

➤ Time to Focus on Agriculture Exports

➤ Using Technology to Impact Farm Livelihoods

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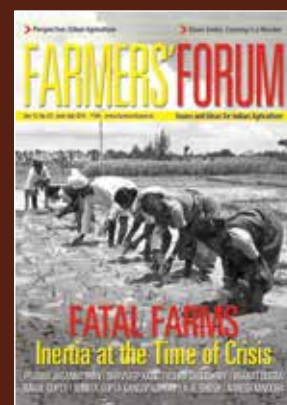
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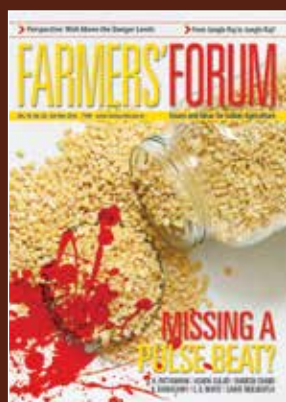
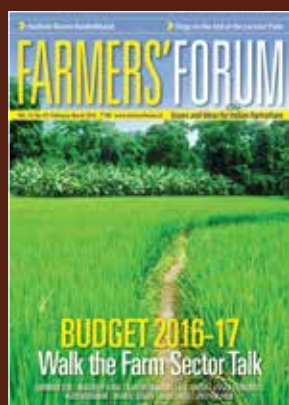
TRANSFORMING AGRICULTURE

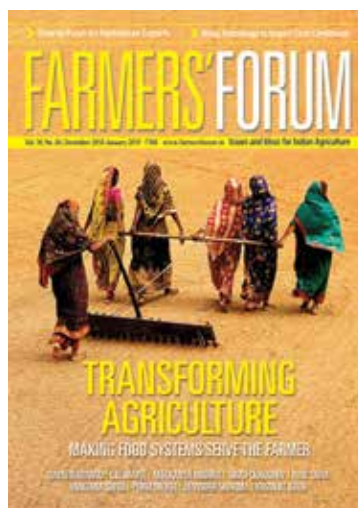
MAKING FOOD SYSTEMS SERVE THE FARMER

DAVID NABARRO | C.D. MAYEE | NEELKANTH MISHRA | SIRAJ CHAUDHRY | AVIK SAHA
VANDANA SHIVA | PURVI MEHTA | DEVINDER SHARMA | KIRANJIT KAUR



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Not By Loan Waivers Alone

It is interesting how the demand for farm loan waiver, a direct consequence of the multi-decadal farm distress, is sought to be justified by numerous evolving narratives, of which not even one is driven by an honest search for comprehensive solutions. The common conversation in the countryside justifies the demand on grounds that the government is allowing businessmen, owing billions of rupees to banks, to flee overseas and happily waiving corporate loans running into trillions, especially of a select coterie of businessmen. Why should anyone then cavil about farm loan waivers?

This is a good debating point perhaps but of little help vis-à-vis crisis resolution. Then again, tens of thousands crores are being spent on building statues and on governments advertisements, which means that there is no shortage of cash either. Clearly, waiving farm loans would represent a better utilization of resources instead of the government publicly working for the benefit of a few that also include India's jumbo bureaucracy.

The contrast between the farmer and the non-farmer, even the 'mamuli babu' in a 'sarkari' office, is stark to say the least and the divide will become greater with the implementation of the 7th Pay Commission. The cost to the exchequer could be over ₹100,000 crores annually and the average increase in the combined benefits of each government employee would be around a lakh of rupees a year. Considering that the average annual farmer income is only ₹75,000 per year, such monstrosity does jar somewhat. It is ridiculous that the academics and economists who condemn farm loan waivers justify the 7th Pay Commission largesse as an economic stimulus.

How does a stimulus for one class of people become a waste for another? A reversal of the decision to implement the recommendations of the 7th Pay Commission can make available enough funds to finance all agriculture infrastructure projects in the country in perpetuity, which would really offer much more of a sustainable solution to the farm sector malaise. There are, however, far more issues to consider before simply throwing money at the problem. An effective solution or even a smart way forward would entail doing due diligence while implementing the waiver so that the money is not grabbed by interlopers and middlemen whose 'rights' seem to be the ones that always take precedence. They are bound to be hyperactive once the waiver process starts. Reports of abuse of the process are already all over the place.

**A TELANGANA TYPE
₹8,000 PER ACRE
CASH TRANSFER
TO ALL FARMERS,
IRRESPECTIVE OF
LANDHOLDING SIZE,
SUPERIMPOSED
ON ALL OF INDIA
WOULD AMOUNT
TO A RECURRING
EXPENSE OF ABOUT
₹3.20 LAKH CRORES**



REGRETTABLY,
THE ENTIRE
ENVIRONMENT
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TO IT TRULY
IMPACTFUL

There is also the question of total funds that will be required for the waiver and not till one has seen the fine print of the waiver proposals will one have an idea of the sums involved. From current reports it would seem that a Punjab style ₹2 lakh farm loan waiver for small and marginal farmers will be replicated by Madhya Pradesh, Rajasthan and Chhattisgarh. If Mr Narendra Modi were to succumb to the challenge posed by Mr Rahul Gandhi, the one-time cost of a similar country-wide waiver will be upwards of ₹3.5 lakh crores. As a matter of ample precaution no such process should be started without the mandatory convening of village *gram sabhas* as the first step of the process to ensure that only the genuinely distressed are provided with relief and the better off, with louder vocal chords and bigger clout, are excluded.

Regrettably, the entire environment around loan waivers is mired in the politics of the process and politics is seldom the source of profound change nor is the response to it truly impactful. The solutions to the rural crises in India will, sadly, never be worked out at the farm level but in the air-conditioned hallways in Delhi and the state capitals by people, some of whom are well intentioned but do not understand farm economics and others who have neither the interest of the farmer at heart nor any interest in helping the farm sector. This leads to the miserable failure of governance as it applies to Indian agriculture, with its focus on growth and productivity and not on the producer and ensures that the terms of trade are always adverse as far as the farmer is concerned.

It is in this soulless darkness of ignorance and ill-intention that the farmer is sinned against and if one is looking at the person to blame one can turn to Victor Hugo's pithy statement in *Les Misérables*: "If the soul is left in darkness, sins will be committed. The guilty one is not he who commits the sin but the one who causes the darkness". In the Indian context of a functioning democracy one wonders what the pitch of the darkness is that prevents policy-makers from figuring out that the solution to farm level stress lies in providing income for the farmer through farming and off farm jobs and that the focus must be on finding means of livelihoods for rural workers; not forcing them into



Photo: Dinodia

debts and waiving them when it becomes politically expedient to do so. Without jobs and income, irrespective of what is done, the ongoing tragedy in India's countryside will not be addressed and the farmer will continue to be in a state of quandary with so many stories, solutions and strategies being bandied about without making an iota of difference to his life.

Indeed, the narrative that began four years ago, about the need to end the low commodity prices malaise through a Minimum Support Price and C2+50 per cent payout, along with the assurance of doubling the farmers' income in six years, has been sent to the back burner as the talk around farm loan waiver and cash transfers has taken over, with the Telengana type of solution being considered. However, now that the elections are over, it is unlikely Telangana will continue with its flagship Rythu Bandhu scheme in its present form whereby in an investment support programme, launched in April 2018, the government was providing a financial

assistance of ₹4,000 per acre per season to all land-owning farmers in Telangana.

To the state's credit, it had undertaken an intensive exercise to rectify land records across 10,500 revenue villages to ensure there were no glitches in execution. In 2018-19, the state budgeted ₹12,000 crore for the scheme. Nonetheless, a Telangana type ₹8,000 per acre cash transfer to all farmers, irrespective of landholding size, superimposed on all of India would amount to a recurring expense of about ₹3.20 lakh crores. Huge though this amount may seem, its is less than the cost of implementating the 7th Pay Commission by all the states and this state of affairs has been allowed to develop in India by a vacuum in farmer leadership in political parties.

Farmers applaud Rahul Gandhi for fulfilling his promise of a crop loan waiver but, to harvest political gains from the distress, the Congress needs to do more than waive farmer loans because the piling up of countryside distress has been caused by a veritable concatenation of events beginning with low international commodity prices and the entire global trade ecosystem, back-to-back drought, demonetization-induced slowdown, ineffectually designed policies, lack of political will and, of course, climate change. Unless the farmers can actually feel the power of effective governance coming to their rescue in the states where they have voted for change, no one can predict with any measure of certainty that the results of the recently concluded elections will be repeated a year down the line at the national level. ●



Ajay Vir Jakhar

Ajay Vir Jakhar
Editor

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Without jobs and income, the ongoing tragedy in India's countryside will not be addressed and the farmer will continue to be in a state of quandary with so many solutions and strategies being bandied about without making an iota of difference to his life

To the Editor

No Time for Part-Time Solutions

Sir, – Apropos of your editorial “Farm Landscapes: Embittered Present; Futile Future” (*Farmer's Forum* October-November 2018), surely a savvy government such as ours should realize that taking apparently disunited farmers for granted and making the blunder of believing them to be of little electoral significance will prove costly for more reasons than one. If the recent state elections are an indication, the current government will suffer in the coming general elections. However, that will not resolve the issues facing the farmer even if the governments in power waive farm loans on an all India basis because that is the electoral promise. The root cause of the sustained indebtedness will remain. As you so rightly point out, “that no one is conscious of this makes the future frightening in terms of the total vacuum of farmer leadership within the top hierarchy of all large political parties today”. Waivers are at best a part-time solution to a full time, multi-decadal problem.

Saurabh Jain

Jaipur, Rajasthan

Making Food Systems Work

The effort put in by Bharat Krishak Samaj by organizing the workshop on “Food Systems Dialogues”, so well reported in the pages of



The Nabarro Factor

It is indeed a great achievement for the team of Bharat Krishak Samaj to have brought David Nabarro, winner of the 2018, World Food Prize over for the two-day workshop on “Food Systems Dialogues”. The presence of such stalwarts in such an intellectual discourse with farmers and farm-sector activists present is very significant in terms of giving rise to hope that someone is at least articulating the farmers’ problems in the right places.

Satish Kumar

New Delhi

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to all editions for
a comprehensive
understanding of Indian
farmer concerns**

Farmer's Forum, October-November, 2018 has taken the standards of your organization to a new level. This is probably the first time ever that such an event has been organized, creating a platform with such a diverse body of intellectuals in attendance and sharing their experiences. More importantly, the farmer was centre-staged and that is something that is never done. I look forward to the BKS creating more of such learning experiences.

Mandeep Sharma

Ludhiana, Punjab

Food-Health Connect

It takes a person of great intellect and vision to see the problems afflicting food systems in terms of nutrition and health, which are the primary reasons why mankind consumes food the world over. For all of human progress, one billion people remain hungry and food insecure and the numbers are rising, as David Nabarro pointed out. More specifically, he linked grave health issues to what people are eating; from being undernourished and food insecure to having diets that present health challenges. It makes one worry that globally, 25 per cent of deaths result from dietary causes with a world-wide epidemic of Type II diabetes and increase in levels of cardiovascular disease, which are linked to poor food choice that people, who should know better, make.

Navneet Kalra

Meerut, Uttar Pradesh

FOOD SYSTEMS DIALOGUE

Encouraging All
Stakeholders to Work
With the Producers **08**

David Nabarro

FOOD SYSTEMS DIALOGUE

INVEST IN
RESEARCH OR PERISH **10**

C.D. Mayee

TIME TO FOCUS ON
AGRICULTURE EXPORTS **16**

Neelkanth Mishra

CREATING SOUND FOOD
SYSTEMS IN ASIA: REGIONAL
TRADE HOLDS THE KEY **26**

Siraj Chaudhry

NEITHER FARMING NOR
FARMER CAN BE INDIA'S
WEAKEST LINK **32**

Avik Saha

REINTRODUCING NATURE
INTO INDIAN FARMING **36**

Vandana Shiva

USING TECHNOLOGY TO
IMPACT FARM LIVELIHOODS **44**

Purvi Mehta

THE CURIOUS CASE OF DENIED
FARMER INCOMES **48**

Devinder Sharma

ALIENATED
FARMERS;
POLICIES ON
PAPER **56**

Kiranjit Kaur



A photograph of a man standing next to two white oxen in a field. The man is wearing a green shirt and a patterned headscarf. The oxen are harnessed together, and the background shows a line of trees. The text 'ENCOURAGING ALL STAKEHOLDERS TO' is in white, and 'Work With the Producers' is in yellow.

ENCOURAGING ALL STAKEHOLDERS TO **Work With the Producers**

David Nabarro



Photo: Pixabay

Although food insecurity is a continuing problem in the world, there is a definite shift in policy-making from having food security as the sole objective to all-round well-functioning food systems as the desirable policy outcome: food systems that contribute to nutrition and health for everyone; to sustainable environments; that are compatible with climate and, most importantly, food systems that provide opportunities for prosperity for those who produce and process the food that we eat.



DAVID NABARRO
Winner 2018,
World Food Prize

These ends have to be seen in terms of systems because these are outcomes for nutrition and environment, climate, prosperity and can only be achieved by different sectors of government working together. Agriculture, health, employment, village affairs, social welfare, urban and rural planning must be able to work together.

Why is this so important?:

- Under prevailing food systems 30 per cent of all the food that we produce is wasted. This percentage increases to 50 when it comes to perishable foods like vegetables and dairy.
- There are also big challenges throughout the world because of the decline in levels of water tables.
- There is damage to soil and reduction to forest cover because of the shift of land from forest to production and this creates very big challenges when it comes to capturing carbon to mitigate climate change.
- Another global concern is that one-fifths of all deaths are associated with food that people consume: this includes the current epidemics of diabetes and heart disease. In some countries, as many as 25 per cent of adults are affected by type2 diabetes with major consequences for multiple body systems.

It is, therefore, important for all people – especially those who work on their behalf as government officials, policy makers, investors, as well as leaders in farming, business, research and international development – to put their minds together as was done in the New Delhi Food Systems Dialogue, under the aegis of the Bharat Krishak Samaj.

The future lies in successful efforts to enable people to benefit from nutritious food systems, which are sustainable and ensure decent employment for all involved in production and processing, through participating in this kind of multi-stakeholder engagement. That is why the food systems dialogues are so important: the challenges faced by food systems everywhere are extremely complex. In India, as in several other locations, those who produce food – especially farmers – are at the centre of the discussion because of the high levels of distress that they are experiencing right now. ●

Based on presentation at the Bharat Krishak Samaj's Food Systems Dialogue, October 25 and 26, 2018 at the Kamaladevi Complex, India International Centre, New Delhi.

INVEST IN Research or Perish

C.D. Mayee

What is the big challenge facing the agriculture research and development community today? To sustain and grow additional food without consuming much more land, water, labour, nutrients and energy. India is already at a near optimal net sown area that can be sustainably farmed. New challenges of climate change, water shortage and salinity along with increasing population, changing dietary preference, labour shortage, food safety and tech-activism are very important aspects of agriculture R&D.

Important questions precede this research around major food demands, some projected by the Indian Council of Agricultural Research (ICAR) vision document in 2050. What will be India's GDP, the average annual income and urbanization level?



C.D. MAYEE
President
South Asia
Biotechnology
Centre (SABC),
New Delhi

India is 31 per cent urbanized now but this is expected to touch 55 per cent in a few years. Then there are calorific requirement projections and the total demand for rice, wheat, pulses, foodgrain and vegetables at different levels of GDP and such others. The challenge is to double the farmer's income amidst the ongoing climate change.

Agriculture R&D has three pillars. One is institutional infrastructure, the second is human capacity and the third is investment in education research. How is India faring on these scores? India has a network of 96 ICAR institutes, 77 All India Coordinated Projects/ Networks, four deemed to be universities, two Central Agricultural Universities and 641 Krishi Vigyan Kendras (KVKs) spread across the country. In addition, there are 62 state Agricultural/Veterinary/Horticultural/Fishery universities and four general universities with



Photo: Pixabay

11

The UK nurtured the universities of Cambridge and Oxford while creating new institutions but India neglected the established ones and started new ones with scant focus on quality of work

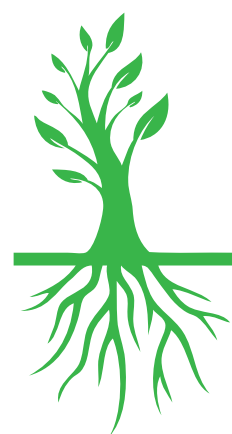
agricultural faculty, as part of the National Agricultural Research and Education System (NARES).

The gap lies in the horizontal expansion of activity that has led to a dilution of effect. A new government or even a new politician enters the scene and starts some new colleges and new university without bothering about the R&D infrastructure in them or about those that exist. The UK nurtured the universities of Cambridge and Oxford while creating new institutions but India neglected the established ones and started new ones with scant focus on quality of work.

Every scientist or teacher has to perform three functions in India particularly in agriculture:

The Big Challenge

- Sustain and grow additional food without using up much more land, water, labour, nutrients and energy
- India is already at near optimal net sown area that can be sustainably farmed
- New challenges of climate change
- Water shortage and salinity
- Increasing population and changing dietary preference
- Labour shortage, food safety and tech-activism



teaching, research and extension. The ICAR's scientist strength is around 6,429 scientists, which increased by 9.5 per cent in the last 18 years but with a 22 per cent vacancy at any given time. This vacancy has grown to 31 per cent in last five to six years. There are nearly 380 research manager positions in the country to manage 6,000 scientists but 55 per cent of the positions are vacant, including that of the director, Indian Agricultural Research Institute (IARI) that has been without a director for years.

Unofficially, one learns that “without director *kaam chal raha hai*” (work continues even without a director). Should that be the case, “*bina minister bhi ministry chalti hai, koi problem nahi hai*” (the ministry can function without problems even without a minister). This exposes India's attitude to this important issue. The human resource position at the state agricultural university (SAU) level is even more precarious. The teacher strength was 18,000 in 1991; fell to 14,000 in 2009 and increased to 21,000 because of the growing numbers of SAUs. The number of scientists and teachers per SAU has come down to 270 now from 426 two decades ago. Even though R&D investment has actually grown by 26 per cent in the last seven years, 90 per cent of the increased spend goes to salary.

The last 20 years have seen a shift towards creation of Krishi Vigyaan Kendras with some 7,500 extension workers attached to 675 KVKs, after the failure of traditional extension system. Where is the gap today? Research teaching needs to be differentiated from employment guarantee schemes marked by a “*chalo isko laga do*” (let us place him here) attitude. Research cannot be done in this fashion.



12



Drivers of Food Demand and Projections 2050

Driver	2010-11	2050	Implications
Demand Side Challenges			
Population, million	1224.6	1650 (+24%)	Changes in demography with shift towards urbanization and higher income will lead to changes in dietary composition with increased consumption of meat, dairy, egg and fish products having higher water and carbon foot prints.
GDP at PPP (US\$ billion)	4786 (WB)*	43180 (PWC)**	
Average annual income (₹cap)	53331***	401839***	
Income distribution	Inequitable	Inequity may widen	
Urbanization (%)	31	55	
Calorie requirement (kcal/cap)	2500	3000+	
Source: (Vegetables, Animal)	(92.8)	(84.16)	
Food Price	Rising trend	Rising trend will continue	
Functional Food	It is at the initial stage	Demand will grow	
Social concerns over new technologies	Very strong	Will decline with proper communication and counseling	
Food Safety	Poor	Will improve	

*World Bank (2014), **PWC, (2014), ***NCAP (2013)

Source: ICAR Vision, 2050



Photo: Dinodia

Research is a noble profession and serious thought has to be given to the kind of people needed there: merit coupled with passion are very important

It is a noble profession and serious thought has to be given to the kind of people needed there: merit coupled with passion are very important. Researchers also engage in a lot of non-scientific activities in universities; with instances of researchers and even professors arranging for lunches and dinners when universities hold conferences. The other issue is India's obsession with food security, which means that 50 per cent of its researchers is engaged only in crop research.

Only 29 per cent of the research is in livestock; six per cent in fisheries and one per cent in forestry.

The next aspect is investment, with India spending around ₹6,000 crores on R&D, which is 0.4 per cent of the total income that is earned from agriculture. It has been between 0.3 per cent and 0.4 per cent for the last 18 years except in 2011, when it about 0.51 per cent. Compared with developing countries, Malaysia's 0.99 per cent, Mexico's one per cent, Brazil's 1.88 per cent, China's three per

Expenditure of Principal Science Govt Agencies & R&D Expenditures (₹Crores)			
Year	Public Investment in R&D	Private Investment in R&D	Total
2004-05	18078 (0.5%)	6039 (0.2%)	24117 (0.7%)
2008-09	32988 (0.5%)	14365 (0.2%)	47353 (0.7%)
2012-13	46886 (0.4%)	27097 (0.2%)	73983 (0.6%)
2016-17*	60869 (0.4%)	43995 (0.3%)	104864 (0.7%)
Agency	2010-11	2012-13	2014-15
Council of Scientific & Industrial Research (CSIR)	2929	2910	3335
Defense Research & Development Org. (DRDO)	10149	9895	13258
Department of Atomic Energy (DAE)	2855	3191	4075
Department of Biotechnology (DBT)	921	1031	1021
Department of Science & Technology (DST)	2133	2378	2701
Department of Space (DOS)	4482	4856	5818
Indian Council of Agricultural Research (ICAR)	3182	3569	3983
Indian Council of Medical Research (ICMR)	679	808	843
Total	27330	28636	35034

Source: C.D. Mayee's Presentation

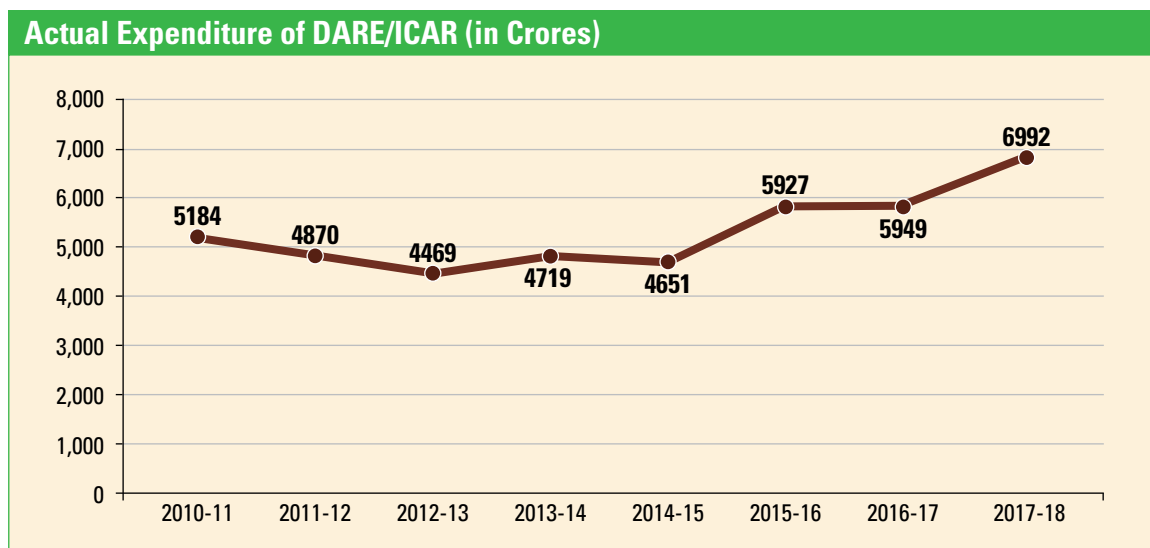
cent, India fare poorly. However, after the 7th Pay Commission, nearly 95 per cent of the expense will be on account of salary and the expenditure for research work is very small. (See charts). The situation vis-à-vis STEM (Science, Technology, Engineering and Math) is just as bad.

Investment in R&D is critical for raising capital intensity, technology and gradation and technology transfer and no long-term growth and doubling of farmer income is possible without this. No nation in the world has prospered without research and India must increase its research spend substantially and on the right accounts. Instead, India spends on subsidies; there is spending but on wrong heads instead of R&D and infrastructure.

Ashok Gulati has recently written that agriculture R&D has the greatest impact on

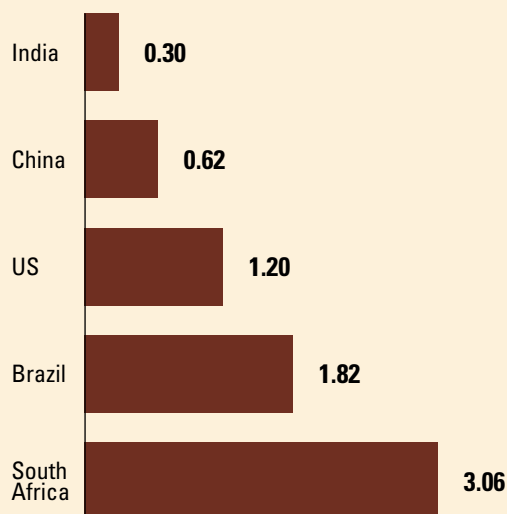
poverty reduction. Every million rupee invested in agriculture R&D reduced poverty by 328 people. (See box).

Policy fatigue for science research is an accepted fact but India must re-examine its agri-research priorities. Technology and science have to go hand in hand. One can go for research on vedic kheti, gao kheti and such like but not at the cost of bio, nano, space research or genomics. An International Food Policy Research Institute (IFPRI) report says that India needs to triple its investment in agriculture if farmer incomes are to be doubled. There are several examples to prove the point. PUSA basmati, a rice cultivar developed by the PUSA Institute, has given better returns on research than any other investment in other sectors.



Source: DARE/ICAR

Agriculture Research Spend as % of Agri GDP

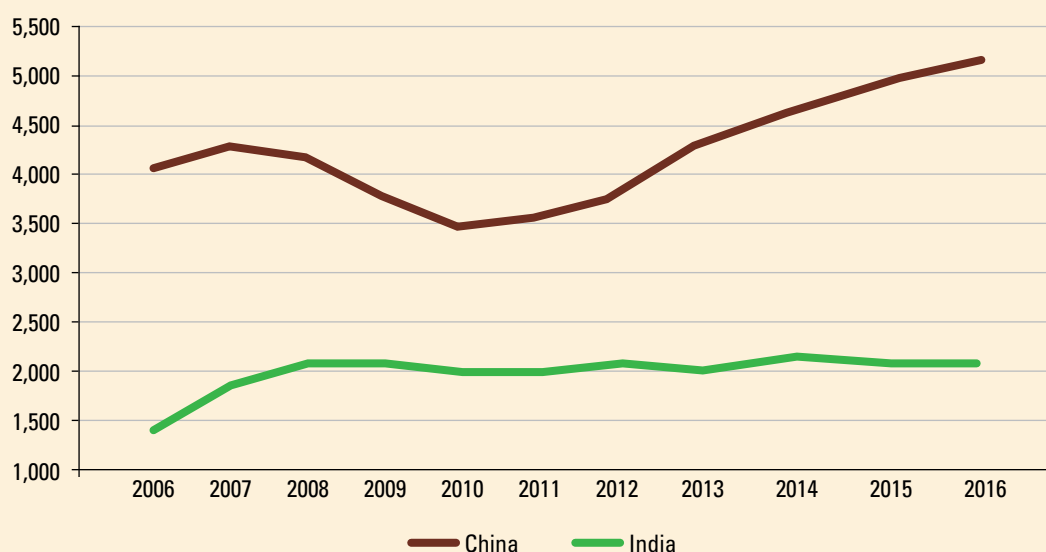


Source: ASTI; tradingeconomics.com



Photo: Pixabay

Indian & Chinese PhD in STEM in USA



Source: National Science Foundation

According to the ICRIER model, if public money is spent on agriculture research and development and building roads, instead of being spent as subsidies on fertilizers, power or irrigation, marginal returns in terms of number of people brought out of income poverty or higher agri-GDP growth is expected to be almost five to 10 times more. For example, for every million rupees spent on agricultural research, 328 people are pulled out of poverty. In contrast, the same amount spent on power subsidies brings only 23 people out of poverty.

Finally, academic affairs in the country are in a sad state and PHD students do not get fellowship and stipends for months. Such scholars should get fellowships regularly if India is serious about continuing R&D from the green revolution to hybridization to bio. Any damage to the system of science-driven research will cripple Indian agriculture and pursuing technologies without science will be futile. ●

Based on presentation at the Bharat Krishak Samaj's Food Systems Dialogue, October 25 and 26, 2018 at the Kamaladevi Complex, India International Centre, New Delhi.

TIME TO FOCUS ON Agriculture Exports

Neelkanth Mishra



The growth in demand for food in India is slowing while its productivity is now starting to catch up, signifying that food supply will rise and there will be a surplus. The only way India can deal with this is by exporting the surplus. How else can the country manage to increase farmer incomes? However, it is not easy to gear up from a completely domestic oriented system to producing for exports. Apart from standard challenges, there is the currency challenge that, in the context of agriculture, is a bit jarring.



NEELKANTH MISHRA
Managing Director and the Credit Suisse India Economist and Strategist

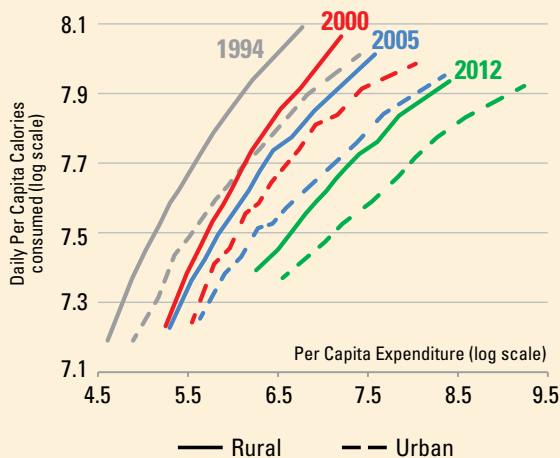
Those tracking food systems are familiar with India's falling per capita calorie demand, not because of extreme poverty and people being unable to pay for food but because lives are getting more mechanized, as has happened in China for the last three or four decades or in the UK between 1780 and 1860.

As lives gets mechanized, the demand for calories falls because people eat smaller quantities. With the rate of population growth falling as well, over time, the increasing demand for food will taper, the calorific value of food needed will decline (*See graphics on plateauing of cereal demand*) and food habits

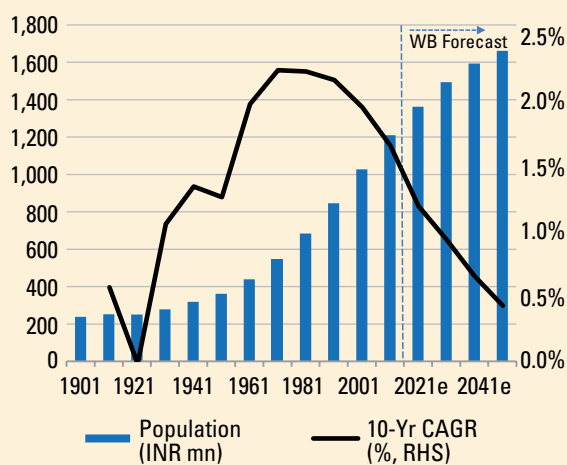


Stabilizing Calorie Needs Capping Food Demand

India's per capita calorie consumption falling



As population growth is slowing as well



- Steady decline in per capita calorie consumption in India since 1983
– Other countries have been through this phase: China since 1984, the UK between 1780-1860
- Population growth has also slowed from 2.5% to 1%



Photo: Pixabay

Buffer stocks in India are far in excess of needs this year as well and there may be 20-25 million tons of additional grains. This indicates a slowing of price growth

will change, especially with growing incomes and people demanding expensive calories.

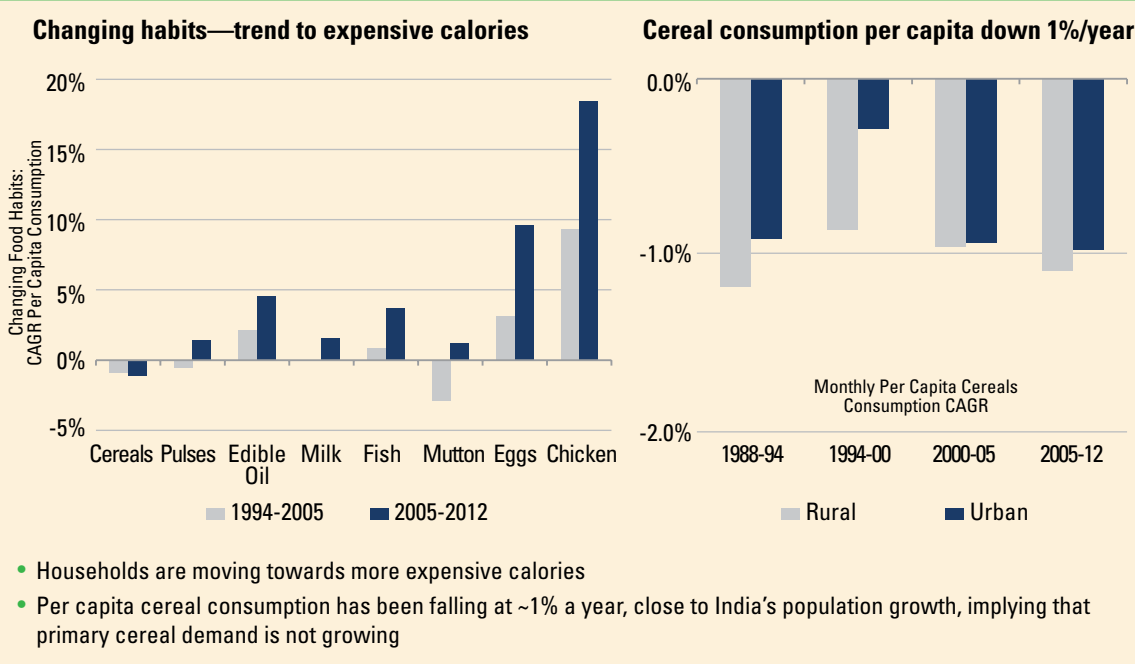
India's per capita cereal consumption in volume terms has peaked and has been falling at one per cent a year for the last 30 years, while productivity has improved. Rural infrastructure in terms of road access or the availability and mobility of labour, the access to markets and information with phones and electricity and such others, have contributed to improved agriculture productivity. As one tracks food commodity price and not of just cereals, one realizes that the supply response is incredibly fast now compared to, say, a decade back. With high prices of tomatoes and onions or any commodity, the speed with which the supply comes in is

incredible. This is a positive development but creates a different type of problem.

Foodgrain surpluses have emerged in India from 2007-08 and there was a phase when food was being stocked in the open and rotting because storage space had run out. India started exporting but a few years of drought disrupted the development, followed by two years of adequate rainfall when stocks have moved. However, buffer stocks are far in excess of needs this year as well and there may be 20-25 million tons of additional grains. This indicates a slowing of price growth.

In 2010-12 the CAGR (compound annual growth rate) was 10 per cent with a very broad-based decline in the prices of food that the farmers got. This is a classic demand-supply problem. One can keep producing

Changing Dietary Habits: Cereal Demand has Plateaued



CREDIT SUISSE

Source: NSSO Surveys, Credit Suisse Estimates

more but without demand there will be no price. (See chart *Perils of over supply*) This was accompanied by a similar global prices situation. Compared to 2010 prices, they are 10-20 per cent lower in dollar terms. How can farm incomes be increased in this environment and how does one incentivize farmers? This year, in particular, farming costs have gone up dramatically. Diesel is up, fertilizer is up, so is labour.

This is a purely macro economic trend. Since 1960, food price growth in India has averaged at 7.5 per cent. With half the population being farmers or net producers of food and half being net consumers of food, food price represents the net transfer from the consumer to the producer. There was also an output growth of two per cent a year, which ensured that there was no exodus as has happened in other economies; 40-45 per cent of the workforce is still in farming because, either

by policy or circumstances, there was an income growth of around 10 per cent – two per cent in volume and 7.5 per cent price – which is not bad. This is why people stayed on in agriculture.

This transfer from the rich to the poor – net consumers are the richer ones and net producers are the poor ones – has slowed substantially and there is a change in the agricultural gross value output as a percentage of GDP in the last three to four years, leading to farm stress and farmer protest. The only way to address this is to export. In 2011-12, exports had surged as a percentage of India's GDP to record highs but since then, with the global food price collapse and two years of bad monsoon, the surplus had gone down. That ratio needs to go up substantially (See *graphics*).

The demand growth problem is a universal one with even population growth out of Africa not being very strong. It is slowing and perhaps, therefore, the demand of food cannot be growing. Food by definition is going to see a slow demand growth and the question is how much can India export? In 2016, India's share in global agriculture trade was a meagre two per cent. However, even with stable aggregate demand, India can attempt to gain export market share by displacing others.

This means making adjustments to deal with export arrangements between other countries like the USA, Netherlands, Germany, Brazil, China, France, with either very land masses or as a part

Farmers/net food producers comprise half of India's population. The other half is net consumers of food. Thus food price represents the net transfer from the consumer to the producer

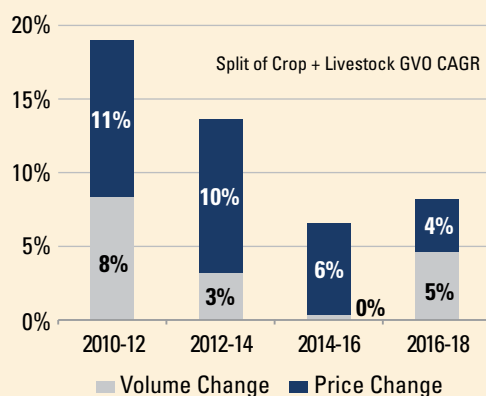


Photo: Pixabay

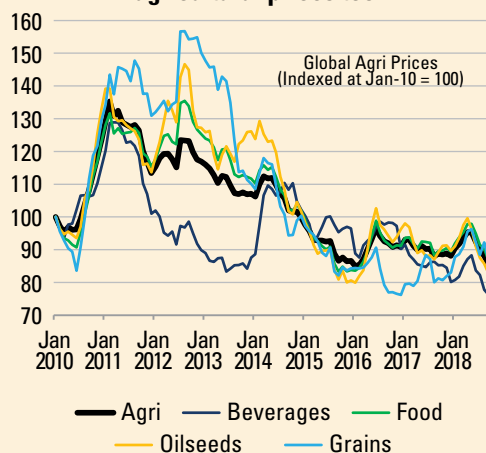
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Perils of Oversupply: Price Growth has Slowed Sharply

Price weakness very stark in recent years



Hurt by weakness in global agricultural prices too



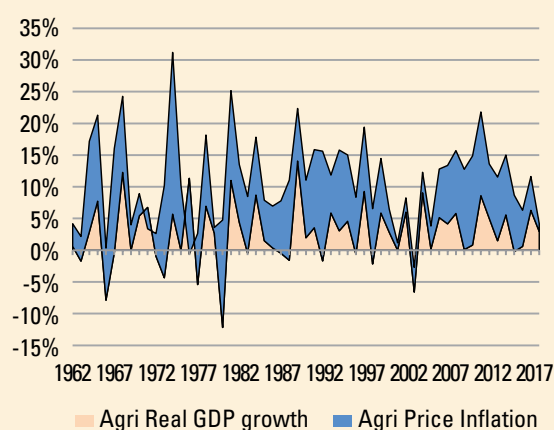
- Gross value of output growth is half that in prior two-year periods
- This is not just a monsoon effect: price declines hurting more than volume declines
- Global prices have corrected meaningfully too, and are now lower than in 2010



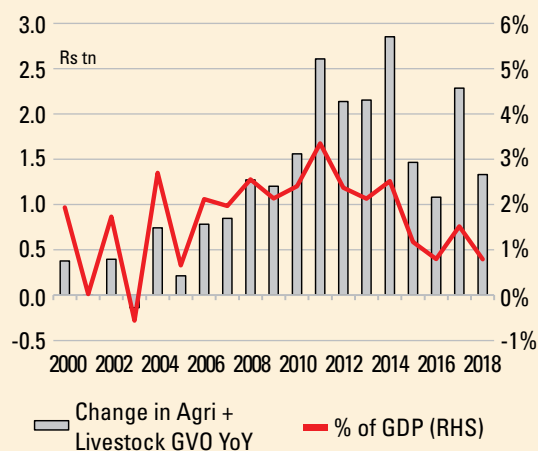
Photo: Pixabay

Historic Shift: Has Stalled Income Transfer to Farmers

Agri price growth 2%, vs. 7.5% 50 yr CAGR



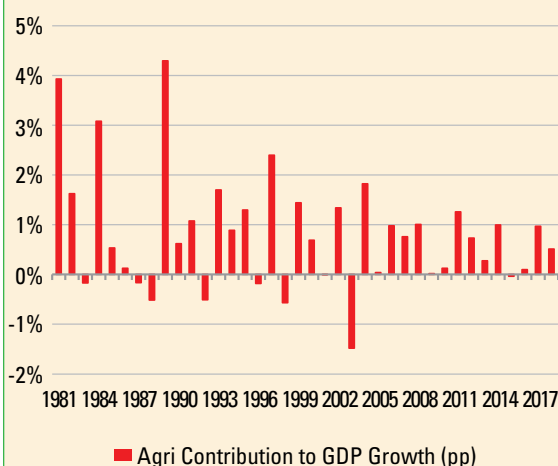
Consumer to producer transfer weak



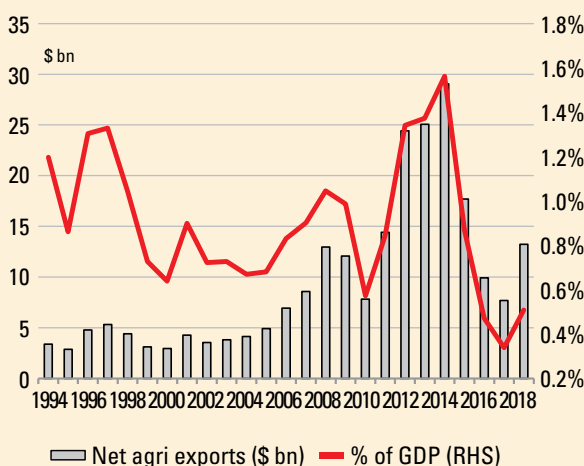
- Policy used to (inadvertently or by design) inflate food prices in the past
- Due to slow demand growth and rapid productivity improvement, price growth weak now
- This creates a problem of low agricultural income growth: a problem in a democracy

Agricultural Value Pick-Up to Help GDP, Trade Balance

Agriculture contribution to GDP growth is down



Agriculture net exports have fallen as % of GDP



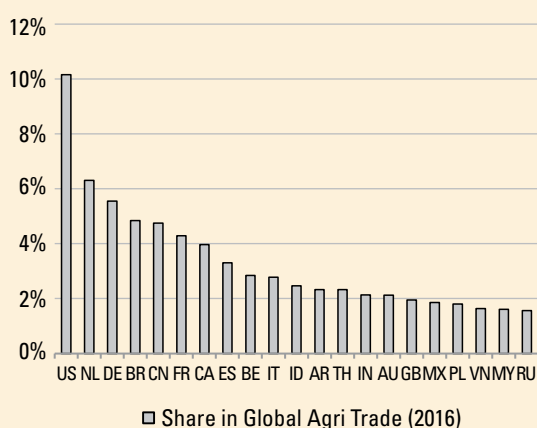
- Steady volume growth necessary to keep agriculture relevant economically
- Due to price declines India's agri exports are at multi-decade lows as % of GDP

CREDIT SUISSE

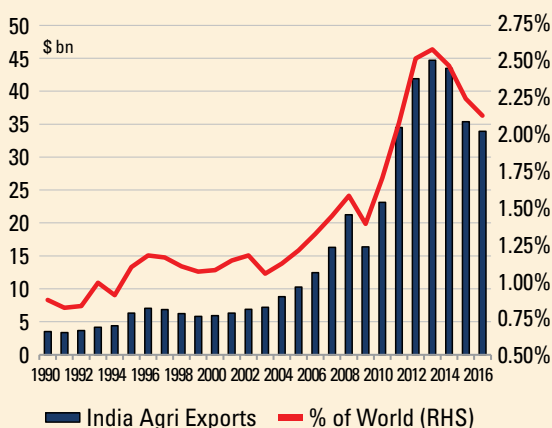
Source: CSO, CMIE, Credit Suisse Estimates

An Opportunity in Exports, Even if Only in Share Gains

There is opportunity to grow agricultural exports



India's share of global agri exports growing but low



- Global food demand growth unlikely to be rapidly growing
 - The Chinese surge seems to be firmly behind us as well
- India has woefully small share, likely higher once adjusted for neighbourhood effects

CREDIT SUISSE

Source: Source: FAO, WTO, Ministry of Commerce, Credit Suisse Estimates

of larger unions. A large part of the USA's exports goes to Mexico and Canada; 50 per cent of Dutch exports, the second largest agriculture exporters, are to Germany, UK and Italy. Regrettably, India has no neighbouring export markets. This is a major concern, especially with commodities like agriculture that entail high freight costs.

India should be able to export to Pakistan, Bangladesh, Burma or even Thailand, which

is clearly a challenge. The second challenge is processing. Only 44 per cent of global agriculture trade is non-processed, 20 per cent is semi-processed and the rest processed. One is not talking of heavy processing but squeezing the juice out of a fruit, fermenting it and making a wine out of it; making a soya meal, for example, which does not entail high-tech processing. Thus the primary requirement is to have a food surplus and to figure out how to



Photo: Pixabay

India cannot leave the upliftment of marginal farmers to serendipity and, if left to markets, it would take decades for this to happen

export; something that India must pick up fast. India is strong with marine and meat exports, it does well with dried onions, which is not a very large market.

The point is that India cannot leave the upliftment of marginal farmers to serendipity and, if left to markets, it would take decades for this to happen. It needs policy intervention in order to get surpluses, to put land and labour to more productive use. What crop should the farmer choose to be able to seize an export opportunity and what kind of certification would be needed is something that the farmer must be helped with. Policy comes to play here.

The set up must be dynamic and one cannot really expect a small farmer to be figuring out the markets. If the lychee is from Muzaffarpur, which is absolutely delicious, there needs to be an end market development as well. One must create a demand for it because one has a surplus. These attempts need to be made before one can handle exports because there are geographical problems.

India also needs to deal better with its neighbours, who can absorb surpluses and handle tariff and non-tariff barriers. The absolute subsidy in Japan for agriculture is more than \$40 billion (OECD data); it is nearly \$35 billion by the USA. India's subsidy, especially as a percentage of GDP is not very high. The agriculture subsidy as a percentage of agriculture GDP in Switzerland is more than 80 per cent. How else can a country, the richest in the world, make money out of dairy? Cows cannot be more efficient in Switzerland than they are here. The point is that there are barriers that India must deal by manoeuvring policy to handle them. Instead of fighting over the stock piling, solutions should be sought at the trade policy level because farmers will not be able to find this solution.

The value of the rupee thus comes into play because it affects the farmer in this context. India imports crude oil, gold, metallurgical coal, uranium and such others that are not available in the country. Even if the rupee falls a lot and imports become very expensive, no substitution is possible. Some 17 per cent of



Photo: Pixabay

Agriculture is mostly about domestic value-addition, nearly a third of export value-add comes from agriculture. Textile, autos and some engineering goods also represent greater value addition

imports take place because India lacks the capability; making certain aircraft, defense equipment, cell phones, servers, computers and such others. India does assemble phones now but most of the value-add is outside. Some 15 per cent import is because of inadequate capacity. Very soon India will be short of steel that will have to be imported. A falling rupee will not help matters. There can be no substitution.

These imports are largely consumed by India's top 20 per cent to 30 per cent. Diesel is used more commonly but petrol, high-end phones, televisions, servers, computers, air travel are all items of upper middle class consumption. A weaker rupee will hurt that consumption. Yet, India's headline exports are \$280-\$300 billion but a large part is comprised of very low value-add exports. India imports crude and export petrochemicals, imports gold and diamonds and exports jewellery, imports diamonds and sends

back polished diamonds, activities that do not add a great deal of value. Agriculture, however, is mostly about domestic value-addition, nearly a third of export value-add comes from agriculture. Textile, autos and some engineering goods also represent greater value addition.

A weaker currency, for instance, lower by another 30 per cent (*See graphic*) means that wheat prices will have to go up even if global prices remain where they are. If the rupee is already much lower than where it was a year back, domestic prices will have to go up. That means better compensation for the farmer. This may or may not be necessary but India's currency policy must have a fair perspective of matters. ●

Based on presentation at the Bharat Krishak Samaj's Food Systems Dialogue, October 25 and 26, 2018 at the Kamaladevi Complex, India International Centre, New Delhi.

CREATING SOUND FOOD SYSTEMS IN ASIA:

Regional Trade Holds the Key

Siraj Chaudhry



Economist Intelligence unit has looked at food trends and Asian food systems and has prepared a report – based on interviews with a cross section of people, including 400 business leaders, apart from policy makers, people engaged in food and agriculture in this region – that reveals certain mega trends affecting the future of food in Asia. The report was commissioned by Cargill.



**SIRAJ
CHAUDHRY**
Chairman,
Cargill India

The first big trend is the rapid pace of urbanization and its consequences. By 2030 almost 80 per cent of the increased population migration to urban centres will take place in Asia and 75 per cent of that will happen in China, India and Indonesia. This urbanization will change how people consume food, how food moves, what kind of food is consumed, with a likely a shift to convenience food; food that is different in its composition; from being more carbohydrate dense to protein dense.

This will have implications in terms of what needs to be produced. Trade with neighbouring countries can be an opportunity emerging out of this. Very often there is talk of doubling farmers income and experts talk about encouraging farmers to produce what the market wants. Therefore, one has to keep in mind where this market is going. If there is a larger trend towards urbanization, crops that serve the needs of the urban population, more driven by convenience and ease of consumption, will have to be focused on.

The other important change that will have to be brought in is how the food is distributed and, therefore, the food supply chains will probably be reworked. This is evident in the large retail space or e-commerce getting into food. These are things that the whole food eco system will have to prepare for, moving forward.

The second trend is the change in the dietary composition. Experts talk of diets becoming more energy dense, with less direct cereal consumption but cereals would come into play as ingredients. All this requires a vibrant food processing industry and a thorough understanding of it. This is because converting all the cereal, the basic carbohydrates into diets that are a combination of carbohydrates and proteins will present challenges in terms of what is good and what is not good. There will always be a debate on nutrition and calories that one must be prepared for.



Going forward, food will be consumed differently in different countries even in Asia. Protein needs in certain countries will be more through meats but others vegetable proteins may find favour. There will be local, traditional food and religious sentiments will come into play when such food is produced for consumption.

The third challenge that these economies will face, India included, is carrying and managing the balance between the double burden of obesity and under nutrition. As one talks of more processed food and convenience food and a less hectic lifestyle, the challenge of obesity surfaces but the existing concern of under nutrition remains. Balancing the two will be a challenge that needs to be addressed.

The fourth need is for greater application of research and development in agriculture.

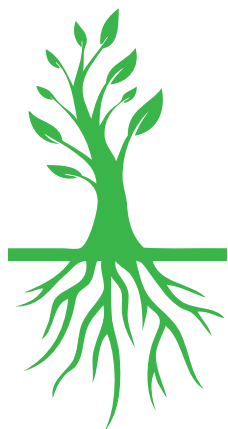




Photo: Pixabay

As one talks of more processed food and convenience food and less hectic lifestyle, the challenge of obesity surfaces but the existing concern of under-nutrition remains

Developing countries have not invested enough in R&D and will have to do so when they look at new foods, especially given the scarce resources to produce those foods. R&D will be very important and vary from country to country and market to market. Some will focus on R&D to improve productivity, on producing more from less, while advances in other areas will involve robotics, artificial intelligence and vertical farming and, of course, organic food that is gaining more traction.

The fifth trend is around consumer awareness and diets becoming better with people affording

better food. There will thus emerge a greater call for transparency and sustainability. Food chains are getting longer, food is travelling longer distances and that is calling consumer attention. Where the food is coming from, how the food is produced and what elements are getting affected in the production of that food are all becoming important. Organizations, governments and the supply chains will have to be more prepared for these questions and answer them to satisfy consumers who will get more demanding.



The pace of change will vary from country to country. In a country like India, different consumers from different places and different food needs, depending on their geographical location, socio-religious beliefs and affluence levels, will impact trends. Organizations in this business will have to prepare for this.

Finally, with the increase in demand in keeping with the rise in urbanization and scarcity of resources, there will be a larger element of politics and other factors at play because. If the population is shifted to the urban areas, there will be the challenge of allocating resources to urban or rural areas. There will also be a fight over what is good

for producer versus what is good for the consumer.

Apart from looking at the issue from a national context, there is also a regional context. If the region has to flourish, it has to meet the demand for its produce and one will have to think this through from all perspectives. When there are export opportunities, producers would have to realign production for global consumers, address global trade barriers and obtain understanding of the terms, consumers and trends in other markets.

This future holds considerable prospects and all stakeholders, whether in the private sector, the government, the farmers, the policy makers, must come together and



Photo: Pixabay



Photo: Dinodia

Stakeholders must come together within the country and across the borders in Asia to create a food system catering to the need of its growing population and help farmers too

prepare for the directions that food trends are taking and decide on a course of action.

Most countries in this region are driven by the need for self sufficiency and food security. There is need to break free from this and look at the scene more holistically vis-à-vis food availability, affordability and access, without limiting oneself to a country producing what it needs for itself. Collaboration between countries should be promoted with greater trade between countries and removal of barriers to trade.

The other driver is anticipation. A lot of reactions – policy reactions, market reactions – are immediate to a specific development and better anticipation is required from all stakeholders. Everyone sees the same thing but different

interests react differently. Getting the act right is important and this too would mean the coming together of all stakeholders not just within the country but across the borders in this region to create a food system that caters to the need of this growing population in Asia and helps farmers and the trade to succeed and grow.

There is an opportunity and unless seized, countries will create misery not just for the farmers and consumers but continue to live with the problems confronting them in the current times. ●

Based on presentation at the Bharat Krishak Samaj's Food Systems Dialogue, October 25 and 26, 2018 at the Kamaladevi Complex, India International Centre, New Delhi.



Neither Farming nor Farmer can be India's Weakest Link

Avik Saha



Any discussion on improving livelihoods – through input subsidies or direct cash support to farmers – begins with the premise that the objective is to improve livelihood of farmers and the options are input subsidies or direct cash support. This is an unhappy choice of words because it implies that food producers are a class that needs pity and charity.

How can food be subject of charity when India wishes to be self-sufficient in fighter crafts, guns, mobile phones or even set top boxes?

Yet this is a matter of deep concern because food is a very weak link in the Indian economy while being its most important aspect, as it must be in any economy as large as India. If this were Singapore, one could have considered importing all the food needed and concentrating on something else. That is not possible in India because the country needs to secure its source of food production for the masses and its producers; it must be a serious business.

There is, however, little debate over improving livelihoods of farmers despite survey after survey proving that farmers live wretched lives over a vast geography. They have seen little relative improvement in their condition. Even without referring to the National Sample Survey Office (NSSO) data, one knows that relative poverty has grown amongst farmers. That other professions have better lives has increased the farmer's sense of deprivation.

With opportunities opening up in cities, some rural children visit urban areas and take back incomes earned in cities, making their homes look prosperous. This enhances the disparity for those not thus advantaged and injects an element of envy



AVIK SAHA
General
Secretary,
Swaraj Abhiyan
and National
Convenor, Jai
Kisan Andolan



and even anger into rural lives, for which a price will have to be paid.

Yet, the agrarian anger was not channelized by leadership from within the farmers, even though the anger was inherent in the farming society. Suddenly, however, farmer leaders are talking about agrarian distress; leading the charge, so to say. The movement, now making its presence felt, erupted quite spontaneously because it related to a basic livelihood problem, as was the experience in village Budha.

Village Budha in Mandsaur has no *kaccha* houses (shacks); in the *muhallas* (neighbourhoods); there are mostly two-storeyed buildings and visitors are invited to stay at places with western commodes. The farmers largely grow cash crops, cumin seeds, moongfali (peanuts), garlic and there are whispers of poppy being grown too. These crops have provided the farmers here with a good livelihood.

Over the few years, farmer Dilip Patidar, suddenly saw his income fall by 10 per cent. Dilip, a sworn supporter of the current political dispensation vis-à-vis his god and political beliefs, took the first drop of 10 per cent as a matter of misfortune. The next

Even without referring to NSSO data, one knows that relative poverty has grown amongst farmers. That other professions have better lives has increased the farmer's sense of deprivation

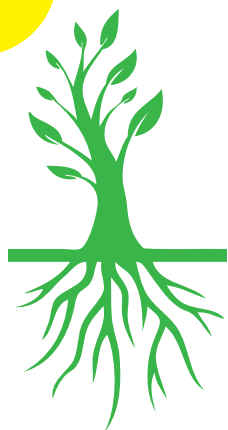




Photo: Dinodia

Input subsidy is a very frugal solution to a very large problem. Direct cash support, only to the extent of inputs, is again a very small solution

However, Dilip also knows that all this would give him the price that has been mandated as necessary for his survival. Input subsidy is just a very frugal solution to a very large and hungry problem. Direct cash support, if it just means direct cash support to the extent of inputs, is again a very small solution.

The real issue is around providing guaranteed income to farmers to make it a viable worthwhile profession. If one translates that into the cost of food on the plate (after guaranteeing the farmer an income), it is not high enough to make the average Indian consumer poor or take the shirt off its back.

A direct support to the farmers through income guarantee is something that should thus be looked at urgently because other band aid solutions that even the farmers' leadership is offering are not going to work. Farmers account for about 60 per cent of the people in India and providing them with a means to survive means direct cash support, which does not mean a dole or reaching money to them irrespective of whether they work or not.

Indian planners should design a system where the produce and the remuneration are balanced in a way that the producer survives and the only focus is not on improved production but improved lives for the producer. Failing this, the producer will demand and snatch India's attention, with or without external leadership.

This must be done by policy and adequacy of returns ensured through income guarantees that will allow the producer to be able to survive or else the country is in deep trouble. There is no way that India can provide employment for between 60 crores and 70 crores people if they are pushed out of farming.

India is looking at a crisis and needs very quick, clever and long-term solutions that can be provided by people within the system provided that there is political will across the spectrum. ●

year, the income fell by 25 per cent and Dilip was a little shaken but clung on to his faith. By the third year, when he could not sell his garlic or moongfali – though he had the staying power to stock the produce hoping to sell in a couple of months when the market would change – Dilip started to have doubts. By the fourth year, he was leading visitors into his village explaining that why the farmers were protesting and fighting the government they loved so much; and probably still do.

Eventually, it is all a question of income that the nation has failed to give to the producers of food; India does not give its farmers enough price. That, however, is only a part of the problem, though there are loud cries for MSP. The core issues are that by policy India does not want farmers to have sufficient income because that changes all economic game plans.

To get back to the original question of improving livelihoods through input subsidies or direct cash support, had Dilip got his DAP, his urea at cheaper prices through input subsidy, he would have been happier. Had he got cheaper diesel, a very popular fuel among farmers, Dilip would be happier.

Based on presentation at the Bharat Krishak Samaj's Food Systems Dialogue, October 25 and 26, 2018 at the Kamaladevi Complex, India International Centre, New Delhi.

Reintroducing Nature into Indian Farming

Vandana Shiva



Photo: Dinodia

A physicist by training, my dialogue with agriculture began in 1984; it was not my chosen vocation. Year 1984 was the year of Punjab; it stood out for the eruption of violence, including the Golden Temple tragedy. It was also the year of the Bhopal episode; on



VANDANA SHIVA
Physicist and
Social Activist

December 2. Bhopal woke me to pesticides. I was then working for the United Nations University. I asked if I could look at what was going on in Punjab and the pesticide issue. They agreed and that is how the book, *Violence of the Green Revolution* came out of the UNU study.

The good thing when you enter a new field, innocent of prior training, is that you learn much more than when your mind is conditioned to see only what you want to see. I read every book, every text, to understand how we got into this situation. Literally, in two decades, Punjab was destroyed because the conditionality to impose chemical farming was imposed after the 1965 droughts.

My mother had chosen to become a farmer after partition and I was not unfamiliar with farming but the only published literature was on chemical farming and industrial agriculture. There was no literature on the experience with other systems of farming till Albert Howard's book, *An Agriculture Testament*, was published. We reprinted it many times, many non-profit publishers printed it (*See box*).

Albert Howard wrote that he was brought to India in 1905 to improve farming here but found the fields were fertile; no pest damage and he decided that he could do no better than watch the operations of the peasants and acquire their traditional knowledge as rapidly as possible. He regarded them as his professors of agriculture. Another group of instructors was obviously the insects and fungi themselves. Pests were his professors for understanding good farming.

Everything about good farming, which is today called agro-ecology, is distilled from Indian practices of 10,000 years. The two principles that Howard identified were diversity and the law of return, diversity being an absolute key to actually managing pests. He explained that nature never found it necessary to design the equivalent of a spraying machine or poisoned sprays to control insects and fungi. Built in systems in diversity

ensure farming does not turn insects into pests because nature does not create pests. Bad farming creates pests. Nature gives diversity of insects as it gives diversity of plants and as it gives diversity of all life.

This is what has been destroyed; a recent German study says and 75 per cent of the insects are gone and this is attributed to chemical farming. I worked on studying what had gone wrong as well as promoting non-violent farming, which has today grown into Navdanya.

Why does the science of pest control, of poison, pesticides and GMOs not work? First, it promotes monocultures, which are recipes to turn insects into pests. Chemical fertilizers of crops make plants more vulnerable to pests. Studies were

Sir Albert Howard

Sir Albert Howard was the founder of the organic farming movement. He worked for 25 years as an agricultural investigator in India, first as agricultural adviser to states in Central India and Rajputana, then as director of the Institute of Plant Industry at Indore, where he developed the famed Indore composting process, which put the ancient art of composting on a firm, scientific, basis.

Howard was a brilliant development worker. Early in his career he abandoned the restrictions of conventional agricultural science with its increasing overspecialization — “learning more and more about less and less” — and set out to learn how to grow a healthy crop in typical conditions in the field, rather than the usual untypical conditions in laboratories and test-plots that represented nothing other than themselves.

He adopted the best teachers: Nature — “the supreme farmer”, India’s peasants (whom he regarded as his prime “customers”) and the pests and weeds that the scientists were committed to fighting with an ever-widening array of poisons but which Howard called his “Professors of Agriculture”. He saw pests in the context of Nature’s use for them as sensors of soil fertility levels and unsuitable crops growing in unsuitable conditions. He found that when the unsuitable conditions were corrected the pests departed. His crops were virtually immune to pest attack and so was his livestock. — http://journeytoforever.org/farm_library/howard.html



done in Punjab and I have all the citations. Second, chemical fertilizers make plants more vulnerable to pest attack as some brilliant scientists in France also found. Third, there is emergence of pesticide resistance. You spray pesticide you create pests; 1,200 times more pests emerge from spraying pesticide. Fourth, friendly species that control pests are killed and the pest-predator balance is disrupted.

Navdanya farms practice biodiverse sacro-ecological systems and have six times more pollinators that provide a third of the food that is consumed. Pesticides kill pollinators, which is why there is all this discussion on the disappearance of bees and the harm to pollinators. So many insects, including the friendly ones — that ate the aphids and the jassids, the spiders, the lady birds — have just gone. There are all kinds of other systems that are working as well.

Of course, it was made to look as if the GMO technologies were a big leap forward as was GMO BT cotton, engineered to produce a BT toxin in every cell of the plant that would be a pest control agent. The early advertisements of Monsanto said that there would never be a need to spray. One

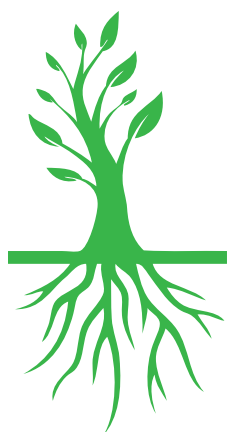




Photo: Pixabay

A California judge rejected Monsanto's appeal to overturn a landmark jury verdict that found that its popular herbicide causes cancer. The judge's ruling largely sided with Dewayne "Lee" Johnson, a father of three and former school groundskeeper, who won a \$289m award after alleging that his exposure to the Roundup weed killer gave him cancer. During the trial, the first of its kind, the 46-year-old also alleged that Monsanto had failed to warn him of the risks of using its product.

Monsanto (owned by Bayer, the German pharmaceutical company) filed an appeal against the verdict, which said the company was responsible for "negligent failure", knew or should have known that its product was "dangerous" and had "acted with malice or oppression".

Monsanto fought to overturn the verdict, arguing the evidence was insufficient. The San Francisco superior court judge denied Monsanto's request but ruled to reduce punitive damages from \$250m to \$39m. – <https://www.theguardian.com/business/2018/oct/22/monsanto-cancer-roundup-weedkiller-judge-denies-appeal>

The assumption that insects are enemies to be killed is false. If insects are left alone, they figure things out and do not become pests. That is the Navdanya experience

has to visit Punjab and Vidharba to see how much more spraying is needed in the BT cotton fields than was needed before.

Last year around 130 farmers died due to pesticide poisoning and this was supposed to be a technology that made pesticide use redundant. It failed because it is based on false assumption about how ecosystems work, which chemical fertilizers are based on. The first false assumption is that insects are enemies to be killed. If insects are left alone, they figure things out themselves and no insect becomes a pest. That is the Navdanya experience when it had pests. A lot of neem was used but it is not needed any longer because the ecosystems are doing the work for us.

This is called ecological system services today and the benefit that insects confer is being calculated. Not just insects, neem is beneficial too. Years ago (when the Bhopal disaster happened), there were no concrete pavements in Delhi; there was soil and the nimoli would fall on the ground and neem saplings were growing everywhere. I filled a bucket with neem saplings and, three days after the disaster in 1984, I took this bucket to distribute neem and started a campaign called 'No more Bhopals, plant a neem! Ten years later it had been patented and from 1994-2005, we fought a case in the European patent office. We took 100,000 signatures and found pro bono lawyers against patent no. 5124349, which had patented the pest control properties of neem (*See box Fighting the WR Grace patent*). We showed that we have used it forever and had the knowledge.

Neem is just one among the hundreds of plants that address botanical pests and there are amazing systems and we always plant diversity. There are attractors and repellents of pests that good farming knows. Now, of course, there is the push and pull method (Push-pull technology is a strategy for controlling agricultural pests by using repellent

“push” plants and trap “pull” plants) that is so hugely celebrated that Hans Rudolf Herren (Swiss entomologist, farmer and development specialist), won the World Food Prize for it.

The first round of genetic engineering gave two applications. In 1985, there were debates on GMOs when one was told that it would enable growing food on the moon, in the Sahara desert and on toxic dumps. All it has achieved is GMO BT cotton or herbicide-resistant crops. There are only two applications. One for pest control and one for weed control. Did they do their jobs? No. The BT cotton has led to super pests; the pink bollworm cannot be controlled.

The herbicide resistant crops, soya and corn, particularly in the United States, have led to super weeds. Half of America’s farmlands are overtaken by weeds that cannot be controlled by Roundup and they are trying a new herbicides like Dicamba. The Dicamba drift is so severe that it is ruining trees and neighbouring crops. Even though in general terms these chemicals are described as killers of pests in agriculture, pesticides and

Fighting the W R Grace Patent

More than 200 organizations from 35 nations mounted a legal challenge in the US Patent and Trademark office against a patent granting the multinational chemical corporation, W R Grace Company, the exclusive use of a pesticidal extract from neem seeds. The global coalition challenging the W R Grace patent was been organized by Jeremy Rifkin and The Foundation on Economic Trends in the United States. Other key petitioners included: Vandana Shiva, president of the Research Foundation for Science, Technology and Natural Resource Policy in India; M D Nanjundaswamy of Karnataka Rajya Ryota Sangha, a farm organization representing farmers throughout India; Linda Bullard, vice-president of the International Federation of Organic Agriculture Movements in Brussels; and Martin Khor, director of the Third World Network. The substance of the challenge was that the pesticidal extract in question had long been known to and used by the Indian people for protecting their crops. The knowledge of this was, therefore, available at the time of patenting to any ordinary person and the difference between it and the patented product, if any, was ‘obvious’. – <http://www.twm.my/title/neem-ch.htm>





Photo: Pixabay

Environment

July 25, 2018

Top EU court: GMO rules cover plant gene editing technique

Crops obtained by plant breeding technique mutagenesis should fall under laws restricting the use of genetically modified organisms (GMOs), Europe's highest court has held, in a victory for campaigners. The biotech industry had argued that much of mutagenesis, or gene editing, is effectively little different to the mutagenesis that occurs naturally or is induced by radiation – a standard plant breeding method since the 1950s, but the court disagreed. "Organisms obtained by mutagenesis are GMOs and are, in principle, subject to the obligations laid down by the GMO Directive," the Court of Justice of the European Union (ECJ) said in a statement.

"The Court of Justice takes the view, first of all, that organisms obtained by mutagenesis are GMOs within the meaning of the GMO Directive, in so far as the techniques and methods of mutagenesis alter the genetic material of an organism in a way that does not occur naturally," it added. The ruling by the ECJ goes against the opinion of the court's advocate general, who argued in January that the new techniques should be allowed. Gene editing has the potential to make harder and more nutritious crops as well as offering drug companies new ways to fight human disease.

German chemical industry association VCI, which represents companies such as Bayer, BASF and Merck KGaA, said the court's ruling was "backward looking and hostile to progress". – Reuters report

herbicides like Roundup have been proven to be carcinogens. The WHO confirmed that. The WHO was attacked, the scientists who had done the work on tumors and rats were attacked and, recently, a court in Canada ruled that a grounds-keeper of a school, who sprayed Roundup, had got lymphoma (*See box*).

We are reaching a tipping point because we have the first generation herbicides. My sister Mira Shiva (doctor), Vaibhav Kumar and I have done this book. Punjab children travelling on the cancer train from Punjab to Bhatinda; children being born in Bhopal today decades after the 1984 disaster are affected Kerala has child victims of Endosulfan sprayed from the sky in what was thought would be



The European system that is far more scientific said there is need for regulation as GMO. The US never allowed regulation and President Bush senior walked out of the bio diversity convention

technological leap. A Persistent Organic Pollutants (POP) convention has banned it. The Supreme Court of India has also banned the manufacture, sale, use and export of endosulfan throughout the country, citing its harmful health effects.

The cost of the pesticides and the GMOs has been proven to be very high and now there is a rush to go under the radar to somehow keep on the treadmill. There are two ways in which this below the radar entry is happening. One is through the new gene editing and gene drive technology. The European Court of Justice ruled that they are GMOs (genetically modified organisms), it did not say how; it did not talk of adding a gene or editing a gene. The European system is far more scientific and said there is need for regulation as GMO. The US

never allowed regulation and President Bush senior walked out of the bio diversity convention, the US negotiator really acted tough on the bio safety protocol but we got it through.

USA never regulated GMOs; it does not have the science of regulating nor a biosafety regulation. The USA is now rushing crisper foods. The big new soya bean will not have the trans fat but trans fat is not in the plant; it is created by the hydrogenization process. When vegetable oil is hydrogenated, trans fat is created. I am trained as a scientist and one of my driving forces is love and passion for bio diversity but my second driving force is an absolute intolerance for untruth and post fact and fake science. This scam around GMOs, including the new GMOs, must end.





Photo: Dinodia

Case Against Monsanto

A comparison of Article 27 (3) (b) of TRIPS and Section 3 (j) of the Patents Act shows that in Section 3 (j) of the Patents Act, the phrases 'in whole or part thereof', 'but including seeds, varieties and species,' and 'propagation'; are added and the phrase 'other than non-biological and microbiological processes' occurring in Article 27 of TRIPS were omitted. Thus, exercising the flexibility afforded by TRIPS, small but extremely significant changes were made in India in promulgating Section 3 (j) of the Patents Act. The most significant change is the inclusion of seeds, varieties and species in the list of what are not inventions. Thus while seeds are not excluded from patentability under Article 27(3) (b) of the TRIPS, Section 3 (j) of the Patents Act excluded seeds from patent protection. Seeds, whether genetically modified or not, are not inventions and are not patentable – in terms of Section 3(j) of the Patents Act....

– [https://www.livelaw.in/patents-vs-farmers-rights-trips-obligations/...](https://www.livelaw.in/patents-vs-farmers-rights-trips-obligations/)

Just because there is huge amount of money on one side, one cannot destroy life on earth or push farmers to commit suicide or maim unborn children. The science of ecology must take pest control seriously with an honest assessment of the harm done by pesticides and GMOs. My book, *Biodiversity, Agroecology, Regenerative Organic Agriculture: Sustainable solutions for hunger, poverty and climate change*, contains 31 years of both research and practice. On new technologies, there is Oneness vs the 1%: Shattering Illusions, Seeding Freedom. On the patent question, a consolidation of 30 years of work on biodiversity and intellectual property called *Origin*, the corporate war on nature and culture. There is also the first book, *The violence of the green revolution*.

There are two cases in the Supreme Court; one started in 1998 when Monsanto brought in the BT cotton illegally and the second is against Monsanto trying to challenge India's patent laws that use the exemption from trips, whereby countries may exclude from patentability of plants and animals (*See box Case against Monsanto*). Indian law says that India will not recognize seeds, plants and animals as

inventions. Therefore, they are not patentable. Monsanto is trying to undo that.

This is an exciting moment because the effectiveness of agro ecology is showing and no matter how many tricks are brought up on the old paradigm of being at war with nature – at war with insects and diversity and that the next violent instrument is a superior instrument of controlling pests – that narrative has failed. There is another paradigm of ecological agriculture. It is delivering the evidence.

The FAO just had a huge ceremony to award in Sikkim, which is a 100 per cent organic state. It banned every chemical and has reworked every policy, its economic policy, its education policies, its environment policies and its climate policies in a coherent shift to policies that benefit the environment, the farmers and the citizens of Sikkim.

It is time to scale that up and get committed to making India 100 per cent organic; to a world that is pesticide free, GMO free, poison free by the year 2050. India can get there. ●

Based on presentation at the Bharat Krishak Samaj's Food Systems Dialogue, October 25 and 26, 2018 at the Kamaladevi Complex, India International Centre, New Delhi.

Using Technology to Impact Farm Livelihoods

Purvi Mehta

The Bill & Melinda Gates Foundation has been working in India since 2007; this country being a part of its very large global programme. In 2014-2015, it shifted its India strategy to see what value a tiny, technology-oriented organization like BMGF could bring in, given that the Indian government had an annual \$16.8 billion spend. It shifted its focus from the production aspect to other areas where it could bring value, around three areas, especially.



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- Leverage agriculture to address some nutrition challenges.
- Introduce gender sensitivity into its agricultural programmes and help women, who have a major role to play in agriculture, secure more benefits from programmes that the BMGF runs in Bihar, Odisha and eastern Uttar Pradesh.
- Focus on farmer incomes and nutrition, the two weak links in India's large production systems that have otherwise helped the country achieve a leading position as a food producer in the world.

Being one of the world's largest food producers and exporters of food, amongst other things, has not translated into better nutrition for Indians and the Gates Foundation chose to focus on two strategies: a nutrition strategy and an agriculture strategy. One fourth of the nutrition strategy is about agriculture and one fourth of the agriculture strategy is about nutrition. They serve to bring linkages between agriculture and nutrition, especially keeping two things in mind, the first being the need for diversification to enhance value.

India's history of food production and experiences are centred around a four or five commodities, including rice, wheat, milk revolution and such others and its policies have been driven by limited experience of very few commodities. Apart from the ecological issues that diversification entails, there are two important angles: nutrition and risk management for the farmers.

There is historical evidence that the farmer has looked for diversification but is intimidated by the need for risk management or the absence of a risk-mitigation strategy. The farmer with one hectare of land, for example, does not depend on one crop because it is too risky but engages in an



Photo: Dinodia

India's history with large policy reforms – the green revolution, white revolution or food procurement and food bill – shows a focus on three commodities, rice wheat and milk

integrated, mixed farming system. The farmer is also worried about marketing the diversified crop. If one commodity from the one hectare fetches a poorer price, the farmer can hope that the other will compensate.

India's mixed crop-livestock farming system is a case in point, with 80-84 per cent of the milk coming from livestock-owning crop farmers and not the livestock farmers. There is an inter-dependence in this system with an inbuilt risk-mitigation strategy with one or two crops along with a cow or couple of goats that help mitigate the risk. Therefore, any policy or work must address this entire ecosystem that is often not the case.

The history of large policy reforms in this country – whether the green revolution or the white revolution or food procurement policies of the country and, more recently, the food bill – shows a focus on three commodities, rice and wheat specially and milk. Yet a very large number of commodities are interesting for the farmer



because of the income aspect and very interesting from a nutrition perspective too but with several ecological and other issues associated with them. These commodities often remain untouched and the Gates Foundation seeks to bring in value in some of them through the diversification agenda.

The second agenda, again a very niche area, is market access for small farmers who comprise at least 80 per cent of the farming population. These small holder farmers have limited land and brings in small quantities to the market. The key disadvantage is the absence of scale and one of the programmes that the Gates Foundation rolled out is around organizing the farmer-producer into self-help groups to help them aggregate both their produce and command a greater control over the price at which they procure inputs.

Buying a tiny packet of seed that is enough for half acre of land at a higher price or taking only three bags of produce to the market but not getting a good price for want of a proper agency in the market that will take them seriously, are problems faced by small holders. This is overcome when 1,200 farmers come together, aggregate and become serious players in the market.

There is data-based evidence from several areas where the input cost for seed, for example, was lower because of better negotiating power while buying a larger quantity of seed or realizing a better price when selling four trucks of produce in the market. Larger scales help reduce cost and command better prices. This is partly why the co-

‘Suvarna Sub-1 or Swarna Submergence-1 or Swarna Sub-1 variety of rice is an updated version of India’s popular rice variety ‘Swarna’ (gold), a flood-tolerant hybrid rice that improves yields in India by almost half has been found to benefit marginalized people living in flood-prone areas. It yields up to 3-3.5 tonnes per hectare when submerged, which can go up to six tonnes in normal conditions. Swarna Sub-1 was developed by the International Rice Research Institution (IRRI, The Phillipines) and the Indian Council of Agricultural Research (ICAR) under a collaborative programme and is one of the most sought after seed varieties in the region. –<http://chimalaya.org/2014/03/06/climate-change-pushes-indian-farmers-to-adopt-water-resistant-rice-variety/>



operative model in the country has been successful by securing better market access.

The third area has been to help with a people-centric digital revolution in agriculture. Most agriculture reforms are designed in Delhi and taken to the people. Digital revolution is a people centric. There was much skepticism when 15 years ago a presentation on ICT in agriculture led to questions about the feasibility of people using cell phones when they did not have even drinking water. Today, 86 per cent of Indian households have access to cell phones that are an important farming equipment for many, serving as an extension system for Krishi Vigyan Kendras (KVK) messages.

The Gates Foundation’s studies have shown that the KVKs sends messages to the farmers, who also have their own extension system like whats app groups and such others to exchange information. However, the KVK information is

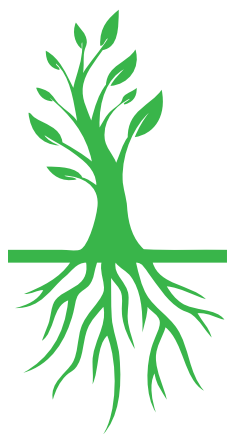




Photo: Dimodia

Farmers built their extension systems and shared weather-related information because farming is vulnerable to the weather and the ecology amongst other things

predominantly production centric and around those 4-5 niche commodities; about producing better, for instance. Farmers building their own extension system exchange information of all kinds, including market information, because their interests are not limited to the country's food security only. Farming is an important or only source of livelihood for them and, therefore, income from farming becomes a very important thing for them.

When farmers started building their extension systems, they shared weather-related information because farming is vulnerable to the weather and the ecology. These are some fundamental areas that

the Gates Foundation works on; investing in digital technology and production centric technology.

The Foundation does not do transgenic work in India. It works with the flood tolerant Swarna sub 1 variety that is now grown by four and a half million farmers in India (*See box*). India has close to 1,300 rice varieties but has commercialized about 6-7, based on higher productivity but not necessarily for the nutrition trait. This is one area that the Foundation is working on. ●

Based on presentation at the Bharat Krishak Samaj's Food Systems Dialogue, October 25 and 26, 2018 at the Kamaladevi Complex, India International Centre, New Delhi.

The Curious Case of Denied Farmer Incomes

Devinder Sharma

48





There is a movement for setting up food factories that will not require land or farmers and the World Bank is thinking of subsidizing it. What happens to farmers in this scenario? In 1983, as agricultural correspondent for the Indian Express, I was lucky to accompany Norman Borlaug whenever he travelled in India. I was with him when the Nobel Peace Prize was announced for Lech Walesa of Poland. Asked for his reactions, he said that as part of a small team set up by the Nobel Committee to determine if Lech Walesa deserved the Nobel prize, he had said “no”. Walesa got the prize, nonetheless.



DEVINDER SHARMA
Food and Trade
Policy Analyst

Lech Walesa was then the co-founder and leader of Solidarity, the Soviet bloc's first independent trade union in Poland and Borlaug found, during his visit to Poland, that Walesa was fighting for cheaper food for the workers as the Solidarity movement leader. Cheaper food for workers means sacrificing the interests of the farmers; the millions of people who produce food. Walesa was sort of pitting the workers against the farming class and, therefore, Borlaug thought he did not deserve the Nobel.

That is what is happening the world over with policies pressing for farmers subsidizing nations and India is no exception. Walesa got the Nobel Prize because dominant economic thinking is that food must be cheap; the task is confined to the achievement of the food production target. One is not worried about the farmers or their welfare. India is obsessed with the rate of growth of agriculture. This obsession with food is deep seated in Indian minds.

A few months back, the New York Times reported the suicide of a dairy farmer in America. He was

Dominant economic thinking is that food must be cheap; the task is confined to achieving food production targets and rate of agriculture growth without caring about farmers' welfare



under such great stress that he shot his 51 cows and then shot himself. Why should farmers die thus in a country like the USA that has invested in agriculture and has sophisticated technology? India generally borrows ideas blindly from the west without understanding what is happening there. Farmers are dying in America and Europe but India borrows the same approach to farming issues in India.

It is, therefore, important to discuss food systems and radically overhaul the kind of rotten and broken food system that has evolved in the country. Policy-makers find themselves in a comfort zone and do not feel the need to move about though hardly 10 kms out of Delhi one can see a troubled farming landscape. It is important to go out and check things out. Otherwise one believes that everything is fine because there is



Photo: Pixabay

food for the asking. The country is moving to a stage where people feel that farmers have become a burden to the nation to be quickly offloaded, in a marked shift from the time when the nation looked up to the farmers and was proud of farming.

This is part of an economic design and, therefore, it is important to decipher what this economic design is or one will never understand what is wrong and what is hitting agriculture. A close look at the macro picture makes it obvious that the fundamental problem afflicting agriculture, whether in the USA, Europe, Japan or India, is basically the denial of rightful incomes to the farmers. Farmers have been denied their rightful income for at least four decades. Prices of commodities have not improved for the farmer

View from the USA

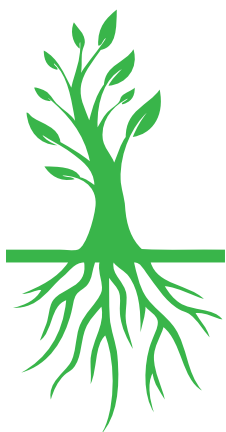
"Falling net farm income is largely the result of falling commodity prices [and] productivity is outpacing population growth and food demand... Looking forward, net farm income is expected to remain flat over the next ten years and, when accounting for inflation, to fall in real terms." The most recent outlook for 2018 indicates expectations are lower than last year's net farm income. USDA projects farm income will fall 6.7 per cent in 2018, down to \$59.5 billion. That is less than half of the farm income levels in 2013. Real farm prices, when indexed for inflation, have fallen sharply since 1960. Increased production has been significant, 400 per cent for corn production and nearly a thousand per cent production increase for soybeans. That effectively has caused a 60 per cent drop in the price of corn when figuring in inflation, and 47 per cent for soybeans considering the inflation rate since 1960. Higher production is only one of the reasons for falling prices.... US department of agriculture Chief Economist Robert Johansson, March 2018, at the USDA's Agricultural Economic and Outlook Foreign Trade Forum

since 1980s after accounting for inflation and incomes have been frozen. Had incomes for the middle-class been frozen as well, one would have realized how difficult survival is.

A recent OECD report on India confirms that over the past two decades farmer incomes have remained frozen. An earlier Unctad report said that between 1985 and 2005, global farm gate prices had remained frozen because of inflation. Thus for the last four decades there has been no quantum jump or increase in the real income of farmers. There is only a surfeit of advice for him to take difference approaches: precision farming or to grow genetically-modified crop and everyone is keen to sell farm inputs, from tractors to other machines.

If there is stubble-burning in Punjab, sell more machines despite knowing that machines are not the answer, with the government subsidizing machines. Yet there is no subsidy to give directly to human beings; to the farmers. That is why the human capital index is not at all talked about in India; the human is left out of the equation. Also, even though there is the agricultural economy and the industrial economy but economic growth means





It is not the farmer who has failed the country; it is the agricultural economist who has failed the farmers by misleading people into believing that a rise in productivity leads to a rise in income

building industrial infrastructure. Agriculture has never been considered as an economic activity and that has been the bane of this sector.

Clearly, it is not the farmer who has failed the country; it is the agricultural economist who has failed the farmers by misleading people into believing that a rise in productivity leads to a rise in income. They have advocated market dependence for a higher price. Regrettably, agricultural economists in India get fixed salaries. Had they been dependent on markets, they would have realized what it means to be at the market's mercy. People with stable jobs and incomes ask farmers why they are not looking at markets. One does not have anything against markets per se but market determinants everywhere in the world are adverse to the farmer.

In India, one is told that Minimum Support Price is not a workable proposition and according

to the Shanta Kumar Committee only six per cent of the farmers get MSP any way. Who is talking about the 94 per cent that does not get MSP but has to depend on markets? If markets were so efficient, farmers would not be forced to commit suicide. There is something going fundamentally wrong.

Agriculture has deliberately been kept impoverished and farmers denied fair incomes because everyone knows that if food prices go up inflation will increase and governments may fall. The burden of keeping inflation under control falls on the farmer, who is solely being held responsible for keeping food prices low. Yet, the nation does not stand with the farmer despite the knowledge that the farming class does not get what is due to it but is happy to get food of its choice cheap, ignoring the larger narrative that is being created where farmers commit suicide even in a bumper season.



Photo: Pixabay

In 1970, the procurement price of wheat was ₹76 a quintal; when the monthly salary of a school teacher was ₹90. In 2015, after 45 years, the price was ₹1,450 a quintal. To go by the MSP, in 45 years the farmers income went up by only 19 times while the government employee earns more than 120-150 times. The salary of school teacher has gone by 300 times, of college teachers and professors by 170 times, of corporate employees by 300-1,000 times. If such income hikes were denied to other sections of the society, they would have committed suicide in very large numbers.

To go by a very modest hike of say a hundred times in farm prices, the MSP should have been ₹7,600 a quintal but that would have led to a hue and cry over what would happen to one's kitchen or the household budget without any similar concern for the farmer, whose rightful income should have been ₹7,600 a quintal. Farmers have to be happy with ₹1,450 and actually be penalized for growing food. Every time they cultivate crops, they end up cultivating losses.

What mechanism does the country have to amend the situation? MSP, one is told, is not possible.

Markets are completely inefficient everywhere in the world. Talk of market efficiency comes from people who play the market. If markets were efficient, the US department of agriculture Chief Economist Robert Johansson, would not have said that real farm income in America has fallen since 1960. One can imagine what is happening to agriculture the world over (*See box*).

The Nabard All India Rural Financial Inclusion Survey (Nafis) shows that average agriculture household income was a mere ₹8,931 per month in 2016-17. Apart from a paltry income, farmers face rising indebtedness, lesser financial inclusion and absence of insurance facility, according to the report. In the past four years, the monthly income of a farm household has increased by just ₹2,505, calculated by comparing the Nabard report with a 2012-13 study by the National Sample Survey Organization (NSSO), another government body that estimated the average monthly income of farm household at ₹6,426. – Down to Earth, August 2018

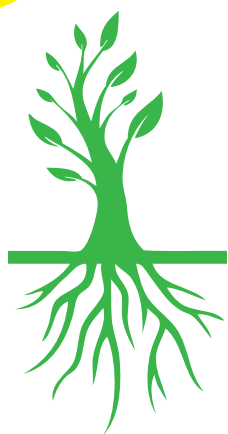


Photo: Pixabay

Agriculture takes place in America and Europe because of the monumental subsidies pumped into it and 80 per cent of the subsidy goes to corporates, who otherwise talk of markets

farmers are, in fact, the only sector in India that has been more productive and efficient in the last 10 years, even when there has been a decline in industrial output, manufacturing output, exports and such others; agriculture has grown despite the many crises and has kept the country alive. If agriculture collapses, everything will collapse. A chain is as strong as its weakest link and in India what is considered the weakest link is actually the strength of this chain.

The farmer is believed to need ₹18,000 a month to survive. The Economic Survey of 2016 says that the average income of a farming family in 17 states of India is an annual ₹20,000 and it is clear that the deliberate mechanism whereby incomes of farmers was kept low has worked all these years. There is also the frequent argument that the farmers are not productive, which is why their incomes are low. Punjab has 98 per cent assured irrigation and the highest productivity of cereal crops in the world and yet it is the hotspot of farmer suicides. In the last 17 years, between 2000 and 2017, Punjab had 16,600 farmers committing suicide.

Surely something is going terribly wrong, which has nothing to do with productivity and that is denial of income. One may talk of innovation and entrepreneurship in seminars but what matters is what comes into the pocket. Yet India refuses to accept that denial of income is the biggest problem though this country has no shortage of money. Money is given to corporates, to government servants through the Seventh Pay Commission (Annual outgo ₹1.02 trillion) and no one asks where the money will come from or what will happen to the fiscal deficit because those who make such noises are the beneficiaries now.

Yet, if farmers are given the waiver there will be a veritable *hungama* in this country with questions asked about where the money will come from and how the fiscal deficit increase will be handled. They

Agriculture takes place in America and Europe because of the monumental subsidies pumped into it and 80 per cent of the subsidy goes to corporates, who otherwise talk of markets. They operate under the WTO regime and no one questions them. Withdraw the 80 per cent subsidy that corporates get and they will collapse; all those who are exporting grains to India. Again, it is by design that India does not realize where it is hitting the farmers or ask if there is a way out.

Clearly there is need to overhaul the food systems and go beyond cheap price of food and definitely determine the eco system services, of bio diversity that farmers provide and to work out what exactly farmers need to ensure or put in to save the world from collapsing. It is said that the green house gas emissions from agriculture account for 57 per cent of the total green house gas emissions and there is need to determine what kind of effort the farmer has to put in to save the environment and create value food. This is being worked out and a report will be presented in February at a conference in Chandigarh.

It is equally crucial to provide farmers with an assured income in India or America or Europe. Farmers produce economic wealth and it is high time that people appreciate and acknowledge that



Photo: Pixabay

Sabhka saath, sabhka vikaas can only happen if 52 per cent of the population gets more money in its hands. This will increase rural demand and lead to a revival of the industrial economy

55

create the vocabulary and the narrative. Corporates have received huge tax exemptions over the years; enough to have wiped out poverty from India. There is no shortage of money; the corporate is being subsidized even without creating jobs.

Sabhka saath, sabhka vikaas can only happen if 52 per cent of the population gets more money in its hands. This will increase rural demand and lead to a revival of the industrial economy. That is the right kind of mechanism but does not feature in Indian economics where the dominant talk about supply-demand without looking at the manipulation that is going on. It is the manipulation that determines the real prices; supply-demand is not the factor. That is the biggest tragedy of the country.

How does one work out a mechanism to provide an assured income for the farmers? First, the need to work out costs, buy from the farmers and ensure that funds are transferred to their *Jan Dhan* accounts. This will ensure that inflation remains under control and the farmers get their dues. Second, change the name and mandate of the Commission for Agriculture Cost and Prices

to Commission for Farmers Income and Welfare to ensure that every farming family gets a minimum monthly ₹18,000. Economists should come together to see how to make this possible.

There is no scarcity of resource in India; only an unwillingness to pull out agriculture from the kind of crisis that it is facing because of a feeling that farmers are generally an abandoned lot and a hopeless case. The World Bank had told India in 1996 to move 400 million people out of rural areas to urban areas before 2015 and India is being pushed to do so now. Successive governments have been very keen to perpetuate the belief that economic growth can only take place if population is moved out of agriculture to urban areas. This is a flawed thinking because the only way a country can grow is by making agriculture sustainable and economically viable. This is the challenge for food system dialogues. ●

Based on presentation at the Bharat Krishak Samaj's Food Systems Dialogue, October 25 and 26, 2018 at the Kamaladevi Complex, India International Centre, New Delhi.

Alienated Farmers; Policies on Paper

Kiranjit Kaur

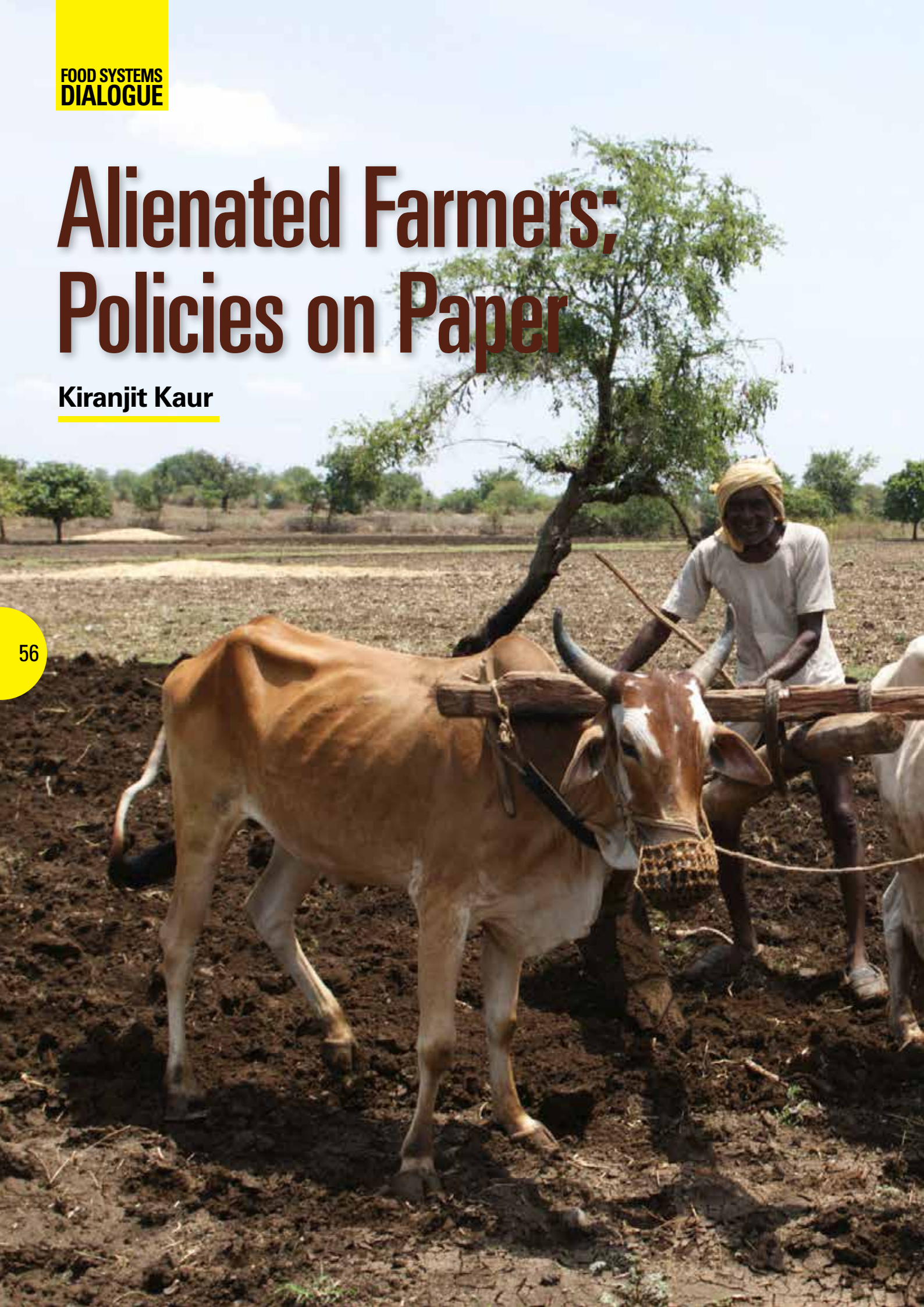




Photo: Dinodia

It is very important to discuss the farmers' plight with the farmer to get an understanding of the issues on the ground; about life without a regular source of income and working for no profit; to get to the bottom of the suicides and the impact of such deaths on society, especially when the family is solely dependent on farming.

As the daughter of a farmer, whose father committed suicide two and a half years ago, two things strike me; that suicide did not lead to a resolution of the family's problems and that there was no one from the agricultural department to provide an opportunity to discuss the problem that is common to all families solely dependent on agriculture. They are never a part of any discussion. Discussions take place amongst the usual educated people who read books and make policies that do not work out in the open.

The farmer begins his season with a loan to buy inputs, either from a legal government institutions or from some other informal sources to sow crops. Often the inputs are adulterated and ruin crops, which means zero income and the beginning of financial pressures as well as loss of self-respect. There are other practical aspects of this troubled existence. Health and education of their children, for instance.

Farmers want to send their children to good schools, colleges and universities so that the next generation does not become victims to such circumstances and manages to extricate itself from the vicious cycle. Good education is beyond the farming families means, as are basic health solutions. Government schools and hospitals in urban areas are way superior to the rural facilities and even there is disparity between the top class education for rich and what the poor can afford. Policies perpetuate the rich-poor divide.

Sometimes government schools are not adequately staffed and children do not get the education they deserve. There are food-related issues too because they cannot afford nutritious food. Rural health centres are poorly appointed with few doctors. The narrative should change to universal free children's education and health care because state healthcare is often inadequate while privatized health care is out of the poor man's reach.



KIRANJIT KAUR
Activist working
with women in
Punjab



Photo: Pixabay

Without these basic changes, farmer families end up being victims of their vocations, their poverty, and the politics of the region, with villages divided along lines of political affiliations. The political divide has also destroyed the practice of people meeting and openly talking about their issues. These further pressure the farmers' minds and affect their ability to think clearly.

Discussions on policy also do not include the farmer nor do the discussion outcomes reach them. On the rare occasions that they do, the farmer does not understand the pros and the cons. Never do the members/employees of the agricultural department organize camps in the villages to train the farmers.

There is a relief policy for the suicide victim's family; a university survey shows that 16,600 universities farmers have committed suicide and their families should get relief. The policy mandates the submission of an application within three months in such cases. The family, in a state of shock, is quite incapable of making such a submission; it took me a year to come out of the shock of my father's suicide and resume normal life.

In the Mansa district of Punjab, where I come from, 406 families have created a ladies organization that hosts a 'bak bak' (talk-talk) programme where

Policies written in English and not discussed with the farmers are of no use at the ground level. They end up excluding the farmers from policies meant for them

ladies talk about their problems and there is veritable pride in their eyes when they find that there is a sympathetic audience. They do not expect to have their debts paid or problems solved but the fact they have a platform to talk about their problems gives them the hope, strength and confidence.

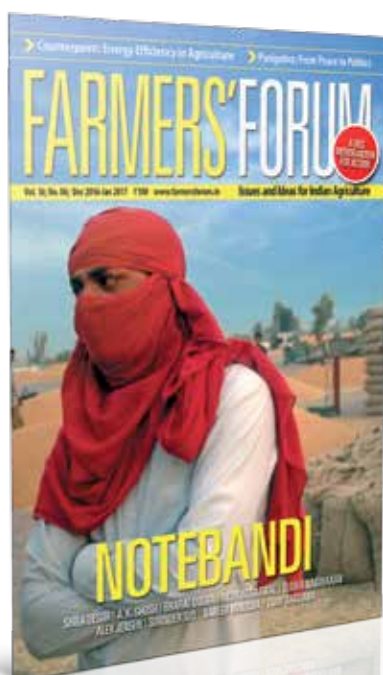
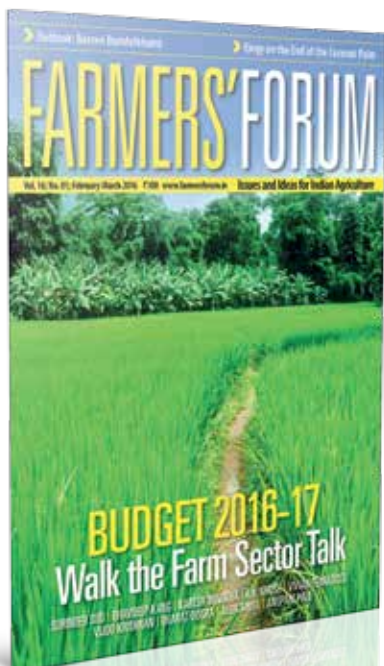
I have organized this *bak bak* programme in seven districts, especially in suicide-prone areas. Officers should come to these programmes and tell farmers about the new policies, the benefits and subsidies. No one ever does. Farmer policies must be preceded with discussion with farmers. Only then can a result-oriented outcome be expected.

The Mahatma Gandhi National Rural Employment Guarantee Act, supposed to give relief to families, also needs a form to be filled and submitted to the district administration that works out of a public building but does not welcome women wanting to discuss their issues. If 200-300 ladies walk to this building to discuss their woes, the administration closes its doors.

A family did not receive relief because the suicide took place in 2015 and the administration insisted that the relief policy came in 2016 though it was made in June 2015. I argued with the official and was asked to leave his office; so much for a caring administration. It is essential that the victim's family find a forum to be able to share its woes to feel less alienated from society.

Policies written in English and not discussed with the farmers are of no use at the ground level. They end up excluding the farmers from policies meant for them. Policies are made in Delhi and uploaded on the internet when many farmers do not even have a phone. My younger brother is a farmer but no one has ever discussed what these policies would do for him. They remain on paper only. ●

Based on presentation at the Bharat Krishak Samaj's Food Systems Dialogue, October 25 and 26, 2018 at the Kamaladevi Complex, India International Centre, New Delhi.



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