112 in 2012-13. These are the nominal figures but in real terms, after adjusting inflation, the growth was an average of 5.24 per cent.

The department of agriculture is computing and will publish state-wise farmer incomes on an annual basis and is working closely with the NSSO, the Directorate of Economics and Statistics, the Commission for Agricultural Costs and Prices (CACP) and the National Institute of Agricultural Economics and Policy Research to finalize a methodology. The objective is to enthruse states to compete with each other to increase farmer incomes. Much of published literature has concentrated on analysing past growth rates and projected the same rates for the future. However, the paradigm shift in the approach to the farmer should change things.







## Doubling farmers' income will warrant high growth in rate of production and will mean robust intervention in post-production activities; particularly storage and transportation

The farmer must primarily be treated as an investor because he makes the bulk of investment in the farm sector. Therefore, there is need to analyse the risks in agriculture and come up with interventions to mitigate them as is done for any investor. Programmes must be devised so that inputs required for this sector are delivered in a cost effective and timely manner.

Mention may be made of the proposed National Agriculture Market and the Pradhan Mantri Fasal Bima Yojana, launched by the government after detailed analysis and consultations with all the stake holders to improve farmer incomes. There are also such path-breaking schemes as the soil health card, neem-coated urea, Paramparagat Krishi Vikas Yojana and Pradhan Mantri Krishi Sinchayee Yojana that should have a positive impact on farmer incomes.

There is limited time to come up with a strategy

and programmes to achieve the target of doubling of incomes by 2022 and the ministry will work out the sectoral breakup of targeted annual growth rates for the period 2016-17 to 2021-22. The sector will include not only agriculture but its sub-sectors like horticulture, animal husbandry, dairy, fisheries and ancillaries like beekeeping, mushroom cultivation and so on.

Investments have to be further categorized into public and private sector investment over the six years. Since doubling of farmers' income will warrant high growth in rate of production year after year, it will support robust intervention vis-à-vis post-production activities, particularly for storage and transportation, including cold chain logistics and food processing. The resultant savings also translate into greater growth. Savings realized is growth realized should be the new mantra.





The department of agriculture has constituted a committee under the chairmanship of a senior officer with members from all related departments and the Niti Aayog to examine issues relating to doubling of farmers' incomes. An overarching committee has also been constituted under the leadership of the ministry's Member Agriculture and the Niti Aayog to consider the proposals in detail.

There have been consultations over the past three months with all the input divisions and the steps to be taken to reduce input costs have been finalized, including what inputs and at what costs would lead to improved productivity of not only per unit land but for all other inputs as well. This committee is expected to come up with its first report in September 2016.

The department seeks to initiate many activities for doubling the farmer's income from the ongoing kharif season. Some interventions have been made to help combat inefficiencies and establish greater synergy in implementing the various ongoing schemes. For instance, the way forward to scale up pulse production to 24 million tonnes by 2021 has been worked out, along with specific interventions.

Various divisions in the departments are forming action points for ancillary activities like beekeeping and so on. An institutional mechanism is being put in place to address farmers' welfare, finalize the farm sector initiatives under the Skill India Programme and the introduction of direct benefit transfers to the farmers.

Systematic efforts to work out the strategy to explicitly state the overall annual growth rate for the agricultural and allied sectors, along with the sectoral growth rate to be registered and the approach route to achieve, it are underway. Though daunting, the task will be helped by the experience of states like Gujarat and Madhya Pradesh and countries like China, which have achieved the envisaged rates of growth.

Active involvement of the department of water resources, department of rural development, animal husbandry, food processing and the Indian Council of Agricultural Research will be required in order to achieve this target along with a key role for the ministry of skill development and entrepreneurship.

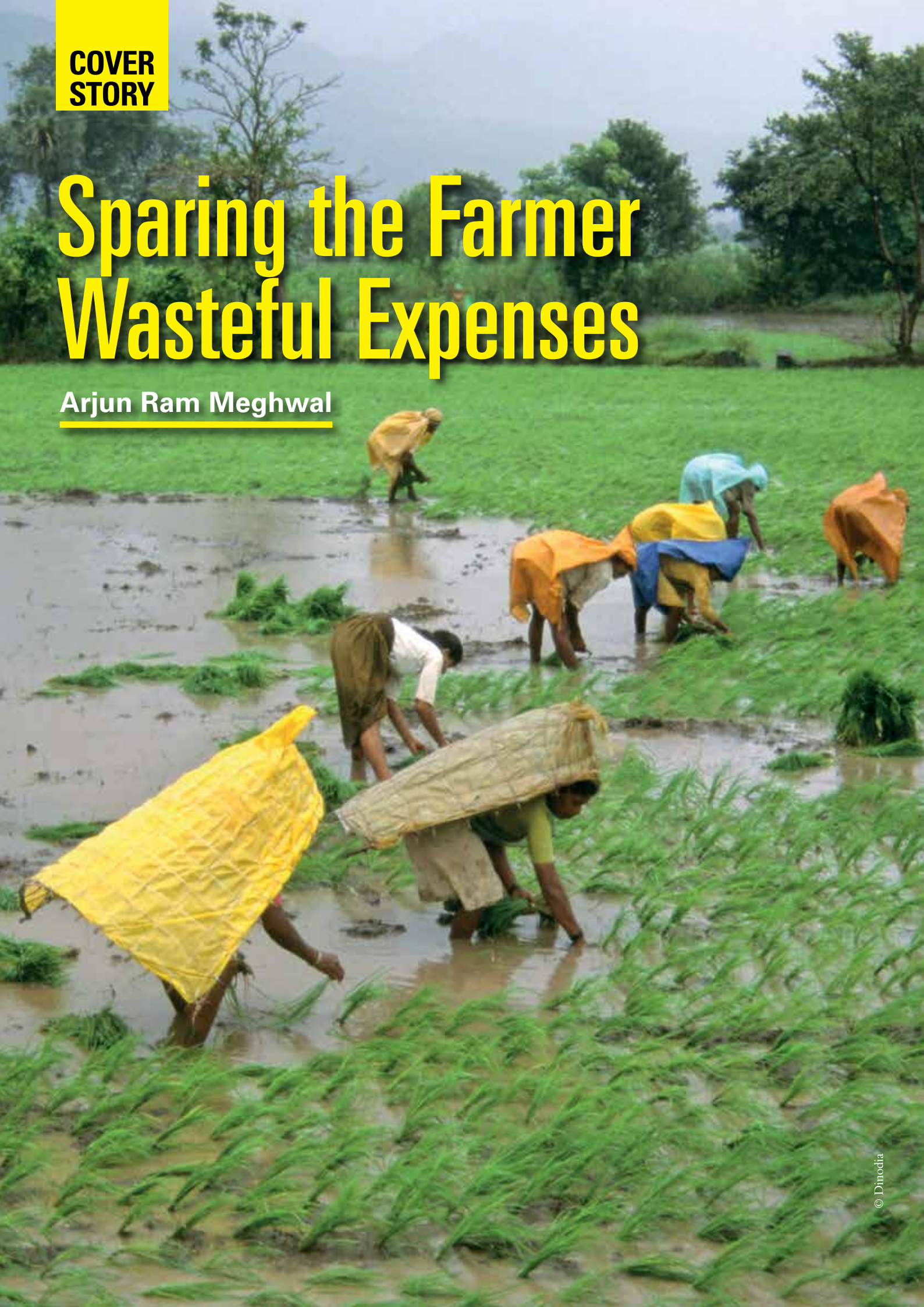
The Prime Minister's challenge has been well and truly accepted. ●



**COVER  
STORY**

# Sparing the Farmer Wasteful Expenses

Arjun Ram Meghwal





**H**ow long will one talk about farmers without some solution emerging? Poet Dushyant Kumar from Uttar Pradesh says: '*Ho gayi hai peer parvat si; Pighalni chaahiye, Iss Himalay se koi Ganga nikalni chaahiye*'. The fire of commitment to doubling the farmer's income should be ignited in every heart and it should spread. There has been much talk about ways to double the farmer's income but has anyone asked where the farmer spends money unnecessarily?

There are the State-Level Bankers' Committees (SLBC), the District-Level Consultative Committees (DLCC) and Block-Level Consultative Committees but have they ever conducted a study on what a farmer earns as income from farming and where he is made to undertake unnecessary expenditure?

Take the case of two or three farmers in a neighbourhood where there is a dispute over the approach link to the farm that does not get settled for years. Meanwhile, the farmer has to keep visiting the sub-divisional magistrate's (SDM's) office and many others, including the collectors' office and



**ARJUN RAM MEGHWAL**  
Minister of State  
for Finance and  
Corporate Affairs

to land disputes. As a former collector, it has been my experience that of 100 people visiting me, 10-15 would come with a dispute: A has blocked the entry to my farm, my additional city magistrate (ACM) is not working, my SDM is not working. The man sits the entire day, getting an application typed by a hired typist who has to be paid ₹100. The lawyer charges ₹2,000 to fight the case.

Instead of spending his income on his family and the education of his children or creating some infrastructure, the farmer is spending it on these unnecessary disputes. A list needs to be made of items of unnecessary expenditure and then one must work on ideas to address these wasteful expenses and fast-track resolutions.

There is another subject that interests me. There are many seminars and programmes on the state of India's agriculture, agri-visions but when one discusses doubling farmer incomes one must understand the significance of the finance minister's budget speech about giving farmers income security because the farmer gives us food security. The second part is about doubling the income.

## Even as bankers, NGOs and other stakeholders play their part in the agriculture development agenda, to get the country food security, the farmer plays the greatest role

the revenue board's office. Does that not cost him money? Does it not waste his time? Has ever anyone thought how this expenditure can be saved?

The farmer can be spared this expenditure if these committees figure out how many farmers have been in disputes over their approach link to a farm for more than 10 years. A list can come from the revenue department or the collector's office. They would probably have their Kisan Credit Cards as well. If these financial institutions counsel the disputing parties, they will make an impact because resolving the dispute means saving money.

When they are asked why they are fighting when their interest is not coming in on time, their accounts are emptying out and that they cannot get further loans because of their financial history, it will make an impact on their minds. Once that chord is touched, the case will be easier to resolve and pressure from the financial institutions does work.

If the farmer does not have to pay legal fees, his income gets enhanced and this is only with regard

The farmer indeed has given India food security, when America stopped sending wheat (during Lal Bahadur Shastri's Prime Ministership) with so many conditions being applied, did the farmers not provide the country with food security? Bankers, NGOs, all the stakeholders participated in the agriculture development agenda to get the country food security but the farmer had the greatest role to play.

The farmer toils the year round, in the heat, rain, summer, winter, day or night to ensure food security and this is the least the country can do in return and the Prime Minister's seven-point strategy is important: focus on irrigation with 'per drop, more crop'; quality seed and soil health; investment in warehousing and cold chains to prevent post-harvest losses; value addition through food processing; creation of a national agriculture market; new crop insurance schemes to mitigate the risks at affordable costs (the Pradhan Mantri Fasal Bima Yojana); promotion of ancillary activities like poultry, beekeeping and fisheries.







## It is important for all levels of administration in all states to be committed to the Prime Minister's vision; to learn from best practices in the country and understand their implementation

Income can also be increased by strengthening the existing co-operative movement. Every village has a Gram Seva Sahakari Samiti (GSSS) and Central Co-operative Bank; the Regional Rural Banks; marketing societies, the apex bank and so many institutions serving the grassroots. Some do not function properly and it is for institutions like Nabard to set up mechanisms to keep an eye on them. There are so many institutions under the co-operatives that can contribute to the increase in the income of the farmer.

These measures collectively will double incomes. The Prime Minister did not talk of the small and marginal farmers; he talked about all farmers. When his income is doubled, the farmer will not give up farming, his stress levels drop and so will farm suicides. Two important interventions were made during Atal Behari Vajpayee's tenure: the Pradhan

Mantri Gram Sadak Yojana was a major intervention making the ferrying of produce from the village to the city easier. Allied activities like milk also received a boost with entry of traders from the city to the village for collection of the produce.

The other intervention was the Kisan Credit Card. Yet the farmer continues to be distressed and the Prime Minister has presented a seven-point strategy. It is not just the PM's dream, he has the strategy to make it come true. It involves all the stakeholders playing their role for doubling the farmer's income. It is important for every level of the administration in every state to be committed to this vision, to learn from the best practices in the country and understand how they are being implemented.

Many strategies can be tapped for the purpose of doubling farmer incomes and the deadline to





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implement them has to be advanced: the National Food Security Mission, various Technology Missions, Rashtriya Krishi Vikas Yojana, Mission for Integrated Development of Horticulture, National Mission on Oilseeds and Oil Palm, National Mission for Sustainable Agriculture, National Mission on Agriculture Extension and Technology, Pradhan Mantri Fasal Bima Yojana, National Agriculture Market, New Agri-tech Infrastructure Fund, Pradhan Mantri Krishi Sinchayee Yojana, amongst others.

Environment and climate change issues will also drive change. Ground water shortage will be another driver. Environmental issues come up during irrigation implementation. These need to be balanced and banking schemes should get integrated with schemes like the Pradhan Mantri Jan Dhan Yojana or the insurance scheme. Insurance would mean that a farmer in need of medical attention will not have to spend out of his income because he is covered under an insurance scheme. These will indirectly help the process of doubling the farmer's income. ●



## DIALOGUES FOR DEVELOPMENT

The Nabard programme evolved out of a discussion with the Finance Minister who suggested a dialogue of all stakeholders to build

strategies for doubling the farmer's income. The broad themes/areas of intervention had been laid out by the Prime Minister for they had to be fleshed out with very specific and concrete strategies. Great clarity of thought was brought to bear in setting up this dialogue with enormous support from the Agriculture Secretary, members of the Niti Aayog and these thoughts need to be taken down to the grassroots with partnerships built at every level. Amongst other things, Nabard has also launched a financial inclusion survey primarily focusing on the rural economy that should help track what is happening to the farming household incomes on a three-yearly basis.

**H. R. Dave**

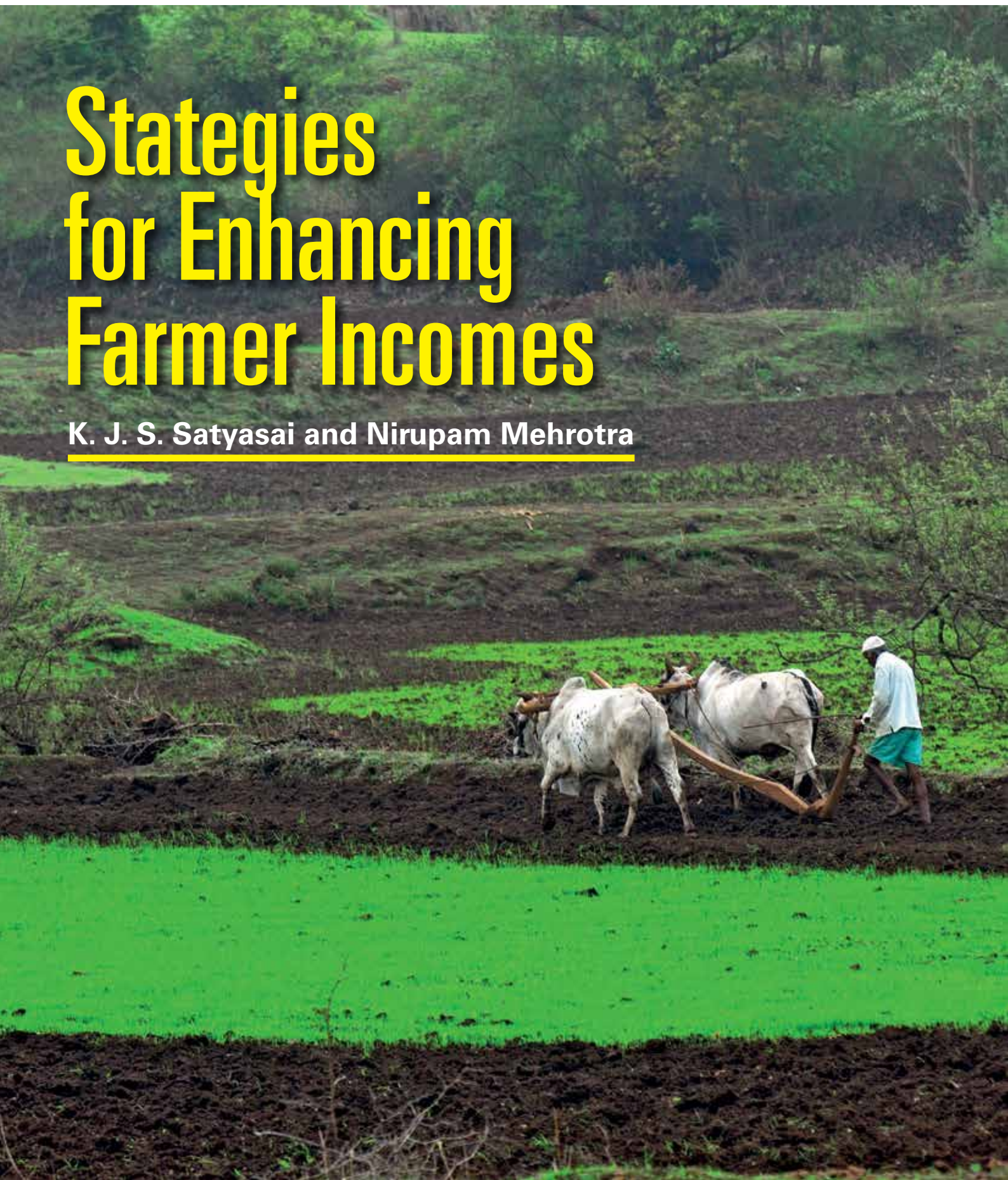
*Deputy Managing Director, Nabard*



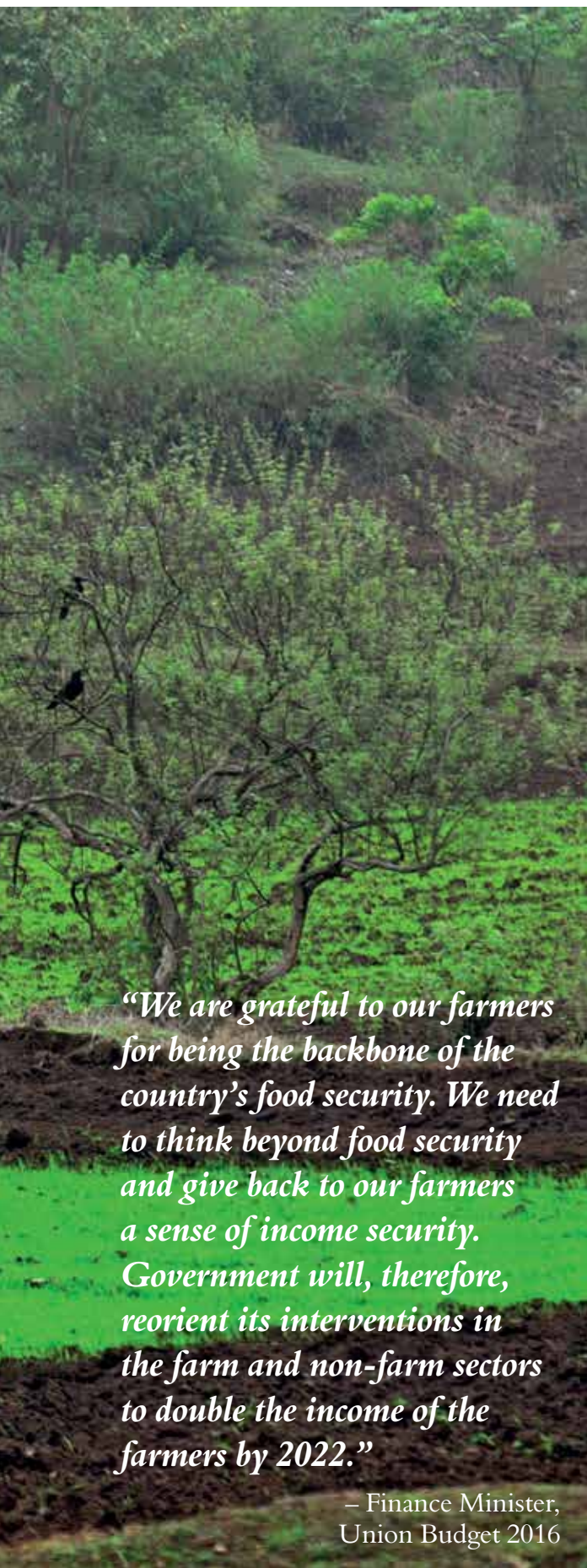
# Strategies for Enhancing Farmer Incomes

**K. J. S. Satyasai and Nirupam Mehrotra**

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*“We are grateful to our farmers for being the backbone of the country’s food security. We need to think beyond food security and give back to our farmers a sense of income security. Government will, therefore, reorient its interventions in the farm and non-farm sectors to double the income of the farmers by 2022.”*

– Finance Minister,  
Union Budget 2016

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**T**he Indian farmer, who has always responded positively to the needs of the nation, be it for the green revolution or the blue or white revolutions, is in a state of distress. Recurrent droughts and climate shocks have been destroying the farmers’ productive asset base and impacting their income generation capacity. Strategies to address the issue underscore the need to tap both farm and non-farm sources and reorient the existing interventions to double the incomes of farmers.

The prerequisite for measuring farmer income and tracking its growth over time is a reliable data base on such income. While this article is based on a paper on “Enhancing Farmers’ Income”, clearly the available data is limited. Perhaps, Ramesh Chand made a comprehensive attempt to build income series based on National Accounts for the first time. Earlier, Abhijit Sen and MS Bhatia computed incomes but from cost of cultivation data. These were indirect estimates and not estimated based on sample survey of farmers.

The NSSO’s Situation Assessment Surveys during 59th and 70th rounds are the only sources of direct estimates of farmers’ income. They are available for the years 2002-03 and 2012-13 and have been used to assess the trend in farmers’ income. The results show that the income of the farmer grew from ₹25,000 in 2002-03 to ₹77,000 in 2012-13. That is, income grew at the compound rate of 11.75 per cent per annum and it took about six years to double.

Income should be measured in real terms to neutralize the influence of inflation for which the agriculture GDP deflator has been used to deflate the nominal incomes. Thus, the income in real terms (taking 2002-03=100) would have been ₹42,000 in 2012-13 that means a 5.24 per cent compound growth rate per annum.

The income would have doubled in 14 years at this rate. It needs to be emphasized that the estimated doubling time is sensitive to the choice of measure of inflation or deflator. The challenge is to double incomes in six years what would otherwise take much longer.



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Two more conclusions are being drawn here:

- 1) It can take longer time (14-15 years or eight to 11 years) to double incomes of small farmers possessing less than two hectares (ha) of land. Small farmers account for 85 per cent of operational holdings in India
- 2) States showed differential performance in terms of doubling time. For states like Madhya Pradesh, Rajasthan, Odisha, it can take around six years to double incomes. This underscores the value of state-specific action plans.

Any farmer, especially small holders, would need to augment income from several sources to cater to the family needs. Thus, it is important to know where the income of a farmer comes from and if there is any change in its composition over time. Farmers' income as per the NSSO surveys is a sum of incomes from wages and salaries, crop cultivation, livestock and the non-farm sector.

During 2012-13, it was seen that 32 per cent of household income came from wages/salaries and was down by seven percentage points, compared to 2002-03. The major source was cultivation with 48 per cent, its share going up marginally by two percentage points. Livestock income accounted for 12 per cent, recording a significant jump from four per cent during 2002-03. The non-farm sector accounts for eight per cent, which is lower than its share of 11 per cent in 2002-03. This means that livestock played a major role in income growth between 2002-03 and 2012-13.

While doubling farmers' income is a cherished goal, it is faced with several challenges such as small and tiny holdings, prevalence of tenancy, limited resource base, need for huge investments, co-ordination issues and so on. Farmers' income can be increased through different ways such as increase in productivity, diversification of agriculture,

**Small holders need to augment income from several sources, making it important to know where the income comes from and if there is any change in its composition over time**

**Table 1: Level of income of farm holdings (Rs) and doubling time (Years)**

State	Total Annual Income (Rs)		CAGR (%)		Doubling Time in Years @ Given CAGR	
	2002-03	2012-13	Nominal	Real	Nominal	Real
Andhra Pradesh	19,608	73,392	14.11	7.19	5.25	9.99
Assam	37,932	80,340	7.79	0.88	9.24	79.34
Bihar	21,720	42,684	6.99	-0.33	10.26	***
Chhattisgarh	19,416	62,124	12.33	4.8	5.96	14.79
Gujarat	32,208	95,112	11.44	5.61	6.4	12.69
Haryana	34,584	173,208	17.48	2.24	4.3	31.28
Jammu & Kashmir	65,856	152,196	8.74	2.65	8.27	26.48
Jharkhand	24,828	56,652	8.6	2.94	8.4	23.93
Karnataka	31,392	105,984	12.94	5.71	5.7	12.48
Kerala	48,048	142,668	11.5	5.95	6.37	12
Madhya Pradesh	17,160	74,508	15.82	9.81	4.72	7.4
Maharashtra	29,556	88,620	11.61	5.66	6.31	12.58
Odisha	12,744	59,712	16.7	9.17	4.49	7.9
Punjab	59,520	216,708	13.79	6.66	5.36	10.75
Rajasthan	17,976	88,188	17.24	9.39	4.36	7.72
Tamil Nadu	24,864	83,760	12.91	6.68	5.71	10.72
Uttar Pradesh	19,596	58,944	11.64	4.72	6.3	15.02
West Bengal	24,948	47,760	6.71	-0.22	10.67	***
<b>All India</b>	<b>25,380</b>	<b>77,124</b>	<b>11.46</b>	<b>5.2</b>	<b>6.24</b>	<b>13.56</b>

Note: CAGR: Compound Annual Growth Rate

Source: Computed from NSSO (2005 & 2014). Situation Assessment Survey, Report No. 497(59/33/5) & 69(70/33/1)

\*\*\* cannot be computed due to negative growth in income.



**Table 2: Impact of technology across zones in Karnataka**

Zone	Technology				
	ICMP	IEMP	IIMP	ISWCP	Overall
<b>Elasticity of gross income to cost</b>					
North East Dry Zone (NEDZ)	1.98		3.09		1.98
North Dry Zone (NDZ)	0.92		1.68		0.92
Central Dry Zone (CDZ)	1.32		0.46	1.56	1.18
Eastern Dry Zone (EDZ)	1.37			2.67	1.39
South Dry Zone (SDZ)	1.62	5.73	0.66	1.14	1.56
<b>Impact of technology on (across zones)</b>					
% increase in resource use efficiency	14 to 28	15	10 to 35	10 to 27	14 to 28
% increase in profitability	14 to 35	30	13 to 60	10 to 34	14 to 39
% increase in standard of living	11 to 18	10	8 to 24	5 to 13	11 to 18
% increase in women participation	6 to 23	5	4 to 50	7 to 60	6 to 23
% reduction in womens' drudgery	4 to 12	2	3 to 15	4 to 20	3 to 12

Note: ICMP: Improved Crop Management Practices; ICLP: Improved Livestock Management Practices; ISWCP: Improved Soil and Water Conservation Practices; and IEMP: Improved Energy Management Practices.

Source: Computed from Kiresur (2016) op cit.

reduction in input costs or remunerative price. The paths differ from state to state.

Madhya Pradesh has worked out the pathways and their contribution to income growth as part of its road map. For Madhya Pradesh, enhancing productivity and agricultural diversification are major pathways that can together bring 50 per cent increase in income. Similar road maps need to be prepared for different states and should be done at district and block levels too.

Important strategies/pathways that need to be highlighted are: production growth, water management, cost reduction, professionalization and diversification with a special focus on rainfed areas, eastern India and small farmers.

Production increase can come from area growth through increase in cropping intensity. Yield growth is possible in the short and medium run through bridging yields gaps while varietal improvement for yield growth is a long-term strategy. Huge gaps exist, as revealed by several studies, between attainable yields and those attained in farmers' fields.

An estimate for Karnataka says that even bridging 50 per cent of the gap between attainable yield and farmers' yield, can increase incomes by ₹10,000 per hectare. The strategies for bridging the yield gaps too can be simple such as wider spacing, weed control, nutrient management. These can be crop specific. Other measures to increase production include planning for a better crop mix. Prevention of crop losses too can improve income considerably.

On the water resource front, expanding irrigation

**Table 3: Roadmap for doubling farmers income in Madhya Pradesh**

Sr. No.	Pathways of Income Increase Particulars	Share in Projected Increase in income (%)
1.	Reduction in input cost for agriculture operations	15
2.	Increase in productivity	30
3.	Area increase	14
4.	Agriculture diversification	20
5.	Reduction in post-harvest losses	6
6.	Better remunerative prices for farmers (agriculture marketing/dissemination of prices, etc)	15
	<b>Total</b>	<b>100</b>

Source: Roadmap for Doubling Madhya Pradesh Farmers' Incomes in 5 years. Government of Madhya Pradesh, 2016

facility, better utilization of created potential and water saving are the important strategies. Improving utilization of created irrigation potential, completing pending projects, leveraging Prime Minister Krishi Sinchayee Yojana (PMKSY) and Long Term Irrigation Fund (LTIF) created with Nabard are critical strategies. Water saving becomes an important source of expansion of irrigated area. One estimate says that areas irrigated can expand by up to 10 times through adoption of micro irrigation. Real breakthrough can come from this technique as hardly 10 per cent of the micro irrigation potential is tapped.

One major problem of Indian agriculture is high



and rising costs of production. Cost reduction is possible through smart nutrient management, low input agriculture and farming systems approach. Nutrient use in Indian agriculture has been non-scientific. Studies in Gujarat, where the Soil Health Card system was implemented, revealed that nutrient use based on soil testing can enhance incomes by bringing balance in nutrient use.

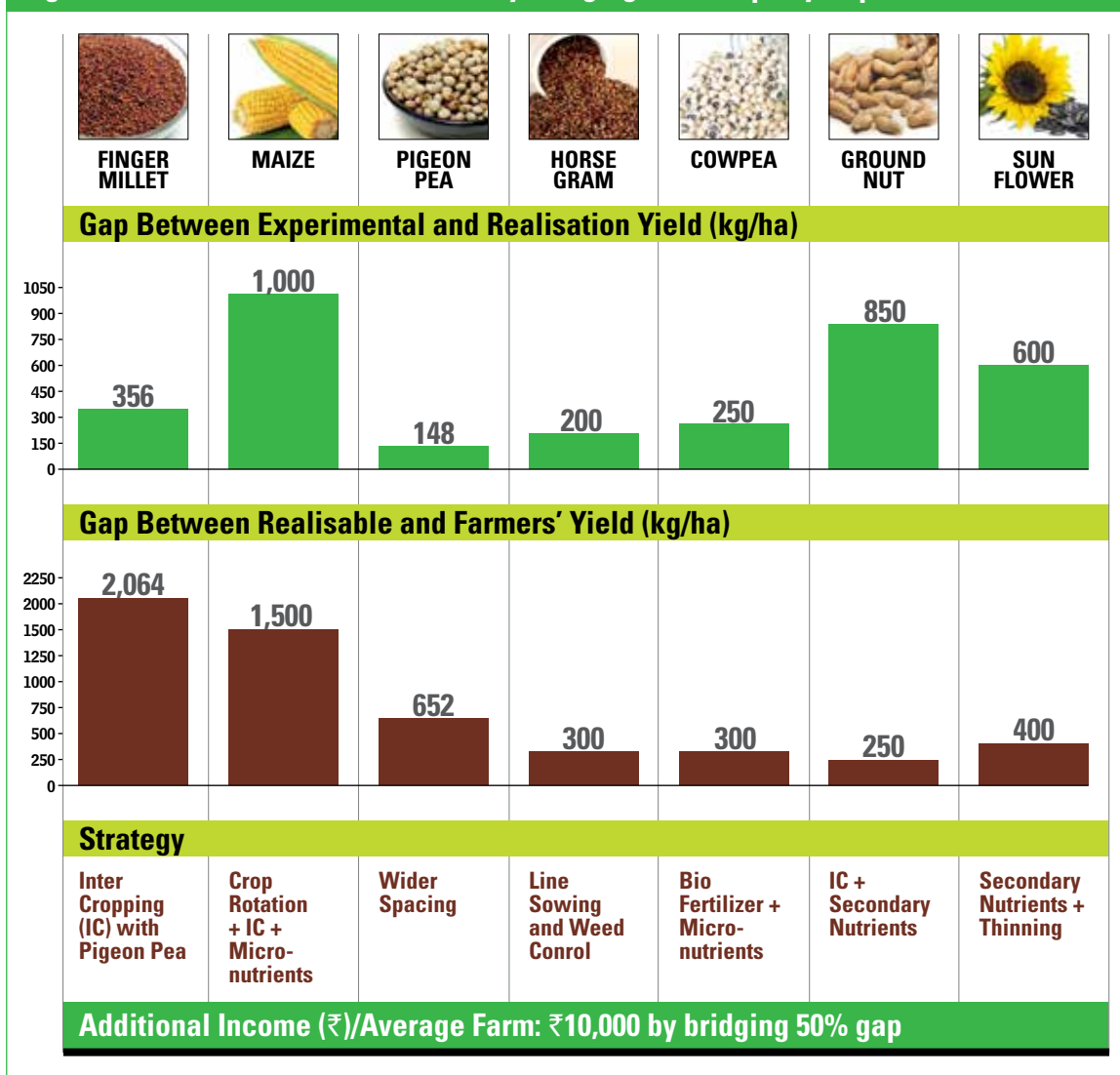
Low input agriculture being promoted in several pockets of the country through organic farming and its variants can reduce input use and reduce costs of cultivation too. A farming systems approach, where the farmer includes animals and tree species in their farm plan along with crops can bring in the income gains of up to ₹17,000 per hectare in rain fed areas.

Diversification can be another major driver for income growth. It can happen within the crop sub-sector, within agriculture sector and towards secondary and tertiary sectors. There will be huge

skill gaps for achieving diversification in both farm and non-farm segments. It is important to underline the importance of skilling youth in agriculture and non-farm jobs. Farming in modern times is a skilled job and should not be treated as a profession by default. Thus, long-term skilling programmes for children of farmers, who have aptitude towards agriculture and other sectors, is recommended.

The need to focus on rainfed areas — where water management, diversification of income sources and risk management, are crucial — is reiterated. They can be addressed through the watershed approach, technology, non-farm sector growth and insurance. Of course, differential policy can be an effective driver. The need for focusing on small holders is also underscored. After all, present day agriculture is fundamentally a small holders' agriculture and making them partners in the drive

**Figure 1: Additional Income Possible by Bridging Yield Gaps by 50 per cent**







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## Debates on choices are alive though the compulsions of the times have dissolved some. Doubling farmer incomes should give way to affirmative action to diffuse agrarian despondency

to double incomes is not an option but compulsion.

The five shortlisted strategies for enhancing the farmer's income could well be:

- Preparing state specific road maps
- Bridging yield gaps
- Smart management of water and nutrients
- Special focus on rainfed areas, eastern region and small farmers
- Leveraging existing interventions with focus on effective delivery

Agrarian distress has been a contagion shaking the foundations of the agricultural sector. Indian farmers have contributed to the food security of the country while remaining in perpetual stress so much so that many of them reportedly do not want their children to continue in farming. Increasing incomes substantially is an essential way to address distress. In this context, the government's budget announcement is a shot in the arm for farming.

India has reached a stage of agricultural development, where there really are no choices. Nor can the country afford debate on them. Earlier, there were long debates on farm mechanization versus animal power, labour versus capital intensive technology, small versus large farms, major versus minor irrigation, high-yielding versus traditional varieties, Bt versus non-Bt cotton... The list is unending. Many debates on choices are still alive though the compulsions of the times have dissolved many. The current debate on doubling farmers income should give way to affirmative action and do so quickly to diffuse the overarching agrarian despondency. ●

### References:

Lead paper: Satyasai, K.J.S. and Nirupam Mehrotra, 2016. *Enhancing Farmers' Income*, Department of Economic Analysis and Research, Nabard, Mumbai.





A woman wearing a vibrant orange and yellow floral sari with a red border is kneeling on the ground, sorting through a large pile of golden grain. She is looking down at her hands, which are covered in the grain. The background shows a dirt ground with some sparse vegetation.

**COVER  
STORY**

# An Environment to Double Farmer Income

Gopakumaran Nair & R. N. Kulkarni



The government of India's announcement about doubling farmers' income by 2022, prospectively impacting on almost half of the country's population directly, has attracted considerable attention. It has generated ideas and debates on policy, strategy and implementation around achieving the goal especially vis-à-vis creating an enabling environment for doing so.

Such an environment broadly comprises an ecology of interrelated conditions such as policies, investment plans, institutions, support services and such others – including legal, organizational, fiscal, informational, social, cultural and political environment – that, individually and collectively, could create growth or improve the impact of the growth process in a sustained manner.

Creating enabling environment for agriculture growth is a continuum but, viewed in the given context, it brings out many other features. This suggested environment should:



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universities, research institutions, technology providers, regulatory authorities, financial institutions, corporates, market-makers, peoples' institutions, opinion makers, media and, above all, the farmers themselves. The interplay and convergence of the energies of such a vast and varied cast and the wide scope of action is an essential but a tricky component of this scheme of things.

The required enablers, interventions and issues to be addressed are placed under 10 broad categories.

## 1. Natural Resource Management

**a. Land Related Issues:** Building a legal framework that secures operational freedom of tenure for tenants during the period of contract, fair fixation of tenure, periods, rentals and such others while simultaneously protecting legal rights of the owner.

**b. Improving Water Use Efficiency:** Giving primacy of place to enhancing water use efficiency for increased productivity in agriculture in terms of 'crop per drop' approach to gain importance.

The interplay and convergence of the energies of such a vast and varied cast of enablers and the wide scope of action is an essential but a tricky component of this strategy

- Take cognizance of the short and medium term time frames;
- Include aspects of post-production activities and be accommodative of diverse approaches to income enhancements;
- Keep the perspective of inter-sectoral complementarities and convergence of opportunities;
- Find a space for medium and large farmers (in addition to small and marginal farmers);
- Blend application of modern technology and improve upon the traditional wisdom;
- Be flexible enough to address the state/location specific;
- Deal with the normal agro climatic situation while recognizing the less than normal situations as well.

The range of prominent players included in this space are the governments (central and states), the local self governments, academia,

**c. Watershed Development:** Fast-tracking coverage of vulnerable dry land areas under the watershed development programme that have benefitted from participatory investments in community-based projects to ensure substantial downstream benefits for all participants.

**d. Climate Change:** Increasing productivity without impacting environment through diversification and selection of inputs and management practices that foster positive ecological relationships and biological processes within the entire agro-ecosystem.

**e. Soil Health:** Addressing issues like adequate supply of good quality seeds, imbalanced use of fertilizers and widespread deficiency of micronutrients, conservation farm technologies such as zero tillage, laser levelling, system of rice intensification (SRI), non-pesticide management and such others.





## 2. Infrastructure Support

- a. Irrigating Farms:** Reducing the gap between the created and utilized irrigation potential, substantially improving the efficiency of the surface irrigation system.
- b. Storage Facilities:** Containing post-harvest loss, improving warehousing financing as well as cold-chain storage on a priority basis and implementing programmes for this in a decentralized way.
- c. Digitalization of Land Records:** Digitizing and correctly/adequately documenting land titles to enhance access to institutional credit and government's welfare schemes.

## 3. Enable Healthy Credit Environment

- a. Bank Regulatory Reforms:** Addressing security-oriented problems attending lending practices and procedures, legal formalities in different states that hinder credit flow, especially to the asset-less farming community.
- b. Improving Access to Credit:** Getting banks to harness advantages of technology, non-conventional modes, such as business facilitators (BF) or business correspondents (BC) for providing financial and banking services.

## c. Coverage of Small/Marginal Farmers, Tenant Farmers, Landless Cultivators:

Ensuring that the RBI stipulated minimum share of eight per cent of the Adjusted Net Bank Credit (ANBC) goes to the small and marginal categories of farmers is attained by the end of March 2017. The concept Loan Eligibility Cards attempted by Andhra Pradesh is worth replication.

- d. Credit Planning:** Prioritizing investment credit to boost capital formation in agriculture to counter the sluggish yield and growth of output in the agricultural sector that was associated with relatively low levels of investment compared to other sectors of the economy.

## e. Thrust on Moderating Regional Imbalances:

Focusing on central, eastern and north-eastern regions by removing impediments to credit flow, improving the efficiency of the banking units and increasing the presence of facilitating agencies and other institutions in these regions.

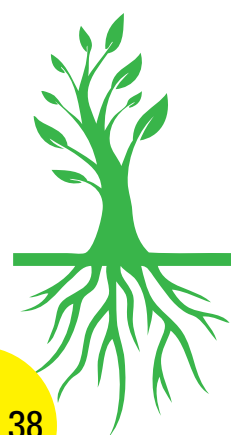
## 4. Research and Development and Extension Services

- a. Research and Development:** Enhancing income necessitates intervention in people's

Prioritizing investment credit to boost capital formation in agriculture is essential to counter the sluggish yield and growth of output associated with relatively low levels of investment



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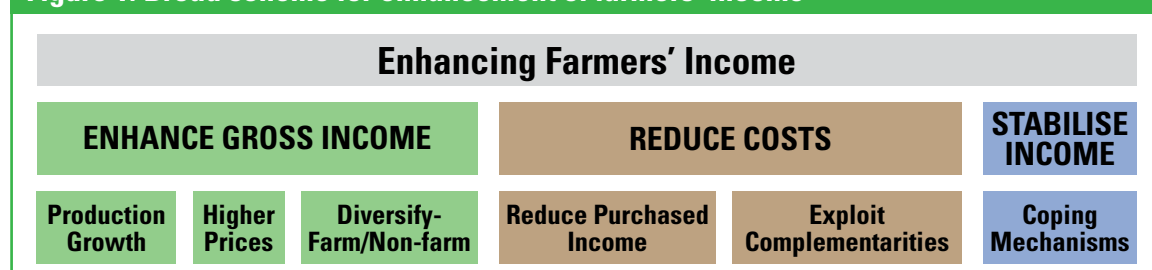


**Table 1: Income of farmers and growth during last decade**

Size class of land possessed (hectares)	Total annual income (Rs.) per agricultural household		CAGR	Real CAGR (%)	Doubling time@ nominal growth	Doubling time @ real growth
	2002-03	2012-13				
1. Landless < 0.01	16,560	54,732	12.70	6.19	5.80	11.54
2. Lower Marginal (0.01-0.40)	19,596	49,824	9.78	3.27	7.43	21.54
3. Upper Marginal (0.41-1.00)	21,708	62,964	11.24	4.73	6.51	15.01
4. Small (1.01-2.00)	29,916	88,176	11.42	4.91	6.41	14.47
5. Semi-Medium (2.01-4.00)	43,068	128,760	11.57	5.06	6.33	14.03
6. Medium (4.01-10.00)	68,172	235,644	13.20	6.69	5.59	10.70
7. Large (>10.00)	116,004	496,656	15.65	9.14	4.77	7.92
All sizes	25,380	77,112	11.75	5.24	6.24	13.56

Note: CAGR: Compound Annual Growth Rate

Source: Computed from NSSO (2005&2014). Situation Assessment Survey, Report No. 497(59/33/5) & 69(70/33/1)

**Figure 1: Broad scheme for enhancement of farmers' income**

lives and livelihoods through research learning on areas such as agricultural productivity, modern irrigation, SRI, nutrient use, livestock management and such others.

**b. Precision Farming:** Stressing on precision farming to ensure balanced use of inputs and better yields, as has been done in the West.

**c. Cultivation Under Controlled Atmosphere:** Decoupling agricultural output from the fluctuations of climate to ensure higher and stable income to the farmers through location-specific, cost-effective methods of cultivation practices under shade/controlled atmosphere.

**d. Participatory Extension Services:**

Revitalizing agriculture extension services by making them more relevant, useful and timely to improve agricultural productivity.

## 5. Risk Management – Integrated Approaches

**a. Integrated Approaches Farm:** Promoting diversification of farms in an integrated manner to ameliorate the vulnerability of small farms in the country. The most efficient way to enhance farmer incomes is to build up intra and inter-

sectoral linkages and adopt value addition.

**b. Allied Activities:** Accelerating farm incomes by supporting farmers through engagement in allied activities, thereby insulating them from vagaries of climate.

**c. Universalization of Crop Insurance:** Executing the Pradhan Mantri Fasal Bima Yojana very rigorously because extant crop insurance schemes are constrained by issues of low penetration, high premium, inaccurate estimation of crop damage, delay in settlement of claims, low density of weather stations and other infrastructure support.

## 6. Marketing Strategies

**a. National Common Market and APMC:** Streamlining taxation law and state specific APMC Acts that are at variance across states and markets.

**b. Direct Marketing – Farmers Markets:** Supporting farmers markets that can be successful in eliminating the middlemen and helping farmers sell their produce directly to the consumers at reasonable rates fixed every day, thereby increasing their net income.



Table 2: Top three coping mechanisms adopted by farmers

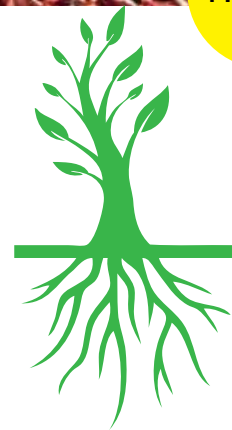
Maharashtra		Telangana	
Adaptation strategy	% of farmers	Adaptation strategy	% of farmers
<b>Ex-ante strategies</b>			
Contract for purchasing irrigation before crop season	77.5	Installation of drip and sprinkler systems	84
Share cropping	61.5	Share cropping	81.5
Stock food grains in anticipation of risk situations	57.8	Intercropping	78.3
<b>Ex-post strategies</b>			
Crop failure - Drought/low rainfall			
Replant with short duration hybrids/varieties	56.6	Reduce the fertilizer application	66.1
Replant the area with other crops	45.5	Purchase irrigation water	40.7
Inter-cropping during crop season itself	43.4	New dug well/deepening the well	25.3
<b>Crop failure - Pest infestation</b>			
Increase pesticide use	78.3	Increase pesticide use	74.9
Seek information from private extension agencies	62.3	Increase the manual control of pests	46
Increase the manual control of pests	59	Seek information from private extension agencies	39.5
<b>Community level</b>			
Borrow from friends/relatives	39.8	Borrow from friends/relatives	75.5
The landlord gives protection (loans/money) at nominal interest rate	21.7	Easy credit/food and other material from women group	75.4
Financial help from government	21.3	Get loans/food from same caste members	43.2
<b>Market oriented</b>			
Sell produce to same commission agents	57.8	Sell produce to same commission agents	73.7
Stock the produce to sell at good times	48.4	Stock the produce to sell at good times	21.9
Enter into forward contract for sale	27	Enter into forward contract for sale	37.7
<b>Ex-post self-insurance</b>			
Mortgaging jewellery	44.7	Mortgaging jewellery	23.5
Selling jewellery	39.3	Sell the land	17.7
Sell old cattle/buffalo/he buffaloes	37.3	Sell mulch animals (cow, she buffalo)	13.1
<b>Credit related risk management strategies</b>			
Loans for consumption purpose from banks/cooperatives/SHGs/etc	66	Loans for consumption purpose from money lenders/traders/employers/Cold storages	73.4
Reschedulign loans	36.5	Loans for consumption purpose from banks/cooperatives/SHGs/etc	64.3
Loans for consumption purpose from money lenders/traders/employers/Cold storages		Rescheduling loans	32.3
<b>Off-farm income, migration and other adaptation strategies</b>			
Reduce expenditure on social functions	48.4	More number of family members go for off-farm work	71.8
Change food habits to cheaper items	43	More number of family members go for off-farm work	71.8
More number of family members to for off-farm work	36.5	Increase the number of days in jobs	67.1

Source: Suresh A., A. Amarendra Reddy, D.R. Singh and Praveen K.V., (2016). Risk Management in Agriculture: An Analysis of Rainfed Farming System in India, Division of Agricultural Economics, Indian Agricultural Research Institute, New Delhi, Submitted to NABARD, Mumbai





## Securing corporate involvement in R&D, technology adoption in agriculture, especially the use of biotechnology, engineering would provide larger space to private corporates



### c. **Commodities Future/Price Realization:**

Implementing commodity future markets to facilitate price discovery, crop planning and removing impediments in the way to enable price risk management and stabilize net income of farmers.

## 7. Scaling up and Aggregation

**a. Promotion of FPOs:** Addressing the collateral and sustainability predicaments confronting FPOs that helps in overcoming the challenges of high transaction costs, security stipulations of loans and support smallholders to gain access to markets, public services, better price and such others.

**b. Joint Liability Group:** Supporting JLGs to take care of the needs of mid-segment clientele like small farmers, micro entrepreneurs and such others at one level and, at another level, also take care of the more marginalized sections

of the society that do not have access to proper documents like land records and property records.

## 8. Off farm, Non-farm Wage Income


### a. **Skilling for Diversification of Activities:**

Reaping the advantages of demographic dividend that India enjoys through a massive skill-development and employment-generation initiative in major sectors, including agriculture.

**b. Supplementary Income Through Activity-Based Groups:** Supporting activity-based groups that help farm-based activities and also group-based income generating activities that are a proven source of supplementary income for the farmer family.

**c. MGNREGA to Compliment Family Income:** Effectively utilizing manpower under the scheme for asset creation under common properties, water, soil protection structures and





## MGNREGA should effectively use manpower to supplement family income and create asset under common properties for water, soil protection structures and such others to generate

such others to generate a positive impact on the agriculture sector.

out to people at the ground level and helping minimize leakages.

### 9. Strengthening and Widening Partnerships

- a. Involvement of Corporates:** Securing corporate involvement in research and development, technology adoption in agriculture, especially the use of biotechnology, genetic engineering and such others to provide larger space to private corporates.
- b. Collaborative Approach:** Creating an umbrella platform to support the multiple enablers of growth, at the decision making level, to collate and manage all schemes and activities to avoid duplication in effort and leakages.
- c. Non-government Organizations:** Harnessing the advantages provided by NGOs, that are essentially low-cost agents growth, in reaching

### 10. Other Issues to be Addressed

- 1. Stable export-import regulations relating to agriculture
- 2. Regulation of informal money lenders, MFIs/ NBFCs
- 3. Addressing rural energy needs
- 4. Providing adequate power to farms and enhancing efficiency
- 5. Promotion of custom hiring centres to promote farm mechanization
- 6. Strengthening IT & ICT infrastructure in rural areas
- 7. Providing suitable infrastructure for veterinary and other allied activities
- 8. Promotion of rain water harvesting through location specific models





9. Farm forestry, tree crops (boundary), integrated farms
10. R&D on drought-resistant, water-saving varieties
11. Health insurance, life insurance and other social security benefits
12. Quality standardization
13. Minimum support price and decentralized procurement
14. Exclusive marketing channels for organic produces
15. Inclusive supply chain for SF/MF
16. Targeted subsidy – Direct Benefit Transfer to prevent leakages
17. Spreading financial literacy and awareness
18. Ensuring end utilization of crop loans
19. Incentivizing capital formation through input/ credit subsidy
20. Subsidy rationalization: promotion of micro nutrients, organic manures other inputs
21. Differentiated approach for ecologically sensitive and rainfed regions.

Agriculture today is far more integrated with the national and global economy and no longer 'rural only' in orientation. The ramifications of such

linkages with the macro concerns are far more explicit than food security or inflation. Issues in the sector go much beyond production, to the entire management of food economy, covering product diversification, pricing, procurement, storage, transport distribution, marketing, mitigation of risks and such others, calling for policies looking at agriculture far more comprehensively.

There are scores of issues to be tackled to attain the envisaged target within the stipulated time frame. Fresh investments in agriculture and creation of infrastructure are no doubt important but improving efficiency of existing inputs and infrastructure might bring quicker results are urgent.

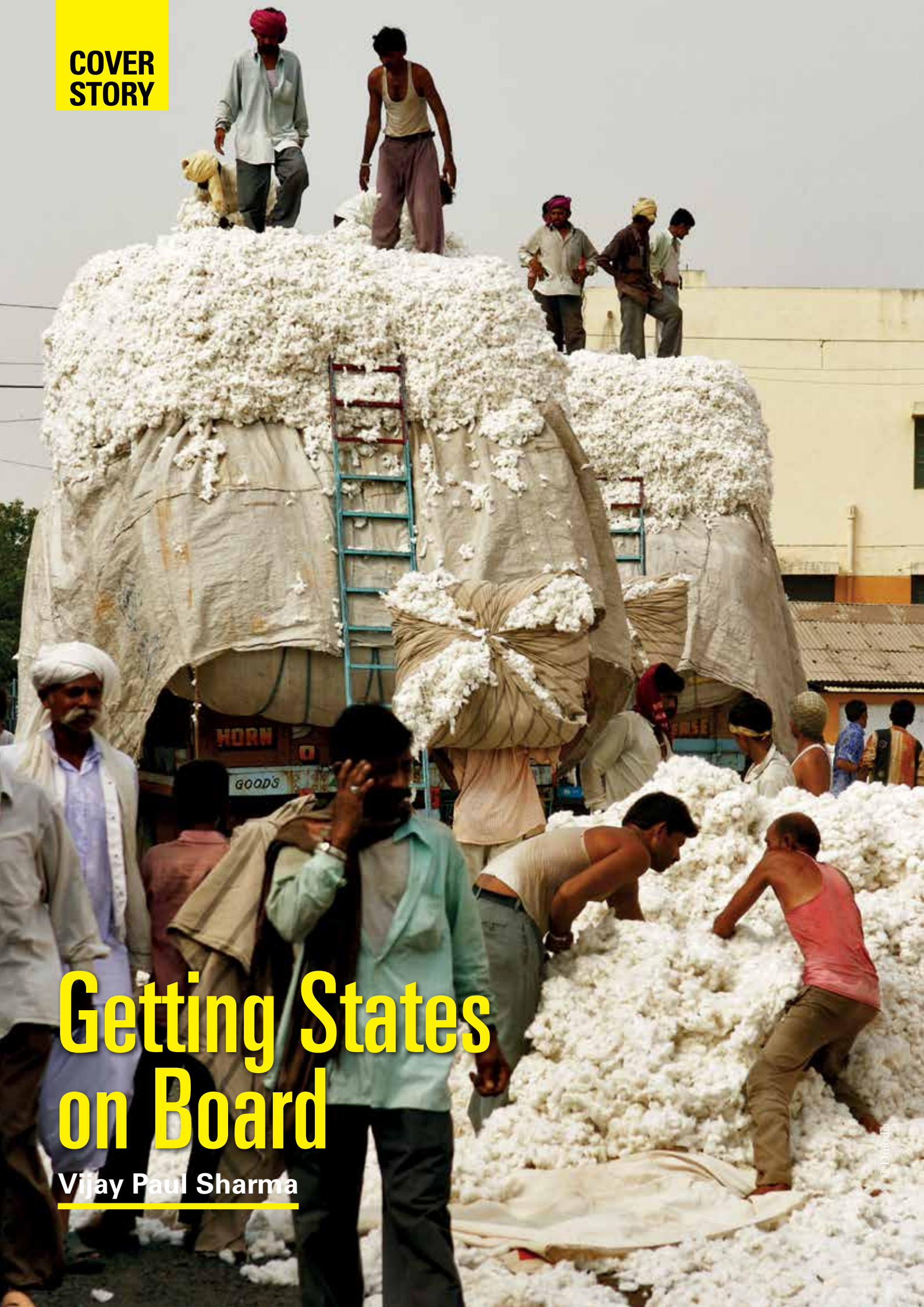
Bringing in soft infrastructure in terms of information, demonstrations and advisories to farmers, along with the given hard infrastructure, would make a greater impact on farmers. Well-entrenched institutions have helped the farmers tide over the adverse environment on the basis of the social capital created. Alongside, ground level institutions are also critical and effective in bringing about the benefits of aggregation in financial terms to the beneficiaries. ●



**COVER  
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# Getting States on Board

**Vijay Paul Sharma**





**T**he task of doubling farmer incomes is a given. The next issues are how to do so and ask if it is doable in the next six years or if there is need to relook at this time frame. There are three or four elements involved. How is farmers' income, around which there is a lot of grey area, defined? It could comprise farmers' incomes in terms of what comes from the farm or income the non-farm sector.

There are some felt needs in the agriculture sector:

- First, reducing dependence on agriculture that is overloaded with people. Take out that surplus from the equation and probably the average farm income per household on a per farm basis would increase. How can income be increased? One could improve productivity and reduce yield gaps. In most crops — pulses (the real problem area) and oil seeds — even with the existing technologies but with effective delivery of inputs and other services, productivity can probably be



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from the block level, district level, state level and then aggregated.

In certain states, horticulture may be the major driver. In others, fisheries could be a major driver. There being no realistic estimate of income or even its definition, one does not know the base level of the farmer's income from which to start and the level one wants to reach. The numbers are disparate with different destinies for farming but one could begin with the four important pillars in terms of:

- Technology
- Institutions
- Infrastructure
- Incentive structure, including pricing policy, trade policy and the contentious subsidy issue.

In terms of technology, better seeds to improve productivity are important but the greater focus should be on reducing costs in terms of improving the water use efficiency, improving fertilizer efficiency and those of other inputs along with

## India should focus on extending public extension systems in a big way. Private extension systems can supplement or complement these efforts but not replace them

increased by up to 30 per cent.

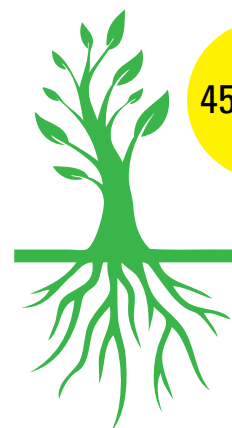
- Second, reducing cost of production/cultivation. Most inputs — fertilizers, irrigation, water and such others — suffer from inefficiencies that could be reduced to lower the costs.
- Third, addressing wastage such as post-harvest losses particularly in the high value segment. The growth is typically taking place in high-value segments — fruits and vegetables, livestock sector or fisheries — even without any effective market system or infrastructure. How can the waste be addressed to improve productivity and reduce losses and which areas should be targeted?

This exercise has to be done more at the state level and leads to the question of how state governments can be brought on board. The answer lies in having more consultations with the state governments. The Madhya Pradesh example can be replicated in other states and the efforts consolidated rather than doing things at a national level and then trying to figure out what happens at the state level. That exercise should start from the bottom, maybe start

efforts to take advantage of new technologies. IT can be a big driver in terms of taking the technology to the farmers, in terms of dissemination of knowledge and dissemination of technologies.

As far as institutions are concerned, they are faced with the fundamental problem around incomes of the small holders. Almost two-thirds of India's farmers have farm sizes of under an acre. One institutional reform is consolidation of land holdings. The second is tenancy reforms, which the Niti Aayog had examined and given recommendations for. The problem is to get the state governments to hook on to those ideas for an upscaling of land holdings.

Much time has been wasted on considering replacement of public extension services by private extension systems. By and large, India should look at the public extension systems in a big way. Private extensions system could supplement or complement these efforts but one should not expect much in terms of extension services from the private sector though they ought to be taken on board.







The third is the credit issue and there has been talk of funds flowing into agriculture increasing but that is happening in the physical production bracket but declining in the investment bracket. Also, the institutional share of co-operatives is declining though co-operatives have very strong networks in rural areas. The problem is that credit is getting into certain areas that may not be important from the farmer's income perspective.

The other issue is around addressing the farmer's risk and while there is great hope on the Pradhan Mantri Fasal Bima Yojana, there are a lot of issues related to the infrastructure available, institutions and mechanisms to take care of the farmer's interest. Irrigation is another issue and rather than making big investments on irrigation, one could look at bridging the growing gap

between the irrigation potential created and the irrigation harnessed by optimizing deployment of existing resources.

Infrastructure faces a confusion in terms of who should do what as the country has been talking of private sector investments in the last 10 or 15 years after having talked of public-private partnership. There is need for clarity. The private sector is not keen on investments in basic infrastructure, be it roads or irrigation. The public sector should put in the basic infrastructure at the back end of the value chain. The private sector should play a role on the market side, creating infrastructure from the post-harvest management phase.

Private sector investments are currently not financially viable and the APMC is not the big hurdle. The question is around the long gestation







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## Luc Hoffmann Award for Dr Dhrubajyoti Ghosh

**Dr Dhrubajyoti Ghosh**, a UN Global 500 Laureate, has just been given the prestigious Luc Hoffmann Award for 2016 and is the first Indian to win it. The Luc Hoffmann Award is given to those demonstrating outstanding stewardship in ecosystem management. Dhrubajyoti Ghosh, who has been writing for the *Farmers' Forum* since its inception, is amongst the earliest engineers to carry out research in ecology in this part of the world. His path-breaking findings in wetland wise use — basing his research in the East Kolkata Wetlands — won him the UN Global 500 award.



The Luc Hoffmann Award recognizes individuals demonstrating initiative and environmental leadership within their communities. It celebrates people who are not paid for their activities but undertake them for their own good reasons and provide inspirational leadership not only for their local environment but for the world at large.

Over the years Dhrubajyoti Ghosh has demonstrated immense understanding of the power of local community wisdom to manage ecosystems as he has identified how communities live creatively with nature. This, he underlines, should be the philosophical basis of all green goals. Ecologists respect him as a new-generation thinker and researcher who has evolved a barefoot pedagogy to learn and teach ecology.

period and huge costs that have to be recovered. Clear models that incentivize the private sector to invest in post-harvest management and its infrastructure are required.

The incentive structure includes pricing policy and its implementation. The government can announce an MSP for some 23 crops but there is effective procurement of rice and wheat only and that too in Punjab, Haryana, Madhya Pradesh for almost 90 per cent to 95 per cent of the procurement. The procurement strategy must become more diversified in terms of crops and geographies. This need brings to the fore the role of the state governments.

How can the state governments be brought on board in terms of effective procurement or at least market intervention? Not everything needs to be

procured but when prices drop below the MSP, governments should enter the market and stabilize prices at least. In most eastern or north-eastern states, the farm harvest prices are typically much lower than the MSP and it is pointless announcing MSPs without the mechanism to ensure that the farmer gets it.

Trade policy vis-à-vis the agriculture sector is highly unpredictable and non-transparent too and must be made very consistent and predictable. There is an equal need to rationalize and target subsidies, given the limited resources. These are difficult questions and must be addressed if the target of doubling farmer's incomes has to be met. The important thing is to secure the states' commitments if one is serious about really achieving this objective. ●



# Four-point Formula to Meet Four-point Challenge

**Bhagwan Sahai**

**T**here are four main features that characterize farming in India, both farms and farmers. One, unlimited, unending uncertainties and at every stage in the farming operations, from right inputs at the right time, at affordable prices. Things are uncertain, unviable and uncertain.

This, uncertainty is not only around seeds. Uncertainty clouds every input that the farmer needs for his operation. One of the biggest challenges that I encounter at work is minimizing the uncertainties. Some efforts are underway but the way the system works must improve so that inputs that are manageable can become available to the farmer, when he requires them and at an affordable price.



**BHAGWAN SAHAI**  
Additional Chief  
Secretary,  
Government of  
Maharashtra



Two, the farming sector is too crowded with too many persons associated with farming, either on a full time basis and fully employed or partly-employed or unemployed. This problem is true with small sized holdings too. What is of concern is the continuous and increasing pressure on already existing small holdings by the forces of urbanization. More and more of productive tracts of land are falling under urbanization and even the small holdings are under constant threat of coming under settlement urbanization. Thus even the size of the small holdings is likely to shrink and this seems to be unstoppable.

Three, unviability, which derives from the peculiar features of the small holdings and the





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many persons depending on them. Farming is unviable and somehow sustaining itself. For farmers, agriculture remains an occupation and never a business or enterprise. Farmers somehow remain occupied with farming operations but in economic terms it is not a very profitable activity and something must be done about this.

Four, unsustained nature of interventions or new developments and improvements. Things happen occasionally and the entire system seems to forget them. Spells of green and white revolution take place but can not be sustained over a longer period.

These are the four broad challenging characteristics of farming in India and I have a wishlist to overcome these challenges. A miracle input, a seed that can reduce the lifecycle of the crop or a plantation! Instead of yielding a harvest

after six months, it yields a harvest after four months or even two months with the same kind of yield, production, productivity! Orchards where plantations can come to fruition within a year; or fertilizers that add value faster!

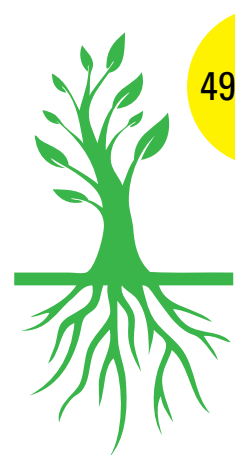
However, the doable things being attempted that can be scaled up, depending on the climatic conditions — rainfed, watershed, irrigated — are maximizing input use efficiency in terms of seeds or fertilizers, nutrients or credit. This has two phases. The first involves technological interventions, where new technologies get evolved and get adopted and the second involves managing what has got adopted so that it gets widely accepted and used.

In Maharashtra, for example, attempts are being made to bring more of the yield crops and plantation crops under micro-irrigation to increase water use efficiency, instead of allowing flood irrigation in sugarcane and in other plantations. Efforts are on to bring the entire sugarcane area under micro irrigation methods over next four to five years.

The second endeavour is around the viability of holdings that means engaging with the political environment where greater efforts need to be made. There are reservations about this being possible but there is no doubt about the unviability of the small holdings. Relaxations in the ceiling limits that have been imposed in different states may be a way out with wide advocacy to create the environment for reconsidering ceiling limits.

The third would be diversification into multi-cropping instead of one crop in a year or in a cycle of operations. The fourth to be attended to with more vigour is speeding up the migration from farm sector to non-farm sectors. Allowing the existing numbers depending on farms or adding to them will not work any more and speeding up migration from farming to non-farm activities has to be promoted on a massive scale. These people have to be trained with different skills to make them employable outside the farm holdings of the families.

The fourth would be strengthening the links between the farmers — those who actually do farming operations — and the government and the different institutions. Whether they be financial or education institutions, the linkage needs to be strengthened to help inject vitality and vigour into farming. There is need to bring the focus back on extension and advocacy efforts. Massive and sustained advocacy efforts in conjunction with other steps may make farming regain its lost appeal. ●





A close-up photograph of a person milking a cow. The person's hands are visible, one holding the cow's teat and the other guiding a stream of milk into a shiny, metallic pot. The cow's dark, textured skin and tail are visible in the background. The scene is lit with warm, golden light, suggesting late afternoon or early morning.

**COVER  
STORY**

# C2C Means Cow To Consumer

R. S. Sodhi





The problem of doubling farmers' income has been recognized and various experts — academicians, bankers, economists, policy makers and others — have prescribed solutions. I am a 'milkman' and can only tell you how to double income through dairy in a business-like manner. If asked what business I am in, I say: 'In the C-to-C business; the cow to consumer business'.



**R. S. SODHI**  
Managing  
Director, Gujarat  
Co-operative  
Milk Marketing  
Federation

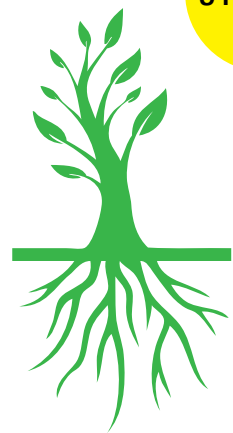
The livestock sector contributes around 12 per cent of farmer income but the advantage is that while the farmer's income is growing at 3.5 per cent, the livestock sector is growing at 14.5 per cent. The significance of this number is evident when one considers that of the more than 15 crore farmer families in India, 82 per cent are landless or marginal farmers with less than an acre. Add small farmers and the percentage is 92 and the percentage of income from livestock sector then increases to 36.

If 82 per cent of the farming population has 36 per cent of its income coming from livestock (growing at

## 82 per cent of the farming population has 36 per cent of its income coming from livestock

14 per cent), the best way to double farmer income is through this route, especially because most do not possess land and must earn from non-land sources. This shows the importance of the dairy and the poultry sectors, both of which are growing. The dairy sector has a lot of potential and expertise, it can access good fodder and there is a big domestic market for its produce.

India is the world's largest producer of milk and accounts for around 17 per cent of world production of around 150 million metric tonnes with a growth rate of 4.5 per cent against a global growth rate of under two per cent. Till the seventies, India's production was only 20 million metric tonnes and its per capita consumption was declining at around 110 gram per person. The white revolution — operations 1, 2, 3 — changed all that and production today is 150 million metric tonnes with per capita consumption increasing from 110 gram to 350 gram and on the rise.





## The dairy industry does not demand large land holding. Once someone joins it, there is an assured crop of milk for 365 days that can be sold



India is fortunate that it is not only the world's biggest producer but also world's biggest market and a growing market as well. When there is talk of food security — there is security in terms of carbohydrates and cereals — protein security eludes the country. Oil and oil seeds security has been a problem and till the nineties, India was only 15 per cent import dependent, a number that is upwards of 60 per cent to 70 per cent for edible oils. With increasing incomes, people have started consuming more protein and from animal sources. Milk is one of the most important source.

India's population of 1.25 billion people is expected to overtake China's 1.4 billion by 2020-25 and touch 1.7 billion by 2050. Of this, 70 per cent is rural and 30 per cent is urban. By 2050 it is expected to be 50 per cent rural and 50 per cent urban. This means that there will be more mouths to feed in the urban India and less people to produce food in the villages. With the same amount of land, whatever be the technological innovations, India we will need less people to work in farms.

These people will naturally like to migrate to the nearest cities exerting pressure on the cities on the one hand and, on the other, because of the oversupply of labour, they will get paid less. However, with no fields to work on in the



villages, there will be this huge labour force seeking gainful employment in the villages or in the rural areas. Dairy is one industry that does not demand large land and once someone enters it, there is an assured crop of milk for 365 days that can be sold. Unlike other agriculture crops,



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with too much dependence on climate conditions and great volatility — excepting crops under MSP and such others — this is a good option.

How will people be mobilized towards the dairy sector, especially farmers in rural India? There is a good model of a large alliance of co-operatives in India — and globally — and dairies are at the head of the co-operative space. The model sets its own standards and may need to be made more contemporary and even more glamorous for today's youth, particularly the educated rural youth, who is not inclined to go to the nearest city and work in factories for ₹10,000 or ₹15,000. Experiments have been done in Gujarat where commercial dairy farming has been promoted with bankers coming forward. If one has a farm of 30 cows or buffaloes, over a five-year period, the total capital required will be ₹21 lakh because, after three years, the same original cow produces calves.

After meeting all expenses, a youth who stays back in the village can, with a loan of ₹15 lakh, earn around ₹35,000 to ₹40,000. There are thousands





of Gujarat farmers doing this, which is why milk procurement in Gujarat is growing at upwards of 11 per cent to 12 per cent, which was quite unexpected. Given that land consolidation is not happening, one can revive the traditional model of a couple of animals at the back of the home and consolidate the output. Milk production has been low per animal because there is lack of fodder and the cattle is fed the leftover after human consumption. This has to change and since the number of cattle cannot be increased, the productivity per animal much improve with better fodder.

Bankers must come forward to support the youth in dairy farming. There is a market for milk produce that is growing and the country's per capita milk consumption should increase to 800 gram per person, which is not very difficult. With 1.7 billion people consuming 800 grams per person, India will need 540 million metric tonnes that is 3.5 times its current produce.

There is need for professional help and services for the emerging generation of modern dairy farmers. They need access to finance that bankers and other financial institutions can provide and markets must be accessible so that they can get a good price for what they are producing. If these conditions are provided to the dairy farmers, they can certainly multiply incomes not just two times but three to four times. ●



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**COVER  
STORY**

**DOUBLING FARM INCOMES:**

# **The Secret is in a Clear/Detailed Plan**

**Ashok Gulati**



Agriculture provides the largest mass employment base in India and farmers have given the country food security when the need was extremely acute. From the dire straits of the mid-sixties — when, every 15 minutes, a ship was leaving the US shores with food supplies for India — to 2014-15 when New Delhi emerged as the world's largest rice exporter, it has been a long journey. That is the difference that the farmer has made. The question is if the country has paid him back.

There cannot be any two opinions on whether the farmer's income has to be raised significantly — double, if possible, in the next five to six years — and one needs to be pragmatic about the approach and give measured advice instead of talking in generalities. It is better to empirically quantify information and plan what is to be done every two to three years and then check on what has been achieved. Failing that, the exercise will lose focus.

Doubling the farmer's income is not a slogan; it should be a well thought out goal. It is a dream that



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Economic  
Relations

the real growth some deflate it by the GDP deflator. While working on the farmer's income, the relevant deflator cannot be the GDP deflator. It should be the consumer price index nearest to agricultural labour.

The moment this is done, the annual compound growth rate of this period (2002-03 to 2012-13) falls to 3.5 per cent per annum. The challenge is to take the rate from 3.5 per cent of the farmer's income and not the farm income (that would include non-agriculture and non-farm incomes). By this calculation, it will take more than 20 years to double the farmer's income and when one talks of doing this in five or six years (some say that it is to be done in five years) one needs clarity on whether it is in nominal or real terms and the deflator has to be the consumer price index

**Doubling the farmer's income is not a slogan; it should be a well thought out goal. It is a dream that should be a waking reality and not let one sleep. If this be so, a reality check is needed every day**

should be a waking reality and not let one sleep. If this be so, a reality check must follow every day, every month, every year. What are the top three to five things that should be done in terms of priority? The first point should address 30 per cent of the issues, the next one 20 per cent and the third 10 per cent and the rest everything else. That is the first bit of advice.

Second, ambition is great; dream is wonderful; but, if history is any indicator, things cannot be achieved overnight in a huge country like India. The data is available with the NSSO (2002-03 and 2012-13) and one has seen the real and the nominal growth. There are some issues around dealing with the data though. While working out



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of the agricultural labour. To double the real income in six years, one will have to work three times harder.

The most important thing is investment in irrigation. The Pradhan Mantri Krishi Sinchayee Yojana is one instrument that has an allocation of around ₹5,300 crore, distributed in four different components across three ministries. How will this be coordinated and how much are the states spending on it? They are spending around ₹1,00,000 crores. This is the business as usual scenario. If this effort is to be tripled, the resources needed will be ₹3,00,000 crores. Are these funds available? Can they be committed? This is what the policy makers want to know: how much can be spent and in what areas. ●





# Taking Credit to the Farm Sector

## Sanjay Kaul

**F**our or five issues need to be flagged when discussing doubling of farmer income in India. The first is investment credit. What is worrying is not only that investment credit as a percentage of agriculture credit is low but that it is declining. It has come down from 42 per cent in 2005 to under 25 per cent. This means that as much as 70 per cent to 75 per cent of total credit flows into agriculture is really crop loan in some fashion or the other. Crop loans do not always represent fresh credit.

This is not only an issue of whether it is going to farmers or otherwise though there is evidence that some fudging of figures takes place. A greater concern is that a lot of crop loans shown as disbursed year after year comprises loans given for the previous seasons, which is again recycled as credit to the next season. If investment credit is to increase, something



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Managing  
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Services Ltd

has to change in the policy environment to facilitate the breaking of this cycle.

Second, when talking of growth, all credit to a sector should be treated as such, irrespective of whether the credit is given to an individual beneficiary (farmer) or to a firm. For example, if credit is given for investment in warehousing infrastructure, it is directly linked to agriculture, irrespective of whether the facility is in the public or private sector. Yet investment in an agri-business does not qualify as credit within the direct eight per cent mandatory credit flows, unless the particular entrepreneur is a small or marginal farmer.

If credit flow into agriculture is to increase, the distinctions between direct credit to particular categories of farmers and credit to other farmers and agri business firms engaged in productive infrastructure should be removed, particularly from the priority sector lending perspective. Banks do not have a problem with agriculture credit; they



have a problem with reaching the priority sector lending (PSL) targets for the mandatory eight per cent quota to small and marginal farmers.

This is a major issue especially for private sector banks, which find it difficult to meet the eight per cent credit target while there are other credit opportunities that could promote investment and agri growth but which do not qualify for credit under this quota.

There is also need to re-look at farm subsidies or investment subsidies for agriculture that come and go. For example, investment subsidies for warehousing have been not been withdrawn but there is no budget under this scheme in the last two years.

A fourth issue is about the regulatory bottlenecks in agri-business. A private sector entrepreneur wanting to put up agri-businesses must go through the same regulatory approvals as for any other industry. If one wants to set up a warehouse, which is on the priority list of the agriculture policy of most states, the industries department treats such proposals as any other proposal. Maharashtra, for instance, requires about 20 approvals to get a simple

enabling environment to encourage such initiatives.

Another point is that farmers require a stable price outlook for steady income growth. This would require farmers to have access to price information that certainly goes beyond today's market prices. The last remaining price discovery platform for agri crops was in the case of *chana* — the last important crop to be traded on the commodity exchange — before chana futures got suspended. The government should recognize that market-driven instruments for price discovery are important for farmers to get some foresight or intelligence on what the price outlook would be. Within the government too, there is a lot of price information on a daily basis but very little forecasting.

One is not only suggesting that the futures platform be revived but also emphasizing the need for a forecasting intelligence unit in the government to ensure that a demand-supply mismatch situation does not perforce lead to enforcement measures for dehoarding and destocking. The imbalance has to be set right by taking corrective steps.

The last submission is on the need to create

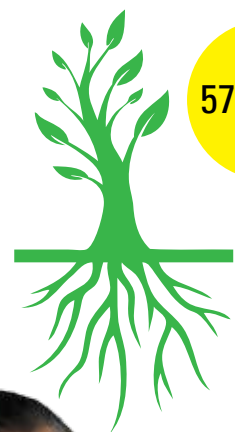
## There are immense possibilities around farm gate modernization, as in custom hiring; the potential of 'uber'ization of custom hiring of farm equipment

warehouse, notwithstanding the fact that an agri warehouse has no pollution or no electricity issues.

The local sub-divisional magistrate (SDM) is supposed to act as a single window but this single window functions more like a post office. The SDM merely sends the proposal to the pollution control board, fire department, tehsildar, the town and country planning department and such others. It took us at the National Collateral Management Services a year and a half to get simple regulatory approvals to set up a godown. Things get even more complex and time consuming if the industry is a little more complex.

There are immense possibilities around farm gate modernization, as in custom hiring. Here, one is talking of the potential of 'uber'ization of custom hiring. Multiple entrepreneurs own equipment on a standard Uber-like platform that matches demand and supply. The point being made is that the private sector has a critical role to play especially when it comes to access to markets, access to technology and equipment and access to some information and intelligence and government policy must create an

a national market platform for the farming community and here the initiatives have been good. Given the complexity of agriculture markets, a government platform would not be adequate, however. Viable platforms in the private sector space are available, which do not require government subsidies. They require an enabling environment. The way the national agriculture market is being championed — electronically linking only 585 markets or mandis over three years when there are 11,000 active mandis — cannot make it the main vehicle for linking different states and different boundaries within which agriculture produce is currently being traded. The private sector will also need to be encouraged. ●





# Ensuring Fair Insurance

P. J. Joseph

**H**ow can crop insurance be made to work better in India? First, there is need for capacity building at the central and state levels in terms of technical skills. Insurance is a complex subject, one must develop the right products and make them available and then monitor insurance companies, which is not an easy job. Without a permanent establishment of domain knowledge both at the centre and state governments, it going to be difficult to move forward.

Having moved away from an administered



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regime, bringing in a lot of private insurance companies, with a lot of premium paid out and a lot of subsidy too — this year the annual premium is around ₹15,000 crore, up from ₹6,000 crore in the previous year — it is in everyone's interest to have technical skills within the state governments and the central governments. The area based insurance that obtains today has its own defects and the best solution seems to be to have a farm-based insurance. The need is to protect the income of a farmer but what obtains today is yield insurance that basically covers the





input cost and not the potential income that a farmer would get out of his crop.

There is also need for a statute to cover crop insurance in India because the provisions of some schemes are being challenged in the court of law and, unless there is statutory backing, it may not stand the test of law. For example, in Maharashtra the compulsory provision of the scheme has been challenged and the court has held that it cannot be compulsory. It is another story that insurance penetration in Maharashtra is much higher for other reasons. As it is, even state governments find it difficult to handle weather-based crop rotation schemes for insurance. In one state premium has not

been paid for many years and claims have not been paid in full; sometimes the weather data providers feel that the data that they believe ought to have been given is different and, therefore, payments/premia have been less than what they should have been and there is a dispute. These things can be sorted out if there is proper regulation and also a technically qualified set up within the state.

Yield insurance, as is practiced currently, means that a regular farmer's claim is not assessed on the basis of the state of the crops in his farm but on the sample crop in the area and even if a farmer has actually suffered a loss, he does not get his insurance because the yield in the sample farm has not got affected. ●



**COVER  
STORY**

# Putting Things Together for Delivery

R. Amalorpavanathan



Several measures to double farmer incomes have been talked about, including productivity and efficiency improvement of all inputs that go into generating farmer incomes. Efficiency and productivity land, water and improved mix of crop and non-crop activities and diversification into the cropping time on the one hand and, on the other, improvements in terms of timely availability of quality inputs and access to processes for the purpose of enhancing output efficiency along with integrated market development.

Time diversification is emphasized because when farmers produce more they lose on account of price fall. The idea is to spread the income-generation cycle and over a larger period and extend it throughout the year from different sources to ensure farm income security. Use of quality seeds, irrigation and other nutrients is also important but one has to be clear about the correct and appropriate



**R. AMALORPAVANATHAN**  
Deputy Managing  
Director, Nabard

through various means. Farmers producer organizations are expected to support such initiative where producers come together and share their resources and seek to improve resource efficiency because scale is what ultimately matters.

FPOs will also need to do some quick research on how to reduce waste in agriculture and other processes around it, from transportation, storage, handling to marketing. Wastage avoided means income added. Equally, there is need for activity diversification linked to livelihood, keeping in mind that in India farming is not a business, it is a livelihood and everything must be woven into the overall poverty alleviation agenda; the entire mechanism including machinery, health systems, irrigation systems and such others.

## To create an enabling environment for income generation, obstacles in the way of free and timely availability of affordable farm inputs have to be removed without delay

use of these inputs, failing which a lot of unnecessary expenditure will be incurred. Such expenses do not enhance productivity of the agriculture.

Eventually, income generation revolves around adequate market support systems for which the government has initiated the National Agriculture Market that, in turn, will require several support systems. It is also important to address the barriers to creating an enabling environment for doubling farmer incomes. They include the regulatory environment, the obstacles in the way of free and timely availability of affordable farm inputs to obviate unnecessary expenditure.

A comprehensive approach is needed for doubling farmer incomes and some efforts are taking place through state and district level consultative committees. Amongst other things, consolidation of holdings needs to be promoted

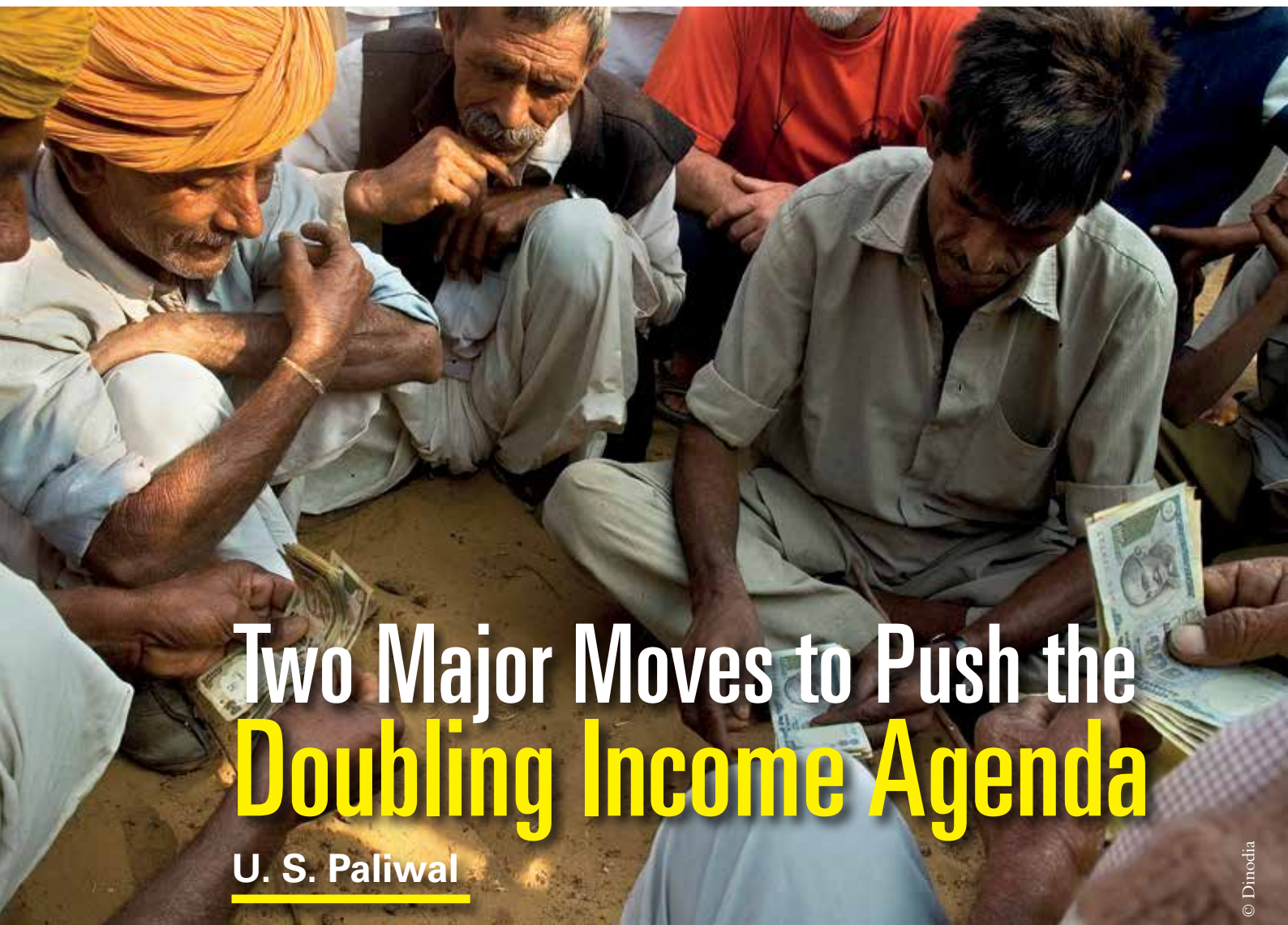


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Many households are not skilled to do different things and their situation is almost analogous to poverty situations in this country. Therefore, skilling, creating job opportunities, creating livelihood opportunities and increasing both productivity and income will pave the way for doubling the farmer's income and household incomes. One is looking at a co-ordinated approach or an institution to take care of entire delivery.

Is convergence or co-ordination the right way is something that needs to be thought through but it is important to provide a lot of opportunities for the private sector players today in order to make sure that they are able to go to the farmers and cater to their needs. Nabard will definitely examine all these aspects and consider how things are to be moved at the ground level through its district managers and also the state and district level consultative committees. ●





# Two Major Moves to Push the Doubling Income Agenda

**U. S. Paliwal**

**F**rom the Reserve Bank of India's perspective, there are two important issues vis-à-vis doubling farmer income in India. One, private sector lending with special focus on small and marginal farmers. Two, the government/RBI response in terms of policy rationalization to help farmers in difficulties because of natural calamities, especially small and marginal farmers facing crop failure.

Given the exploitation that they face in the hands of informal sources of finance, the need has been for reasonable credit, accessible credit and at a time of critical need, keeping in mind that (a) agriculture is still the backbone of the country and more than 50 per cent of the population stays in the villages and (b) the farmer also derives an income from things like horticulture, dairy



**U. S. PALIWAL**  
Executive Director,  
Reserve Bank of  
India

farming and the non-farm sector.

A review of priority sector lending norms in April 2015, in consultation with all stakeholders, gave priority to small and marginal farmers. Within the 18 per cent of Adjusted Net Bank Credit for agriculture, a sub-target of eight per cent of ANBC was fixed for them, to be achieved in a phased manner — seven per cent by March 2016 and eight per cent by March 2017.

There was a shift in emphasis on the small and marginal farmers. (Foreign banks with 20 branches and above have to achieve the agriculture target within a maximum period of five years starting from April 1, 2013 and ending on March 31, 2018 as per the action plans submitted by them and approved by RBI. The sub-target for small and marginal farmers would be made applicable post 2018 after a review in 2017 — RBI.)



Twelve natural calamities have been identified as those that especially affect agricultural crops: cyclone, drought, earthquake, fire, flood, tsunami, hail storm, landslide, avalanche, cloud burst, pest attack and cold wave or frost (added in 2012). Four calamities come under the Ministry of Agriculture: drought, hailstorms, pest attack, cold and frost wave. The others are under the Ministry of Home Affairs.

The problem is that for purposes of insurance claim recognition, calamity is assessed on the basis of certain norms that do not always capture the ground realities; sometimes a certain phenomenon is named differently in different parts. Also, crop cutting exercises need to be conducted to assess damages and the state or a block or a district has to declare that there has been a natural calamity. Sometimes, a small and marginal farmer may be at a slightly different location within an area and may be affected but not considered thus because the crop-cutting exercise has been conducted in a particular fashion.

## The entire regime of claim settlement, moratorium, restructuring/extension, monetary security... is being relooked at from the point of providing farmers with relief and fresh credit

Therefore, technology is being brought in to streamline the process and to automate administrative functions and enable remote and economically-weak farmers to benefit from crop insurance schemes. The entire regime of claim settlement, moratorium, restructuring/extension, monetary security and such others is being relooked at from the point of providing farmers with relief and fresh credit.

The government has brought in many other changes but these were the two major areas along with the Pradhan Mantri Fasal Bima Yojana and the extensive coverage of both existing and loanee farmers and those who need credit but have not availed of loans because they are unaware of the facilities from the banking sector. With these, much progress should be possible in terms of enabling a doubling of the farmers' income over the target period of the next six years; 2022. ●

# When Stakeholders Unite, the Job Gets Done

**Naresh Gupta**

Bringing in dramatic change in the approach to farmer income necessitates a dialogue with all stakeholders and the purpose of the Nabard Foundation Day seminar was to organize such a dialogue. All stakeholders associated with farmers' and rural development have presented their views along with officials from the government of India, the Niti Aayog commercial banks, co-operative banks, amongst others.



**NARESH GUPTA**  
Chief General  
Manager,  
Corporate Planning,  
Nabard

Those attending the seminar included representatives from rural banks, vice chancellors of 36 agriculture universities, representatives from bilateral and multilateral agencies associated with running many programmes, representatives from farmers' producers' organizations, micro finance institutions, chambers of commerce, SLDC conveners. Around 25 representatives from corporative training institutes were also present. Finally, there were the NGOs — Nabard has around 3,000 partner NGOs — with whose help Nabard carries on its development work.

While many speakers have presented their own perspectives on ways to double farmers' incomes, it is clear that everyone has applied his mind to the task and no one believes that this is someone else's job, as is very often the case. The objective here has been to figure out how this job can be done together and once various stakeholders get talking, there can be many more ideas on how the work can be accomplished. As members of the audience take back these discussions to their respective institutions — from banks, universities or training institutes — the issues presented stay alive and get thought about.

The role of extension and technology has been highlighted and new technology will need greater investment, which means that the banking sector will have to step in and help.

Finally, the monsoons look good this year after two bad years and that may be the cue for everyone to feel motivated and take this work forward. ●





# Cotton Growers: Case of the Missing Government

**Ajay Vir Jakhar**

**A**t two in the afternoon, the humidity is suffocating. Our elders always said that dry heat in May is a blessing when compared to humid heat of August. I am with Tiku Ram, a tall strapping farmer from village Shergarh, sporting a yellow headgear. He tells me: “It poured yesterday; 10 fingers of rain”. That is measure of rainfall for ordinary farmers everywhere.

Tiku Ram, 28 years of age, is proud to have done his schooling up to 12th standard. He is married and father of three children, two boys and one girl. He owns four acres of land and his neighbour, Rohtas Kumar, owns eight acres and they both sit for a chat.

Both grow cotton and, surprisingly, they are currently growing both ‘Kapas’ or ‘desi’ cotton and

Bt cotton or ‘Narma’ (Bt gene is only applied to Hybrid cotton). That is curious but they tell me that growing both varieties is their risk mitigation strategy. In the absence of any government crop insurance programme, that is probably the only way out.

Incidentally, the Akali Dal-BJP combine ruling alliance in Punjab is a partner in the central government, where it supported the crop insurance programme. In the state, however, the Punjab government has refused to participate in the programme. This is a perfect example of what ails Indian farmers. Agriculture is a state subject but policy is made by the central government, to be implemented by many a badly governed state.

Till 1997, they tell me, most people growing cotton would produce their own seeds but that was a long time ago. Now farmers procure seeds from shops and Bt cotton seeds



(L – R) : Jagrup Singh,  
Mohan Lal, Rohtas Kumar  
and Tiku Ram



cost ₹1,500 and Kapas ₹600 per acre. The big problem that farmers face, however, is with timely application of inputs.

Rothas elaborates: while Kapas can withstand a long dry spell, Bt cotton is far more susceptible to complete loss if there is no water for two weeks from the time that water application becomes due. Kapas is far more resistant to climatic variations compared to Hybrid Cotton and its fertilizer requirement is half of that needed for Bt cotton. Also, the water requirement for Kapas to mature is lower by one-fourth.

More surprises await me. The number of pesticide applications for both kinds of cotton is about the same; 8-10 times. Bt cotton requires no pesticide for the first 100 days, while Kapas has no such buffer time. Till such time that the hot summer winds, called the 'loo', blow, Kapas needs no pesticide. The moment the wind turns and traces of humidity set in, the cycle of pesticide application begins. Kapas requires more expensive pesticides than does Bt cotton.

Kapas yields more than Hybrid Cotton but that is only half the story. The normal difference in yield can be substantial, 16 quintals for Kapas against 11 for Narma. It is a good hedge for a small farmer

We are in a cotton field, surrounded by citrus orchards (also susceptible to the White Fly) and Arhar fields. Jagrup, who has since joined our conversation, pitches in and says that he had attended a seminar, organized by the Indian Cotton Association, Bhatinda, on Bt cotton and White Fly, where the vice chancellor of the Punjab Agriculture University had explained the necessity of planting a refuge. He has paid heed. Well, seminars and lectures do help those who attend them seriously.

There is, of course, perennial pestilence. Last year the White Fly attack devastated the cotton crop in the Bhatinda and Abohar areas. A scam of wrongly prescribed and government purchased pesticides is being pushed under the carpet. The local MLA who was also the leader of opposition took up the cudgels on behalf of the farmers and the agitation that followed forced the government to compensate farmers to the tune of ₹5,200 per acre for 30 per cent damage and ₹8,000 for 80 per cent damage. On the MLAs insistence, even non-land owning cotton picking labour was compensated for the first time. The ruling party, however, managed to convert the tragedy into a political opportunity by doling

## What ails Indian farmers is clear: agriculture is a state subject but policy is made by the central government, to be implemented by many a badly governed state

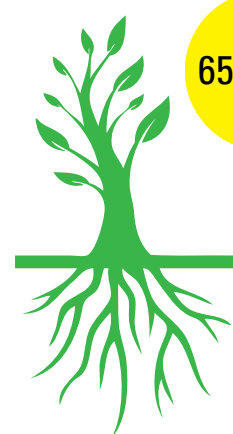
who needs to pick it every third day. Tiku says that yields of each have been at around 8-9 quintals.

The cost of harvesting varies between the two on account of the nature of the maturing crop. Kapas requires about eight pickings while Hybrid Cotton can be hand-picked in just two to three pickings. Therefore, even when the yield is the same, the headache is more for Kapas. The cost of picking Kapas is 20 per cent higher too. The labour cost of picking cotton is ₹600-₹700 per quintal. When the wind velocity increases, a standing Kapas plant falls rather easily. Picking cotton from fallen Kapas plant becomes even more expensive.

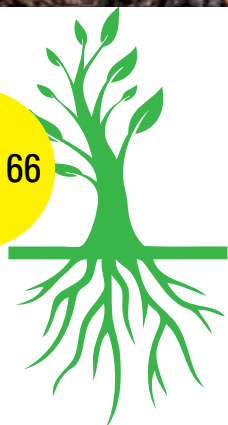
I ask: Have they ever planted the refuge around the Bt cotton seeds. They have; once or twice but the refuge did not yield any cotton as such. I remind them that refuge is not supposed to provide cotton but serve as a safety mechanism to grow and get better yield for Bt cotton. Rothas shoots back that if he plants the refuge he loses one kanal of an eight kanal plot (1 acre=8 kanal) of his land to a no yield planting. He cannot afford to do that.

out cash to those connected with the party and restricting payment to other persons.

The farmers are grateful that the White Fly attack this year is only 10 per cent as intense as last year's and within manageable limits because there is little assistance vis-à-vis managing disease. No government farm extension officer has ever bothered to visit Tiku Ram. My quick visit is full of surprises. I ask again: 'Never in his lifetime?' Not once in his life time, he replies with vehemence. His tone suggests that he did not expect such visits. Clearly, farmers have given up hope; with zero expectations from the establishment. So, who does he turn for cropping advice? His own experience and talking to neighbours and other farmers, he says philosophically.







## Smart articulation and tortured data have always wrought havoc on farmer livelihoods, even more consistently than evasive monsoons. Politics is the name of the game

The crop is weaker on one side of the plot. Tiku has used a laser leveller, 'Computer Karha', that helps level the undulations or slopes in the plot. When flood irrigating the land, which is the most common practice, this could lead to up to 20 per cent water saving. The top soil, however, is lifted from one side of the plot and deposited on the other. The side from where soil is lifted will now grow a weaker crop for many years.

Water charges are about ₹50 per crop that is ₹100 per year. I try and provoke them: Will they pay five times more for consistent water supply? They unhesitatingly say, "yes". There is no government present to listen to this. The political masters of the state are focused on providing populist freebies but the message is clear. Water that is as good as free and free electricity must be replaced by cash support to save Punjab. It has become essential for survival. The cesspool of populist measures are counterproductive. Welfare measures must be designed to provide equal opportunities in society and not be favourable towards larger farmers.

We start talking finance. They have borrowed money from the commission agent/'Arthia' at an annual interest of 24 per cent. However, the

formal banking system is making its presence felt. They all have a Kisan Credit Card limit whereby they get an interest subvention if repayment is made on time. The effective rate of interest charged by the bank is then four per cent. The private sector HDFC Bank has opened a branch in the village and Tiku banks with it.

He applied for government benefits like 'Neela card'/BPL (below poverty line) card that would entitle him to cheap grain and pulses. Tiku, however, owns and cultivates four acres of land and is denied government benefits. There are many complaints against the government for denying people benefits or BPL cards due to their political affiliations, while giving cards to many who do not fulfil the criteria. Making matters worse is that Punjab has not given pulses to the people, reneging on this promise like many others. Managing PDS better could be a political game changer.

I press on: Does Tiku receive special benefits meant for the scheduled castes. He is categorical:

he gets no benefits but for some units of free electricity. With all the hue and cry around 'dalit' inclusion, this is sad state of affairs.

Earlier Kapas was cheaper than Bt Cotton but not anymore. Kapas fetched a higher price last year but, with the rising prices, industry tends to find alternatives like man-made fibre or other spinning waste. The Khadi Gramodyog movement is also incentivizing the growth of Kapas vis-à-vis Narma for handlooms thus benefiting farmer and weaver both. However, with the sowing of Kapas doubling, prices will surely be impacted, they fear.

Cotton price is up this year on lower sowing and depleting international stocks. So do Jagrup and his friends expect better times? I thought they would be very happy but they are cautious. "Good times depend on God and the government is of no use". I leave a sad person. Farmers are giving up hope of the government being a saviour. Many academics would be delighted, of course, and twist the words to say that this proves that farmers are itching for a completely free market economy.

Smart articulation and tortured data have always wrought havoc on farmer livelihoods, even more consistently than the evasive monsoons. ●



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