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## Why Indian farmers don't reap what they sow

Prof MS Swaminathan

MS Swaminathan talks of the problems plaguing farmers and possible solutions

Father of the Indian Green Revolution and renowned agri-scientist, Prof MS Swaminathan, in an interview with *BusinessLine*, states emphatically that the Centre's promise of doubling farmer income can become a reality if careful thought is applied and a comprehensive plan is drawn up. The role of the State and the public are crucial here, he stresses. Excerpts:

**When the real income of farmers is growing at 4-4.5 per cent, can the government really double it in five years?**

If you read the report of the National Commission on Farmers, we recommended that agricultural progress should be measured by the net income of the farmer and not just by his total production. How far have farmers benefited from the increase in production? Not much. So, income orientation to farming is necessary.

We suggested three measures for this. The first one arises purely from the crop a farmer cultivates. For instance, if the farmer grows rice, and the yield goes up to five tonnes from four earlier, he gets one more tonne to sell. His marketable surplus goes up. After the Green Revolution, Punjab farmers, who were getting 800-900 kg of wheat per hectare started getting four-five tonnes, their marketable surplus increased and they got more money.

So, by increasing productivity and ensuring that the output increases without costs going up much, farm income can go up. Take the SRI variety of rice in Tamil Nadu, which they say requires 30 per cent less water; naturally farmers gain.

So one aspect is higher marketable surplus at a lower cost. The second is the utilisation of all parts of the plant — the straw, the stem, the bran. For example, rice bran can be used to extract oil.

The rice bran itself, mixed with some molasses, becomes good poultry feed. The poultry industry is growing and there will be good demand. So, there should be mixed farming — a crop and livestock integration.

But the choice varies, depending on the farmer. For example, after the tsunami, we introduced poultry farming to the fishermen because, for a few months, they had nothing to do. They took to it like fish to water. We introduced rearing of hybrid cows and mushroom cultivation with rice straw in Puducherry's bio-villages. This ensured some additional occupation through biomass utilisation.

The third aspect is the pricing of the commodity. There has to be public procurement at Minimum Support Price (MSP). The government margin is about 10-12 per cent over the cost of production.

In our report, we have recommended 50 per cent more than the cost of production as the MSP. Large businessmen get support from the government but farmers don't. So, if the government is serious about doubling farmer income, there is a way but then they should spell out the methodology.

**But the Agriculture Ministry says a cost-plus-50 per cent to farmers through MSP will distort the market…**

They may say it will distort the consumer market, but, see, farmers are also consumers. It is a bureaucratic reply. How did production go up in the 1960s? Babu Jagjivan Ram was the Union Agriculture Minister then... He said unless you give a fairly attractive price, farmers won't grow new varieties. So, whatever was the price recommended by the Commission, he increased it. He was a very pragmatic man. He came from a village and he understood farmers.

So, it can be done. Suppose I invest heavily in post-harvest technology, then the cost may come down and you can reduce the 50 per cent mark-up to 40 per cent or even 30 per cent…I am not saying 50 per cent is a sacred figure.

**Do you think CACP captures the cost of production correctly?**

The cost of production of a tonne of rice in Kerala is very different from that of, say, Bihar. The cost in Bihar is almost thrice, as labour charges are high, at ₹400-500/day. The problem with CACP (Commission for Agriculture Costs and Prices) is that it does not take into account the variability within the country. State governments add an extra bonus to the announced MSP but that, again, in most cases is not sufficient.

**India has been experiencing bad monsoon and drought, frequently. Hundreds of farmers committed suicide in Tamil Nadu last year. What is the solution for this?**

We have dealt with farmer suicides in detail in the farmer commission report. Suicide is an act of desperation. I have done detailed studies on the issue in the Vidarbha area of Maharashtra.

BT cotton is expensive, but scarce water leads to crop failure. The more you spend on seeds, the more you lose when the crop dries up. Driven by hopelessness, farmers commit suicide, usually leaving behind wife and children. But the widow generally does not have the patta for the land. So, the father-in-law or brother-in-law steps in and takes away the land. The woman becomes a landless labourer. All this can be overcome only through local-level action and the Panchayat Raj.

**Many government schemes introduced for farmers in the last two years have not yielded the desired results. Why? Also, do you think the 'more crop per drop' slogan will work?**

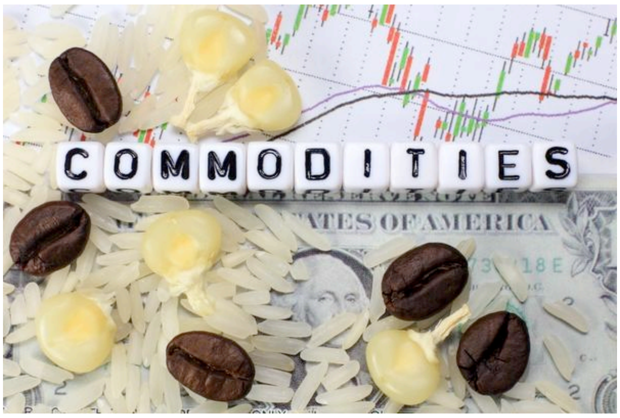
There is implementation problem. You should empower the local bodies to implement the schemes. It can only be done with public support. With irrigation, I think farmers have to be taught to handle water carefully. 'More crop per drop' can be done, but it needs a considerable degree of infrastructure, levelling of the land, probably drip irrigation or furrow irrigation.

**Why are we not diversifying? Why do we keep going for a few foodgrains again and again, while there is shortage in others?**

Unless you provide a market for it, it is not going to happen. You can ask Punjab farmers to grow vanilla, but who will buy it? For wheat there is a market. Rice, maize and jowar have a market. But if you ask them to go for crops like paprika (Shimla mirch), who will buy it? All these are not well-thought-out.

A farmer here makes his own decisions, unlike China, where farm ownership is still with the government and the cultivator is only a tenant.

## Finding an anchor for derivative prices



This will curb manipulation of prices and help bring down volatility

Commodity exchanges do spot polling to discover the underlying price, but this is not a permanent solution

At the board meeting of SEBI held in February, the regulator had listed the priority areas that have to be tackled in fiscal year 2017-18. One of the areas highlighted was improving the integration between the commodity spot and derivative markets.

With new regulator of commodity exchanges, SEBI, has been burning midnight oil, issuing guidelines to tackle all aspects of commodity trading. One of the persisting concerns of the regulator and users in commodity exchanges has been the price volatility. The manner in which the prices of these contracts surge or crash, showing no linkage to their fundamental value, has lent an air of notoriety to these contracts.

Since there are just handfuls of large traders in each commodity who understand the nuances of the commodity's market, price manipulation was earlier quite rampant. SEBI is attempting to control these malpractices by imposing limits on the open positions of traders but there is still a long way to go in curbing these misdoings.

Anchoring the prices of future contracts to the underlying spot prices is one way in which these excessive price movements can be checked. But this is easier said than done.

Futures' prices are typically derived from the spot price adjusted for the net cost incurred in carrying the asset till maturity. But the problem with the agri-commodity futures market in India is the absence of a unified organised spot market.

**The elusive spot**
Trading takes place in a dispersed manner all over the country in various mandis. Certain commodities are traded only in certain markets close to the area where they are produced.

There is also a great variation in the quality of products sold in various mandis and there are no standard sizes in which trading takes place. Therefore, matching the price of the future contract to commodity of similar quality and lot size is not easy.

Experts in commodity trading opine that the genuine users of commodity futures do not really need to know the spot price since they will be associated with the relevant spot market anyway. It is the commodity trader who will need a reference price to know if the future contract he is trading in is too much out of sync with its underlying.

To arrive at a reference spot price for other agri-commodities, the exchanges follow a price discovery mechanism called spot polling mechanism.

**The basics of spot polling**
The objective of spot polling is to discover a spot price that can be tracked by the users, traders as well as exchanges. Commodity exchanges such as NCDEX and MCX conduct a survey of the spot price of the commodity traded in spot market from a panel of stakeholders, across the value-chain (farmer, commission agent, transporter, etc). The regions from where the spot prices are polled could vary depending on the commodity. The prices are polled at regular intervals through the day, typically twice during the trading day.

These polled prices are then bootstrapped (removing the outlier prices) and subjected to further smoothening through statistical means to arrive at the spot price that is published on the exchange. This 'discovered spot price' is then disseminated on the exchange websites.

Other factors affecting the cost of a commodity, such as mandi tax, local and government taxes, processing charges, labour, transportation costs, etc, are also checked by exchanges to ensure that the polled prices aptly reflect the cost at which the underlying is transacted.

SEBI, in a circular issued in September last year, laid down rules regarding the disclosure needed to be made by exchanges in terms of the methodology followed, the centres and panelists used for each commodity.

The spot prices thus polled are used by the exchanges to arrive at the final settlement price of the contract. Besides giving an indicative price to traders, the spot prices are also useful to exchanges in surveillance of price movement.

**Is this enough?**

While the regulator and the exchanges have found a solution around the problem of finding a reference price for agri-future contracts, it is a mere stop-gap arrangement. It will be ideal to have spot price disseminated live while future contracts are traded, similar to the equity market. That will ensure that future prices reflect the demand and supply in the underlying market. Arbitration trades will then be possible, which will ensure that the difference between the spot and derivative price is not too wide and does not persist.

While matching the quality and quantity of goods traded on future and spot market for agri commodities will not be easy, the proposed Electronic National Agriculture Market (e-NAM), can help make some progress in this direction. This pan-India electronic platform that will connect all the APMC *mandis* to create a unified spot market for agricultural produce can provide spot market data live.

If e-NAM is able to trade in lot sizes similar to the future contract sizes, exchanges could move away from the current system. But for now, that is a distant dream.