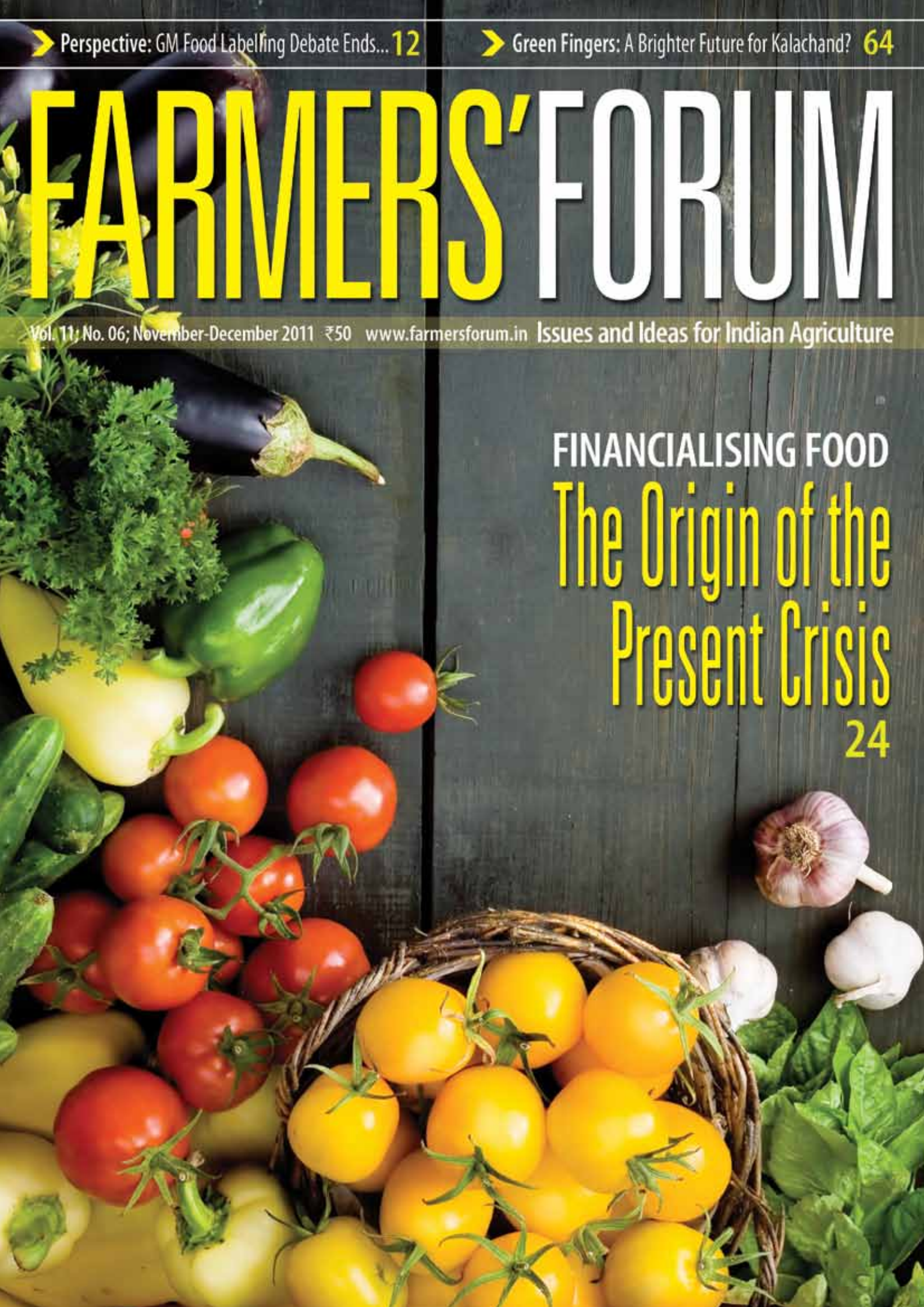


FARMERS' FORUM

Vol. 11, No. 06; November-December 2011 ₹50 www.farmersforum.in Issues and Ideas for Indian Agriculture

FINANCIALISING FOOD

The Origin of the
Present Crisis
24





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Volume 11; No. 06;
November-December 2011
RNI No. DELENG/2001/5526

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Bharat Krishak Samaj

Published at
Bharat Krishak Samaj,
A-1, Nizamuddin West,
New Delhi 110013

Printed at
Brijbasi Art Press Ltd., E-46/11, Okhla
Industrial Area, Phase-II, New Delhi

Cover Picture
© Dinodia Images

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Time to Change Mindsets about INDIAN FARMERS

The Indian elite, not limited to but including bureaucracy, judiciary, politicians, journalists, so-called intellectuals and the armchair civil society, infused with western philosophy and ideas, increasingly thinks like its counterparts in the west. It has largely lost its sense of Indian history, heritage and eastern values; especially so, when it comes to the farm sector and farmers. The general perception is that free and cheap are good and that farmers want free power, water and cheap fertilisers.

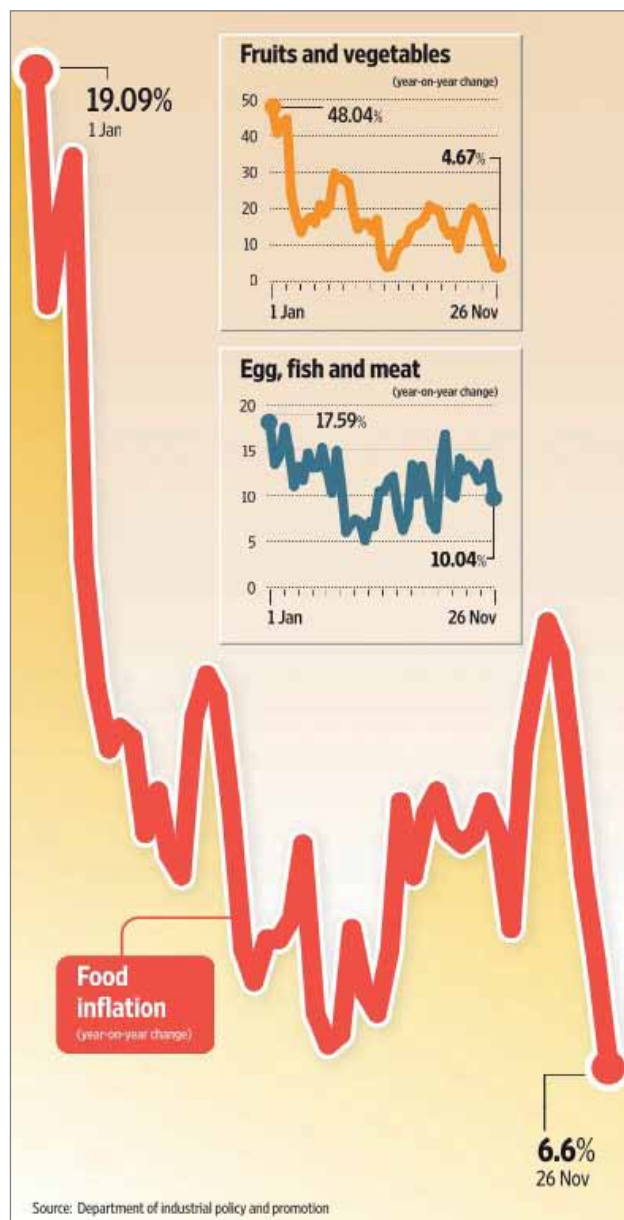
Alongside comes the conviction that farmers will accept sub-standard levels of living and inferior quality of inputs because they accept freebies. For some reason, the Indian farmer is considered to be a separate species; someone who does not want the things that the rest of 'India shining' wants; someone who is reconciled to his fate; a fate that assures him nothing but poverty. Nothing could be further from the truth. Consider a rather interesting question that is posted on the internet: "I am an Indian farmer and I want to work in Canada so what have I to do?" The question was suitably responded to by someone, who accepts that an Indian farmer might have aspirations that are perfectly in keeping with those of the rest of the country and does not want unwarranted interventions and assistance. He wants a fair deal just like every other Indian.

It would be important to appreciate that subsidised diesel, power, water and fertilisers are not meant to benefit farmers alone but are basically aimed at keeping commodity prices low for the public at large. Farmers would readily pay higher prices for inputs, provided prices received by them for their agricultural produce increased in proportion. That would, however, be unacceptable to any elected government or to consumers, especially the urban voters. It does not matter that the Indian farmer is caught in a trap of inadequate returns for his efforts, high prices for inputs and a loss of faith in his avocation, even when his produce commands exorbitant prices in the final market. This is the eventual quandary facing the Indian agriculturist.

Unfortunately, the ruling classes in India, as in other emerging countries, are still not ready to comprehend this reality. The UPA government is busy finalising more interventions such as the Right to Food Bill and much wasteful public expenditure, which will keep



SUBSIDISED
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POWER,
WATER AND
FERTILISERS
ARE NOT
MEANT TO
BENEFIT
FARMERS ONLY



FARMERS PLEAD FOR HELP TO BECOME SELF-SUFFICIENT AND NOT FOR SUBSIDIES. THERE IS A MONUMENTAL DIFFERENCE BETWEEN THE TWO

the Indian people dependent on government dole outs, rather than investing in the country's scarce financial resources for sustainable increase in agricultural productivity. Investments will make a nation strong and self-sufficient while expenditures will keep it struggling and dependent. The caveat is that such investments be carefully made and those handling them are accountable for the monies invested and have been given the expected outcomes.

Ignoring agriculture productivity or paying lip service to agriculture, as in India, has led to food shortages in many emerging countries and agricultural commodity prices have peaked. This has led to regime change and riots. The Tunisian dictator, Zine al Abidine Ben Ali and the Egyptian dictator, Hosni Mubarak, are gone; propelled in part by anger over high food prices. Ben Ali will be remembered as the despot who was toppled by a vegetable cart. This has led to charges that concern politicians in India: voters are angry about price inflation. Anger stems from fear of helplessness of being left behind; or being denied a decent living; the fear of children not getting their due. The government, however, is still uncertain about what to do.

Notwithstanding the dreaded dictatorship that the Chinese live under, there are lessons to be learnt from China's long-term planning. When China considered reforming its systems, it started with agricultural reforms to gain self-sufficiency in food, followed by increasing industrial productivity. India, influenced by the west in the 1990s, started with financial reforms; but it has still not started agriculture reforms and productivity of the farm sector is languishing. Emerging countries like India developed their financial sector, as an engine of economic development. Globalisation has exposed the Indian farm sector to hitherto unknown forces; sometimes the farmer has been caught off guard.

What can India do? For starters, India can assimilate the existing knowledge available with all farmers in all its six lakh villages. Appointing an agriculture graduate or a master in agriculture in each village to provide extension services would cost no more than Rs 12,000 crore. This is less than 10 per cent of the expected expenditure on Right to Food Bill that would cost Rs1,20,000 crore or just 20 per cent of the MNREGA expenditure. One wonders why, if 55 per cent of the population could become self-sufficient with so little, does the government not wish to pursue this line of action. Why is the government desperate to feed everyone subsidised wheat or rice when India can grow what its people want to eat? It would be fair to believe that this comes from the mentality of looking down upon others; of giving aid; from the guilt of the superior classes, which is rather foreign, alien and quite feudal in nature, making it all rather distasteful. Again, it is all timed to begin before the next general elections leading to suspicion that it is intended to help the ruling party win. So much for state-funded elections.

The point that deserves reiteration is that farmers plead for help to become self-sufficient and not for subsidies. There is a monumental difference between the two and one doubts whether the powers that decide India's fate understand the difference. Even if one gives the benefit of doubt to some of those in power, it

would be worthwhile to remember that often people with good intentions end up doing more damage than those without such intentions, because their thinking and approach are flawed even though they are trusted to lead the nation forward. The paralysis around the approach to bring down prices is only a sign of such times.

This leads on to a more sinister question: Is financialisation of the commodities market responsible for this food prices crisis even when the grower of food continues to be in a precarious state? Such financialisation implies that the “pattern of accumulation in which profit-making occurs increasingly through financial channels rather than through trade and commodity production,” as explained by Greta Krippner. Globally, there is increasing, though perhaps circumstantial, evidence of a strong connection between increasing financial market involvement in the commodities market.

The point that several global thinkers have made is that post the saturation and even collapse of the stock markets, large investors with a limited alternate investment opportunities have poured new investments into the commodities asset class in the last decade. This has led to a “financialisation” of commodities, which has, in turn, changed the price behaviour. The use of food as biofuel has emerged as another major factor leading to its northwards bound prices.

Prior to the 2009-10 Budget, farmers had met the Union Finance Minister and said that reforms, not concessions, held the key to agricultural growth in India. They wanted financial reforms to ensure credit flow, a good risk mitigation system, an efficient extension services mechanism and fair prices. Now that it is again time for the government to start working on the budget for 2012-13, it would be worthwhile revisiting what the farmers had told the Finance Minister because the compelling case they made did not seem to have had the desired results. Farmers also want the government to raise public spending, allow private investment in agriculture and take steps to curb the rampant cheating in markets; they want “respect and dignity.” They do not want to go on begging. “Year after year, state or central governments go on making us look like beggars,” the farmers said.

The point is the Indian farmer could become globally competitive if liberated from bureaucratic clutches. While China’s agriculture growth rate is between seven and nine per cent, India’s continues to languish. As far as agriculture credit is concerned, it would be a good idea to check which amongst India’s 120 million farm families have actually received it! ●

**VOTERS
ARE ANGRY
ABOUT PRICE
INFLATION.
ANGER STEMS
FROM FEAR OF
HELPLESSNESS;
OF BEING LEFT
BEHIND; OR
BEING DENIED A
DECENT LIVING;
THE FEAR OF
CHILDREN NOT
GETTING THEIR
DUE...**



Ajay Vir Jakhar
Editor



To the Editor

Priceless information

Your issue on Saving biodiversity: why we cannot wait, *Farmers' Forum*, September-October 2011, was both interesting and informative for the lay reader as well as the specialist. It is important that such publications continue to educate readers about the broader issues that affect our lives. We do hope that *Farmers' Forum* will continue with such publications.

Rajat Jain,

Khargone, (Madhya Pradesh)

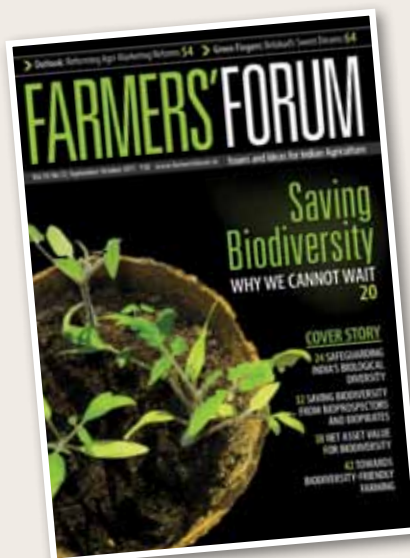
Learning from the expert

Dr J. S. Yadav's article "Re-forming Agri-Marketing Reforms" (*Farmers' Forum*, September-October 2011) made for excellent reading. Market reforms should be given importance because it helps the farmer in getting a better price for his produce. Being the CEO of a marketing driven company, Dr Yadav clearly understands the markets and the government would do well to read your issue and try to implement his recommendations.

Ruchi Tandon, *New Delhi*

Eye opener

It was delightful to read Green Fingers, "Belakud's Sweet Dreams; Sweeter Reality" (*Farmers' Forum*, September-October 2011) quite apart from the article being an eye-opener for me. The way farmers in different parts of the country make a success of their vocation with minimal government support is to be commended. Essentially, what Balappa Basappa Belakud does is make



Spread the knowledge

Apropos of your Editorial, Unity in diversity: biodiversity, (*Farmer's Forum*, September-October 2011), I can see now that biodiversity is amongst the most important aspects of our lives and yet possibly the least understood simply because it is taken for granted; just as we take the air we breathe for granted. Clearly there is need for dialogue at all public fora on this subject that is far more important than the discussions that we have been having on FDI.

U. Bhaskar, *New Delhi*

the best possible use of everything to make his farming profitable. Hats off to him!

Ranjeet Singh,

Akola, (Maharashtra)

Update curriculum

I have been following the editorial in *Farmers' Forum* regularly and found your editorial "Unity in Diversity: Biodiversity" (*Farmers' Forum*, September-October 2011) most interesting. It is not a little curious that biodiversity, on which our lives are so intimately dependent, is not respected in our country. I can only attribute it to incomplete education provided by our school and college systems.

Gouri Biswas,

Kolkata, (West Bengal)

Educate the channels

The electronic media that sets the agenda for discussion amongst the elite and policymakers should take note of the far more critical issues that affect India (*Farmers' Forum*, September-October 2011) and give them the coverage they deserve and help to spread understanding on the subject. The question is who will educate the television channels? Biodiversity is not a simple issue to comprehend. It must be considered in its entirety, from the perspective of its life-giving values and commercial use that can benefit people in the grassroots of Indian society.

P. T. Kirshnan, *Chennai*

Corrigendum

In the interview, Saving Biodiversity from bioprospectors and biopirates, with Dr Asish Ghosh (*Farmers' Forum*, September-October 2011), the area under exclusive economic zone should read 200 nautical miles and not as printed. The error is regretted. — Ed FF



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Ajay Vir Jakhar

A vibrant display of fresh Indian vegetables. At the top, there's a large pile of bright red tomatoes. Below them are green cucumbers and green beans. In the middle, there are green bell peppers and green chilies. At the bottom, there are orange carrots and green leafy vegetables. The background is a dark, textured surface.

COVER
STORY

PRICES: The 'Ouch' Factor in Indian Lives

At the time of going to press (November 17, 2011) India's food inflation had eased to 10.63 per cent for the week ended November 5, even as prices of agricultural items, barring onions and wheat, continued to rise on an annual basis. Food inflation (Wholesale Price Index) stood at 11.81 per cent in the previous week ended October 29. The rate of price rise of food items stood at 11.41 per cent in the corresponding week of the previous year. Data released by the government showed that:

- Onions became cheaper by 22.89 per cent year-on-year
- Wheat price was down 3.63 per cent
- All other items became more expensive on an annual basis during the week under review. Vegetables became 27.26 per cent costlier
- Pulses grew dearer by 14.44 per cent
- Milk by was up 10.74 per cent
- Eggs, meat and fish went up by 11.73 per cent.
- Fruit was 5.99 per cent more expensive on an annual basis.
- Cereal prices were up 3.53 per cent.
- Inflation in the overall primary articles category stood at 10.39 per cent during the week ended November 5, as against 11.43 per cent in the previous week. (Primary articles have over 20 per cent weight in the wholesale price index)

Government data further said that inflation in non-food articles, including fibres, oilseeds and minerals, was recorded at 5.33 per cent during the week under review, as against 6.41 per cent in the week ended October 29. Fuel and power inflation stood at 15.49 per cent during the week ended November 5, as compared to 14.50 per cent in the previous week. The continued rise in food prices is likely to exert further pressure on the government and the Reserve Bank of India (RBI) to tackle the situation expeditiously. The point is that the government has failed to come out with credible measures to control prices and experts have explained that food price rise is inevitable and they are global.

The more interesting observation from several fora is that it is the growing financialisation of food that has led to the inexorable food price rise. Indeed, it cannot be questioned that food is a forward traders' delight today and foodgrain, as a commodity, has become an asset for wealthy investors and institutions in the developed world. The lead cover story for this issue by Sujan Pandit, Financialising food: the origin of the present crisis, says that there are three major factors that have

caused food prices to increase so dramatically in the past decade: A decline in the growth rates of agricultural yields/productivity; the conversion of corn into ethanol; and the increased financialisation and speculation in agricultural commodities.

He examines how the financialisation of food was bolstered by USA's Commodity Futures Modernisation Act of 1999, permitting banks and other financial institutions to trade in futures and derivatives of grain and other agricultural commodities. "The Act was due to the active lobbying of Wall Street banks like Goldman Sachs, JP Morgan Chase and Citibank and the enthusiastic support of Alan Greenspan, the then US Federal Reserve chairman, and senior US Treasury officials like Robert Rubin, the former Treasury Secretary, Larry Summers, the then Treasury Secretary and his protégé, Tim Geithner, the current Treasury Secretary. This deregulation was opposed by Brooksley Born, the then CFTC chairperson but she was simply shouted down and intellectually overpowered by these officials," he says. The effect is being felt the world over.

Surinder Sud, in his article 'Commercialising Indian agriculture', says that futures trading or derivatives trading in commodities is not new to India and was even mentioned is Kautilya's 'Arthashastra'. The Bombay Cotton Trade Association started futures trading in cotton in 1875. The Hapur commodities exchange was set up in 1913. Such trading in raw jute and jute goods began in Calcutta in 1919. Even post Independence, the government enacted a law, the Forward Contracts (Regulation) Act, 1952, to regulate futures trading. The shortages of agri-commodities in the wake of a severe drought in 1969 spurred the government to clamp a blanket ban on the futures trading in commodities. It was reintroduced in 2002-03 and there was a spurt in the number of items traded on the exchanges.





Photo: Dilip Banerjee



“By 2006, futures trading got going in commodities like wheat, rice, cotton, jute, gur, pulses, edible oils and spices, among the farm goods, and several metals, including precious metals like gold and silver, among other commodities. The volumes traded on the commodities exchanges began to swell, exceeding those traded at the stock exchanges in a short time.”

Today, of course, trading in foodgrains is a global phenomenon that Vijoo Krishnan analyses in the Indian context in ‘Profiteering in times of hunger’. He argues that in developing countries like India small peasants are unable to “take advantage of high international prices because of lack of integration with markets and their dependence on middlemen and big traders for marketing their produce.” Even as prices of pulses touched a high of Rs 120 per kg for consumers, the Minimum Support Prices of most pulses was not even Rs 22 per kg. Similarly, when onion prices were sky high, the cultivators were getting a pittance for their produce. “The story is same for foodgrains like wheat and rice as well as for

sugar. Most small peasants and agricultural workers are also net buyers of food. Therefore, they suffer from the steep rise in food prices,” he explains.

Can this be tackled? Naresh Minocha says in his article: ‘Forget hunger, worship food as a wealth multiplier’ that the government can curb irrational exuberance over food as an investment product by focusing on the supply side. “For instance, it can do a lot to help farmers manage their production and price risks. The initiative should include provision of subsidised drip irrigation and liquid fertilisers, revamp and expansion of crop insurance and procurement price mechanism and massive investments in agricultural markets, storages and rural roads.”

The question is: does the government recognise this factor as a major contributor to food inflation? The RBI has been shifting its all-commodities inflation targets because they continue to elude it and the government, the economist Prime Minister included, and proved wrong time and again on controlling inflation.

Should not the government look at the financialisation factor a little more closely? ●



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*ISAAA Brief 42

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GM food labelling debate ends... but to what end?

Jack A. Bobo

In May 2011, the 39th Session of the Codex Committee on Food Labelling (CCFL) completed work on the Compilation of Codex Texts Relevant to Labelling of Foods Derived from Modern Biotechnology (Compilation Document). The objective of the CCFL is to develop labelling guidance to enhance consumer protection and facilitate trade. The questions of “if, when and how” to label foods derived from modern biotechnology, also referred to as genetically modified (GM) or biotech foods, have been under discussion in the CCFL for nearly two decades now. The Codex Alimentarius Commission adopted the Compilation of Codex Texts Relevant to Labelling of Foods Derived from Modern Biotechnology in July 2011.

The Codex Alimentarius Commission

The Codex Alimentarius Commission (Codex) was created in 1963 and is a joint body of the United Nations Food and Agriculture Organisation (FAO) and the World Health Organisation (WHO).¹ Membership in Codex is open to all member nations of the United Nations (UN) and around 183 member states participate. The goal of Codex is to protect consumer health and ensure fair trade practices involving food. However, in addition, the standards, guidelines, and guidance prepared by Codex are given special significance by the World Trade Organisation (WTO) Agreement on Sanitary and Phytosanitary Measures (SPS Agreement) in the context of trade disputes,² which heightens the importance of Codex standards in international trade.

Background on biotech foods

Agricultural biotechnology refers to the genetic engineering of crops, sometimes referred to as genetically modified organisms (or GMOs). Codex documents generally refer to such products as foods derived from modern biotechnology to distinguish such products from biotechnology techniques, such as tissue culture, which are not regulated. This paper refers variously to GMOs, biotech crops and GM or biotech foods, the latter terms used to describe food products or ingredients derived from biotech crops or GMOs. In all cases, foods derived from modern biotechnology as defined in the *Principles for the Risk Analysis of Foods derived from Modern Biotechnology*³ are being referred to.

As of 2010, the commercial planting of biotech crops had been approved in 29 countries.⁴

Developers of biotech crops must seek regulatory approval before commercial release of these products into the environment. Some countries also regulate the marketing of biotech food and feed through a separate approval process than that required for cultivation. Codex adopted international standards for the risk assessment and food safety evaluation of biotech foods in 2003 following the work of the Ad hoc Task Force on Biotechnology.⁵

Some countries have established food-labelling provisions specific to biotech foods in addition to food safety evaluations. Regulations range from mandatory process-based approaches⁶ to labelling, to voluntary approaches to labelling and everything in between. Even among countries with mandatory labelling provisions, there is a wide array of approaches to labelling. For example, in the European Union, any product “made from” a GMO must be labelled even if there is no detectable DNA or protein from the GMO in the final product.⁷ Australia, which also has a mandatory labelling system, does not require labelling in the absence of detectable DNA or protein.⁸ As a result, soybean oil, which contains no detectable DNA or protein, must be labelled in the EU, while no label is required in Australia.

Following nearly 20 years of discussion on the topic of biotech labelling, the Thirty Ninth Session of the Codex Committee on Food Labelling completed work on a document that compiled various Codex texts applicable to biotech foods into a single document. The document was the result of sometimes contentious debate. However, Codex members were eventually able to reach consensus on a text. In the days and weeks following the official adoption of the text by the Codex Alimentarius Commission in July 2011, a number of press releases and articles were written describing the importance of the labelling guidance. One article described the outcome thus: “Codex has capitulated on the GM labelling issue after a battle spanning approximately

This paper provides a summary of the CCFL's effort to develop the Compilation Document consideration of the meaning of the document to global biotechnology labelling policy more broadly now that it has been adopted as an international standard and a discussion of the document in the context of the World Trade Organisation's Sanitary and Phytosanitary Agreement.



20 years, stating that it will allow countries to label GMOs and the WTO will not legally challenge them for it.”⁹

Another article explained: “The new Codex agreement means that any country wishing to adopt GM food labelling will no longer face the threat of a legal challenge from the World Trade Organisation (WTO).”¹⁰ However, a July 5, 2011 issue article in the Hagstrom Report noted a disagreement among organisations as to the meaning of the new guidance. The report quoted a Biotechnology Industry Organisation spokesperson, who said: “the agreement is totally consistent with the US position, which we support since it says no new guidelines are needed, because the guidelines for other foods apply to biotech foods as well.”¹¹

This paper examines two questions in an attempt to understand the meaning and importance of this new Codex guidance document. First, what does the Compilation of Codex Texts Relevant to Labelling of Foods Derived from Modern Biotechnology tell one about, whether countries should adopt mandatory or voluntary labelling of

use of genetic engineering based on the production process, known as method of production labelling.¹⁴ Some Codex members and observers urged the CCFL to adopt mandatory process-based labelling of all biotech foods in order to address a “consumer’s right to know” the method of production of the food, while other members preferred labelling only where there was a change in the composition, nutrition, or safety of the food.¹⁵ In response to an early stalemate on the topic, in June 1996, the 43rd Session of the Codex Alimentarius Commission Executive Committee (CCEXEC) provided further guidance to the CCFL. The CCEXEC noted that the “claimed right to know” was ill-defined and variable and in this respect could not be used by Codex as a primary basis for decision-making on appropriate labelling.¹⁶ Despite this guidance from CCEXEC, the divergence of views on the topic continued to impede progress towards a single text.

No room for compromise

The positions taken by countries often reflected their own domestic approach to biotech labelling.

After 20 years of discussion on biotech labelling, the committee could finalise a document that compiled various Codex texts applicable to biotech foods into a single document

biotech foods? Second, what might be the impact of the Compilation Document on WTO challenges to mandatory biotech labelling laws?

The Codex Committee on Food Labelling

The Codex Committee on Food Labelling (CCFL) is hosted and chaired by Canada. The CCFL drafts labelling provisions are applicable to all foods. The CCFL is also responsible for endorsing labelling provisions prepared by other Codex Committees charged with drafting standards and guidelines.¹² In July 1991, the 19th Session of the Codex Alimentarius Commission requested CCFL to “provide guidance on how the fact that a food was derived from ‘modern’ biotechnology could be made known to the consumer.”¹³

According to Anne MacKenzie, former Chair of the CCFL, since the beginning of the biotech discussion, Codex members have been divided over whether “labelling should be required only when the food or ingredient is significantly different from its traditional equivalent [...] such as in the case of the introduction of an allergen” or for all foods produced through the

Countries with mandatory process-based labelling generally urged the development of a Codex standard that reflected this approach. For example, in 1997, the Report of the Twenty-Fifth Session of the CCFL stated: “Several delegations indicated that their national policy supported comprehensive labelling of genetically modified foods and expressed the view that the food safety approach reflected in the paper did not address concerns of consumers in such areas as ethics and environmental protection. It was pointed out that the Expert Consultation was essentially focused on food safety rather than food labelling, and that the document under consideration should be redrafted in order to encompass all relevant issues. Other delegations expressed their appreciation of the document, which was consistent with traditional food labelling approaches and provided a basis for further development of the recommendations.”¹⁷

The Norway delegation also expressed the view that “the right of consumers to make their choice should be respected[.]”¹⁸ A decade later positions had changed little. In 2006, the report of the





Thirty-Fourth session of the CCFL stated: “Several delegations indicated that they applied general mandatory labelling of foods derived from genetic modification at the national level and supported the same approach in the Proposed Draft Guidelines in order to ensure adequate consumer information.”¹⁹

Why the fuss?

Standards adopted by Codex are not binding on Codex members unless those members choose to apply them in domestic law. This means that countries are free to follow or not follow the Codex guidance. Why then did it take two decades for countries to agree to a Codex guidance document on the labelling of biotech products if they were always free to pursue the approach most appropriate to their country? More importantly, why were countries like Norway, which already had mandatory labelling laws, so concerned about development of a mandatory standard in Codex?

As it turns out, Codex members promoting mandatory GM labelling had important reasons for wanting Codex to validate their national approach to labelling. While Codex does not require members to adopt Codex standards, the existence of a Codex standard can be critical in the event of one country challenging the standard adopted by

Key words: Codex Alimentarius Commission (Codex); Codex Committee on Food Labelling (CCFL); World Trade Organisation (WTO); Sanitary and Phytosanitary Agreement (SPS); genetically modified (GM).

another in the World Trade Organisation, be it with respect to food labelling, maximum residue levels for pesticides, etc. In particular, the WTO’s SPS Agreement provides special recognition to Codex standards within the international trade regime.²⁰

As a result, countries adopting or following Codex standards are less likely to be challenged in the WTO as having standards inconsistent with the SPS Agreement. The possibility of a WTO challenge, whether real or perceived, limited the flexibility of countries promoting mandatory process-based labelling for biotech foods. In the absence of a Codex standard specifically permitting mandatory labelling for biotech foods these countries remained vulnerable to a WTO challenge to their labelling system. It was, therefore, critical from a trade perspective that any standard adopted by Codex specifically allow for such an approach to labelling.

When a country adopts a mandatory biotech labelling system, companies that want to export to that market are required to label their products

if they contain biotech ingredients covered by the law or ensure that their products do not contain biotech ingredients. Companies that wish to export to a country with a voluntary labelling system are not required to change their labels to access the market, though they may wish to do so if there is a price premium for labelled products. Mandatory labelling requirements, therefore, may act as a barrier to market entry, while voluntary labelling approaches do not. During the 36th Session of CCFL, the cost of mandatory labelling and the impact it might have on food prices in developing countries were also discussed.²¹

Countries that opposed mandatory process-based labelling or those that supported a voluntary approach to labelling were less concerned with Codex adopting their specific approach to labelling than they were with ensuring that Codex did not adopt or legitimise (either explicitly or implicitly) a mandatory approach. These countries highlighted the difficulties in achieving consensus, given the trade implications of the discussion, and, at times, recommended that work be terminated or put on hold until such time as consensus could be reached. For example, in the report of the Twenty-Ninth Session of CCFL, the Delegation of Argentina expressed a general reservation on the document under discussion “due to its likely implications in international trade[.]”^{22 23}

A new approach: 36th session of the CCFL

Prior to its work on the Compilation of Codex Texts Relevant to Labelling of Foods Derived from Modern Biotechnology, CCFL worked on the Draft Guidelines for the Labelling of Foods and Food Ingredients Obtained through Certain Techniques of Genetic Modification/Genetic Engineering (Draft Guidelines) without achieving consensus. Given the diversity of views on the topic and the inability of CCFL members to achieve consensus on the issue, in 2008 CCFL decided to end work on the Draft Guidelines and focus instead on compiling a list or summary of Codex texts relevant to the labelling of biotech foods.²⁴ The Compilation Document grew out of a background paper produced by the United States, Nigeria and Canada that was presented at a working group meeting in Ghana in 2008.

37th and 38th sessions of the CCFL

By ending work on the Draft Guidelines on biotech labelling, the polarising issue of mandatory versus voluntary labelling was minimised, though not eliminated. However, even with the limited goal of compiling a list of existing Codex texts, the underlying disagreement among Codex members that had blocked consensus on GM labelling for so long continued to resurface in more subtle ways. As a result, countries continued to view



the Compilation Document as an opportunity to influence a future WTO panel on the question of whether mandatory process-based labelling for biotech foods was WTO-consistent.

During the discussions, countries that supported mandatory labelling insisted that the new Compilation Document “acknowledge” or “recognise” as acceptable all the various methods of biotech labelling that exists among Codex members. For example, at the Thirty-Eighth session of CCFL, Brazil proposed the following text: “It also recognises that each country can adopt different approaches regarding labelling of foods obtained by GM/GE techniques and that food labelling is the primary means of communications between the seller on the one hand and the purchaser and consumer on the other”.²⁵ Some Codex members viewed such language as validating mandatory labelling regimes, which they wanted, while other countries opposed language “recognising” current approaches for the same reason. Countries opposed to recognising various approaches were equally insistent that it was not the function of Codex to recognise member country labelling systems since

countries. Among the items on CCFL’s agenda was a discussion of the draft text entitled: Labelling of Foods and Food Ingredients Obtained through Certain Techniques of Genetic Modification/Genetic Engineering. The debate focused on the outcome document from the facilitated discussion. Following nearly 20 years of discussion on the topic of biotech labelling, the Committee was able to reach consensus and finalise a document that compiled various Codex texts applicable to biotech foods into a single document. The meeting resulted in the following Title, Purpose and Considerations:

- The title was amended to read: “Proposed Draft Compilation of Codex Texts Relevant to Labelling of Foods Derived from Modern Biotechnology.”²⁷
- Purpose: “The purpose of this document is only to recall and assemble in a single document some important elements of guidance from Codex texts, which are relevant to labelling of foods derived from modern biotechnology.”
- Considerations: “Different approaches regarding labelling of foods derived from modern biotechnology are used. Any approach

The Compilation Document confirms that Codex labelling texts, developed for foods generally, also apply to biotech foods and that such foods are not necessarily different

these systems may or may not be consistent with Codex standards. The report of the 38th session noted that some considered the text proposed by Brazil as too permissive because it allowed various approaches; others considered it unnecessary, as Codex texts were voluntary.²⁶

Facilitated discussion

The CCFL Chair attempted to break the impasse between positions by organising a facilitated discussion on the compilation document in Brussels, Belgium in November, 2010, which was attended by about 30 countries. The document that came out of the facilitated discussion refined the title, objective, and body of the document. The concept of what to include in the Compilation Document was further narrowed to a simple list of Codex texts and citations without specific text being quoted in the document.

The 39th session of the Codex Committee on Food Labelling was held in Quebec City from May 9 – 13, 2011 and attended by about 70

implemented by Codex members should be consistent with already adopted Codex provisions. This document is not intended to suggest or imply that foods derived from modern biotechnology are necessarily different from other foods simply due to their method of production.”

The most challenging part of the discussion centered on the text under the “Considerations” heading. Countries opposed to mandatory labelling argued that the first sentence of the paragraph in the draft document should be deleted as the purpose of the document was not to acknowledge what other countries were doing. On the other hand, countries that supported mandatory labelling argued for deletion of the third sentence.²⁸ The committee eventually “agreed to clarify that the first part was not an acknowledgment or endorsement but a statement of fact.”²⁹ The committee further strengthened this point by placing the statement in conjunction with the obligation that any approach should be consistent with already adopted Codex provisions.³⁰



Discussion

The biotech labelling issue demonstrates how narrow technical issues related to international food standards, once only of interest to specialists, have become public policy issues of huge economic importance, imbued with social, cultural and political overtones. Standard setting is particularly difficult where science is relevant but not determinative, and where an international standard may create economic winners and losers. The Codex process for standards development is normally based on consensus. While CCFL ultimately finalised the Compilation Document on biotech labelling, the document bears little resemblance to the document originally envisioned by those who advocated a mandatory labelling standard.

So what does the Compilation Document tell us about the two questions posed at the beginning of this article:

- mandatory versus voluntary labelling of foods
- the impact on potential WTO challenges with respect to biotech labelling laws?

Mandatory versus voluntary labelling

By its terms, the Compilation Document provides no new guidance to countries wishing to implement a labelling regime for biotech foods. In the end, Codex members were forced to create a document without winners and losers on the question of



Photo: Frank Müller

The report of the Thirty-Eighth session of the CCFL noted that some considered the text proposed by Brazil as too permissive because it allowed various approaches

voluntary versus mandatory labelling in order to achieve consensus. As a result, the Compilation Document does not elevate one approach to biotech labelling over another; neither does Codex weigh in on the consistency of any particular labelling framework with Codex standards. To the extent the CCFL members or observers were looking to Codex to provide guidance, that the use of mandatory labelling was consistent with Codex, it did not happen. News reports and press releases that suggest otherwise clearly do not reflect the specific terms of the document or the intent expressed by Codex members.³¹

The Compilation Document concludes that Codex labelling texts apply to biotech foods as they do to all foods. For countries that want to apply labelling standards to biotech foods, be it a

mandatory or voluntary approach, the Compilation Document identifies a number of provisions that should be taken into account. For example, if a food were genetically engineered to increase its nutritional value, such as is the case with Golden Rice, the fact that the rice had increased levels of the vitamin A precursor should be labelled on the package. Such a labelling requirement has nothing to do with the fact that the rice has been genetically engineered. The labelling requirement would also apply if the nutritional profile of the rice were altered in a similar fashion through traditional breeding.

The Compilation Document makes it clear that the existence of the document should not be viewed as a signal that labelling is necessary for biotech foods. It states: "This document is not intended to suggest or imply that foods derived from modern





biotechnology are necessarily different from other foods simply due to their method of production.”

Possible impact of the compilation document on potential WTO challenges

The backdrop for the discussion on mandatory versus voluntary labelling is the possibility that a country’s labelling approach could be challenged in the WTO as inconsistent with that agreement. This concern was raised by several countries, including Argentina as previously discussed.³² Countries that have adopted mandatory labelling requirements are particularly concerned that their approach could be challenged given that such requirements can have a dramatic impact on trade. For example, when the European Union adopted its labelling policy in 2006, products with biotech ingredients virtually disappeared from store shelves as companies chose to source non-GM ingredients or reformulate their products to avoid using a biotech label.³³ Companies that marketed biotech labelled products were sometimes the target of boycotts

by biotech opponents, which further limited the number of products on the shelves.

The final Compilation Document is silent on the issues of consistency of any particular approach with Codex standards. During the discussions, Codex members that supported mandatory labelling fought to include language that recognised that each country had a right to adopt different approaches to biotech labelling. Such recognition has no meaning within the Codex context since all Codex standards are voluntary but it would have been meaningful in the context of a WTO challenge.

The compromise adopted at the 39th session of CCFL addressed the desire of one group of countries to note the existence of different approaches to biotech labelling but rejected the notion that they had a right to adopt any approach irrespective of its provisions. The report from the 39th session emphasised that the text was not an endorsement but a simple statement of fact.³⁴ The Compilation Document further limited the right of countries to adopt different approaches by juxtaposing the fact



The existence of a Codex document on biotech labelling might be seen as undermining the notion that the products are no different than conventionally produced foods

that different approaches exist with the obligation to be consistent with Codex. The Committee Report explains that juxtaposition was intentional to achieve this purpose. The relevant text reads: Different approaches regarding labelling of foods derived from modern biotechnology are used. Any approach implemented by Codex members should be consistent with already adopted Codex provisions³⁵ (emphasis added). These two clauses, taken together, cannot be read as suggesting or implying that the various approaches to labelling are all equally valid. The Committee Report foreclosed such an interpretation as mentioned previously. Instead, the emphasis would now seem to be on the need for members to be consistent with Codex, an admonition that would seem unnecessary if all approaches were, in fact, Codex consistent.

As a result of these provisions, the Compilation Document cannot be seen as providing guidance to Codex members or a WTO panel on the question of whether mandatory biotech labelling is WTO consistent. The Compilation Document, therefore,

contains no new labelling provisions or principles that a panel might rely on directly on this question. There are, however, two aspects of the Compilation Document that a panel might refer to on this question.

First, the existence of a Codex document on biotech labelling might be seen as undermining the notion that the products are no different than conventionally produced foods. This would undoubtedly be raised as the primary exhibit by any country defending its mandatory labelling approach before a WTO panel. Yet, Codex members considered and rejected text that would have explicitly acknowledged that mandatory labelling approaches were consistent with Codex. Given that Codex members were careful to avoid answering this question, either explicitly or implicitly, it is hard to see what weight a panel would be able to give to the existence of the document alone.

The second aspect of the Compilation Document that might have some bearing in a WTO dispute on the consistency of mandatory labelling with the SPS Agreement is the final sentence: "This



Photo: Lars Sundstrom

document is not intended to suggest or imply that foods derived from modern biotechnology are necessarily different from other foods simply due to their method of production.” This phrase suggests that the method of production does not, in and of itself, change the nature of the food. In the context of the WTO this could be important because it goes to the question of whether biotech foods, once approved for consumption, should be considered similar foods to non-biotech foods or “like products” in WTO terms. The WTO discourages members from discriminating against like products, particularly if such discrimination results in a disparate treatment of imported versus domestic products, as was the case with the introduction of the E.U.’s biotech labelling law.

Conclusion

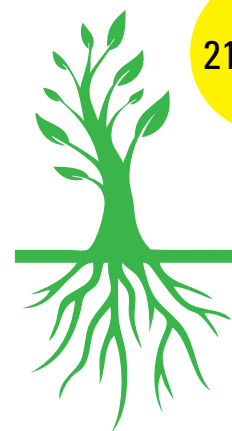
How did Codex members answer the charge to “provide guidance on how the fact that a food was derived from “modern” biotechnology could be made known to the consumer” and did Codex really capitulate on the issue of mandatory labelling?³⁶ As the title suggests, the Compilation of Codex Texts Relevant to Labelling of Foods Derived from Modern Biotechnology pulls together into one place a list of Codex texts relevant to biotech labelling.

It remains unclear whether this guidance will provide any solace to Codex members interested in implementing biotech labelling – whether through mandatory or voluntary provisions.

So what about the charge to CCFL regarding how to make known to the consumer that a food was genetically engineered? The Compilation Document fails to provide guidance on the question of mandatory versus voluntary labelling for biotech foods. In the end, Codex decided to answer the charge, not by creating new guidance but by reaffirming the view that Codex texts apply to all foods, which includes those derived through modern techniques of genetic modification. Codex members did not capitulate on biotech labelling but rather reached consensus in those areas where compromise could be achieved.

With respect to a WTO challenge, the ultimate value or meaning of the document is less clear. Certainly the adoption of the Compilation Document does not mean that “any country wishing to adopt GM food labelling will no longer face the threat of a legal challenge from the World Trade Organisation”³⁷. Beyond the title itself, the Compilation Document seems to be of little or no value in the WTO context. While the existence of the document might suggest that biotech foods are somehow different from other foods and might, therefore, need to be labelled differently, the document goes on to state: “This document is not intended to suggest or imply that foods derived from modern biotechnology are necessarily different from other foods simply due to their method of production”. The Compilation Document, therefore, reinforces the view that biotech foods that have received positive risk assessments are the same as (or substantially equivalent to) conventional foods. As a result, the text of the document might just as easily provide support in the WTO context to countries that oppose mandatory labelling measures on the basis of disparate treatment of like products.

In the final analysis, the Compilation Document confirms that Codex labelling texts, developed for foods generally, also apply to biotech foods and that such foods are not necessarily different simply due to their method of production. The Compilation Document does not endorse existing labelling approaches or distinguishes among them, but reminds Codex members that their laws and regulations should be consistent with already adopted Codex provisions. ●



The author serves as the Senior Advisor for Biotechnology and the Chief of the Biotechnology and Textile Trade Policy Division in the Bureau of Economic, Energy and Business Affairs at the U.S. Department of State. The views in these paper are his and do not necessarily reflect the policies or views of the United States Government.

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- ² The WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement).
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- ⁶ Process-based labelling refers to labelling based on the method of production rather than on any particular characteristic of the final product.
- ⁷ Regulation (EC) 1829/2003. Paragraph (16) This Regulation should cover food and feed produced "from" a GMO but not food and feed "with" a GMO. The determining criterion is whether or not material derived from the genetically modified source material is present in the food or in the feed. Processing aids which are only used during the food or feed production process are not covered by the definition of food or feed and, therefore, are not included in the scope of this Regulation. Nor are food and feed which are manufactured with the help of a genetically modified processing aid included in the scope of this Regulation. Thus, products obtained from animals fed with genetically modified feed or treated with genetically modified medicinal products will be subject neither to the authorisation requirements nor to the labelling requirements referred to in this Regulation.
- ⁸ Food Standards Code 1.5.2 Food Produced Using Gene Technology. According to the Code, GM foods, ingredients, additives, or processing aids which contain novel DNA or protein that has come from an approved GM food must be labelled with the words 'genetically modified'.
- ⁹ Peterson, Barbara H., Farm Wars, July 5, 2011, "Codex Commission – Voluntary GMO Labelling Okay with WTO?"
- ¹⁰ Consumers International, Press Release, July 5, 2011, "Consumer rights victory as US ends opposition to GM labelling guidelines."
- ¹¹ The Hagstrom Report, July 5, 2011, "Biotech labelling interpretations differ."
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- ¹⁵ ALINORM 95/22. Report of the Twenty-Third Session of the Codex Committee on Food Labelling, Ottawa, Canada, 24-28 October, 1994, paragraph 115. Some delegations expressed the view that it was too early to decide on particular rules for products obtained through biotechnology, and that labelling should be required only when the food or ingredient was significantly different from its traditional equivalent, or if safety concerns were involved. Other countries stressed the necessity for full information, as new technologies could benefit the consumers as well as the industry, and transparency in such instances could only help build confidence between the industry and the consumer.
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- ¹⁷ ALINORM 97/22, paragraph 54.
- ¹⁸ ALINORM 97/22A, paragraph 55.
- ¹⁹ ALINORM 06/29/22, paragraph 87.
- ²⁰ The WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement). Article 5 Assessment of Risk and Determination of the Appropriate Level of Sanitary or Phytosanitary Protection, paragraph 1. Members shall ensure that their sanitary or phytosanitary measures are based on an assessment, as appropriate to the circumstances, of the risks to human, animal or plant life or health, taking into account risk assessment techniques developed by the relevant international organisations. Annex A Definitions, paragraph 3(a) for food safety, the standards, guidelines and recommendations established by the Codex Alimentarius Commission related to food additives, veterinary drug and pesticide residues, contaminants, methods of analysis and sampling, and codes and guidelines of hygienic practice[.]
- ²¹ ALINORM 08/31/22, paragraph 80, "Some delegations pointed out that mandatory labelling would substantially increase the costs of food production for the manufacturers and negatively affect the availability of foods, which would especially affect developing countries and low income consumers, especially in view of the increase in the price of food commodities at the international level."
- ²² ALINORM 01/22A paragraph 66.
- ²³ See also ALINORM 05/28/22, paragraphs 45–60.
- ²⁴ ALINORM 08/31/22 paragraph 88.
- ²⁵ ALINORM 10/33/22, paragraph 145.
- ²⁶ ALINORM 10/33/22, paragraph 145.
- ²⁷ REP 11/FL. Report of the Thirty-Ninth Session of the Codex Committee on Food Labelling.
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- ³³ groups.haas.berkeley.edu/gmo/McNicBens4.doc, "As European governments and the EU enacted new regulations requiring the labelling of GM imports, American grain processors and exporters increasingly suffered from cancelled orders for mixed shipments."
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- ³⁵ REP 11/FL, paragraph 142.
- ³⁶ ALINORM 91/40, Report of the 19th Session of the Codex Alimentarius Commission, 1st – 10th July 1991, Rome, paragraph 90.
- ³⁷ Consumers International, Press Release, July 5, 2011, "Consumer rights victory as US ends opposition to GM labelling guidelines."

India's cotton farmers' lives transform for the better

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

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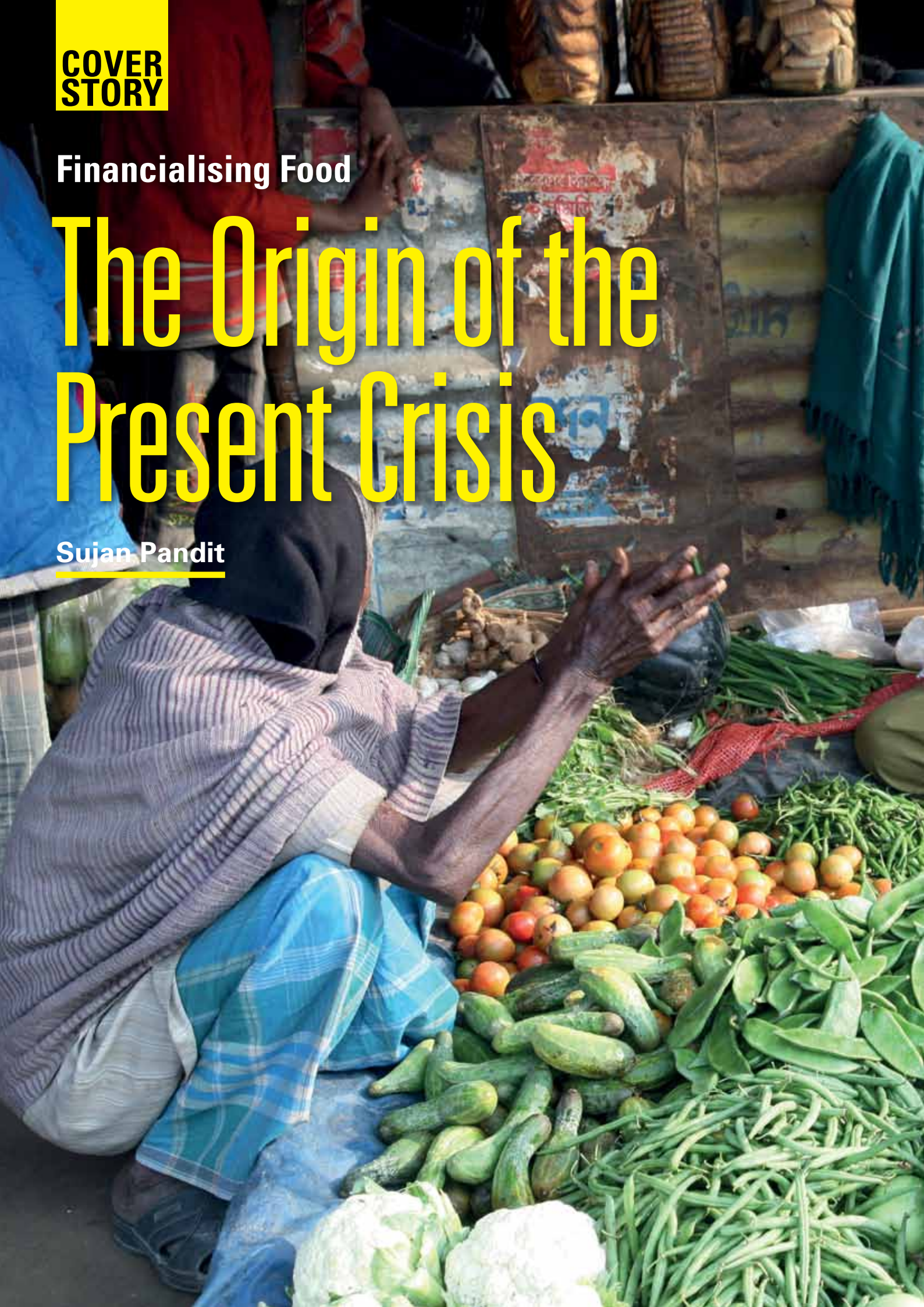
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**COVER
STORY**

Financialising Food

The Origin of the Present Crisis

Sujan Pandit





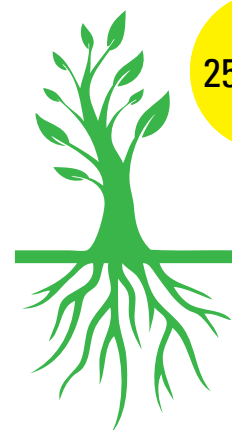
One of the most significant features of the past decade has been the unprecedented and relentless increase in prices of all commodities.

This has occurred in all parts of the world and for all of commodities, be they metals or minerals, hydrocarbons (like coal, oil and natural gas) or agricultural products. Though the increase in oil prices has grabbed most of the headlines it is the last of these classes — the rise in the price of food or agricultural commodities like rice, wheat, corn or soya — that is by far the most important and has extremely sinister implications for the well being and stability of the world today.

The reason is simple: almost a third of the world's population (more than two billion) spends half or more of its income on food and other necessities. While a 10 per cent to 15 per cent annual increase in food prices is an irritation for consumers in developed countries or even the upper middle class in India, it is a matter of life and death for those near the bottom of the income pyramid; it can, literally, mean the difference between staying alive or starving to death. This indeed is what seems to be happening in the Horn of Africa these days. One of the worst famines in the last three decades is occurring there and it has received almost no attention in the world press. Of course, the anarchy and instability in Somalia has exacerbated the problem but the sheer absence of food has been one of the major factors.

The East African famine remains under-reported, perhaps due to a surfeit of other dramatic events that have grabbed the headlines. The year 2011 will possibly go down — alongside 1848, 1917, 1968, 1989 — as one of the most revolutionary years in world history, given the scale and number of protests and riots that have taken place. Gideon Rachman writing for *Financial Times* says: "Is there such a thing as a global mood? It certainly feels like it. I cannot remember a time when so many different countries, all over the world, were gripped by some form of street protest or popular revolt. 2011 is turning into the year of global indignation."¹ The uprisings now occurring in the Middle East and North Africa are epoch-making events but what is causing this upheaval? According to the anonymous blogger kfc of the Physics arXiv blog, complexity theorists believe that the price of food and the cause of the riots are linked.

To quote from the blog: "What causes riots? That is not a question you would expect to have a



simple answer. But today, Marco Lagi and buddies at the New England Complex Systems Institute in Cambridge, say they've found a single factor that seems to trigger riots around the world. This single factor is the price of food. Lagi and co. say that when it rises above a certain threshold, social unrest sweeps the planet."²

High food prices lead to a kind of tipping point when almost anything can trigger a riot, like a tinderbox awaiting a match. As kfc writes, "On 13 December last year [2010], the group (New England Complex Systems Institute) wrote to the U.S. government pointing out that global food prices were about to cross the threshold they had identified. Four days later, Mohamed Bouazizi set himself on fire in Tunisia in protest of government policies, an event that triggered a wave of social unrest that continues to spread throughout the Middle East today."

They end with a note of warning: if this food price trend continues, protests and riots will no longer be the exclusive preserve of poor and politically unstable countries but will affect developed and emerging economies like India too within the next

**Table 1: Agricultural yields:
India: 1950-51 to 2003-04**

Item	Yield (kg/ha) in 1950-51	Yield (kg/ha) in 2003-04
Foodgrains	522	1707
Rice	668	2051
Wheat	663	2707
Coarse cereals	408	1128
Oilseeds	481	1072
Pulses	441	623

two years. There are some reasons to believe that the increasing dissatisfaction of the Indian middle class with the *status quo* and the sudden popularity of the Anna Hazare movement have to do with the rapid rise in food prices that have occurred in India over the past three years.

The critical question then becomes: what are the factors that have caused food prices to increase so dramatically in the past one decade and have lead the world to its current impasse? Roughly speaking, there are three major factors (which will be analysed in turn in greater detail):

- A decline in the growth rates of agricultural yields/productivity.

The rise in the price of food or agricultural commodities like rice, wheat, corn or soya has extremely sinister implications for the well being and stability of the world

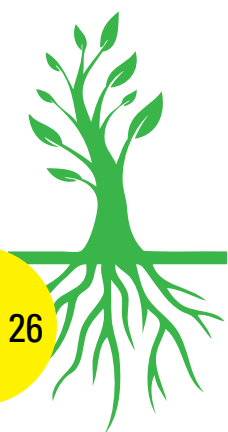
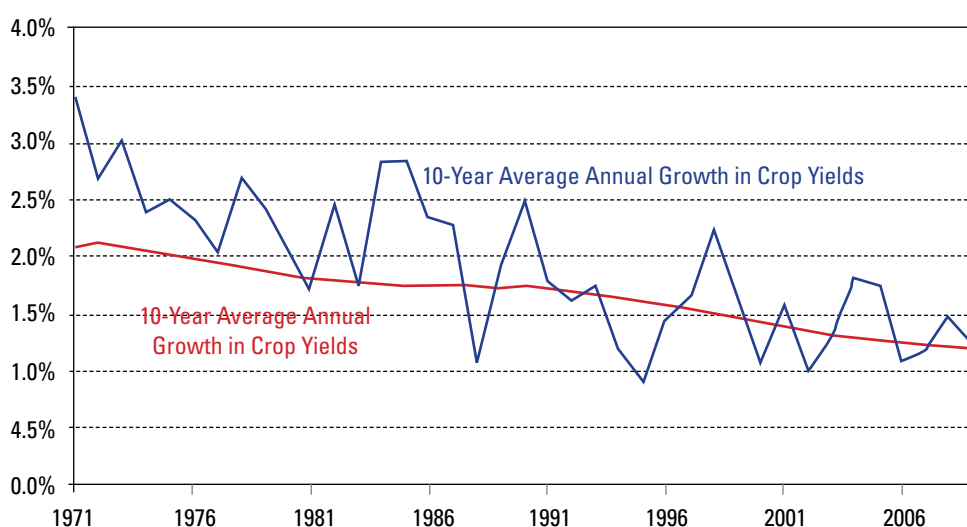


Figure 1**10-Year Average Annual Growth in Crop Yields**

Source: Food and Agriculture Organisation of the United Nations As of 12/31/09

- The conversion of corn into ethanol.
- The increased financialisation and speculation in agricultural commodities.

Agricultural productivity

Right from the dawn of history, up to the end of the World War II, agricultural productivity per unit of arable land grew at a vanishingly small rate. If a country faced food shortage on account of population growth, it would convert a part of its uncultivated land into arable land and hope that the increase in acreage would feed the rising population. To use the jargon of classical political economy, agricultural growth occurred on the extensive margin. If such a course of action was not possible, either its inhabitants would have to emigrate or it would face famine, which would bring down the population in a Malthusian manner. For example, in the 19th century, the growing population of Europe, then in the early stages of the Industrial Revolution, was fed by bringing previously untitled land in the US, Canada, Australia and Africa under cultivation, this land being cultivated by settlers who had emigrated from Europe.

This began to change in the early 20th century, as science was employed to increase agricultural productivity. The most spectacular of all discoveries was the Haber-Bosch process, which allowed for the production of ammonia (the basic input for nitrogenous fertilisers) on an industrial scale through the nitrogen fixation reaction of nitrogen

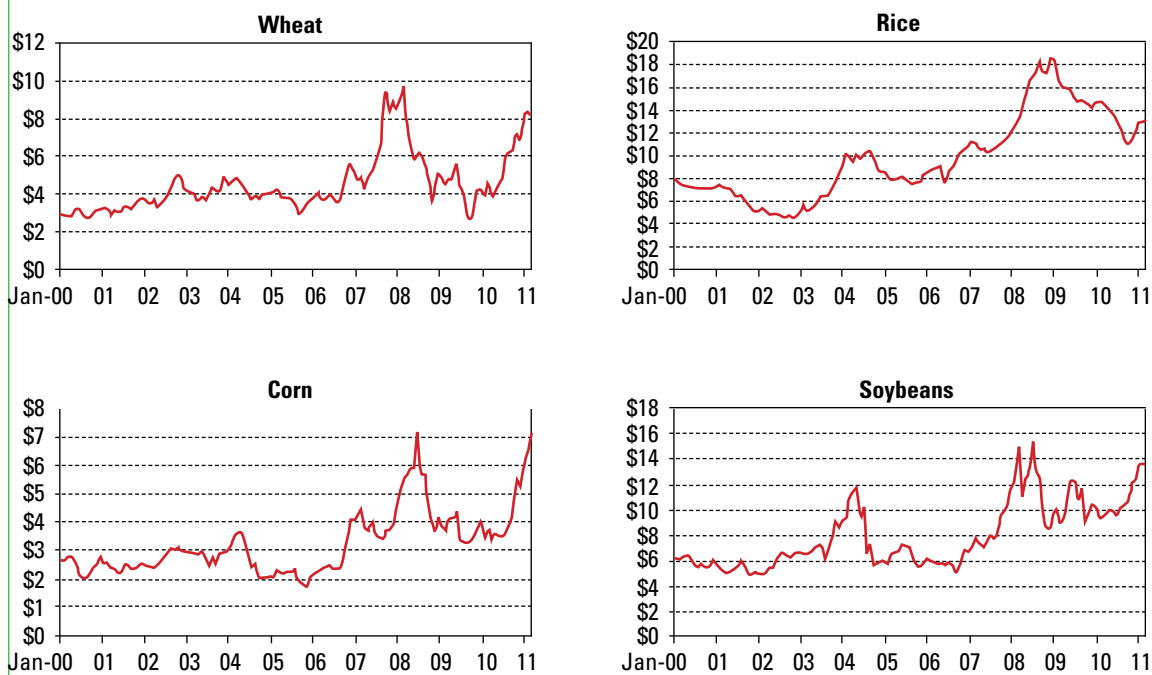
gas and hydrogen gas. This discovery, which occurred on the eve of World War I, was, according to Vaclav Smil, the energy theorist, the single most important invention of the 20th century since it removed at one stroke the single greatest constraint to increased agricultural yields, the shortage of naturally available nitrogenous fertilisers.

Then came the Green Revolution, which dramatically increased productivity in the decades following World War II. The Green Revolution has come in for some stinging ecological, environmental and social criticism and it has often been said that it is not much more than the application of fossil fuel to the top-soil. What cannot be denied is that it dramatically increased agricultural output per unit of land, at least in its early years. For example, in India, the yield of foodgrains went up three-and-a-half fold during the second half of the 20th century. As can be seen from the table below, with the exception of pulses, yield growth has been impressive for all cereals and oilseeds and even spectacular in the case of wheat. Thus, Indian agricultural output has grown from 51 MT (million tonnes) in 1950-51 to 212.02 MT in 2003-04 in spite of the fact that Indian net cropped area has remained constant at about 141 Mha (million hectares) since the 1970s.

What this table does not capture is the slowdown that has occurred since the late 1980s. This has happened not only in India but all over the world and can be better understood from *Figure 1*.

Figure 2

Real Grain Prices (2011 \$/bushel)



Source: Global Financial Data As of 2/28/11

While the global average population growth rate has been falling since 1971, the global average growth in yields has been falling even faster. In the 1960s, the gain in global productivity stood at 3.5 per cent per year while now it stands at around 1.25 per cent per year. Before 1986, the growth in crop yields always exceeded the population growth rate; since 1986, more often than not, it has failed to keep up with population growth. This implies that over the past 25 years, in many years food output per person has fallen, especially in times of poor harvests.

As classical economists like Ricardo or Malthus would have said, agriculture is now entering a phase of diminishing returns. The initial benefits of the Green Revolution have been exhausted and have perhaps turned negative. While agricultural yields have barely risen, the input requirements (and hence costs) of fertilisers have grown dramatically. For example, the global average fertiliser application per unit of land rose from two tons of fertiliser per sq km of cropland in 1961 to almost 11 tons of fertiliser psqm of cropland today. This has put farmers in a double bind: while physical outputs have remained virtually constant, real input costs have risen by leaps and bounds. No doubt the terrifying rise in the number of farmer-suicides

that India has witnessed in the past 15 years can partially be attributed to this factor.

This has led to the inevitable rise in food grain prices all over the world over the past one decade and can be better appreciated from Figure 2.

The prices in Figure 2 are the real average global prices (adjusted for inflation) of the world's most important foodgrains: wheat, rice, corn and soybeans. They do not paint a pretty picture. With the exception of the 1970s, food prices fell (in real terms) throughout the 20th century thereby allowing millions, if not billions, to escape from poverty. Almost all the gains of the 20th century have been negated in the past decade.

Also, there is no reason to be sanguine about the future. It can be argued that the rise in agricultural yields during the second half of 20th century was a *sui generis* event: mainly due to the availability of cheap and abundant fossil fuels that helped power the Green Revolution. If the 'Peak Oil' theorists are to be believed, the era of cheap fossil fuels is over and we are likely to face rapidly increasing prices in fossil fuels in the coming decades. Since modern agri-business is hugely dependent on oil (there is a strong correlation between grain prices and crude oil prices though this has not been displayed in the graph above) this will translate into rising

grain prices. One has also possibly witnessed the first effects of 'global weirding', to use a phrase of Thomas Friedman, the *New York Times* columnist, whereby increasing carbon-dioxide levels in the atmosphere not only increase global temperatures but also their variability.

It is the increased variations in weather patterns, which we are witnessing these days that is the great enemy of stable levels of agricultural production. The record breaking heat and drought in Russia, the unprecedented flooding in Pakistan and Australia last year; and the drought in Texas and floods in mid-Western US this year are to many scientists harbingers of the coming 'global wierding' and have no doubt contributed to the rapid rise in grain prices over the past 12 months.

There is little doubt that the falling rate of growth in agricultural output is the key or base factor in explaining the price rise in foodgrains. The next question is: have human interventions or actions worsened or improved on this situation?

It does not seem that the poor is winning this battle! There is little doubt that the falling rate of growth in agricultural output is the key in explaining the price rise in foodgrains

There is a strong reason to believe that the former has occurred. To understand why we now turn to the next two factors.

The conversion of corn into ethanol

In July 2011, Farm Foundation, a US based agricultural think-tank came out with a commissioned report: "What's Driving Food Prices in 2011?"³ written by economists at the Purdue University. They found, among other factors, that there were two main causes for the recent sharp rise in foodgrain prices in the US: namely, the rapid increase in demand of soybean from China and the US biofuel policy that encourages the conversion of corn into ethanol. The latter was by far the dominant factor.

When studying food-grain prices and ethanol production there are strong reasons to focus on the US. This is because the US is to foodgrains what Saudi Arabia is to crude oil: the ultimate swing producer who is in a position to set world prices. Thus US government policies that influence the choice and level of agricultural output in the US have international ripple effects. Secondly, almost 60 per cent of the world's ethanol production

occurs in the US (with Brazil, the pioneer, a distant second).

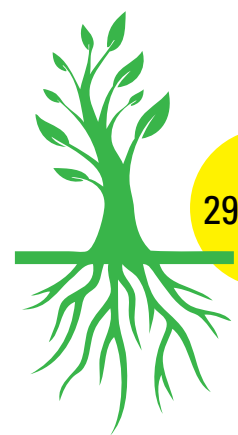
The British poet and visionary, William Blake, once said: "The road to hell is paved with good intentions." Rarely has a truer word been said about the US Biofuels Policy. The promotion of biofuels in the US began in the 1970s in the aftermath of the oil price shocks of that decade with the aim of promoting energy independence. By mixing ethanol (an energy source derived from corn) with gasoline, it would, in theory, be possible to reduce the imports of crude oil. Unfortunately, in practice, it has degenerated into a largescale subsidy racket. Republican and Democratic politicians nowadays rarely agree on anything save for one thing: the need to subsidise ethanol.

Democrats believe in ethanol subsidy because they believe that an economically non-viable but socially useful product deserves subsidy in order for it to stand on its own two feet. Republicans, in principle, oppose subsidy for anything but make

an exception in the case of ethanol subsidy because 'the corn belt', the mid-western states where corn is grown and converted into ethanol, reliably vote for Republican candidates in elections and hence the subsidy is seen as a way of rewarding their supporters.

Robert Bryce points out in his book, *Gusher of Lies*, that: "American taxpayers are being taxed in three different ways in order to produce corn ethanol: (1) the billions in subsidies for growing corn; (2) the billions in subsidies for turning that corn into ethanol; and (3) the billions of dollars in costs that come from higher food prices." To start

In 1991, Goldman Sachs developed a derivative that tracked the prices of 24 commodities that ranged from corn to hogs to precious metals: the Goldman Sachs Commodity Index that was designed to let speculators gamble on the prices of an entire range of commodities in one step. For many years this derivative languished but after the Commodity Futures Modernisation Act of 1999 it really took off and soon became the global benchmark.



with ethanol producers receive a \$0.51 per gallon tax credit together with an import tariff, primarily designed to keep out Brazilian ethanol that is cheaper to produce. This is not the end though: if all the direct and indirect government support is taken into account, according to a 2006 estimate, subsidies for ethanol range from \$1.05 to \$1.38 per gallon of ethanol produced. Since ethanol has about two-thirds of the heat value of gasoline, on a gasoline-equivalent basis, the total subsidies for ethanol ranged from \$1.42 to \$1.87 per gallon. This was pretty close to the 2006 price of gasoline in the open markets in the US.

Finally, increased ethanol production increases overall food prices. A 2007 Iowa State University study showed that the increased food bill faced by Americans on account of rising corn prices had cost American consumers \$14 billion in 2006-07 (and this did not include the far greater costs to non-American consumers). Since five billion gallons of ethanol were produced during that time period this works out to a cost of \$2.80 per gallon. It goes without saying that it would have cost American taxpayers far less had the government purchased five billion gallons of gasoline on the open market and distributed it for free to American drivers rather than go through the elaborate charade of subsidising corn farmers and ethanol producers in the name of energy independence.

The worst effects of rising corn prices on account of increased ethanol production did not occur in the US though. It occurred in the poorer parts of the world. Since the US is the global swing producer of corn, a rise in the corn price in America causes the price of corn to rise all over the world, as *Figure 2* would attest. By converting corn into ethanol, there is less corn left to feed human beings. Lester Brown has pointed out: "the amount of grain needed to make enough ethanol to fill a 25-gallon SUV tank would feed one person for a full year."

If one were of a Marxist bent, one would call this a class war. What is really happening is a naked class war or, to use the phrase of Lester Brown, an epic competition between the retirement benefits of the car-driving baby boomers living in developed countries (who possibly number between 100 and 200 million) and the calorific needs of two billion or so in the developing world who spend more than 50 per cent of their income on food.

The decline in the buffer stock of corn puts an upward pressure on the prices. Though this has benefited corn farmers and ethanol producers in the US, it was at the immense cost of American tax payers and corn buyers worldwide. According to Brown, the US was "setting the stage for an epic competition. In a narrow sense, it is one between the world's supermarkets and its service stations... In a larger sense, it is a battle between the world's 800 million automobile owners, who want to maintain their mobility, and the world's two billion poorest people, who simply want to survive."

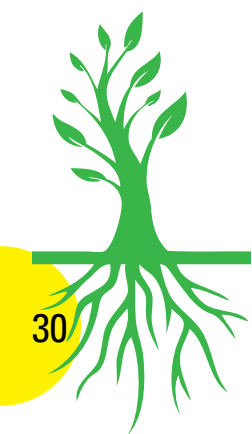
Unfortunately, it does not seem that the poor and hungry are winning this battle!

Libertarian and free-marketers would say that the shenanigans over ethanol subsidy are a classical example of inept government meddling in the workings of the free markets. In order to promote something of dubious value and to provide economic benefits to a small group of politically powerful voters, enormous costs are imposed in terms of subsidy and higher prices. However, the next factor that has caused a rise in food prices, namely the financialisation of food, has less to do with the government and more to do with the shenanigans of Wall Street, which until 2008 was used by them as an example of free-market capitalism.

Financialisation and speculation in agricultural commodities

When one mentions agriculture and finance in one breath, institutions like NABARD come to mind, together with images of regional rural banks making cash advances to farmers before the agricultural season in order to purchase the necessary inputs. However, reality has changed dramatically over the past two decades, especially in the US where agriculture has entered the cross-hair of top Wall Street executives' gun-sight as a way of making money.

It was not always so. Traditionally, Wall Street ignored agriculture, preferring to leave it to other specialist financial exchanges like the Chicago Board of Trade and NYMEX. The high variability in annual agricultural output and hence prices means that there will always be a demand by farmers and agro-based industries to hedge future prices in order to partially guarantee future incomes and costs. This service was provided by these specialist financial exchanges where futures in a variety of agricultural commodities could be bought or sold.



Until 1999 in the US, both parties in the deal (the buyer and seller of futures) had to be in some way connected to the agricultural sector for the deal to be recognised as valid by the Commodity Futures Trading Commission (CFTC). This was done to eliminate unwanted speculation.

What brought about the change was a change in mindset. The 1980s was the decade when the free market ideas of von Mises, von Hayek and Milton Friedman gained mainstream acceptance under the political leadership of Ronald Reagan and Margaret Thatcher. Getting the government out of the market was their main goal.

For example, until the 1990s, all developed countries, including the US, kept large reserves of agricultural commodities in stock in order to dampen excessive price movements and to insure against a rainy day. However, after the 1996 Farm Bill, the US virtually eliminated its reserves in the name of saving on storage costs. This left the floor open to arbitrageurs and speculators to bring demand and supply into balance.

The most critical development in the

was called the Goldman Sachs Commodity Index (GSCI) and was designed to let speculators gamble on the prices of an entire range of commodities in one step. For many years this derivative languished but after the Commodity Futures Modernisation Act of 1999, it really took off and soon became the global benchmark.

Other banks, not willing to be left out of the action, created their own derivatives and the stage was set for hedge fund operators and other speculators to make huge bets on the prices of agricultural commodities without bothering to take physical possession of these commodities (as was required by the parties before 1999). Since 2000, there has been a 50-fold increase in amount invested in commodity index funds. In 2003, the commodity futures markets totalled \$13 billion; while in the summer of 2008, just before the collapse of Lehman Brothers, it had reached \$318 billion.

The GSCI derivative had one peculiar, or sinister, feature that created an inherent tendency towards a price rise. It was asymmetric in the sense that

One of the worst famines in the last three decades is occurring in the Horn of Africa and it has received almost no attention in the world press

financialisation of food was the Commodity Futures Modernisation Act of 1999 which allowed banks and other financial institutions to trade in futures and derivatives of grain and other agricultural commodities. The Act was due to the active lobbying of Wall Street banks like Goldman Sachs, JP Morgan Chase and Citibank and the enthusiastic support of Alan Greenspan, the then US Federal Reserve chairman, and senior US Treasury officials like Robert Rubin, the former Treasury Secretary, Larry Summers, the then Treasury Secretary and his protégé, Tim Geithner, the current Treasury Secretary. This deregulation was opposed by Brooksley Born, the then CFTC chairperson but she was simply shouted down and intellectually overpowered by these officials.⁴

The 1990s was also the decade when Goldman Sachs made a financial innovation that would eventually transform the industry and lead to an exponential rise in the level of speculation in agricultural commodities. In 1991, it developed a derivative that tracked the prices of 24 commodities that ranged from corn to hogs to precious metals. It

the derivative was a “long only”, which meant the product was constructed to buy commodities, and only buy. The GSCI did not include a mechanism to sell or “short” a commodity.⁵ It was like a car whose reverse gear had been subtly tampered with, making it difficult for the driver to reverse. The more the investors purchased the derivative, the more the price of the underlying commodity rose: a perfect example of a positive feedback loop. This imbalance, which undermined the symmetry of traditional futures contracts that had prevailed for over a century, helped set the stage for the food price inflation of the past one decade: in particular, between 2005 and 2008 when world food prices rose by 80 per cent. As Olivier De Schutter, the UN Special Rapporteur on the Right to Food, concluded in 2008, “a significant portion of the price spike was due to the emergence of a speculative bubble.”⁶

There is a question one may ask: while the Wall Street banks created these financial products, why were investors so happy to buy them? Surely it cannot be attributed exclusively to their short-

sightedness or naïveté. To answer this question one needs to step back from the narrow issue of financialisation of food and understand the way financial capitalism has evolved over the past three decades in the developed countries. This is an issue that is rarely analysed in any financial textbook.

A major part of the problem can be attributed to the baby-boomer generation and the pension-fund capitalism that arose to cater to their needs. Demographers have long noted the spike in birth rates that took place in economically developed countries between 1946 and 1965 and called it the 'baby boom' generation. As these baby-boomers entered the work force, they were offered defined benefit pension plans that guaranteed them a fixed income from their retirement till their death (this defined benefit feature has been basically discontinued over the past two decades and is now only offered to some government and public sector workers). In order to meet these future commitments, pension funds had to generate a target rate of return on their investments, failing which they would either lose money or default on their commitments. Now that the first of the baby-boomers have started to retire, the bill has come due. This factor is the key to understanding the problems that the world now faces.

The problem is that these pension-funds grew so large that they essentially became the market. Jean Luc Greau, the French political economist who remains scandalously unknown (and untranslated) in the English speaking world, in his book *L'Avenir du capitalisme* concludes: "In contrast to individual shareholders who can enter or leave the market as they please, institutional investor pension-funds are literally trapped inside it. Their objective dependence on the market pushes them to strive for ever-higher prices...The big institutional investors make the market because they are the market. It is this closed system, impatient to achieve its target rates of return and, at bottom, rather indifferent to the economy itself, that is the true image of the stock market today."

For a long time achieving this target rate of return was not too difficult. In the 1970s and early 1980s, interest rates on government bonds were very high all over the world. From the mid-1980s to 2000 share prices rose all across the developed world, allowing pension funds to achieve their target returns through selling shares and realising the capital gains. This easy ride came to an end in 2000 as the dot-com boom fizzled out. Since then share

prices have barely risen. At the same time, interest rates on safe US Treasury bonds have fallen to absurdly low levels, partly due to the expansionary monetary policies of Alan Greenspan and Ben Bernanke and partly due to the large scale purchase of these bonds by the central banks of China, Japan and Middle-Eastern countries. As David Goldman, writing for the *Asia Times* newspaper under the pseudonym 'Spengler' noted, "Financial institutions flap around desperately in a low-return environment like fish in oxygen-starved water. That is the source of the financial crisis."⁷

Under such circumstances, a derivative like GSCI, which had been so designed that it has an inherent tendency to rise in price, came as a godsend to the return starved pension funds after 2000. Only through an ever-rising price could they realise the capital gains needed to meet their target rate of return. However, the global consequences of this were devastating. A 10 per cent rise in the share price of General Electric in the US has no adverse effect for a labourer in India but a 10 per





cent rise in a derivative based on an agricultural commodity index traded on the New York Stock Exchange causes agricultural prices to rise world wide, thereby affecting the living standards of a labourer in India.

If one were of a Marxist bent, one would call this a class war. This is one case where Marxist terminology is spot on. What is really happening is a naked class war or, to use the phrase of Lester Brown, an epic competition between the retirement benefits of the car-driving baby boomers living in developed countries (who possibly number between a hundred and two hundred million) and the calorific needs of two billion or so in the developing world who spend more than 50 per cent of their income on food.

To repeat what was said in the section on ethanol: it does not seem that the poor and hungry are winning this battle!

This, in short, is the reason for the unprecedented rise in the protests and revolts that have taken place all across the world this year, making 2011 one of

the most turbulent years in world history. Since the root causes for these price rises are likely to worsen in the coming years, there is no reason to believe that the situation will improve in the near future. To paraphrase the words of a Chinese sage: we have the misfortune of living in interesting times! ●

Reference

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⁵ See: http://www.foreignpolicy.com/articles/2011/04/27/how_goldman_sachs_created_the_food_crisis

⁶ See: http://www.srfood.org/images/stories/pdf/otherdocuments/20102309_briefing_note_02_en_ok.pdf

⁷ See: http://www.atimes.com/atimes/Global_Economy/LB02Dj01.html



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A close-up photograph of a pair of hands cupped together, holding a large quantity of golden-brown wheat grains. The hands are positioned in the upper half of the frame, with the fingers slightly curled to support the weight of the grain. The grain is piled high in the palms and spills slightly over the edges. The background is a dark, textured surface, likely a burlap sack, which is also covered in a layer of the same grain. The lighting is warm and focused on the hands and the grain, creating a sense of abundance and care.

**COVER
STORY**

Commercialising Indian Agriculture

Surinder Sud

Commercialisation of agriculture is a necessity today; not merely a desired objective. Those days are over when most farmers, being small and marginal landholders, did not have enough marketable surplus and, therefore, were largely unaffected by market trends. Today, they need efficient markets to sell their produce at the best possible terms. They also respond to demand and even future price signals. The unfortunate truth, however, is that the commodities markets – spot as well as forward markets – have not evolved in a manner that ensures fair and remunerative prices to growers.

While the spot markets are, by and large, inefficient and opaque, besides wanting in terms of infrastructure, the forward markets for commodities are yet largely inaccessible to most farmers though futures trading has been reintroduced after a prolonged ban, avowedly for the benefit of the farmers. Government policies, moreover, have largely been oriented towards protecting the consumers' interests even at the cost of those of the producers.

There is ample evidence to bear out the notion that the farmers' linkage with the market has grown perceptibly ever since farm output began rising from the 1950s onwards. Data concerning the proportion of total production that is actually marketed provides a fair indication of this. This is true not only of commercial crops that, arguably, are meant to be marketed but also of food crops. Moreover, the farmers' dependence on the market – and hence their linkage with it – is evident also in the agricultural inputs procured by them from the market. This is corroborated by the past and present trends of goods sold and purchased by them. The National Academy of Agricultural Sciences (NAAS) has elaborated on these in its publication 'State of Indian Agriculture 2009.'

These numbers show that while in the 1950s,

only about 30 per cent of the total rice output was disposed off in the market, this proportion soared to nearly 71.4 per cent by 2007-08. Similarly, in the case of wheat, this ratio has swelled from 30 per cent to 63.3 per cent during this period. The trend has been no different in coarse cereals like maize, sorghum (jowar) and pearl millet (bajra). While in the 1950s, hardly between 24 per cent and 27 per cent of the production of these cereals was marketed in the mandis, in 2007-08, this proportion grew to between 53 per cent and 76 per cent. Taking food crops as a group, it is found that nearly 68 per cent of the total output is now meant for the market, against barely 27.4 per cent in the 1950s.

The growers of pulses and oilseeds, too, now produce chiefly for the market, retaining with them barely around 10 per cent of the output, chiefly for use as seed. Though similar numbers regarding livestock products, including milk, eggs and chicken, are not readily available, there are good reasons to believe that the marketed portion of these items are even larger than that of grains.

As far as purchased inputs go, the NAAS publication reveals that the combined share of purchased inputs has risen from around 9 to 10 per cent of the total value of the produce in 1970-71 to nearly 17 per cent now. This does not include the hired labour, bullocks or farm machinery, like tractors and harvesters (which many farmers now prefer to hire than owning them) and land taken on rent. Fertilisers, of course, constitute one of the key cash inputs in farming. The value of fertilisers bought by the farmers has spurted from Rs 154 crore in 1950-51 to Rs 25,173 crore in 2006-07. Even the cash spent on power used for farming has increased from Rs 5 crore to over Rs 2,710 crore during this period.

This apart, the commercialisation of Indian agriculture is now overstepping the national boundaries as well, thanks to growing globalisation



These are summed up in the following table

Commodity	1950-51			2007-08		
	Production (million tonnes)	Marketed surplus (million tonnes)	%	Production (million tonnes)	Marketed surplus (million tonnes)	%
Rice	20.6	6.2	30.0	96.4	68.8	71.46
Wheat	6.5	2.0	30.0	78.4	49.6	63.3
Maize	1.7	0.4	24.0	19.3	14.7	76.2
Sorghum	5.5	1.3	24.0	7.8	4.2	53.4
Pearl millet	2.6	0.7	27.0	9.8	6.8	69.4
Others	5.5	1.0	18.0	3.8	2.2	57.7
All cereals	42.4	11.6	27.4	215.5	146.3	67.9
Pulses	8.4	3.8	45.3	15.1	13.5	89.1
Oilseeds	5.2	3.8	73.6	28.8	26.4	91.5

(Source: State of Indian Agriculture (2009), NAAS)

of the economy. This is apparent from the spectacular increase in agricultural exports, as also of imports of inputs, notably fertilisers. Agricultural exports are reckoned to have grown annually over the years at a healthy rate of 14.8 per cent. Significant changes have taken place in the total exports, as also of the export products basket, since the beginning of the economic reforms in 1991. The share of items like vegetables, fruits, flowers, cotton, livestock products and sugarcane products has risen substantially in the overall export basket. The other major agricultural export items include rice (basmati and non-basmati), oil meal, spices and marine products. The total value of agri-exports has surged from Rs 6,012.76 crore in 1990-91 to over Rs 90,000 crore in 2009-10.

Similarly, the total consumption of fertilisers (nitrogen, phosphorus and potash) has gone up from 12.55 million tonnes in 1990-91 to 24.9 million tonnes in 2008-09. The import of fertilisers bloated from 2.75 million tonnes, valued at Rs 1,335.8 crore, in 1990-91 to 10.2 million tonnes, valued at nearly Rs 11,091 crore, in 2008-09. This is another indication of growing dependence of the Indian farmers on markets at home and abroad.

However, the unfortunate part is that while the volume of farm produce traded in the markets has increased several folds, the expansion of marketing infrastructure has failed to keep pace with this increase. Nor has the quality of marketing, in terms of transparency, efficiency and competitiveness, improved to the desired extent.

According to a sub-committee of the Planning Commission that went into agricultural marketing for reporting to the National Development Council, there is, on an average, only one proper agricultural market for an area as vast as 435 sq km. While an agricultural state like Punjab has one regulated market catering to an area of 114 sq km, a state like Meghalaya has just one market for an area of whopping 11,215 sq km. Ideally, going by the recommendation of the National Commission on Agriculture in its report submitted several decades ago, in 1976, there should be a market available to the farmers within a radius of 5 km, that is, a market in an area of around 80 sq km. For a sizable section of farmers, the periodic rural markets, such as rural haats, are their first contact with the commercialised agriculture.

The system of regulated markets, evolved chiefly to ensure an orderly growth of the farm marketing infrastructure as also to introduce fair trade practices to end exploitation of the farmers, has failed to



Ideally, going by the recommendation made by the National Commission on Agriculture in its report submitted in 1976, there should be a market available to the farmers within a radius of 5 km, that is, a market in an area of around 80 sq km. For a sizable section of farmers, the periodic rural markets, such as rural haats, are their first contact with the commercialised agriculture.

achieve these objectives. In fact, the regulated markets and mandi committees set up to operate them turned abettors to the exploitation of the farmers. They also tended to become monopolistic by denying the growers the right to sell their produce outside the regulated mandis to get better returns. Some of these anomalies are now being sought to be removed by prompting the states to amend their marketing laws and the agricultural produce





Photo: Neale Cousland / Shutterstock

marketing committee Acts (APMC).

With such being the state of the spot markets for agricultural produce – under-developed, fragment and opaque the need arose for electronic commodity exchanges that allow futures trading contracts. These markets are deemed to be the commercial platforms where different trading parties, including sellers, buyers and traders, could trade in a transparent manner and even get price indications for the future to be able to plan their production (cropping pattern) and trading options accordingly. This mode of marketing is actually supposed to supplement and not replace, the spot markets.

The key functions of the exchange-based futures trading in commodities include price discovery and risk management in a visible, fair and well-informed manner. For this, the commodity exchanges are supposed to disseminate spot prices as well as those bid by the traders for future dates so that the

sellers (producers or farmers) and buyers can take informed decisions about the timing and manner of their transaction. Theoretically, the futures prices are determined by spot prices plus carrying cost of the commodities and the anticipated demand-supply dynamics. Undue manipulation of prices is supposed to be curbed by the exchanges by fixing limits for open interests (overall quantities allowed to be traded by individual parties) and margins (initial deposits for transactions which are subject to be confiscated in case of default).

Unlike popular perception, futures trading or derivatives trading in commodities is not new to India. It is mentioned even in some old texts like Kautilya's 'Arthashastra', the ancient treatise on economics. In present times, the Bombay Cotton Trade Association was the first to start futures trading in cotton way back in 1875. This was followed by the futures trading in some other

items, including oilseeds, in Punjab, Gujarat and Uttar Pradesh. The Hapur commodities exchange was set up in 1913. Such trading in raw jute and jute goods began in Calcutta in 1919.

Even after Independence, the government did not have a negative opinion about futures trading in the beginning. It, in fact, enacted a law, the Forward Contracts (Regulation) Act, 1952, to regulate it. For some inexplicable reasons though, the government chose not to lift the embargo on 'options trading' in commodities imposed by the British during the Second World War. Such trading is allowed on the financial bourses.

A large number of commodities had begun to be traded through commodity exchanges after enactment of the law. However, the widespread shortages of agri-commodities in the wake of severe drought in 1969 spurred the government to clamp a blanket ban on futures trading in commodities, which continued for more than four decades till this mode of trading was re-introduced in 2002-03. This again led to a spurt in the number of items traded on the exchanges. By 2006, futures trading got going in commodities like wheat, rice, cotton, jute, gur, pulses, edible oils and spices, among the farm goods, and several metals, including precious metals like gold and silver, among other commodities. The volumes traded on the commodities exchanges began to swell, exceeding those traded at the stock exchanges in a short time.

It was, however, the sudden price spike in 2007 that once again led the government to take the controversial decision to suspend futures trading in some sensitive items, such as wheat, rice, sugar and some key pulses. The price rise, though a global phenomenon sparked largely by economic glitches and supply crunch in several agricultural commodities in both domestic and international markets, was blamed largely on the futures trading, especially speculative trading on the commodity exchanges to serve as an excuse for suspending such trading in selected goods of mass consumption.

Subsequently, the committee headed by the Planning Commission member, Dr Abhijit Sen, set up by the government specifically to probe into the role of futures trading in pushing up inflation, said in its report that it did not find any credible evidence to prove that future trading had caused the price rise. This and some other studies on the subject indicated that the price rise was much more in the case of items not traded on the commodities exchanges, such as



Photo: Stephanie Berghaeuser



Most of those who came forward to trade on the commodity exchanges to begin with were generally those who were regular players on the stock exchanges. The actual commodity producers, traders and the end-users remained reluctant to avail of this facility due perhaps to their unfamiliarity with this form of trading. This led to excessive speculative activity as the speculators far exceeded the hedgers.

onions and metals, which had contributed more to high inflation than those traded on the exchanges. The bar on futures trading was subsequently relaxed in case of some commodities, including wheat.

However, regardless of the green chit given by the Abhijit Sen committee, the bitter truth remains that futures trading is not wholly immune to exploitation by speculators. The most significant among the reasons for this are the low participation in futures trading by the actual players in the commodities business and the lack of autonomy and adequate regulatory powers to the Forward Markets Commission (FMC), the commodity sector regulator.

Most of those who came forward to trade on the commodity exchanges, to begin with, were generally those who were regular players on the stock exchanges. The actual commodity producers, traders and the end-users remained reluctant to avail of this facility due perhaps to their unfamiliarity with this form of trading. This led to excessive speculative activity as the speculators far exceeded the hedgers. Besides, these operators also had deep pockets and, therefore, could afford to take greater risks. Such a situation still prevails to a large extent though the FMC has taken some steps, including increase in margin money and new measures to know the customers, to curb speculation. The FMC has its own limitations being merely an appendage of the consumer affairs department of the ministry of food, public distribution and consumer affairs.

Indeed, this kind of a situation, was anticipated by the Kabra Committee whose report, submitted to the government in 1994, had ultimately led to the reintroduction of the futures trading in commodities in 2002-03 after being banned since 1969. In fact, the chairperson of the committee, Professor K. N. Kabra, had himself appended a note to the report, strongly pleading for adequately expanding and empowering the FMC before re-launching the futures trading. He had cautioned that if the futures trading was allowed without opening branches of the

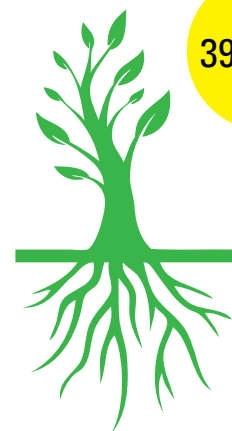




Photo: Tracy Olson

One of the main objectives of re-launching the futures trading in commodities, which is to benefit the farmers by enabling them realise higher returns on their produce, has not been fully served. There are several reasons for that. For one, most farmers usually need cash immediately after the crop harvest and, therefore, cannot defer the sale of bulk of their produce for a future date. Besides, the quantities most growers have for sale normally fall short of the minimum quantities prescribed for transactions on the commodity exchanges

FMC in all places where the commodities exchanges were located, and giving it full to effectively regulate them, these exchanges would become rich persons' casinos. However, this sane counsel has remained largely unheeded. The government is yet to get the Bill passed by parliament for amending the Forward Markets (Regulation) Act to give more autonomy and powers to the FMC.

This aside, the futures trading can effectively perform its desired function of price discovery only under totally free market conditions. In situations where the government manipulates the prices through measures like fixation of minimum support prices (which virtually become the benchmark prices), changes in export-import norms and levies, and curbs on stockholding, movement and trading of different commodities, futures trading loses much of its ability to put out reliable signals of future price trends. This is happening today in a large number of commodities, including sugar, foodgrains, pulses, oilseeds, cotton, jute and others.

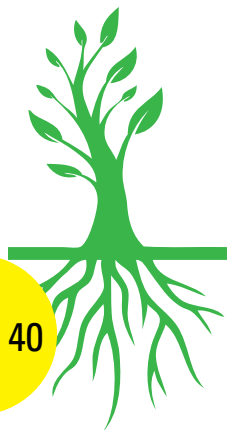
Besides, one of the main objectives of re-launching futures trading in commodities, which is to benefit the farmers by enabling them realise higher returns on their produce, has not been fully served. There are several reasons for that. For one, most farmers usually need cash immediately after the crop harvest and, therefore, cannot defer the sale of a bulk of their produce for a future date. Besides, the quantities most growers have for sale normally fall short of the minimum quantities prescribed for transactions on the commodity exchanges, which could be a truckload or 100 quintals or some other equally big lot.

Moreover, those allowed to trade on commodity exchanges need to have D-Mat accounts, Permanent Account Numbers (PAN) and, in some cases, even

the Sales Tax numbers, which farmers normally do not have. For the delivery of stocks, too, the exchanges usually require the commodities to conform to the laid down quality standards. Otherwise, quality cuts are imposed on the sellers, which could undo the likely gains from futures trading.

These problems, however, are not insurmountable. An easy way out, which ought to be encouraged, is to prompt farmers to form groups, cooperatives or companies, which could serve as aggregators to collect their produce, get it cleaned and graded to conform to stipulated standards and fulfill other pre-requisites needed for trading at the commodity floors. Even the co-operative and commercial banks, which lend money to the farmers, can serve as aggregators. Such an arrangement would be beneficial to both farmers who would get linked to commodities exchanges and banks, even if indirectly, and higher returns for them would ensure repayment of their loans.

Besides, more than futures trading, it is the 'options trading' in commodities, which can be of real value to the farmers as it allows them to hedge their price risks. This is because the options trading provides the farmers the right (without the obligation) to sell the commodities at the prices prevailing on future date. In simple words, if the prices suit the farmers, they can exercise their right to sell their produce. If the prices go against their interests, they can come out of the contracts. However, even while allowing the futures trading after a long hiatus, the government has not yet allowed 'options' trading in commodities. Several committees, including some parliamentary committees, have recommended lifting the ban on options trading. The sooner it is done; the better it would be for the farmers. ●





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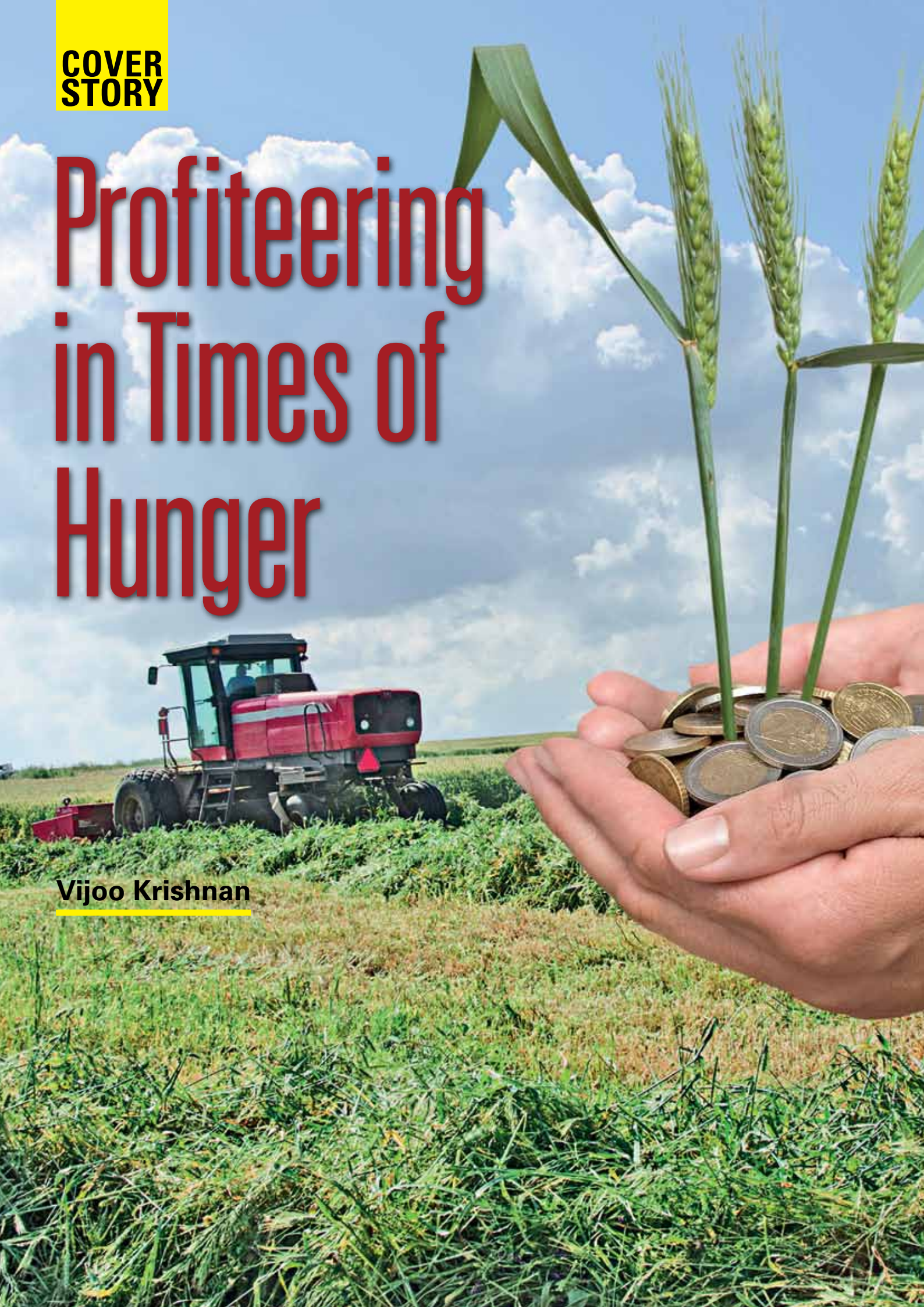
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**COVER
STORY**

Profiteering in Times of Hunger

Vijoo Krishnan

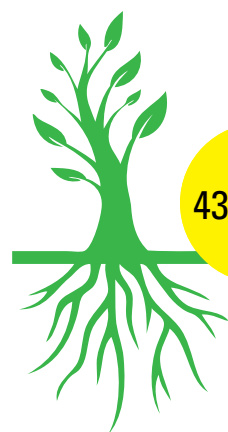




Bertolt Brecht, writing nearly six decades ago, made a telling accusation: “Famines do not simply occur; they are organised by the grain trade.” Even to this day the ‘grain trade’ cannot be absolved of culpability in the recurrence of famines, malnutrition, hunger deaths and food riots. Grain trade has come a long way from the days of Brecht but there is a stubborn persistence of one factor; the unending quest for profit maximisation. This mad rush for profits over people has been the hallmark of capitalism. This quest for profiteering under the neoliberal regime is as ruthless as it has been during the times that Brecht lived in.

The ‘grain trade’ has converted food into a commodity like gold or silver that can be amassed and used to dictate global prices. Food cannot be seen merely as any other commodity that is up for sale in the markets; it is a resource that has to be shared with people across communities and countries. There is much more to food and farming than just trade and profits; it is central to dignity of life that every human being deserves. Among the Millennium Development Goals (MDG) set by the UN for the 21st Century, halving the proportion of hungry is first on the list. The possibility of achieving the first MDG by the year 2015 is far too remote and almost next to impossible. As the deadline approaches, the UN rightly noted that hunger may have spiked in 2009 and progress to end hunger has been stymied in most regions.¹ The World Food Programme (WFP) notes that: “whereas good progress was made in reducing chronic hunger in the 1980s and the first half of the 1990s, hunger has been slowly but steadily rising for the past decade.”²

Even as there is shrill talk and activity seemingly at a feverish pace by governments across the globe as well as by the UN on the “Right To Food”, the world is witnessing a major food crisis. A near doubling of many staple food prices in 2007 and 2008 led to food riots in more than 30 countries and an estimated 150 million extra people going hungry. While some commodity prices have since dropped, the majority is well over 50 per cent higher than pre-2007 figures and is rising quickly again.³ The UN noted that towards the end of 2008, “the annual food import basket in Least Developed Countries (LDCs) cost more than three times that of 2000, not because of the increased volume of food imports, but as a result of rising food prices.”⁴ Rising prices of rice, wheat, and vegetable oils sent the food import bills of the LDCs up by 37 per cent from 2007 to 2008, from



\$17.9 million to \$24.6 million, after having risen by 30 per cent in 2006.⁵

The neoliberal economists and policymakers would like to explain away the global food crisis merely in terms of the supply and demand dynamics. Are the millions going hungry merely because foodgrain productivity just does not match the growing demand from a rising world population? The food crisis can be portrayed as the direct concomitant of a short supply arising out of decline in rate of growth of food production, droughts, floods, climate change, water depletion and what not.⁶ Such an argument will imply that if one could exponentially increase production of foodgrains it will automatically lead to greater accessibility to foodgrains. The food crisis had among its initial causes those related to market fundamentals, including supply and demand for foodgrains, increased transportation and storage costs, exorbitant prices of agricultural inputs and shrinking access to subsidised foodgrains. Natural calamities, environmental disasters, diversion of foodgrains to produce bio fuels, shifting cropping patterns with a greater propensity for commercial crops as well as low productivity undoubtedly strain

been exacerbated by rampant market speculation and the mad rush for profits even as millions are reeling under hunger. Hunger, malnutrition and starvation coexist under neoliberalism in the least disconcerting nature with speculative trading and profiteering in food.

The UN. acknowledged that financial market trends were exacerbating the volatility in food and other commodity prices. Towards the end of 2010, the UN noted that speculation in wheat markets seems to have had a strong influence on grain prices. It also reiterated that in the outlook for 2011 and 2012, food prices would remain vulnerable to any supply shock and speculative response in commodity derivatives markets. It held the increased “financialisation” and enhanced influence of exchange-rate fluctuations on commodity price volatility responsible for the uncertainty of all commodity markets.⁸ Heightened speculative activity in the commodity futures markets has been a seminal factor responsible for the wild swings in food prices witnessed over the past decade.

Financial deregulation gave a major boost to the entry of new financial players into the commodity exchanges. There is an influx of large, powerful

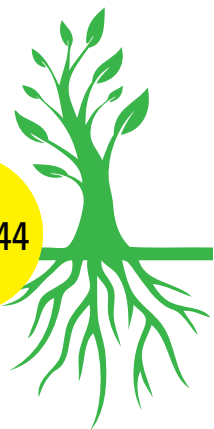
Heightened speculative activity in commodity futures markets has been a seminal factor responsible for the wild swings in food prices witnessed over the past decade

the precarious global grain scenario. Some have even gone to the extent of arguing that the new-found taste for meat and dairy products in India and China is driving up foodgrain prices.⁷ However hard one may try though, it is impossible to make the truth stand to attention. The truth staring at the policymakers in their eyes is that the crisis has

Countries in Asia, Africa and Latin America and India have been rendered into stalking ground for famines, starvation deaths, malnutrition and endemic hunger. Farmers who grow food and feed the world being net buyers of foodgrains as well as the rural and urban poor have been drastically hit by skyrocketing prices of foodgrains. Across the globe, lands that are home to hungry millions have been witnessing a scenario of exorbitant food prices, often even when their peasantries produce far more than what is needed to feed their population.

institutional investors such as hedge funds, pension funds and investment banks, which were not generally concerned with agricultural market fundamentals, into the food commodities derivatives markets and commodities indexes. Olivier De Schutter, the UN’s special rapporteur on food linked the increases in price and the volatility of food commodities to the emergence of a “speculative bubble” and the influx of non-traditional investors into the food commodities derivatives markets, and commodities indexes.

This trend emerged a decade ago because other markets dried up one by one: the dotcoms vanished at the end of 2001, the stock market soon after and the US housing market in August 2007. As each bubble burst, these large institutional investors moved into other markets, each traditionally considered more stable than the last. Speculation by institutional investors who did not have any expertise or interest in agricultural commodities, and who invested in commodities index funds



or in order to hedge speculative bets, has been a significant contributory factor to the price rise.⁹ Financial firms and speculators have entered the 'grain trade' purely hunting for profits from short-term changes in prices. This has resulted in a hitherto unseen nature of price volatility engulfing the world market and peril for the cultivating peasantry as well as the consumers. Financial intermediaries raked in huge profits from rapidly changing prices. Wrong, grossly misleading and confusing price signals are sent out to farmers while consumers (especially the poor) found it too hard to access food due to prices touching the sky.

Who benefits from the global food price crises? The oligopolistic market power of companies engaged in grain trade and trade in the agricultural commodity markets is well documented. Just two companies namely, Archer Daniels Midland and Cargill capture three quarters of the world grain trade.¹⁰ Three to five firms control 40 per cent or more of the global market and some companies are dominant players in multiple commodities. The scale of profiteering can be understood when one looks into the profits earned by some of these companies even as the numbers going to bed hungry was rapidly increasing. In 2007, the global food processing giant Nestle posted a profit of \$9.7 billion, estimated to be greater than the 2007 GDP of the 65 poorest countries. Wal-Mart, the world's largest retailer amassed profits of \$13.3 billion over the fiscal year ending January 31, 2009. This was more than the 2007 GDP of a staggering 88 countries of the world. Sales revenues of these companies were in hundreds of billions of dollars.¹¹

Archer Daniels Midland, Cargill, Wal-Mart and the global seed giant Monsanto were board members on the Indo-US Knowledge Initiative in Agriculture

along with the Indian, ITC, which is also into the grain trade and food processing in a big way. They dictated the agricultural policies in India and food items have increasingly come to be traded in the futures markets. The main beneficiaries of the steep increase in international food prices have been the giant agribusiness corporations, MNCs trading in agricultural inputs like fertilisers and seeds and the financial speculators in the commodity futures markets. They alone benefited from the great human tragedy that was unfolding due to the food price crises.

What has the food price inflation meant for the Indian peasantry and the poor? While the predatory agribusinesses and speculative traders were raking in profits and there was global increase in agricultural prices since 2007, the small and marginal peasantry has not benefited anywhere.

The FAO noted in 2009 that producers in developing countries have faced real declines in prices in most of the last 50 years. The result has been a lack of investment in agriculture and stagnant production. These formed the background to the recent problems in international food system and they also made it more difficult for developing countries to deal with these problems.

On the face of it then, the high food prices and the possibility that they might persist (even if not at the peak levels reached in early 2008) looked like an opportunity for small poor producers. But was it? Most developing country producers are far distanced from what happens on international markets, so increasing food prices there do not necessarily mean higher prices for poor producers.... Higher prices on international markets have not triggered a



positive supply response by smallholder farmers in developing countries.¹²

In developing countries like India, it is not only the small peasants who are unable to take advantage of high international prices because of lack of integration with markets and their dependence on middlemen and big traders for marketing their produce. Even as the prices of pulses touched as high as Rs 120 per kg for consumers, the Minimum Support Prices (MSP) of most pulses was not even Rs 22 per kg. Similarly, when onion prices touched sky high, the cultivators were getting a pittance for their produce. The story is same for foodgrains like wheat and rice as well as for sugar. Most small peasants and agricultural workers are also net buyers of food. Therefore, they too suffer when food prices rise. Intriguingly double-digit food inflation rate has persisted in India from the time the global food price crises emerged. In 2009, galloping food price inflation in India had crossed a whopping 19 per cent in the week ending November 28. In the week ending January 15, 2011, food inflation stood at 15.5 per cent.

Food inflation in India accelerated fastest in

prices rose for the second consecutive month in September 2011 and were above their levels a year earlier. The increase came after the government's approval of two million tonnes of non-basmati rice exports in early September. Similarly, wheat prices, which had remained stable in the past months, increased in September, after the lifting of a four-year ban on wheat exports.¹³ Food items traded in the futures market include, among others, coffee, barley, ground nuts, sugar, desi tur, urad and rice (till January, 2007), gur, jeera, maize, masoor gram, mustard seed, pepper, oil cake and soya oil (till January 2008) sugar (till January 2009) and chilli, chana, coriander, potato, dhanian and wheat till recent times.¹⁴ When one looks simultaneously at the commodities traded in the futures market and at the exorbitant increase in prices of foodgrains and pulses as well as oil in India over the past few years it is not difficult to understand where the money is going.

With the advent of multi-commodity exchanges in India in 2002-03 and online trading, commodity futures trading has grown manifold. As mentioned before, the investors in these markets are big sharks

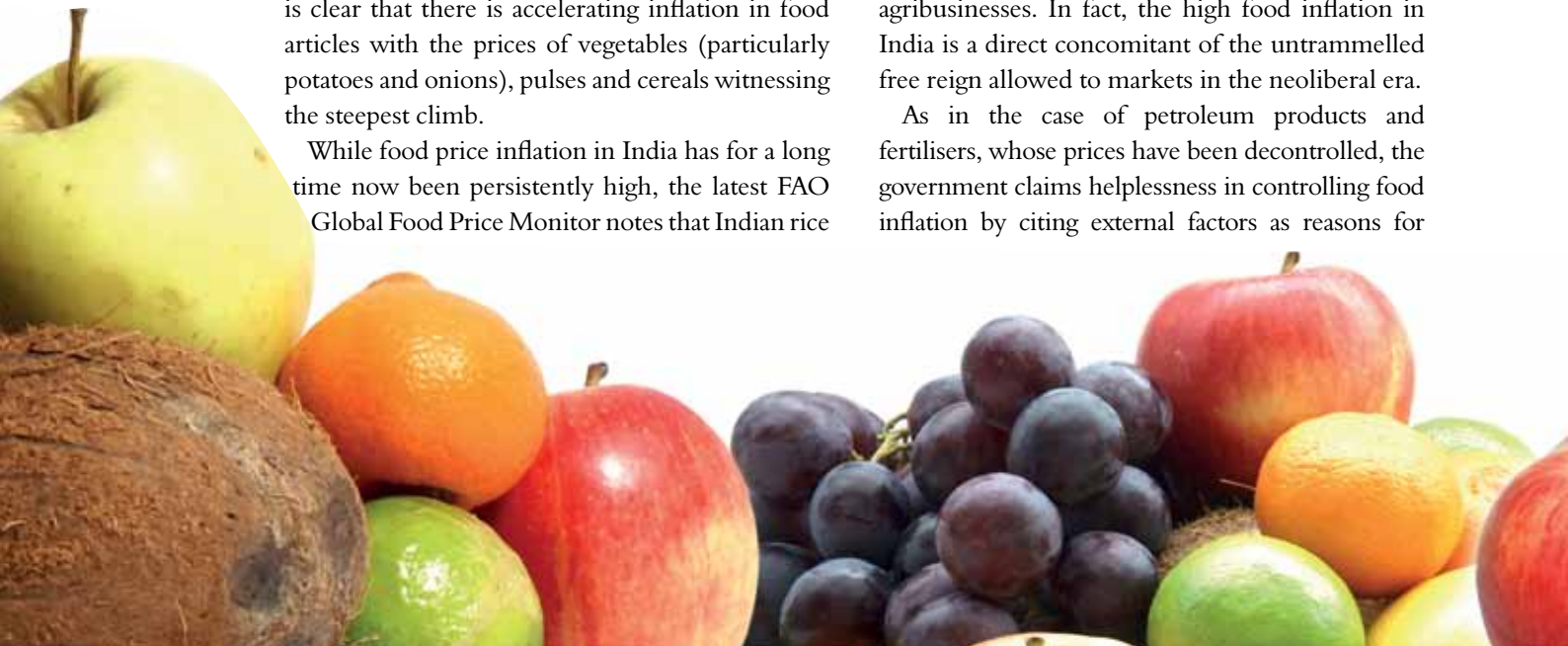
Even as the prices of pulses were as high as Rs 120 per kg for the consumers, the minimum support price of most pulses was not even Rs 22 per kg

nearly nine months during the week ending October 22. The wholesale price index for food articles rose 12.21 per cent from a year earlier during the week, compared with an 11.43 per cent rise the previous week, government data showed. This is the highest reading since recording 12.9 per cent in the week ended January 29, 2011. It is clear that there is accelerating inflation in food articles with the prices of vegetables (particularly potatoes and onions), pulses and cereals witnessing the steepest climb.

While food price inflation in India has for a long time now been persistently high, the latest FAO Global Food Price Monitor notes that Indian rice

of the financial markets who are only interested in making speculative gains. The grain stock market or futures trading is incomprehensible to a vast majority of our farmers and few can understand the laws that rule this market. The way global grains are distributed is inconceivable and unbearable for everybody except a handful of speculators and agribusinesses. In fact, the high food inflation in India is a direct concomitant of the untrammelled free reign allowed to markets in the neoliberal era.

As in the case of petroleum products and fertilisers, whose prices have been decontrolled, the government claims helplessness in controlling food inflation by citing external factors as reasons for





The FAO noted in 2009 that producers in developing countries have faced real declines in prices in most of the last 50 years. The result has been a lack of investment in agriculture and stagnant production. These formed the background to the recent problems in international food system and they also made it more difficult for developing countries to deal with these problems. On the face of it then, the high food prices and the possibility that they might persist (even if not at the peak levels reached in early 2008) looked like an opportunity for small poor producers but was not. Most developing country producers are far distanced from what happens on international markets, so increasing food prices there do not necessarily mean higher prices for poor producers.... Higher prices on international markets have not triggered a positive supply response by smallholder farmers in developing countries.

increasing food prices. This argument is untenable as the world food prices collapsed from the astronomical levels to which they had risen during the global food crisis with the onset of the global financial crisis towards the end of 2008. In addition, India has witnessed normal cereal harvests in 2007 and 2008. There was neither any food shortage that would lead the country to import foodgrains nor any price-escalating factors dominating the world market in this period. India has imported no rice since 2008 and a meagre 307 tons of wheat in 2008 and 2009 (compare this to the annual demand for wheat in 2008 and 2009, which was 70.9 and 78.2 million tons).¹⁵ India is the only major developing economy in the world where food prices are rising. The galloping food prices are primarily being caused by the corporates and big traders, who are utilising shortages for hoarding and reckless profiteering. The government has lost control over food prices due to the pursuit of free market policies.

Whenever domestic food price inflation goes

up, the government conveniently puts the blame on external factors. Often it does not have the least hesitation to lay the blame at the doors of the peasantry who the government claims are getting 'handsome, fair and remunerative prices' for their produce. This is despite the fact that the Minimum Support Price of major crops rarely meets even costs of cultivation and farmers in most parts of the country have been left entirely at the mercy of private traders who pay way below the meagre MSP for their produce. The grains collected dirt cheap are then hoarded and used for making speculative gains. The government, however, refrains from pointing fingers at the speculative activities of the domestic private food trading interests. The Prime Minister continues to reiterate the government's irrevocable commitment to neoliberal policies and decontrol of commodity markets. This, despite speculation, backed by private hoarding of foodgrains and artificial supply shortages, being the primary reason for rising food prices in the country.



When food prices are rising incessantly farmers find agriculture increasingly unviable and over a quarter million farmers have committed suicide in the last 16 years.¹⁶ The companies that invest in the commodity futures markets are gambling with the lives of millions even as they make huge profits of hitherto unheard of proportions without actually having any interest in the commodities traded but interested purely in making speculative gains. Speculative trading in food commodities is intrinsically linked to inflationary expectations in the economy. When food prices rise in the futures market in India, these unscrupulous traders make profits by exporting foodgrains and by hoarding foodgrains so that there is scarcity in the domestic market, which eventually leads to increase in domestic food grain prices.

This is the only reason why food prices are rising even when the government has repeatedly been claiming record foodgrain production and per capita food grain consumption is actually falling. The scenario of overflowing foodgrains in FCI storehouses and the refusal of the government to distribute it at subsidised prices to the hungry only accentuate the crisis. This has provided confidence to the private speculators that come what may, the food stocks in FCI storehouses will not be used to control galloping food inflation. Government connivance alone has served to facilitate unbridled speculation and profiteering by private entities in the food markets.

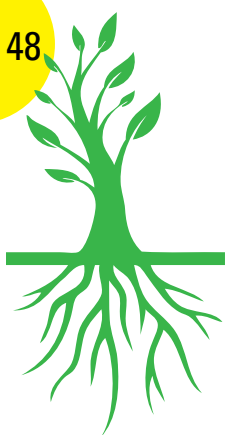
Even as the food price scenario is so bleak in our country and is affecting the ability of the poor to access foodgrains, the Planning Commission has submitted an affidavit before the Supreme Court stating that a person is to be considered 'poor' only if his or her monthly spending is below Rs 781 (Rs 26 a day) in the rural areas and Rs 965 (Rs 32 a day) in urban areas. These paltry sums, however, are supposed to cover not only food but all non-food essentials, including clothing and footwear, cooking fuel, lighting, transport, education, medical costs and house rent. The total is divided into Rs 18 and Rs 14 for food and non-food items in towns into Rs 16 and Rs 10 in the rural areas and includes the value of food that farmers produce and consume themselves.¹⁷ With policymakers wedded so closely to neoliberalism it is futile to expect any reversal of policies responsible for such a scenario. When market is god and 'free trade' is the religion, the traders are infallible; it is destiny that millions are falling deeper into an abyss of hunger.

To the priests of neoliberalism from Manmohan Singh to Montek Singh Ahluwalia, Pranab Mukherjee to Kaushik Basu and the two Indian denominations representing neoliberalism – the Congress and the BJP – all who talk of deregulating markets and advocate the *laissez faire* philosophy even as hungry millions die amidst plenty – one can throw back a few lines from Brecht's Three Penny Opera:

"You may proclaim, good sirs, your fine philosophy but till you feed us, right and wrong can wait!" The hungry will claim their due; call it rioting if you may. ●

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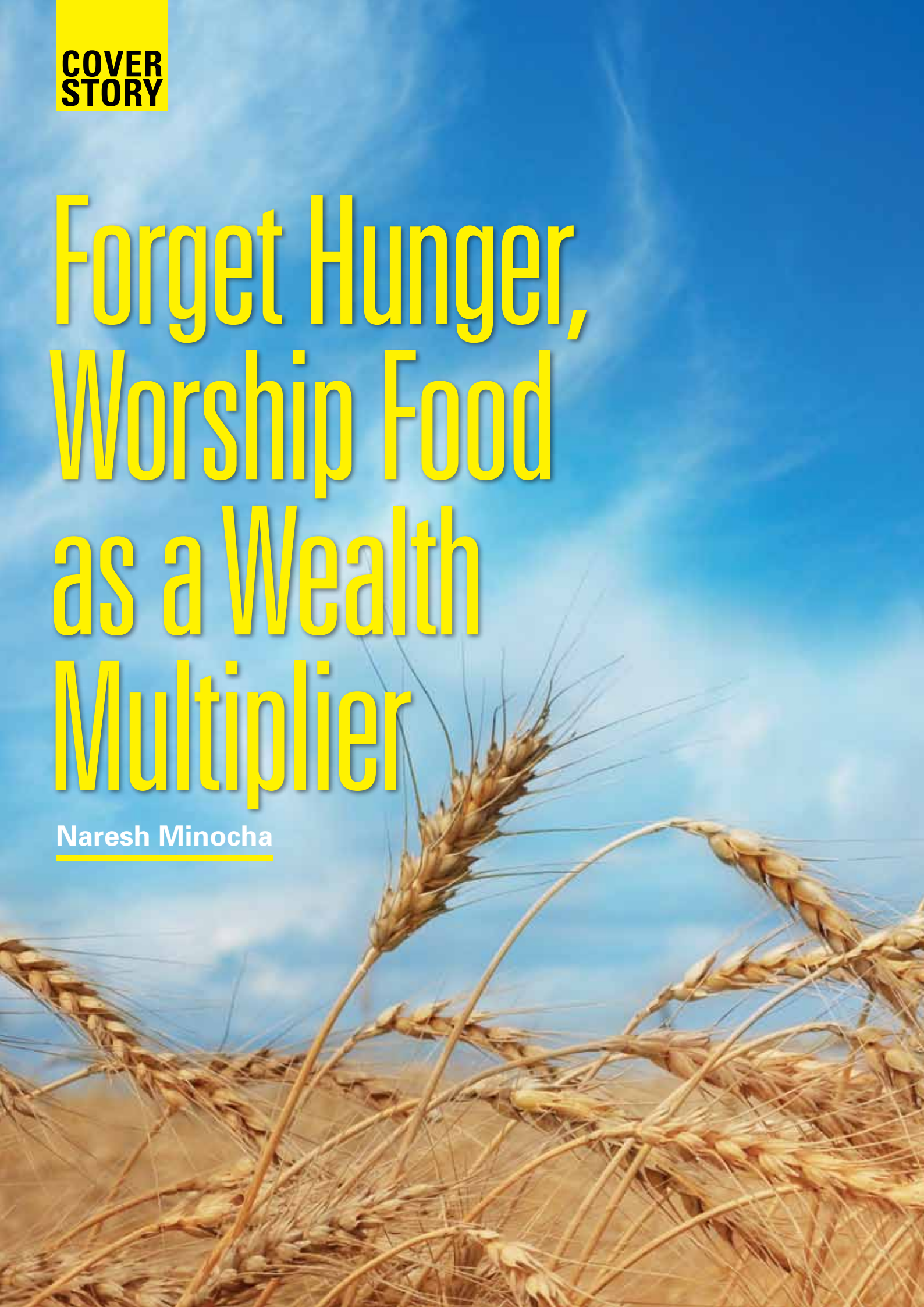
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**COVER
STORY**

Forget Hunger, Worship Food as a Wealth Multiplier

Naresh Minocha





Food has traversed a lot, from being a symbol of worship to becoming the forward traders' delight. In recent years, foodgrain as a commodity, has become an asset for wealthy investors and institutions in the developed world.

Such investors invest in commodity derivatives, a security instrument whose value is derived from the underlying value of a commodity, say wheat. Food derivatives are traded like shares with investors speculating on the future price of grain.

The growing integration of food markets with energy markets and with the financial markets has transformed staple food from being the most essential need of a human being to an instrument for wealth multiplication by speculators.

This trend, which seems irreversible at the global level, would perpetually suck poverty-stricken countries like India, host to the world's largest number of poor persons, into a whirlpool of food price volatility. The determination of food price is no longer a simple question of demand and supply. It is only partly influenced by modest to remunerative price that the government might fix to induce farmers to enhance crop yields. The food price in global markets is determined by delivery-less electronic trading of futures and options in which a minuscule percentage of big, commercial farmers participate.

"Even in the United States of America, only three per cent of farms used futures contracts in 2008," affirms the FAO's report on 'The State of Food Insecurity in the World 2011.' The global food price would increasingly be influenced by the pure-play investments that wealthy people make in commodity derivatives to cash in on periodic price bubbles.

The votaries of forward trading claim that it helps farmers discover price for crop and serve as signal for appropriate crop planning. They also do not find anything wrong in speculators taking positions on agricultural futures. They contend that speculators facilitate price discovery. The National Commodity & Derivatives Exchange Limited (NCDEX), for instance, welcomes speculators in chana (chickpea trading) as: "Chana Future started trading on NCDEX platform from April 2004 onwards. Because of higher open interest even in the far month contracts it has become an excellent tool for price risk management for processors and other market participants. Even an arbitrager can trade using strategies like cash and carry and calendar spread. Speculators can take directional view on future prices and accordingly take position in chana futures."

The Global Hunger Index (GHI) 2011 issued by the US-based International Food Policy Research Institute (IFPRI) in October is an eye-opener on food price speculation. The GHI notes: "Speculators normally make short-term investments; as they swarm into a market, they exacerbate the initial increase in price and when they flee a market, they contribute to a fall in prices. In addition, agricultural commodities (including food products) have recently attracted more investment. They are regarded as a store of wealth that can protect against inflation or deflation of monetary assets, a characteristic that could explain the significant influx of money into index funds that include food commodities. Investment in such funds increased from \$13 billion to \$260 billion between the end of 2003 and March 2008, pushing up the prices of those commodities."

This year's GHI report focuses particular attention on the issue of food price spikes and volatility, which have played a large role in the global food crises of 2007-08 and 2010-11. Prior to the GHI release, another international report admitted to the speculators' role in the food futures markets while defending the role of futures market as platforms for price discovery by farmers and traders and for transfer of price risk. Captioned 'Price Volatility in Food and Agricultural Markets: Policy Responses', the report was jointly prepared by FAO and the Organisation for Economic Cooperation and Development (OECD) with the support of eight other multilateral institutions in June 2011.

The report says: "Speculators also trade in the futures markets; they buy and sell futures contracts and take on the risk of future price fluctuations to gain a risk premium. They are "non-commercial"

is undertaking, riding roughshod over concern from various quarters including parliamentary committees.

Everyone, from the civil society activists to the high-profile heads of G20 countries, appears to be worried about the impact of forward trading on food prices. Neither G20 nor any multilateral development institution is willing to spare food from futures trading.

The 'commoditisation' of food such as corn and palm oil as biofuel feedstock not only contributes to their price spiral but also puts pressure on crop inputs. Speculation is already rife among potash mine developers as to how much potash price American corn farmers can afford. One mine developer has estimated a potash price of \$ 1000/tonne, which is almost double the prevailing global average price.

As the price of such biofuels crops, both edible

Since the beginning of the last decade, commodity derivative markets, of agricultural commodities, have experienced significant inflows of funds from non-traditional investors

participants as they have no involvement in the physical commodity trade in contrast to "commercial" participants, such as farmers, traders and processors. Since the beginning of the last decade, commodity derivative markets, including those for agricultural commodities, have experienced significant inflows of funds from non-traditional investors, such as commodity index funds, swap dealers and money managers. These financial investors hold large futures positions including in basic food commodities such as wheat, maize and soybeans as well as in cocoa, coffee and sugar."

The Indian consumers, groaning under double-digit food inflation, would have to bear the double shock of price volatility. The first shock would obviously come the global price speculations, apart from periodic supply-demand mismatches. The second one would emerge from the liberalisation of futures and options market that the government

and non-edible is linked to price of petrol and diesel, the crop prices are susceptible to frequent volatility. This provides perfect opportunity for speculators to take positions not only on food-biofuel crops futures but also on fertilisers and fertiliser raw materials futures.

Speculation in one commodity derives speculation in another. We thus have a complete value chain of speculative prices on the futures markets, which is distinct from manageable price speculation in cash or physical delivery markets.

The price trends on futures markets influence prices at wholesale and retail markets to varying degrees across the globe.

At home, transmission of signals from futures to retail markets would improve once the warehousing receipts become popular and when the overhaul of agricultural market infrastructure is completed. The government has so far been claiming that the prices on commodity exchanges do not influence retail prices.

The futures-retail prices matrix has, however, been studied abroad well. As put by a discussion paper issued by IFPRI in June 2010, "Price changes in futures markets lead to price changes in spot markets more often than the reverse, especially when examining returns."

Liberalisation of commodity futures, agricultural



It is thus clear that the concept of food as a commodity to be speculated and traded as a paper or electronic security/asset cannot be wished away, whatever be the state of global hunger and food insecurity. The whirlpool of food price volatility is bound to become wider and wider as developing countries are coaxed to take positions on global grain futures markets. This would attract pure-play investors as the markets would become more risky and more rewarding.



market reforms, growing penetration of wireline and wireless broadband is creating opportunities for speculators to treat food as a commodity to be cashed on day in and day out. There is no escape from periodic commodity bubbles of which food price is a vital ingredient.

Noting that the implied volatility for major crops has increased significantly since 1990, the FAO-OECD report says: “Implied volatility reflects the expectations of market participants on how volatile prices will be and is measured as a percentage of the deviation in the futures price (six months ahead) from underlying expected value. Broadly speaking, increases in implied volatility reflect how market conditions and unpredictable events translate to higher uncertainty ahead for traders and other market participants.”

The global discussion boils down to the usual advantage-disadvantage matrix, ultimately resulting in vague suggestions to study the issue

of its reports have been prepared at the behest of G20. The IOSCO’s report on ‘Principles for the Regulation and Supervision of Commodity Derivatives Markets’, released in September 2011, thus concluded: “The occurrence of multi-market trading abuses which have involved commodity futures, OTC derivatives and physical commodity markets, requires that there be a market authority in the IOSCO member’s jurisdiction charged with the responsibility to actively conduct surveillance and enforcement to detect and prosecute such abusive schemes. Although no market authority can prevent every market abuse, credible efforts are necessary.”

In their joint declaration issued on November 4 this year, the heads of G20 countries stated: “We welcome the G20 study group report on commodities and endorse IOSCO’s report and its common principles for the regulation and supervision of commodity derivatives markets. We need to ensure enhanced market transparency,

At the global level, all attempts are being made to reform both the commodity and financial derivatives markets. This implies no escape for food price speculation

further, regulate agricultural futures, improve price dissemination and monitoring and facilitate farmers’ participation in futures and options.

The G20 Study Group on Commodities, for instance, has done a wishy-washy job on the impact of increased participation by investors in the commodities market.

In its report released at G20 Leaders Summit at Cannes in France held in the first week of November 2011, the group quoted contradictory research findings to contend that: “there is insufficient evidence to admit general and persistent impacts of financialisation on commodity prices.”

Similarly, The International Organisation of Securities Commissions (IOSCO) has done a slew of studies on commodity and derivatives markets to only lay down principles that market regulators in each country should follow. Some

both on cash and financial commodity markets, including OTC, and achieve appropriate regulation and supervision of participants in these markets. Market regulators and authorities should be granted effective intervention powers to address disorderly markets and prevent market abuses.”

At the global level, all attempts are being made to reform both the commodity and financial derivatives markets. This implies no escape for food price speculation.

FAO has thus launched the “Agricultural Market Information System” (AMIS) in Rome on September 15, 2011 to improve information on markets. It will enhance the quality, reliability, accuracy, timeliness and comparability of food market outlook information. As a first step, AMIS will focus its work on four major crops: wheat, maize, rice and soybeans. The issue is whether



a farmer, who lacks access to roads or primary agricultural markets, benefits from such initiative. Would the improved market information not help speculators hone their skills to multiply wealth at the cost of hungry masses?

It is thus clear that the concept of food as a commodity to be speculated and traded as a paper or electronic security/asset cannot be wished away, whatever be the state of global hunger and food insecurity. The whirlpool of food price volatility is bound to become wider and wider as developing countries are coaxed to take positions on global grain futures markets. This would attract pure-play investors as the markets would become more risky and more rewarding.

The Indian government has perhaps hardly ever entered into any grain futures and options contracts. It would have to sign such contracts after it binds itself into a statutory obligation to supply specified quantity of food at fixed prices to people living below the poverty line. The government would have to inevitably dabble in the global grain futures and options markets taking into view the periodic drought and flood-related downslide in food production. It would have to do this to ensure import of food grain to not only comply with the proposed National Food Security Act (NFSA) but also to prevent depletion of buffer stocks. The yearly volume of food imports would not only depend on domestic shortfalls but also on the norms for inclusion of poor and fixation of food entitlement under the proposed law.

The challenging issue has been succinctly driven home by FAO's report captioned: 'The State of Food Insecurity in the World 2011'. Without identifying any country, the report notes: "The principal instruments that could be used to manage the price volatility of food imports are futures and options contracts. By buying futures contracts, a government that wishes to protect itself against a possible surge in the price of grain locks in a price agreed at the time the contract was concluded. Futures contracts give the country greater certainty of the price it will pay for the grain but do not offer flexibility. Should the market price move lower, the government will still have to pay the agreed price and hence pay more

At home, the challenge before the government is to provide food to all poor and yet manage food inflation to protect the interest of population not covered by proposed NFSA. This requires a multi-faceted strategy requiring tight rein on fiscal deficit, keeping investors and money managers at bay from the commodity exchanges and allowing only compulsory physical delivery-based forward trading in food grain.

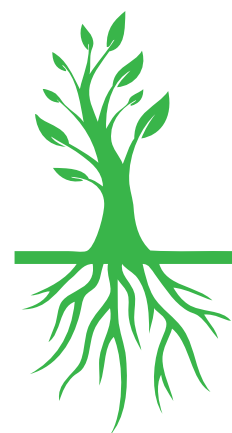
than it otherwise might have had to".

It continues: "In poor countries this can create considerable political difficulty, in addition to the financial loss. In practice, futures may not be a useful instrument for governments since there is an unpredictable and potentially large liability associated with taking a futures position.

Call option contracts lock in a maximum price but with no obligation to buy at that high price if market prices move lower. This is an attractive option if the goal is to protect a food-importing country against a price surge, because the country will still be able to benefit from lower prices after the agreement. Thus, a call option provides greater flexibility than a futures contract. However, this flexibility comes at a cost – call options are more expensive than futures contracts – and governments must be willing to pay the premium".

At home, the challenge before the government is to provide food to all poor and yet manage food inflation to protect the interest of population not covered by the proposed NFSA. This requires a multi-faceted strategy requiring tight rein on fiscal deficit, keeping investors and money managers at bay from the commodity exchanges and allowing only compulsory physical delivery-based forward trading in food grain.

The government can curb the irrational exuberance over food as an investment product by focusing on the supply side. For instance, it can do a lot to help farmers manage their production and price risks. The initiative should include provision of subsidised drip irrigation and liquid fertilisers, revamp and expansion of crop insurance and procurement price mechanism and massive investments in agricultural markets, storages and rural roads. ●





VIEWPOINT

AGROBIODIVERSITY FOR FOOD SECURITY

Suman Sahai



Genetic diversity in the agricultural system is recognised as the foundation on which food, livelihoods and income security are based. It is the result of a natural selection processes and the careful selection and inventive developments of farmers. Many farmers, especially those in environments where intensive agriculture cannot be practiced, rely on a wide range of crop and livestock types. This helps them maintain their livelihoods in the face of sub optimal soils, biotic and abiotic stress like disease and uncertain rainfall, fluctuation in the price of cash crops and socio-political upheaval.

Many minor or underutilised crops are frequently found in proximity of the main staple or cash crops. Yet they are neglected and little effort is made to either conserve them or mainstream them for domestic use or the market. During times of stress like drought or flood such under utilised plants can play an important role in food production systems at the local level. Plants that will grow in degraded soils and livestock that will survive on little fodder are crucial to the survival strategies of communities that live in marginal areas.

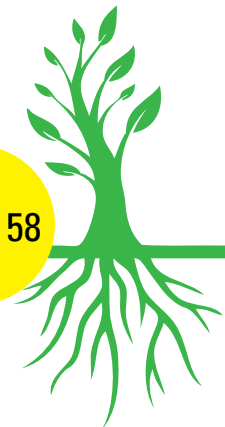
In agriculture and forestry, genetic diversity can enhance production in all agricultural and ecosystem zones. Several varieties can be planted in the same field to minimise crop failure and new varieties can be bred to maximise production or adapt to adverse or changing conditions.

Newer strategies for stabilising production involve the use of varietal blends (a mix of strains sharing similar traits but based on different parents) or multilines (varieties containing several different sources of resistance). In each case, the crop represents a genetically diverse array that can better withstand disease and pests. Despite these efforts, genetic uniformity still places some crops at risk of disease outbreaks, and in some regions that risk is considerable. Some 62 per cent of rice varieties in Bangladesh, 74 per cent in Indonesia and 75 per cent in Sri Lanka are derived from one maternal parent. In the United States, from 1930 to 1980, the use of genetic diversity by plant breeders,

accounted for at least half of the doubling in yields of rice, barley, soybeans, wheat, cotton, and sugarcane; a threefold increase in tomato yields; and a fourfold increase in yields of corn, sorghum, and potato.

As important as genetic diversity is to increasing yields, it is at least as important in maintaining existing productivity. Introducing genetic resistance to certain insect pests can increase crop yields but since natural selection often helps insects quickly overcome this resistance, new genetic resistance has to be periodically introduced into the crop just to sustain higher productivity. Pesticides are also overcome by evolution, so another important agricultural use of genetic diversity is to offset productivity losses from pesticide resistance.

Wild relatives of crops have contributed significantly to agriculture, particularly in disease resistance. Thanks to wild wheat varieties, domesticated wheat now resists fungal diseases, drought, winter cold and heat. Rice gets its



The strength and stability of the rice agroecosystem is influenced by two main, external factors: Regional and local pattern of pesticide use; Landscape effects, like whether fields are synchronously planted, the duration of fallow periods, degree of natural vegetation and presence of water bodies or other sanctuaries for natural enemies.



resistance to two of Asia's four main rice diseases from a single sample of rice from central India, *Oryza nivara*.

Genetic diversity and livestock breeding

Genetic diversity is becoming increasingly important in forestry and fisheries and the use of genetic resources in livestock breeding has markedly increased yields. The average milk yield of cows in the United States has doubled over the past 30 years and genetic improvement accounts for more than 25 per cent of this gain in at least one breed. Although not as dramatic, Asia has also seen a rise in milk output due to the improved genetic stock of dairy cattle.

For a variety of reasons, genetic diversity has been less useful in livestock breeding than in crop breeding. Whereas one major use of the genetic diversity of crops has been in the development of strains resistant to specific pests and diseases, livestock husbandry has relied largely on vaccines

since animals (unlike plants) can develop immunity to disease. Also, maintaining livestock germplasm is tougher logistically than maintaining the genetic material of plants: since animals do not produce anything comparable to plant seeds that can be stored easily. An additional problem is that many of the closest relatives of domesticated animals are extinct, endangered or rare, and thus unavailable for breeding. This should be a priority area for germplasm conservation.

In Cameroon, at least four breeds of domestic fowl are kept in a free range system in villages. Indigenous fowl are kept for food and income generation, for ritualistic and cultural reasons, for sport, as breeding stock and for traditional medicine. In Mexico, farm women keep up to nine breeds of traditional fowl, as well as local and exotic breeds of turkey, duck and broilers in their back gardens. In selecting the best breeds, they consider as many as 11 different characteristics, including egg production, market value, appearance, heat

and cold tolerance, growth rate and feeding habits. On this ranking, the most preferred birds are indigenous turkeys and ducks.

Intra species diversity is known to be rich in domesticated crop species and breeds of livestock. The inherent variation within farmers' varieties and landraces is immense for cross-pollinated species as maize. For self-pollinated crops such as rice and barley and for vegetatively propagated crops like potatoes and bananas, intra species variability may be low but the number of landraces developed may be very high. Estimates of the number of varieties of Asian rice (*Oryza sativa*) are varied but range from several thousands to more than 100,000. In the Andes some communities grow as many as 178 locally named potato varieties. The FAO has compiled the genetic variation available in crop varieties and their contribution to food and livelihood security.

Pastoralists and livestock keepers have also generated and safeguarded considerable diversity within breeds through their animal husbandry. India alone has 26 different breeds of cattle and eight breeds of buffalo, 42 breeds of sheep and 20 breeds of goat in addition to eight breeds of camel, six breeds of horses, 17 breeds of domestic fowl, and a number of native pigs, mithun and yak. World wide, the total number of mammalian and avian livestock breeds in use is thought to be between 4,000 and 5,000.

Agricultural biodiversity also plays an important role in high input farming based on the use of high yielding varieties. This biodiversity helps sustain many production functions such as organic matter decomposition and humus building and

pest control as well as pollination. In countries like the US or Australia, farmers in orchards manage cover crops primarily to save soil and water. Usually though, the species chosen will usually perform other functions in the agroecosystem. In addition to protecting against soil erosion, cover crops usually enhance soil structure, improve soil fertility and aid nutrient cycling. They also provide habitat heterogeneity and thus support a favourable balance between pests and predators, which helps in pest management. Depending on the species, trees can also provide fodder for animals, thus increasing the number of internal linkages within the agro ecosystem. The efficient working of such systems is dependent on the diversity available within all the parts of the agro ecosystem.

Studies comparing the soil biodiversity in biodynamic, organic and conventional farms show higher species diversity and functional levels in biodynamic and organic plots than in conventional systems. The significantly higher biomass, diversity and functional activity of soil microorganisms, earthworms, ground beetles and spiders found in biological systems are largely due to the organic inputs and more selective plant protection measures used in the biological systems.

In high input-high output agriculture, microbial diversity is also central to integrated plant nutrition systems (IPNS) that aim to maximise the plant nutrients available to crops, by complementing the use of on-and off-farm sources of plant nutrients. Nitrogen fixation through bacteria (*Rhizobia* spp) and algae (*Azolla* spp) as well as phosphorus cycling via mycorrhizal fungi species are particularly effective. Microbial diversity is generally known

- The National Academy of Agricultural Sciences (NAAS) has made the following recommendations for managing and enhancing India's agro biodiversity:
- High priority should be given to developing a sound and workable National Action Plan on Agrobiodiversity.
- Agrobiodiversity and the available indigenous knowledge should be documented urgently through a well-organised approach. Both the formal and informal knowledge available with the farming communities deserves this documentation.
- A comprehensive mission mode programme should be implemented for all areas related to

agrobiodiversity. The pace of collection and conservation of agrobiodiversity should be accelerated. Efforts on bioprospecting and effective utilisation of the collections should be intensified. It should be ensured that the collections are secure and safe. What is conserved must be protected as a national heritage.

- High priority must be accorded to various researchable issues relating to agrobiodiversity, which could be pursued through active involvement of the National Agricultural Research System (NARS) and other stakeholders, such as the NGOs and the farming communities.

to mediate nutrient cycling and its role in crop production must be better acknowledged in planning for higher productivity.

Yet another role of agrobiodiversity is in pest control. Agricultural biodiversity in the form of insects, nematodes and micro-organisms play a key role in controlling agricultural pests and diseases. More than 90 per cent of potential crop insect pests is controlled by natural enemies that live in the grounds adjacent to farmlands. Failure to use the advantage comes with a heavy cost. The cost of using chemical pesticides in place of natural pest control was estimated at \$54 billion per year in 1999 by FAO.

Both modern and traditional methods of pest control are based on biodiversity. Crop varieties and animal breeds resistant to specific pests and diseases are bred using the genetic diversity available in situ and in *ex situ* collections

Agricultural biodiversity, also known as agrobiodiversity or genetic resource, includes: Crop varieties, livestock breeds, fish species and undomesticated (wild) resources within field, forest, and rangeland and including tree products, wild animals hunted for food and plants and animals in aquatic ecosystems. Natural undomesticated species involved with production ecosystems that support food cultivators including soil micro-biota, pollinators, bees, butterflies, earthworms, and natural predators of pests. Undomesticated species in the larger environment that are part of ecosystems that support food production. These could be agricultural, pastoral, forest and aquatic ecosystems.

The cost of using chemical pesticides in place of natural pest control was estimated at \$54 billion per year in 1999 by FAO

of germplasm. In both temperate and tropical agroecosystems, using varietal mixtures can be effective in containing pests and diseases in cereal crops as well as in cassava and potato. Many studies show that insect pests tend to be less abundant and do less damage in agroecosystems with higher plant diversity such as intercrops, polycultures, crop rotations, cover crops, mixtures of annual and perennial plants and agroforestry. Plant diversity in the field acts to reduce pest damage by interfering with host preference and reproductive behaviour. The latter works by enhancing the pests' natural enemy populations. Rich and diverse flora within and around agroecosystems can promote biological control or confer an overall resistance to pests and disease outbreaks.

Understanding how agricultural biodiversity affects pest and disease dynamics directly or indirectly is critical for developing pest management strategies. Work in rice fields in Indonesia shows that there is an enormous diversity of arthropods, even in intensive agriculture systems. Micro-organisms like bacteria and phytoplankton and humus feeding insects spring to life as soon as fields are watered. This provides abundant sources of food for predators, which results in high pest mortality from the start; thus minimising the chance of damaging pest outbreaks. However, the strength and stability of the rice agroecosystem is

influenced by two main external factors:

1. Regional and local pattern of pesticide use.
2. Landscape effects, like whether fields are synchronously planted, the duration of fallow periods, degree of natural vegetation and presence of water bodies or other sanctuaries for natural enemies.

Such information on the agrobiodiversity, in and around rice paddies, provides the ecological basis for integrated pest control through management of the wider landscape leading to decisions on the use of pest control agents.

The richness in the diversity of pollinating agents will determine the output of several crops. Pollination mediated by the diversity of pollinators like bees, birds, butterflies, bats and such like is an important function in terrestrial agroecosystems but not so much in aquatic ones. Nearly half of all plants, including food-producing species, are pollinated by animals and insects. For example, the pollination of various fruit crops by bees and other insects is critical in mountain areas of Asia. In Nepal, different bee species pollinate at different altitudes. Crop pollination managed by human intervention with a variety of bee species plays an important role in overall agricultural development in different zones.

The benefits of pollination are also high in intensive agriculture, particularly plantations.





Photo: Vishal Shah / Shutterstock

The economic value of pollination services in the fruit belt of California, is estimated in billions of dollars per year. Crop and biodiversity management practices that reduce either the number or abundance of pollinators, can result in reduction of crop diversity both in temperate and tropical agriculture. With a loss in pollinators, seed production declines and the vulnerability to pests and climatic change increases with the resulting loss both of genetic diversity and crop productivity.

The Indian gene centre is among the 12 mega diversity regions of the world. About 25 crop species were domesticated here. It is known to have more than 18,000 species of higher plants including, 160 major and minor crop species and 325 of their wild relatives.

Agrobiodiversity Management

Conservation, Management and Use of Agrobiodiversity (1998) Policy Paper no. 4, April 1998, National Academy of Agricultural Sciences, New Delhi, suggests some measures for agrobiodiversity management

- Simple, effective and practicable mechanisms for prospecting agrobiodiversity and monitoring should be evolved. Selected amateur groups,

The Indian gene centre is among the 12 mega diversity regions of the world. About 25 crop species were domesticated here. It is known to have more than 18,000 species of higher plants including, 160 major and minor crop species and 325 of their wild relatives.

including school and college students, should be enlisted for this purpose.

- Genetic variability of native, under-utilised species of food crops, fruits, medicinal, aromatic and other economic plants should be documented on priority. It should be supplemented through need-based introduction of useful species. Selected, hitherto unexploited, species having future potential should be researched on and adopted.
- There is an urgent need to adopt appropriate quarantine measures in the national interest. We must revisit the present National Plant Quarantine Policy, particularly in the context of bioengineered materials/genetically modified organisms (GMO).
- Characterisation, evaluation and documentation of PGR should receive a high priority. Relevant improved tools and technologies, such as biotechnology, should be deployed in future.
- The national information network and database on germplasm should be strengthened.

It has also recommended the spread of awareness and for development of human resources in the space:

- Considering the relevance of agrobiodiversity in the emerging global scenario, there is a need for creating awareness and understanding about it among the public and Indian masses. Literacy campaign for conservation and sustainable management of agrobiodiversity needs to be initiated at the grass roots level, starting right with the school and gram sabha/panchayat levels.
- Suitable curricula for students and orientation courses for the teachers/trainers needs to be



developed on priority. To begin with, the ICAR, through its own set-up and state agricultural universities, should take a lead. The University Grants Commission (UGC) and various Central and State Education Boards can expand this programme further.

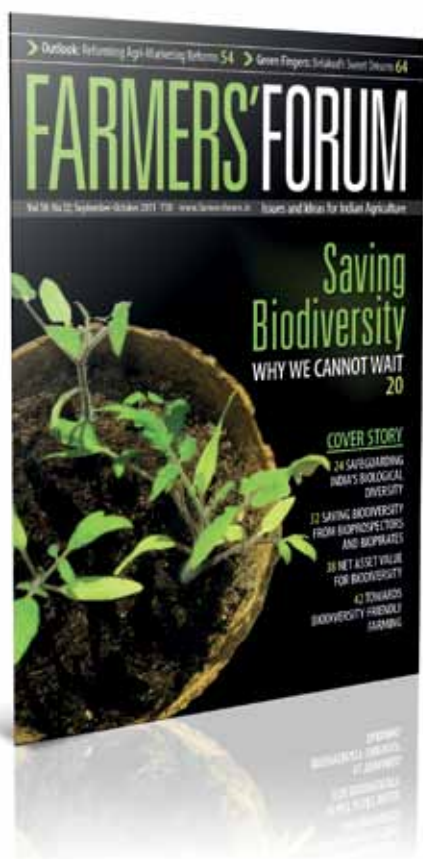
- There is a need for literacy on PGR policy issues such as plant variety protection, breeders' rights, farmers' rights, *sui generis* system and such others. Recommendations on policy and management issues on agrobiodiversity should be widely circulated. Literature on PGR-related happenings and who's who is not accessible to most people. In order to create greater awareness about agrobiodiversity conservation and management issues in the global context and also to evolve consensus at the national level, the draft text for biodiversity legislation should be widely circulated along with selected literature on CBD, TRIPs, UPOV-1978, FAO Undertaking on PGR, Leipzig Conference, Global Plan of Action and such others.
- Emphasis should be laid on human resource development to build required expertise in basic PGR management aspects, namely, germplasm identification, collection, characterisation,

evaluation, documentation and conservation. Simultaneously, reorientation of technology generation is warranted. HRD should be further oriented towards the needed expertise, technology and awareness for germplasm regeneration and on farm conservation. ●

Suggested Readings:

- *Conservation, Management and Use of Agrobiodiversity (1998) Policy Paper no. 4, April 1998, National Academy of Agricultural Sciences, New Delhi, <http://www.naasindia.org/Policy%20Papers/pp4.pdf>*
- *Pimbert, M., (1999) Sustaining the Multiple Functions of Agricultural Biodiversity, FAO background paper series for the conference on the Multifunctional Character of Agriculture and Land, The Netherlands, September 1999. <http://www.fao.org/docrep/x2775e/X2775E03.htm>*
- *Sahai, S., (2010) Challenges to Genetic Diversity and Implications for Food Security in South Asia, South Asian Survey, A Journal of the Indian Council for South Asian Co-operation, Sage Publication, Volume 17, Number 1, Page 111*

The author, recipient of the Padma Shri, is the Chairperson of Gene Campaign, a grassroots level research and advocacy group in India.



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A Brighter Future for Kalachand?

Ajay Vir Jakhar

I arrive in West Bengal when the state is at its festive best. It is *chaturthi* (fourth day of the new moon) and Mother Durga's puja is set to begin from *shasthi*, only two days away. I am visiting Krishnanagar; about 118 km from the capital city of Kolkata.

The state had just ousted the Communist Party (Marxist) from power after nearly three and a half decades and I quickly get to understand what had led to the phenomenal victory for the Trinamul Congress leader, Mamata Banerjee. The land on all sides of the road is lush green with beautiful fields of paddy. Yet, this beauty is surface deep only. A brief chat with the farmers exposes the frustration over the lack of infrastructure, opportunities, options and the pathetic dependence on government dole outs.

The road is a nightmare even in broad daylight and, yet, this is the lone highway that connects the north-east of India to the rest of the country. Tales of farmland conditions that I hear are far more nightmarish though. The land ceiling is an abysmal five acres and 79 per cent of the holdings are less than 2.5 acres. The reduction in land ceiling has been counterproductive vis-à-vis improving living standards. The poverty is palpable and the living standards so very meagre.

This is not to say that small farming cannot be profitable but it is hardly the best route to prosperity. To my mind, it puts obstacles in the path of development; avenues of growth for a prosperous farmer run into obstructive government regulations. I wonder, why is it that farmers must be refrained from owning their principal resource while all other professions need be under no such restriction? A shopkeeper can have large and small shops; an industrialist many factories; but the

farmer cannot grow in his area of core competence. This is how flawed the policy made by the urban elite and so-called intelligentsia is and why farmers are left with begging bowls.

Santimoy Dey of Kaikala village in the Hooghly district of West Bengal is my guide for the day. He is a potato farmer with a passion for principles of the cooperative movement, rather than the communist movement, as a means to an end. Dey is a prosperous farmer by Bengal standards. His extended family owns 10 acres of land on which he grows potatoes, paddy and white jamun; lovingly called gulab jamun. He is diversifying to horticulture and planting a combination of mango, lichi and papaya. Both his children are educated. He takes land on rent to enhance his profit. The economics of potato farming, he explains, runs thus: the rent per acre is Rs 9,000 and cost of growing potatoes is Rs 36,000 per acre. Therefore, on the sale proceeds of Rs 60,000, he makes a profit of Rs 15,000 per acre.

Dey suggests that we interview a small farmer near Krishnanagar; Kalachand Mondal, a strapping 28 year old from the village Gaborkholi in Block Krishnanagar-

With institutional credit all but absent, the small farmers generally hand over their land to a money-lender for between Rs 15,000 and Rs 20,000 a bigha. The lender could farm the land himself but prefers a produce-sharing arrangement with other farmers whereby he, as the controller of the land, gets to keep a third of the produce. The tenant gets two thirds but must provide all the inputs.

If Kalachand takes land on lease, he has the option to take it separately for three different crops in one year. The small farmers in West Bengal have intensified agriculture to three crops in a year in a bid to keep their heads above water. The rent is between Rs 2,000 and Rs 3,000 per crop. For three crops a year, it is an annual Rs 9,000. Kalachand grows paddy for his own use and, with help of agriculture experts from IFFCO, has diversified to papaya, radish and banana. IFFCO provides the much required extension services to the farmer — an activity whose importance is little understood by the Planning Commission of India. Papaya grown on a bigha of land can sell for Rs 40,000 and Kalachand earns Rs 30,000. The cost of papaya

Santimoy Dey of Kaikala, Hooghly District is my guide for the day. He is a potato farmer with a passion for principles of the co-operative movement

II, District Nadia. Gaborkholi has some 300 families and a sex ratio of 50:50. There are only five tractors in the three adjoining villages. Kalachand is not like other farmers though. He is not despondent but has risen to the challenge by taking others land on lease.

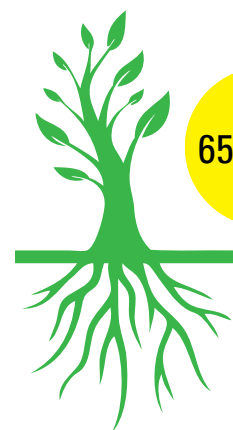
Kalachand's parents owned around seven or eight bighas of land but due to fragmentation of holdings he owns only three bighas. He is enterprising enough to rent more land for agriculture and owns a mobile phone. The first thing that he tells me is that he is better off than his father's because he is farming with a combination of traditional practices and modern inputs. Yet life is unfair to this enterprising man.

The deity he worships is Jagadhatri, another incarnation of Devi Durga but even the devout has to fend for himself. Kalachand tried to open a bank account but failed to do so or get a farm loan from a financial institution. He was forced to take a loan from a money-lender at three per cent per month; 36 per cent per annum! This, incidentally, is the same kind of interest that the micro-finance institutions charge, much lauded by the urban elite. Its ignorance is astounding.

cultivation is low and profit is high. Banana sells at Rs 60,000 per acre that, after an expense of Rs 15,000, nets him a profit of Rs 45,000.

Jute is a major crop, sown around April-May for three months whereafter it is harvested. It is time to sow paddy then. The *Kharif* crop is rice called Aman paddy, sown in July and harvested in November or December. Mustard, potato and vegetables are grown in winter. The summer paddy, called *Boro* paddy, is sown in January and harvested in May.

What is omnipresent in this scenario is the middleman; the worst kind of player in the farmlands of Bengal. He buys papaya from the farmer's field at Rs 9 per kg and sells it the next day in Kolkata at Rs 20. I talk to a middleman, who tries to convince me that he is doing the farmer a service by buying his papaya in the first place. Had he not done that, the middleman explained, the farmer would only be growing rice. Rice is less profitable and farmers want to shift to vegetables. Kalachand tells me that he gets paid a little less than the Minimum Support Price as the West Bengal State Marketing Federation does not have a properly functioning purchase mechanism





and no agriculture development officer has ever visited him. This reminds me of the agriculture marketing reforms that we desperately require across India. Like most other farmers, Kalachand buys his seeds and pesticides from the local shop, knowing little about them.

The labour charges have increased from Rs 60 to 70 per day to Rs 150 to 200 at a time of harvesting of crops (Rs 120 in the lean season). Work under MGNREGA is available on demand but not many people demand it. Kalachand says that only those who want to work less and earn less seek employment under MGNREGA. Kalachand would rather work on fields of other farmers when there is no work on his own. Kalachand's wife does not work on the field but does job work; making garlands for flower sellers. She gets Rs 4 for every 20 garlands; a sorry state of affairs that she accepts

because it allows her to stay at home, run it and look after her two and a half year old.

Kalachand is not educated because his parents could not afford to send him to school. There was work to be done on the farm. He is determined to educate his son and make him a doctor or an engineer though. He tells me, emotionally, that he would even sell his own blood to raise finances to educate his child. Education is free till class 12 and the medium of education is Bengali. There are no private schools in the area.

Trying to relate to Montek Singh Ahluwalia's statement on value of food consumed by a rural family, I ask Kalachand about his daily cost of food. He says apart from rice, radish and some vegetables that he grows from time to time, he spends Rs 70 a day on his food for his family. A hard-working man, he can occasionally indulge his family with *Rohu* fish that comes for Rs 100 per kg. He owns a cow and the milk is used at home. The Bangladesh border is only 20 km and stealing of animals is rampant, thanks to the porous border.

What are his expectations of the new government, he simply says: roads and repair of the government tube-well called "*Mini deep*"; a submersible well. The government owns and operates the tube wells and supplies water to the farmers, charging Rs 500 for paddy; Rs 200 for oil seeds; Rs 500 for banana and Rs 200 for vegetables. Electricity is available for more than 20 hours a day but people usually steal electricity. Drinking water comes through hand pumps at home or in the vicinity. There is arsenic in the water and the IFFCO Foundation is doing research on mitigating the effects of arsenic by different farming practices. So there is progress perhaps; howsoever small.

Yet this small progress leads to higher expectations; higher expectations lead to unfulfilled expectations; and unfulfilled expectations lead to frustration that, in turn, leads to a change in the power structure. This is the West Bengal story. Devi Durga stands testimony to it. ●



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