

> Putting a Finger on India's Pulse Crop

> Folk Tales From Bengal's World of Rice

FARMERS' FORUM

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FARM SECTOR INDIA A STATE OF SIEGE

T. NANDA KUMAR | ASHOK DALWAI | RAMESH CHAND | ABHIJIT SEN | BHARAT DOGRA



**A BHARAT KRISHAK SAMAJ
WORKSHOP**

FOOD SYSTEMS DIALOGUES

25th & 26th October 2018

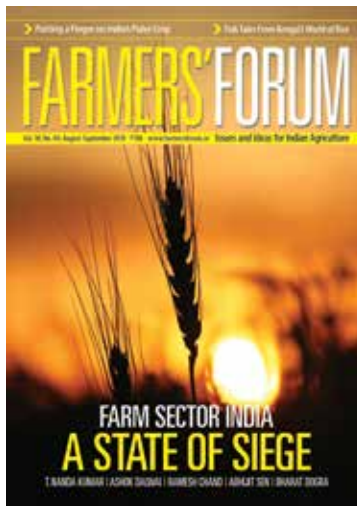
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Editor, Printer & Publisher
Ajay Vir Jakhar

Editorial Board
Prof. M.S. Swaminathan
Dr R.S. Paroda
J.N.L. Srivastava

Editorial Support
Aditi Roy Ghatak

Design
© PealiDezine
pealidutttagupta@pealidezine.com

Contact us/Subscription
ho@bks.org.in

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Will Someone Tell the PM?

With elections around the corner, it is too late for a course correction for the farm sector but it is an opportune time to document unintended consequences of half-baked policies and plan for the next five years. Otherwise, the augmented momentum of existing policies will continue to feed rural economic misery in India.

India's agriculture GDP growth plummeted just as its agricultural trade surplus, which had recorded a 10x increase between 1991-92 and 2013-14, dropped by 70 per cent mainly due to depressed international commodity prices and back-to-back droughts at home. The GDP time series data clearly indicates that growth was already declining when UPA II passed the baton to the present regime. Therefore, not all the blame can be heaped on this regime.

It is equally true, however, that the response of those directing the agriculture policy under the current regime drove the dire circumstances to excruciating levels, creating a credibility crisis for the government. Worse, no one can be held accountable for the aggravated problem on every farm, courtesy the very structure of the policy-making ecosystem.

UPA II basically lost the support of the people as it was unable to control inflation, while this regime faces a backlash for artificially deflating the economy. The MSP increase was a knee-jerk reaction to the deflation. Milton Friedman diagnosis and prescription vis-à-vis another situation at another point of time comes to mind in India's present state of crisis.

"Only a crisis – actual or perceived produces real change," the economist had said. The prescriptive part of his comment is what exposes the Indian narrative. "When that crisis occurs, the actions that are taken depend on the ideas that are lying around. That... is our basic function: to develop alternatives to existing policies, to keep them alive and available until the politically impossible becomes the politically inevitable".

Regrettably, policy-making and policy-driving officials supporting the Prime Minister's regime lack the capacity to make wiser decisions or even figure out options. The outcome is an Indian farm sector that is bleeding slowly; as if being prepared for a ritual halal or kosher diet. Therefore, farmer suicides continue unabated, irrespective of leadership change and no one seems to be keeping the Prime Minister informed of this ground reality.

The government excelled in politically attractive slogans like 'doubling farmer incomes' even though

POLICY-MAKING AND POLICY DRIVING OFFICIALS SUPPORTING THE PRIME MINISTER'S REGIME LACK THE CAPACITY TO MAKE WISER DECISIONS OR EVEN FIGURE OUT OPTIONS



IF RAJASTHAN WERE TO NOTIFY THE PMFBY IN SPIRIT AND ON TIME, THE PREMIUM PAYOUT MAY BE MORE THAN THE STATE'S AGRICULTURE BUDGET

the inevitability of the problems that would arise while implementing the impractical content of such flagship schemes as the Pradhan Mantri Fasal Bima Yojana (PMFBY) for crop insurance were obvious. Even the BJP-ruled states are not receptive to policies dished out by the central government, of which Haryana is a classic example.

The architecture of the PMFBY is operationally flawed. Haryana insured crops of 6,40,000 farmers but only 1,053 farmers (0.16 per cent) voluntarily opted for crop insurance. In 2016-17, the premium collected was ₹368 crores and, even though the corresponding claim pay-out was ₹280 crores, the premium for the next year rose to ₹460 crores. In Haryana's Sirsa district, crop premia per hectare increased manifold; for cotton from ₹1,320 to ₹5,936 and for maize from ₹1,000 to ₹6,225. Shockingly, there are crops like gram (₹9,837/ha) where the premium is more than the actual cost of sowing.

Even though the crop automatically gets insured (without consent) when farmers avail of a crop loan, pan India, the number of farmers insured has dropped. BJP-ruled states like Rajasthan and Maharashtra have found innovative ways to circumvent the implementation the scheme. They issue notifications only two days before the expiry date of enrolment, thus limiting the fiscal damage. If Rajasthan were to notify the PMFBY in spirit and on time, the premium payout may be more than the state's agriculture budget.

Academicians supportive of the government may hawk the PMFBY, demonetization, food parks, soil health cards, eNAM and job creation as great successes of this regime but nothing can be further removed from the reality. Having given the regime the benefit of doubt, one is left to deduce that even this government has fallen in the trap so competently coined by cosmologist Martin Rees' maxim. It seems to hold that the 'absence of evidence' is "evidence of absence".



Photo: Pixabay

DESPITE EVIDENCE TO THE CONTRARY, THOSE WITH A FUNDAMENTAL UNDERSTANDING OF AGRICULTURE HOLD THAT THE SITUATION CAN BE SALVAGED PROVIDED THERE IS INTENT TO DO SO. MATTERS ARE MADE DIFFICULT BY IRRATIONAL DECISIONS THAT ARE PROMPTLY EXECUTED

The absence of evidence here is because people have chosen not to look for it or others have hidden it elsewhere. Even so – and despite the overwhelming evidence to the contrary – those with a fundamental understanding of agricultural economics and farming realities can optimistically hold that the situation can be salvaged provided there is intent to do so and to take the correct measures. Matters are made difficult by irrational decisions that are promptly executed.

One does not know – and one would rather not hazard a guess – the reasons for the latest order to stop the export of all livestock indefinitely, impacting livelihoods of millions. While even loud vigilantes deserve to be heard, the government can hardly pretend they are the voice of even a trivial minority. The leadership is busy being in-charge though it is supposed to be responsible for those in its charge.

Farmers wonder why the union minister for agriculture and farmer welfare is conspicuous by his absence every time significant farmer-related decisions are announced. Two abiding thoughts come to mind: one around eternal optimism, “But in the end, it’s only a passing thing, this shadow. Even darkness must pass”. Will this hope that Tolkien expressed in Lord of the Rings ever come true for Indian farming? The more pressing thought is prompted by a question posed at a recent meeting in the north block by one who has left for greener pastures: ‘Why does not someone tell the PM?’ ●



Ajay Vir Jakhar
Editor

twitter: @ajayvirjakhar
blog: www.ajayvirjakhar.com

To the Editor

Enough of a cruel joke

Apropos of your Editorial, “Agri Crisis: Farmer’s Despair; PM’s Nightmare” (*Farmers’ Forum*, June-July 2018), one wonders how the current regime sounds so confident about winning the next elections when there are such obvious signs of public disenchantment with the pre-election slogan of ‘Sab ka Sath Sab ka Vikas’. As you so rightly point out, the BJP has to come to terms with the fact that one of its main constituency, the Indian farmer’s simple visualization of his state of despair is difficult to negate using nothing but loud propaganda.

The only hope for the current regime may lie in getting bureaucrats and advisors who will not hesitate to tell the Prime Minister the truth about the reality on the ground. Sycophants only cause harm especially because they are not “held accountable, courtesy the very administrative structure in which they serve”. They have fuelled the farm crisis and are cynically trying to divert attention from the impending disaster by coining blatantly impractical slogans like ‘doubling farmer income’. You correctly say that such slogans have “become a cruel joke on the farmers”.

Ramesh Chaturvedi

Lucknow, Uttar Pradesh

A good policy for Punjab farming

Your report, “Punjab In Search of Solutions”, (*Farmers’ Forum*, June-July 2018) makes it clear that open-mindedness in seeking solutions to perennial



Making a bigger mess

Your editorial, “Agri Crisis: Farmer’s Despair; PM’s Nightmare” rightly says that a nearly ‘Congress Mukh Bharat’ has left BJP with no one but itself to blame and answerable for its grievous errors. If the government does not fulfill its promises for the farmers, it will end up creating a huge mess in the farm sector.

Naveen Kumar

New Delhi

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problems can lead to good ideas and the draft of Punjab State Farmers’ Policy prepared by the Punjab State Farmers’ and Farm Workers’ Commission shows the way to get stakeholder participation in policy-making; something that has eluded governments in the past. I want to congratulate the Commission for doing such an excellent job and I do hope that the report will be thoroughly debated at the assembly level and something sensible will emerge by way of a policy for Punjab’s farm sector. I believe that it is this is the first time that such a policy for farmers is being attempted and I hope that it will take Punjab forward with a clear focus on improving prosperity and a better tomorrow.

Sanjay Kumar

Meerut, Uttar Pradesh

Why GMOs?

The Food Safety and Standards Authority of India seems to be clearly “fighting shy” of regulating genetically modified organisms or products thereof even as it shows unbecoming haste in regulating organic foods”, as your report “India Bringing in GM

Through Lax Controls” (*Farmers’ Forum*, June-July, 2018) suggests. The good news is that competent bodies are taking steps to bring such actions into limelight and organizing protests. One has personal information that GM mustard faces several unanswered questions and that many states in the country are opposed to its entry. I fail to understand what is fuelling this rush to push it through in India.

Rupesh Bagchi

Kolkata, West Bengal

COVER STORY

Punjab State Farmers' Policy New Positioning: From Farm to the Farmer 08

A Farmers' Forum Report

COVER STORY

BREAKING NEXUS; CHANGING MINDS 12

T. Nanda Kumar

**SHIFTING THE POLES FOR PUNJAB:
FROM FOOD SECURITY TO
NUTRITION SECURITY 14**

Ashok Dalwai

**TOWARDS A NEW FARM ECOSYSTEM:
THROUGH FOUR CLEAR GOALS 18**

Ramesh Chand

GOVERNANCE AND DELIVERY: THE KEYS 22

Abhijit Sen

SHEDDING THE SET MINDSET 24

Ajay Jakhar

POINT COUNTERPOINT 26

FACE TO FACE

**INDIA RAISES CURTAINS ON
THE FARMERS' LONG MARCH 30**

OUTLOOK

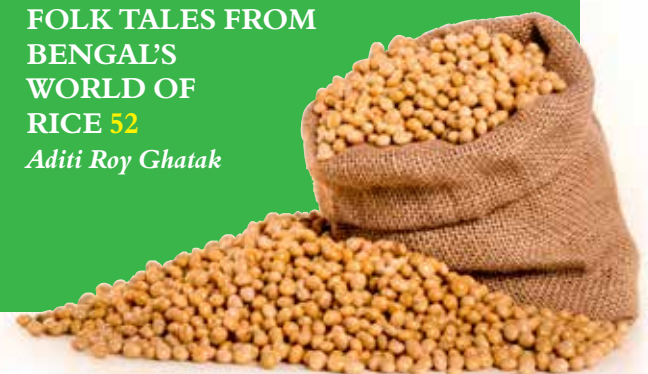
**PUTTING A FINGER ON
INDIA'S PULSE CROP 46**

Bharat Dogra

GREEN FINGERS

**FOLK TALES FROM
BENGAL'S
WORLD OF
RICE 52**

Aditi Roy Ghatak



**COVER
STORY**

PUNJAB STATE FARMERS' POLICY

New Positioning: From Farm to the Farmer

A Farmers' Forum Report



The term “FARMER” in the draft policy refers to any person actively engaged in the economic and/or livelihood activity of producing primary agricultural commodities and includes all agricultural operational holders, cultivators, agricultural labourers, sharecroppers and tenants engaged in various farming-related occupations such as growing crops, poultry, livestock, fisheries, beekeeping and agro-forestry.

An interesting dilemma faced the members of the Punjab State Agriculture Commission, while working on an agriculture policy for the state that was easily “the country’s agriculturally most prosperous state—often described as the grain bowl of India”, to quote senior journalist, Paranjoy Guhathakurta, who set the ball rolling on the discussion on the Punjab State Farmers’ and Farm Workers’ Commission’s Draft Punjab State Farmers’ Policy at the India International Centre, on July 19, 2018.

T. Nanda Kumar, former secretary food and secretary agriculture and former chairman of the National Dairy Development Board, moderating the session, said members of the commission were in a quandary over whether to work on an agriculture policy for Punjab or a farmers’ policy for Punjab.

To one not au fait with the tragic denouement of the farm sector story in India, this may sound strange because, generally the farmer is considered synonymous with farming; agriculture with the agriculturist. That, however, has not been the case

in India where agriculture may have prospered but not the farmer, who is in a global headline-grabbing state of despair.

It was from this position that the commission approached the task ahead of it, which was consultative in nature and solutions-driven in its target. The July 19, 2018 dialogue was about analyzing the draft (details published in the *Farmers' Forum* June-July 2018) with experts, practicing farmers and other stakeholders participating in the discourse. Speaking at the dialogue were:

- Ajay Vir Jakhra, chairman, Bharat Krishak Samaj (which publishes *Farmers' Forum*) and chairperson of the Punjab State Farmers' and Farm Workers' Commission;
- Agricultural economist and practicing farmer, Ramesh Chand, member of NITI Aayog and the 15th Finance Commission, associated with the National Institute of Agricultural Policy at the Indian Council of Agricultural Research, the Institute of Economic Growth and the Punjab Agricultural University in Ludhiana;
- Ashok Dalwai, special secretary, agriculture at



Photo: Pixabay

the Department of Agriculture Cooperation and Farmers Welfare, entrusted with the onerous responsibility of doubling farmers' income;

- Former member of the Planning Commission and JNU professor, Abhijit Sen, also member the 14th Finance Commission, who has closely followed, tracked and shaped agricultural policy in India. ●

Breaking Nexus; Changing Minds

T. Nanda Kumar



I have had the privilege of looking at this draft more than once. I also sat at some consultation meetings that the Punjab State Farmers' and Farm Workers' Commission had organized. The first dilemma facing the commission was whether it should write an agricultural policy for Punjab or a farmers policy for Punjab. Many people had asked the chairperson to write an agricultural policy and not a farmers' policy. The "Draft Punjab State Farmers' Policy", first, represents a break from that thinking.

The second issue was around the limitations in writing a policy for the state. Every reply to a parliamentary question begins with reiteration of the fact that agriculture is a state subject. Yet the question survives about how much space a state has to influence farmers and agriculture in a policy document.

The third point is that the draft policy is the result of a large number of consultations. It is not a document that has come out of some office; from the Punjab State Commissioner's Office. A lot



T. NANDA KUMAR

Former Secretary Food/Agriculture; Former Chairman, the National Dairy Development Board

of consultation went into the making of this document. Therefore, it has strengths as well as weaknesses. Ajay Jakhar has called it the 'least bad option' because there is always the ideal that one wants to implement but cannot. The idea is to try and make something that is as practical as possible in terms of finding solutions.

Any discussion around the challenges of Punjab farmers or Punjab agriculture veers around rice, ground water and food security of the nation. This nexus has led to known problems like depleting groundwater and free power. While these issues will remain, the farmers' perspective needs to be taken into account as well.

An interesting fact that came to notice during a research project at the ICRIER (Indian Council for Research on International Economic Relations) was that Punjab uses the maximum irrigation water per kilo of rice. This has serious implications and, if the person who does the calculations and research is correct, it adds up to 5,300 litres of water per kg of rice. In Andhra Pradesh, which is not a 100 per cent irrigated state, it is at about 3,000 litres of water per kg of rice. Is there something that needs to be done to improve the efficiency of water? Two pilot studies have been conducted on incentivizing reduced use of water. The results of these pilots are not yet known; they may be available by the end of the year.

Finally, any talk of farmers in Punjab must discuss activity that will enhance the farmers' earnings like dairy, livestock and such others. There is no point in writing a farmers' policy restricted to rice and wheat or a couple of horticulture crops. ●



Any talk about farmers in Punjab must discuss activity that will enhance the farmers' earnings, like dairy, livestock and such others. There is no point in writing a farmers' policy restricted to rice and wheat or a couple of horticulture crops

SHIFTING THE POLES FOR PUNJAB

From Food Security to Nutrition Security

Ashok Dalwai

The Punjab farmer has fallen into a laziness trap for the last 50 years. That agriculture is one of the riskiest professions is known; thus the farmer should be one of the greatest risk-taking professionals. Regretably, the Punjab farmer has lost the ability to take risks. The resurgent farmer of the sixties and seventies has regressed over the last 50 years, thanks to a poor policy environment.

Most of the limited arable land in Punjab is under paddy and wheat that came up because of a fantastic technology. Punjab was a blessed land with 99 per cent of its cultivated area under irrigation. The government came up with a very supportive price policy to boot. This helped not just the state and its farmers but the entire country, which is grateful to Punjab.



ASHOK DALWAI
Special Secretary
Agriculture,
Department
of Agriculture
Cooperation and
Farmers Welfare

However, Punjab farmers have gone into a sleep mode without realizing that new challenges have emerged.

The emerging challenges are not just because of degradation of natural resources of Punjab but more in terms of the resurgence in other parts of the country. States, earlier called the “Bimaru” states (Bimaru is an acronym formed with the first letters of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh, coined by Ashish Bose in the mid-1980s, because it sounds similar to the Hindi word “Bimar”

that means ‘sick’), have begun to clock very good growth rates in agriculture.

Today, the farmers in those states are very aspirational and the governments are committed to robust growth rates. This is combined with the changing tastes and preferences of the people of the



Photo: Pkabay

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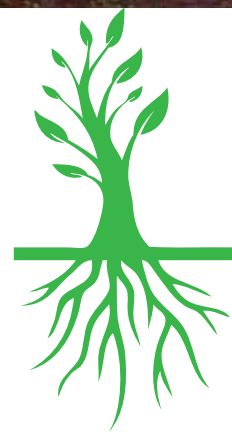
A situation may arise when the states may not want to pick up the PDS paddy and wheat. In any event, the middle class does not pick up PDS produce

country who want more than just a plate of rice and wheat. There is a silent movement against rice and wheat in favour of nutri-cereals, in favour of proteins, meat and milk-based products.

A situation may soon arise when the states may not want to pick up the PDS paddy and wheat. In any event, the middle class does not pick up PDS paddy and wheat; the poor do so because they have no option. With improved purchasing power, they may choose not to do so and state governments will not pick up produce at the government of India declared prices because there will be no rationale for them to procure and store so much.

The new procurement policy talks of broad-based procurement, moving away from paddy and wheat on to nutri-cereals, pulses and such others. If that happens and other states get the option of integrating other commodities under the National Food Security Act, Punjab will be a loser. This is the first challenge that the Punjab farmer should understand.

The second challenge is around notion that the Punjab government has about the average income of the Punjab farmer. It believes that is much more at or at least three times more than the earnings of a farmer of Bihar or the national average, taking it as an indication that Punjab can afford to relax. This is a mistaken notion. The yearly income works out



to ₹18,000 per family per month. Is that what the government wants for the farmer?

Is this income adequate for farmers to meet not just the biological needs but those that they aspire to fulfil beyond them and lead a better life? If the Punjab farmer is a resurgent farmer, why does one not take advantage of the emerging food choices and diversify agriculture in Punjab? Diversification should aim not just meeting the food security of the country; other states are also doing so now. Punjab should get over this state of mind and now grow only premium products that can be sold in both the domestic and export markets.

Punjab has the advantage of not just good resources but also limited geography, making it easy for extensive use of mechanization. Thus Punjab should start developing cluster-based cultivation under the supervision and monitoring of government officials of not just routine crops. It can be the first state where the size of the animal husbandry – livestock, fishery, dairy, aquaculture – far exceeds that of the crop sector. In India, the crop sector continues to dominate but it is possible to go beyond crops in Punjab. The state can go into the horticultural segment, into livestock, dairy and such other new growth engines.

India today aims at total nutritional security that involves ridding itself of all kinds of malnourishment, under nourishment, stunted growth and other nutrition-related diseases that the country suffers from, which put at risk its so-called demographic dividend. Punjab should resume the exercise it began in 1965 and progress from a pursuit of food security for the country to nutritional security for the country.

The current policy regime has addressed issues relating to sustainability and degradation but it has to focus on a demand-led and not a supply-led approach, irrespective of whether it is the entire country, Punjab or any other state. The approach should be market led, with a strong price and demand forecasting mechanism, strong market intelligence and the

**Good agriculture logistics
require storage, transport and
good harvesting practices.
This is what is going to help
connect the production zone
with the consumption zone**





Photo: Pixabay

producer must produce what the market wants and try to get the best price for the farmers.

Punjab farmers should go forward, based on not only what they can sell but what they can sell at the best price. They need to keep in mind post-production conditions and not just marketing. Marketing efficiency alone will not deliver optimum results. There is also need to think of monetization and its three main components: agriculture logistics, processing infrastructure for the best value addition and marketing. Once these three components are in order the best price can be transferred to the farmer.

One may have an extremely good market and discover high prices but the question about whom the money is going to will survive. Check if it is increasing the farmers share of the income and the answer will probably be in the negative; it may well go to the intermediaries or some of the value producers. Good agriculture logistics require storage, transport and good farm harvesting practices. This is what is going to help connect the production zone with the consumption zone.

Second, there is need to have very good value-addition processing facilities because the idea is to have considerable surplus produce without much spot sales. There is need to take advantage of the price differences over space and time and save the surplus. Hence the need for very good storage facilities. The third is marketing, which needs a very good infrastructure starting from the rural retail markets, to the wholesale APMCs and export markets.

Punjab actually looks at export markets but its marketing infrastructure compares unfavourably even with those of the weaker states of the country. There is procurement of 33 per cent of the wheat and almost 30 per cent of paddy. Of the 33 million tonnes of paddy procured in the country, 11 million tonnes come from Punjab alone. Other are getting competitive though, while in Punjab matters are in the hands of the *aratiyas*. There is need to get out of their clutches and build a strong, competitive marketing system.

As to whether the state needs a Punjab farmers' policy exclusively or a farming policy is concerned, one should look at a combination. Truth to tell, the farming system has been degraded in Punjab and not even the farmer is benefitted. His income is as low as ₹18,000 per month even if it is thrice the national average of ₹6,400. The point is that it should be a matter of dissatisfaction for Punjab that its farmers, considered strong and robust, find themselves lagging behind because of poor policies. ●

TOWARDS A NEW FARM ECOSYSTEM

Through Four Clear Goals

Ramesh Chand

Punjab evokes a special feeling; Punjabis are considered as people who can do something even in the midst of adversity; they generate hope. When people realize what is happening in Punjab today, they are very disappointed because they imagine Punjab very differently. Every technology has its life and cannot be expected to serve beyond its life. Yet this happened with the Green Revolution technology in Punjab, which had served the state very well up to a point.

The green revolution helped in a major social and economic transformation of Punjab. The kind of houses the people grew up during in the 1960s was quite different from the homes of today. It was in the eighties that some sort of a decline had been noted in agriculture in Punjab and it was in 1985-86 that a government committee first spoke of crop



RAMESH CHAND
Member, NITI
Aayog and the
15th Finance
Commission

diversification. There was a paper by me in EPW in 1999 on the emerging crisis in agriculture in Punjab that discussed possible options.

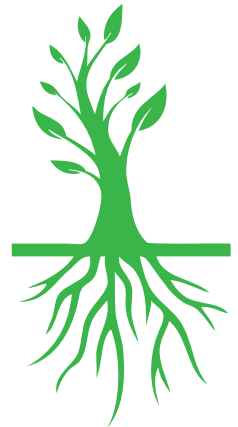
People talked about emerging contradictions in the state; why were millions of people coming from outside Punjab to work there when the Punjab youth was unemployed. I tried to resolve these contradictions. There were many committees but never any action and the political leadership was expecting a miracle. Punjab has waited for a long time for action to happen and it is hoped that the Punjab farmers' policy will lead to action. If action is further delayed, Punjab will be in an irretrievable situation.

The draft document has four distinct goals. The first is to raise the living standards of farmers to acceptable levels that, in turn, has two narratives.



Photo: Pixabay

Punjab farmers rue their privileges; they feel that MSP and food security have denied them a great opportunity and pushed them into debt



Punjab in the last four to five years, non farmers earn 30 per cent more than farmers.

Punjab farmers rue their privileges; they feel that MSP and food security have denied them a great opportunity and pushed them into debt. Debt, per farmer and per family is higher in Punjab and farmers feel dissatisfied and exploited because everyone wants to grow. Countries with four times more per capita income than India want to earn more too. So even if the farmer's income in Punjab is much more than that of the counterparts' in other states, the desire is to earn more.

How can the standard of living of Punjab farmers be raised? What may be acceptable to one may not be acceptable to another. To make it more quantitative, there are a few pockets in the world that are as productive as Punjab but comparison with China, for instance, is not fair. Yield in China is higher than in Punjab; yield of wheat in France is higher than in some places; Punjab harvests 11 tonnes of paddy and wheat in 365 days from one hectare of land.

Are there pockets that can boast of similar productivity in the rest of India? Outside Punjab, if one diversifies from wheat and paddy and grows fruits and vegetables, one's income will grow five times. The coefficient in Punjab is only 1:2. Punjab need alternatives like hi-tech agriculture, different models but it not easy to achieve this change.

A simulation to check if area under paddy went down when power was charged at the proper price showed that the area under paddy did not decline but the use of water did. The paddy did not go out of crop rotation; it remained there. Different approaches, institutional structures and different regulations are needed to promote alternatives. Having said that, there is limited opportunity for raising the living standard of Punjab farmers and the state must look beyond agriculture to address its agricultural problems.

There are many contradictory indications when the shares of agriculture in Punjab and that of farm workers in total workers in Punjab are considered. At the per capita income level, no state or country, has agriculture contributing 35 per cent to its

One is within Punjab, created by farmer leaders and political class and scholars. The other is from outside Punjab, which is very different. Any farmer outside the state will say that if he has irrigation and high productivity, assured market and the government buys what he produces, he will consider himself blessed. All these things are true for Punjab but the Punjab farmer feels cursed and not blessed.

Outside Punjab, people feel that Punjab farmer incomes are very high; first because productivity is very high as is the size of the holdings. In Rajasthan, unlike in Punjab, even with large holdings income productivity is low. In terms of poverty, less than 0.5 per cent of farmers are poor in Punjab and even the disparity of farm earnings between farmer income and non-farmer income, is minimal. In the last four to five years, the incomes of the farmer and non-farmer have been the same in Punjab. Since no agricultural growth has taken place in

economy. If any state or country reaches Punjab's level of per capita income, its share of agriculture will be eight per cent to 10 per cent. Too much is expected from agriculture here by way of finding solution to problems.

In another deviation from the main national trends, Punjab, despite its 35 per cent share of agriculture in total economy in Punjab, had only 31 per cent of its people employed in agriculture. Contrast this with the country-wide figure when agriculture accounted for 35 per cent to national economy: the share of employment in agriculture was more than 65 per cent. This contradiction has come about because the non-agriculture sector of Punjab has been neglected. One can keep lamenting and asking for higher prices but that will not provide the solution.

The second goal is managing the natural resources better. Punjab is blessed with water and was a surplus state with sweet water. Now there is an arsenic problem. After some time it will become a water-starved state. If nothing is done about free power, there will be no solution. If nothing is done about water pricing, water cannot be a sustainable proposition in Punjab. Paddy cultivation will not be stopped but the power has to be priced correctly. If power is priced correctly, farmers will produce paddy with just 40 per cent of power that they are currently using, which is what my paper was about.

The third goal is combating disguised – or not so disguised – unemployment in Punjab. There are two types of youth in the state: those who expect very high income jobs without being capable and a high percentage of youth that is capable but not getting jobs. Even graduates are not finding jobs. In another contradiction, the ratio of migrant workers to the total workers in the state is the highest in Punjab. There are jobs in Punjab but locals do not want to do them.



Area Under Various Water Table Depths (Per cent)					
Year	Depth Range				
	0-5 m	5-10 m	10-15 m	15-20 m	>20 m
1973	42	40	13		5
1980	42	44	12		2
1990	24	58	15	2	1
2000	24	44	22	8	2
2005	16	28	31	16	8
2010	10	23	21	18	28
2015	14	21	17	17	31
2016	13	22	16	17	32

Source: Department of Agriculture, Punjab



Photo: Pixabay

After the 1991 reforms, many states captured the emerging opportunities. Pune, Bangalore... became IT centres but Mohali missed the opportunity

hands and gives the worker a sense of doing a skilled job, from which a higher income can be earned.

During the farm sector crisis of the mid-eighties, militancy in Punjab was accompanied by a decline in both agriculture and industry. After 1991, post economic reforms, many states captured the emerging opportunities. Pune, Bangalore and Mysore, for instance, became IT centres but places like Mohali missed the opportunity. Punjab also missed out on the service sector wave. The biggest tragedy is that there is scope for forward and backward linkage for agriculture that is not being captured.

The need for fertilizers and tractors indicates prospects for industry to produce fertilizers and tractors that would absorb the work force and help people move to non-agricultural activities and diversify their economies. In an open economy, however, unless one attracts investment, tractors and fertilizers will be produced outside the state. Punjab has thus missed the forward and backward linkage opportunity because of the excessive dependence on agriculture.

The fourth objective is improved governance and delivery, which is more of a means to achieve the goal, rather than a goal by itself. This is important though; without this the other three goals will not be achieved. Whether one should consider it a means to an end or the goal itself can be debated. One has accused the centre of nefarious designs but it must be realized that it is never the intent of a planning process to harm a state. The centre and states need to join hands and work together.

The political leadership needs to take some courageous decisions. Punjab has the best natural resources, except water. Many people say land in Punjab is getting spoiled because of urea. I have not seen any field in Punjab getting spoiled because of urea. Land is as productive as it was when we started the green revolution, some micro-nutrients can be applied to make it more productive. The only problem is with water but there is technology to solve that problem too. ●

The solution would lie in changing agriculture in a manner that will capture the imagination of the youth and interest it in farm-sector jobs. Punjab is currently experiencing a withdrawal of family labour from agriculture. It used to be profitable but the decline in the percentage of family employment in the total employment in agriculture will show that it is no longer so.

None other than mechanical jobs such as driving a tractor or a machine interests the Punjab youth. The solution would lie in coming up with another kind of mechanization that does not involve the soiling of

Governance and Delivery: The Keys

Abhijit Sen

The two broad thrusts from Ashok Dalwai and Ramesh Chand are that the Punjab farmer is too lucky for him to take any more risks and that the state is too obsessed with farmers. There is substantial truth in both propositions. As far as productivity goes, Punjab farmers are very productive, except in terms of the returns on water. As far as non-agricultural employment is concerned, Punjab has lagged massively behind in getting people into non-farm jobs. Much of Punjab's problems with agriculture emerge from these rather than there being any problem within the sector itself. The period of militancy in Punjab dragged farmers down massively.

As far as the report of the Punjab State Farmers' and Farm Workers' Commission is concerned, the role of experts is to help the commission. Many things in policy are not about the big things like agriculture, creating non-agricultural occupations or about farming itself. The idea of determining who is a farmer is important; going beyond the definition of a farmer, which is someone who owns land and gets income from it, to anyone who gets any income from agriculture, such as agricultural labourers.

Having taken the extended definition of farming, the state farmers' policy pushes itself into a whole range of things like rural development, skill development, health and education. This move beyond agriculture can be very useful for the commission going forward. Farmers require, health, education and skills, which is where diversified skills are required and diversification away from agriculture can start beginning. In



ABHIJIT SEN
Former member
Planning
Commission

bringing in this rural development within its folds – in terms of health and education – the policy does a very good job.

The policy also says 20 per cent of the current farming population should find jobs elsewhere by way of policy guidance to the government. The commission could also look into how this is to be done even though it may be too big a task. There is a whole section in the policy that has to do with land and most of it makes sense.

The section was written with two points in mind: one that there is need for economies of scale. Better economies of scale mean fewer agricultural machines in Punjab because from the 1990s Punjab has had too many tractors, for instance. Farm machinery needs to be reduced even though Punjab farms are large. They are not large enough for such extensive ownership of the machinery used. Such machinery can be hired and there must be greater contracting of machines as is happening with harvesters in Punjab but not in terms of other machines. That is not seen as part of the culture.

The other aspect of economies of scale is that farm sizes are going down and with people not getting jobs outside farming, they actually want a bigger piece of the left over land.

In terms of land regulation, the document sticks its neck out and not only recommends that tenancy be legalized – which is happening in Punjab, where it is pretty much legal and no one says 'no' to tenancy – it goes on to recommend what people privately say: that there should be enforced. This is debatable too because people have different views on women's rights to property and inheritance.

Whether the government is delivering on its promises is what the farmers' commission should be looking into. It should be the farmers' voice that asks if the government has delivered on its promises

This state farmers' policy raises this issues and does not just stick to agriculture; is actually going to the heart of cultural ideas, which form the basis of not just relationships between the agriculturist and land but also between brothers and sisters; which is what farming is really all about. The question is where is this heading.

I have never lived in Punjab but have been a frequent visitor, as chairman, Commission for Agricultural Costs and Prices (1997-2000). In the nineties, Punjab was the state where these commissions actually worked compared to the rest of the country. I was member Planning Commission for three years for the state of Punjab and disagree with Ramesh on the governance and delivery issue.

This is the most important of all questions. Other questions can be dealt with agencies like NITI Aayog but whether the government is delivering on its promises is really what the farmers' commission should be looking into. The commission should be the farmers' voice that asks the government whether it has delivered on its promises. It should not fall into obvious traps like the FCI not buying grain or the amount of loan waiver; real issues should not be deflected on to something else.

There is a whole set of things that government should do in terms of service delivery and new services to be delivered, especially if significant diversification is to be achieved. Punjab's once famous system of agricultural outreach has dwindled to nothing. Money is spent on it but there are complaints and the nitty-gritty for the new requirement has to be worked out. It is about designing what to do.

The report talks of the panchayat only in passing and possibly can say something more about this. Overall, the document has done a courageous job. The governance and delivery, which has been talked about, should be made the operative framework for the farmers' commission to use. ●



Photo: Pixabay

Shedding the Set Mindset

Ajay Jakhar

Photo: Pixabay

I would like to thank the Punjab government and Chief Minister for allowing the farmers' commission to make an open policy and state what needed to be stated. The report has been taken to the farmers. It is possibly the first policy that was printed in most Punjabi newspapers and distributed to farmers. To T. Nanda Kumar and Balwinder Sidhu, who guided the making of this policy and many others who supported the effort of the farmers' commission to make the report possible, my heartfelt thanks.

The apprehensions raised by Ashok Dalwai, Additional Secretary, Ministry of Agriculture Cooperation & Farmers Welfare, who also heads the committee preparing the blueprint for doubling farmers' income by 2022, are true. This draft policy was made with grave concerns about where the state was headed and tried to address them by providing a chapter on challenges



AJAY JAKHAR
Chairman, Bharat
Krishak Samaj
and Chairperson
Punjab State
Farmers' and
Farm Workers'
Commission

beyond state boundaries and where change must happen.

After the draft was ready, farmers' unions were consulted. The farmers' unions spent 75 per cent of their time with the commission telling where things were going wrong, which has been recorded in the second chapter on social development. Most academics, policy makers and economists had advised the commission not to put them in the draft policy. They wanted the commission to stick to agricultural productivity and not go into governance.

The commission chose to go for governance and, if asked to advise the government on what is to be done, the commission would ask for governance, governance and only governance. Only improved governance will win back the lost trust of the farmers. It will be unpalatable in the beginning but nothing can be achieved without taking people

into confidence and winning their confidence. Governance forms the core of this.

The central government uses the term disguised unemployment, which is used here because Surjit Bhalla and others like him keep making the point that jobs are created but are not captured in the data, hence we call it disguised unemployment instead of unemployment!

When I joined the farmers' commission as chairperson, it was not a statutory body but was supposed to be made one; a statutory body, which no other state has. On Nanda Kumar's advice, the phrase 'those who are dependent on agriculture' was used to substitute the word farmer, thus extending the reach of the commission into every sphere of the farmer's life and allowing it to venture into a number of spaces such as land, governance, culture and livelihoods.

What the policy presents is more of a philosophy; it does not get into the nitty-gritties of food processing per se, for example, because Punjab has an industrial policy. The food processing policy too is in final circulation. Given the constraints of the circumstances, the commission was literally faced with two options for the policy: the least bad option or the best of the best options. It was considered realistic and sensible, given the level of cynicism in the farming community and state, that the commission take the 'least bad option' route as the best way to go forward.

Governments usually publish white papers; the British Parliament publishes green papers that are normally not discussed. This has probably happened once in India in 1998. The commission proposes that the government place the discussion paper before the Vidhan Sabha and not push it through as the government's angle; as a government paper. Only this will allow the government, the opposition and MLA of the ruling and opposing parties to freely discuss it. If presented as a government paper, the government is forced to defend it but that is not the purpose. The purpose is to stimulate a discussion. It is to the credit of this government that it did not advise the commission on what not to write.

Why is governance so important in Punjab? Certain issues single themselves out as examples. Punjab has had a zero conviction rate with regard to seeds in the last 10 years, only eight convictions for fertilizers and 17 for pesticides. The cases are all in the lower court and nobody has gone to jail; nobody has paid a fine.



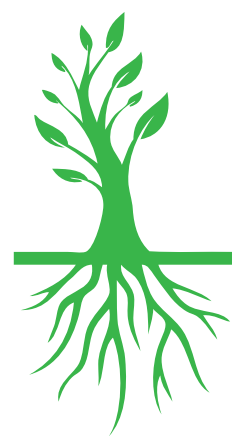
Photo: Pixabay

The agricultural development officers will bear me out on this because the commission wrote to the agriculture department asking for pending conviction rates and cases. The matter is now in the final stage and 15 per cent of agriculture development officers are going to be charged for not filing cases against dealers, distributors and companies within the stipulated time as per central government laws. These are issues of governance.

The next issue is getting the gram sabhas to meet. This will revolutionize the Panchayati Raj ecosystem in Punjab. The commission is making an effort with full support of the government.

The first thing is to get the report passed, the second part is to implement it and the commission is confident of the government's intent and that it will succeed in at least 75 per cent of the things that it is seeking to achieve. That itself will be a great achievement. The commission is not looking at a perfect policy or at 100 per cent acceptability because of the social and political sensibilities involved. What the commission is totally open to is suggestions.

T. Nanda Kumar: (To audience) What is it that you want corrected and what is missing in the policy? The limitation is that it cannot be a 200 page policy that nobody will read. It cannot incorporate every programme and project. It should be a 20-25 pages document. Only then will there be follow-up action based on what the government's intent is with regard to the policy. Also, suggestions can be sent by mail to the commission. ●



State Farmers' & Farm Workers' Commission

Discussion on

Draft Punjab State Farmers' Policy"

Thursday, July 19, 2018

New Delhi



Point Counterpoint

Sagar Kaushik, United Phosphorus Ltd:

I differ with the view that the Punjab farmer is not showing the leadership or the courage to take risk, especially with regard to adoption of inputs. I am exposed to farmers elsewhere, in Brazil and other places and in Punjab one has seen the acceptance of new technologies like herbicides during the green revolution. Half of the field was burnt but Punjab farmer did not seek compensation and in next year he was ready to take the risk again. This was because the whole ecosystem around him was showing initiative; the universities, the department of agriculture and even private industry.

There are two questions: First, should one blame the farmer for not being courageous and being lazy or the blame ecosystem that has changed. Second, industry has been kept at bay

in the policy. Industry is not recognized for its agricultural inputs. Why should industry not be made a party? It should be included.

Interjector: The point about risk was market risk.

Dharamvir Gandhi, MP, Patiala: Agriculture contributed 70 per cent to the GDP in the period immediately after Independence. In 2018, it contributes only 13 per cent of the GDP. The rest comes from manufacturing and services. Punjab's agricultural worries emanate from this because the government's priority is globalization; not agriculture. There are two ways to save agriculture: co-operatives or corporatization. There is no third way.

For example, Potato King in Jalandhar goes to several farmers with 10 acres of land a piece

and calls it “nothing” asking the farmers to sell the land on which it will sow 10,000 acres of potato with a promise to compensate the farmer handsomely. These are seedlings of corporatization in a big way that one can see. Corporate India is eyeing agriculture majorly. Small farmers and marginal farmers cannot be saved. There are other factors as well.

There are successful experiments too, for example in a village the dalits had 30 per cent of shamlat (common) land on which good work was done with everyone benefitting in a big way.

The other point of rebuttal is that it is not true that quality of land has not changed. It has gone down. The amount of fertilizers used is much higher than what was used in the eighties. Much more fertilizer is needed now and it is the same with insecticides and pesticides and the quality of land has declined. The water crisis is so acute that Punjab farmers are using water from 350-400 feet below.

Bina Agarwal, Professor of Development Economics: I am missing the group approach in the document. Water is a commons but farmers treat it as an individual right to ground water. In the earlier warabandi system, farmers would cooperate around canals. Can farmers come together around an aquifer, for example, and use it on the basis of co-operation and self monitoring?

There is a recommendation that the government supply machinery to farmers but Kerala farmers have come together to buy the machinery and mutually agree on who will use how much over the years. France has examples. Many farmers would come together to buy cold storage. Can farmers pool their land and resources? This is something I researched in Andhra Pradesh and Kerala.

If taksim means partition and land is partitioned the moment there is a set of heirs, it will do the opposite of discouraging fragmentation and lead to more fragmentation. This may not be in favour of women’s property rights because this would mean further fragmentation.

Finally, who is the farmer? There is no indication in the document that women exist even if the

It is not true that quality of land has not changed. It has gone down. The amount of fertilizers used is much higher than what was used in the eighties

definition is being extended. Women do not own much land. However, if you look at the dalits at auctions for panchayat lands, all the pictures are of women.

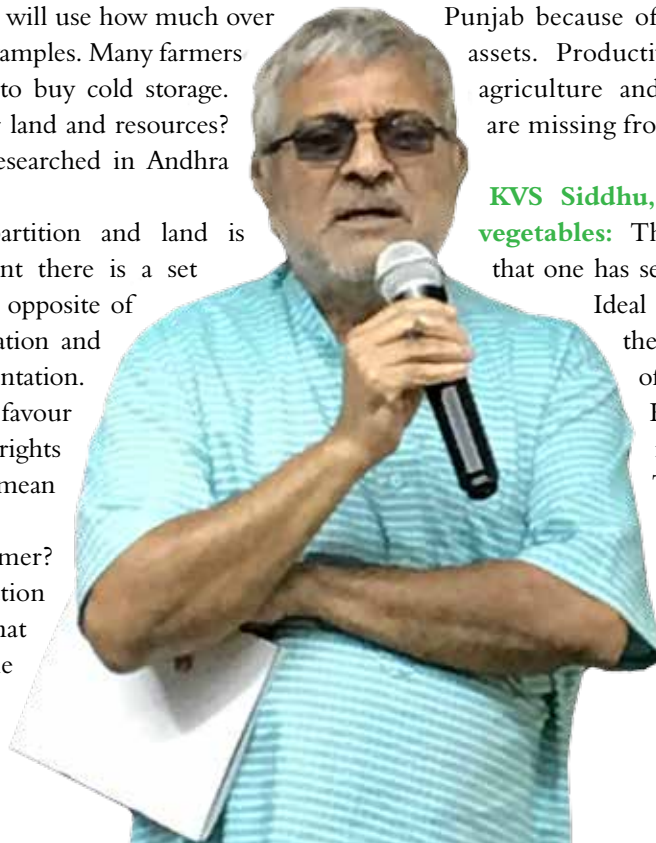
There is also a strange recommendation to try and recruit at least one-third of its officers from amongst women while making new recruitments for extension services. Who are they going to talk to? Why should one third of them be women if there are no women farmers?

Mandira Bhattacharya, Council for Social Development: Where is the talk of increasing the robustness of MGNREGA in the draft? A recent study of individual assets under MGNREGA in Uttar Pradesh, Rajasthan and Tamil Nadu showed that, when given assets, agricultural labourers and other labourers, women headed households, widows, scheduled castes and tribes showed a big jump in their income. Community assets apart, if individuals are given assets they might help in increasing farmers’ incomes. This is not possible in Punjab because of a lack of individual assets. Productive assets related to agriculture and rural development are missing from Punjab.

KVS Siddhu, exporter of fresh vegetables: This is the first time that one has seen such a document.

Ideal schemes fail on the ground because of poor governance. Hence governance is very important. There is a very good system of FPOs (farmer producer organizations)

Dharamvir Gandhi,
MP, Patiala



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1. Audience at the July 19, 2018 discussion

2. Ashok Dalwai, Special Secretary Agriculture, Department of Agriculture Cooperation and Farmers Welfare

3. J.N.L. Srivastava, Former Secretary, Ministry of Agriculture, Government of India

4. Gokul Patnaik, Former Irrigation Secretary, Punjab

5. Abhijit Sen, Former member Planning Commission

6. Ramesh Chand, Member, NITI Aayog and the 15th Finance Commission

7. Sagar Kaushik, United Phosphorus Ltd

8. Bina Agarwal, Professor of Development Economics

9. Shalini Bhutani, Legal Researcher & Policy Analyst



2



9

Forming an FPO means 200 or 500 members, which is equivalent to corporatization. The government should encourage 11 to 20-member farmer producer organizations

and FPCs (farmer producer companies) that the government promotes. However, forming an FPO means 200 or 500 members, which is equivalent to corporatization. The government should encourage 11 to 20-member farmer producer organizations.

Ravdeep Kaur, Amritsar: APMCs are the first, primary, market for farmer and should be accessible, transparent and remunerative. There is need to mainstream exotic produce too. They should not be considered as exotic but as a way of diversification, like natural or organic products. Mandis should welcome diversified products.

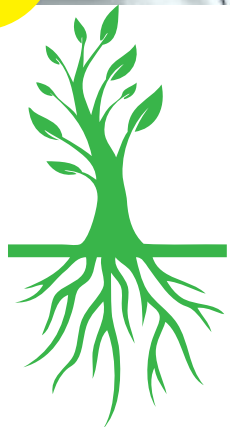
Raj Khanna, Dairy Consultant: Agricultural institutions must lead on the policy front vis-à-vis income, marketing and food security. Punjab should get out of the food security mode and go in for 100 per cent export-oriented agriculture.

For example, breeding of buffaloes should be included in the policy. Power in Punjab should be compulsorily priced, particularly industrial power.

Shalini Bhutani, Lawyer: There is need for very specific text on the WTO. The policy document refers to international trade agreements. India is currently negotiating WTO+ and mega regional free trade agreements that will give very little space to domestic policy. India has not been able to export as much as it aspires to. India's agricultural products will run into problems with standards.

As far as seeds are concerned, what kind of seeds need to be promoted in Punjab?

There is also an absence of any text on intellectual property. The only law in India that talks about farmers' rights in the area is an IPR





law, which is about protection of plant varieties and farmers rights act. There was a 2011 Supreme Court judgment on the commons that should be referred to. Giving visibility to women farmers is important too.

T. Nanda Kumar: Whether this can be a point of advocacy or policy needs to be discussed. This might need to be decided in consultation with other state governments.

Gokul Patnaik, Former Irrigation Secretary, Punjab: Whether water should be free or not is a very political question and someone will have to bite the bullet. Punjab will face very dark years ahead in terms of water. The other question is about pension to the farmer: when does a farmer retire? Is there any clarity on this? One can look at a social net but a pension? To my mind, farmers never retire.

JNL Srivastava, former Agriculture Secretary, Punjab Cadre: The policy should focus on marketing, processing, value-addition and strong

institutions and organizations that will support farmers. This is very important.

Ajay Jakhar:

- The private sector is needed for farm extension and seed development as well and the commission looks forward to working with the private sector.
- There is need to emphasize women farmers.
- The APMC Act has been amended.
- Power is a very contentious issue. It is a political issue where the Akali Dal has to work with Congress and Aam Aadmi Party. The question is if one should give options to the government on power.
- The commission proposed to the outgoing chief economic advisor and the finance minister that those farmers paying income-tax should not be applicable for any subsidies from the government, state or central. The commission further suggests removing people with more than 10 acres of land, thus impacting 15 per cent of farmers.
- For water, the state will end up charging 40 per cent farmers for electricity in Punjab. The policy needs a step-by-step approach. ●

**FACE
TO FACE**

INDIA RAISES CURTAINS ON
**The Farmers'
Long March**



Palagummi Sainath, senior journalist, Magsaysay award winner, activist and someone seriously concerned about the agrarian crisis in the country, is one among many persons working in over 200 organizations that are trying to put together the coming long march of farmers, farm workers and other dispossessed sections of Indian society, to converge in the national capital at the end of November. He speaks to Paranjoy Guha Thakurta on India's agrarian crisis. This is an edited transcript of an interview for Newsclick. To view the interview go to: <https://www.newsclick.in/farmers-have-moved-active-protest-passive-demoralisation-p-sainath>.

Paranjoy Guha Thakurta: *Sainath, you have written that this agrarian crisis has gone beyond the agrarian; that this is an entire society in crisis, perhaps even a civilizational crisis. Why do you make this statement?*

Sainath: The current crisis is, in fact, not just about the loss of production and the loss of lives; it is also about the loss of our own humanity. We have sat by quite comfortably for 20 years, during which 3,10,000 farmers have taken their own lives. There has got to be something very wrong with us, to be able to act as if the world is perfectly normal. Things go on normally. The crisis is way beyond the agrarian because all other sections of society are being affected by it. Within the agrarian itself, it does not mean just a farming crisis but a crisis of the larger agrarian society...

PGT: *Their livelihoods that, in turn, are linked to what is happening in urban India. Correct?*

Sainath: Pretty much. Also, you have seen the biggest migrations in our history. The 2011 census hints as much. For the first time, urban India added more to its population than rural India did to its population.

PGT: *You believe that this has a lot to do with loss of livelihoods and farm distress in agriculture?*

Sainath: It is not just a question of what I believe. Compare the figures in the 1991 census and the 2011 census; 15 million farmers have dropped out. This means that they have been dropping out at the rate of more than 2,000 a day; every 24 hours there are 2,000 fewer farmers. In the first 10 years from 1991 to 2001, there were 7.2 million fewer farmers. In the next 10 years, till 2011, there were 7.7 million fewer farmers, which is about 15 million or 14.9 million to be precise.



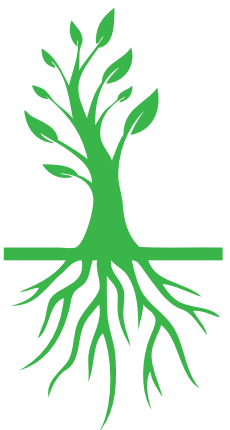
Where did they go? Some of them have moved to cities. By the way, migration is not just about moving to the cities. There is village to village migration, rural to rural, rural to urban, urban to urban and also a tiny element of urban to rural. Then there is footloose migration, where people are just going about looking for work; anywhere for 10-20 days a month.

Complete insecurity has come into many of the agrarian classes. But where have the bulk of the farmers gone? In the primary census abstract on agriculture, as the number of farmers declines dramatically, the number of agricultural labourers has exploded. This means that many of the agricultural labourers of today were yesterday's farmers. That is a gigantic crisis.

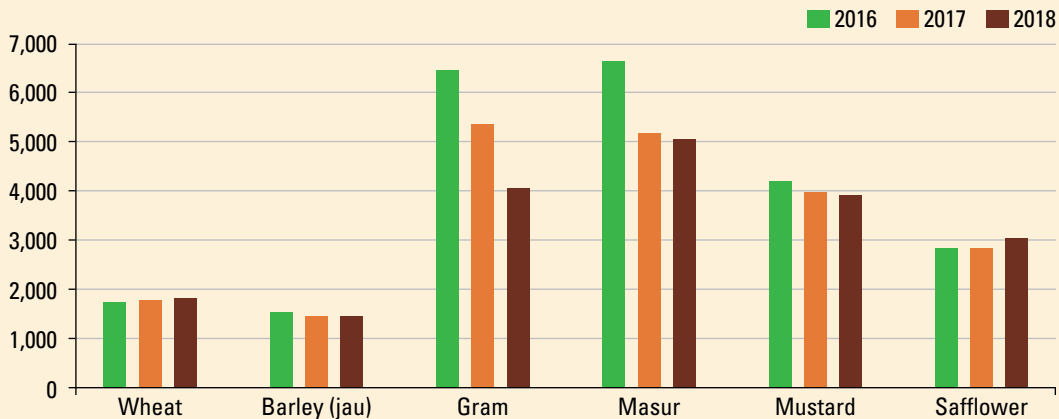
Figures in the 1991 and the 2011 census show that 15 million farmers have dropped out. This means that they have been dropping out at the rate of more than 2,000 a day



Photo: Pixabay



Rabi Crops Av. Prices (Rs/ctl.) 2016-2018



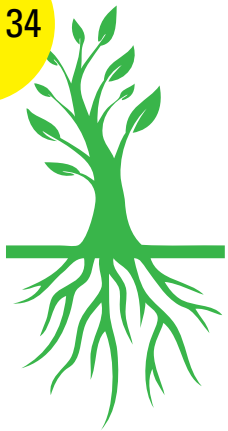
PGT: *You also say farming has become the riskiest profession in the country, far more than those who play the stock markets and gamble, the very section of our society, which is responsible for providing us with food, is engaged in the riskiest of professions. You were also saying that the entire scale and magnitude of the crisis is being covered up today, because the government's National Crime Records Bureau (NCRB) is not publishing data pertaining to the suicides of farmers for the last two years or thereabouts. You allege that the data that put out in the public domain is being manipulated. You have gone to the extent of calling it fraudulent. Certain states like Chhattisgarh and West Bengal have claimed no suicides by farmers. Will you elaborate on this point a little more?*

Sainath: The National Crime Record Bureau is a division of the Union Home Ministry. The NCRB, its statisticians and its monitors have not themselves fiddled with the data. The data they were publishing is the closest that we have to authentic data but it has lots of problems because it reflects our social biases and prejudices. When a policeman goes to a village to record a suicide, if it is an adivasi or a dalit farmer, someone who does not have a *patta*, he will not record the death as a farmer suicide but just as a suicide. If it is a woman farmer, nine out of 10 times, the police will record it as a suicide by a woman, not as a suicide by a farmer because, socially, we find it very difficult to accept women as farmers.

PGT: *There has been a large scale feminization of Indian agriculture where women have been playing an increasingly greater role in farming...*

Sainath: They are increasingly sharing the burden because where men migrate out of the profession, women – who were earlier doing livestock, dairying and anyway doing the bulk of the work – are pushed more and more into crop agriculture. There they face new sets of problems. Women are excluded big time. This was not done by the NCRB though; that is the data coming from the police stations reflecting our social prejudices. The NCRB figures that begin in 1995, were always huge under-estimates... From 2011, when farmers' suicides became big and political explosive, one state after the other started declaring zero suicides.

PGT: *In 2014, in fact, 12 states and six union territories claimed zero suicides. In 2014-15, the NCRB numbers were, according to you, manipulated. The word you use is 'fiddles' in methodology.*





The 2014 data categorized farmers as farmers, agri-labourers, tenant farmers, though 95 per cent of tenancies is unrecorded. The policeman recorded death as an agri labourer suicide. Suicides in this category shot up...

Sainath: My words were that they are hiding corpses in other columns. In the 2014 report, the 20th report, they changed the methodology that the NCRB had followed for 19 years. So, in the 2014 data, which came out in 2015, they split farmers into different categories – farmers, agricultural labourers, tenant farmers – knowing full well that 95 per cent of tenancies in the country are unrecorded. The policeman checking recorded the person as an agricultural labourer. That year, the number of agricultural labourers' suicides was far higher than the number of farmers' suicides because they had shifted the number of tenant farmers into that column.

Even then, the figures were looking so bad, that they started burying corpses in other columns. In all these accounting columns, you have a final one called 'others'.

PGT: *And you see those numbers going up?*

Sainath: They were not just going up; they were going through the roof. Karnataka had a 60 per cent fall in farmer suicides that year and a 245 per cent increase in suicides by others five major states accounted for 70 per cent of farmer suicides.

PGT: *These are?*

Sainath: At that time, Andhra Pradesh and Telengana were one, Madhya Pradesh, Chhattisgarh, Maharashtra and Karnataka were the states that accounted for more than two-thirds of the farmer suicides. In 1995, when the collection of data started on this, they accounted for 52 per cent and now they account for more than 70 per cent of the farmers' suicides (in the country). In those high stress areas, it has been exploding. Now these five states saw a fall of more than 50 per cent in farmer suicides and an increase in the 'others' column of 128 per cent.

Photo: Dinodia



Photo: Pixabay

PGT: *This seems to substantiate your point that they are fudging. What we are seeing in different parts of the country, including the states that we have talked about, farmers and farm workers have been protesting. Farmers were shot dead in Mandsaur in Madhya Pradesh. In other parts, farmers have been protesting in different ways, in Maharashtra, Uttar Pradesh. Produce is being dumped on the streets. Milk is flowing on the streets. Tomatoes are being thrown on the streets. But the government is at best applying Band-Aid to issues that are very deep seated. We will talk on two or three issues. MNREGA is one of them, the minimum support price and the Swaminathan Commission...*

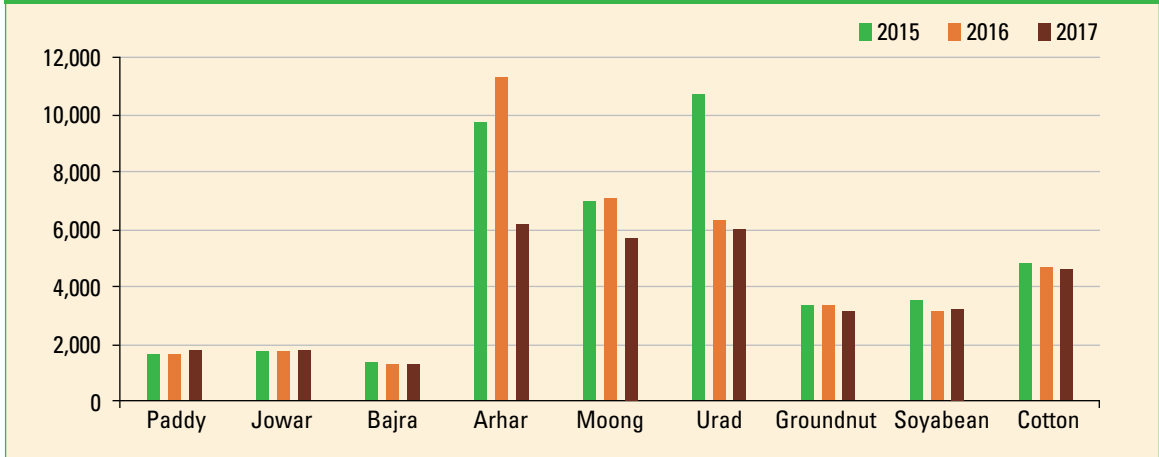
Sainath: It is trying to apply a Band-Aid to a hole in the heart. That is what it is trying to do. I forgot to mention (but you did) that by 2014, there were 12 states and six union territories, declaring zero suicides and yet the numbers were not showing a decrease. For five years Bengal and Chhattisgarh had annual averages of 800 for Bengal and 1,500 in Chhattisgarh, which suddenly went to zero. Who can believe this? It is simply not possible.

Yes, farmers have been increasingly protesting. For me, that is a very positive thing. What I looked at for 20 years of covering their crises is a serious, deep-rooted demoralization, which is recipe for suicide, amongst other things. In the last two to three years, you have seen them stand up, fight, protest, come out on to the streets. They know they are being cheated. You saw the Mandsaur firing... Everywhere in the country, there is unrest among farmers. It seems to me they have decided to move to active protest from their state of passive demoralization.

PGT: *You argue and you are not the only person (Jean Dreze and others too have pointed out) to highlight how the government is systematically trying to destroy the Mahatma Gandhi National Rural Employment Guarantee Act altogether. It was once touted as the world's largest social security programme; whether it be farmers, farm workers, fisherfolk, forest dwellers, artisans, workers in angandwadis, school teachers, employees in government, all of them at some point of time thought that this scheme would help them...*

Sainath: To be fair, the process started before Arun Jaitley and the NDA. It started even when P. Chidambaram started undermining the MGNREGA, which the Manmohan government implemented

Kharif Crops Av. Prices (Rs/ql.) 2015-2017



Source: <https://www.newsclick.in/agri-distress-deepens-crop-prices-crash>

The issue

- The finance ministry has announced a hike in MSP for kharif in budget 2018-2019. Farmers are unhappy as the formula used is blurred.

Cost concepts used for calculating MSP?

- There are several cost concepts that the Commission for Agricultural Costs and Prices considers while recommending MSPs of 23 crops.
- Cost A2: Costs the farmer incurs for buying inputs; from seeds to fertilizers to pesticides to hired labour to hired machinery or even leased-in land.
- Cost A2+FL: Farmers use a lot of family labour. If their cost is imputed and added to A2, it is Cost A2+FL.
- Cost C2: Comprehensive cost (Cost C2) includes imputed costs of family labour, imputed rent of owned land and imputed interest on owned capital.
- The National Commission on Farmers headed by M.S Swaminathan recommended a 50 per cent margin over C2, which was promised by the government and is being demanded by the farmers.

What is the current stand of the government in this regard?

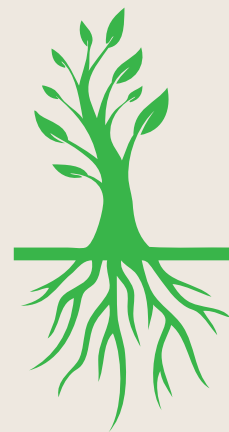
- In 2014, the union government promised to offer 50 per cent margin over Cost C2 but never spelt it out in detail.

- The finance ministry announced that the MSP would be in lines with its earlier announcement on rabi.
- For rabi the government is using 50 per cent margin of Cost A2 or maybe Cost A2+FL. Even by this, the MSPs given by the government is lower than Cost C2.
- The ministry also claims that only the present administration offers 50 per cent margin over cost A2+FL but even in FY 2013-14, the MSPs for all rabi crops were way above 50 per cent over Cost A2+FL.

What are the challenges in hiking MSP?

- The government senses that it is impractical to give 50 per cent margin over Cost C2 in all crops.
- The C2 is normally 35-40 per cent higher than cost A2+FL and will require massive increases in MSPs.
- For example, paddy MSP would have to go up by 46 per cent, cotton by 52 per cent....
- Cost plus pricing of MSPs, be it cost A2+FL or C2, is fraught with dangers as it totally ignores the demand side.
- The terms of reference of CACP fail to consider demand-supply, cost of production, price trends in domestic and international markets, terms of trade, inter-crop price parity and such others before recommending the MSP.

Reference: Indian Express





Everywhere in the country, there is unrest among farmers. They seem to have decided to move to active protest from their state of passive demoralization

reluctantly, under pressure from their own leader and pressure from 64 Left MPs from Parliament. Some of the top Congress leaders were very much for it but I do not believe that Manmohan Singh and Chidambaram loved that programme. You saw it being undermined in various ways. In Maharashtra, Sharad Pawar saw to it that it could not take off. In eight districts they were at one point reporting zero performance.

PGT: *It has been well-documented that even if the government claims that it is spending the maximum amount of money on the programme, this money is not released. There are huge backlogs; wages not*

being paid for six months. Do you see this particular programme being further undermined and weakened in the last four and a half years, especially since the Narendra Modi government came to power?

Sainath: Incredibly, much further undermined and weakened. The classic example is that in the first year of the Modi government, they slashed the MGNREGA funds of the best-performing state in the country. Tripura – not by its own claim but by the central government’s and the rural development ministry’s acknowledgment – was the best-performing MGNREGA state. In Tripura, the MGNREGA had gone much further than just stopping hunger. People were able to send their



Photo: Pixabay

kids for a little bit of extra tuition, it was having an impact on the education of children, unlike say in some parts of Andhra Pradesh, where it was keeping the agricultural labourer alive. They cut 53 per cent of Tripura's funds and doubled the allocation for Gujarat, where (the work) is all going to be done by machines and not by manual labour. It was not an accident but a clear policy to finish the programme.

PGT: *However, whenever the government is accused of not doing enough on agriculture, the agrarian sector and rural sector, they have come back and said "no, no"; farmer incomes will double by 2022. Most recently, the government has spoken about "the biggest ever hike in MSP." Then they are talking about Swaminathan Commission or the National Commission on Farmers. You have consistently argued for the last 14 years that the Swaminathan Commission's reports have not been implemented. Even this government is making*

a claim that it is implementing the Swaminathan Commission's report but it has not done so.

Sainath: You are right. The first of the Swaminathan Commission reports was submitted in December 2004. The last, if I remember right, in October 2006. Over 14 years, there has never been a discussion called on the reports as such for the entire Parliament to debate. I think 14 years is plenty of time. The second thing is about this government's claims of implementing and not implementing. First, the Swaminathan Commission report – more accurately described as the National Commission for Farmers report – had other people in it and it was about a lot more than just MSP.

PGT: *Correct. It was more than just a calculation of cost of production plus inputs, plus 50 per cent, plus interest, depreciation, etc. There are various ways of calculating that number. (see page number 37)*

Sainath: That is right but you have giant ideas that have still to be looked at: price stabilization fund, the new credit systems, all these things are there in the Swaminathan recommendations.

PGT: *Extension programmes...*

Sainath: Yes, extension programmes. But look at this government. In 2014, it came to power on the promise of implementing the first of the Swaminathan Commission's main recommendations, which was a minimum support price equal to cost of production (CP) plus 50 per cent. In 2015, the government that came to power on the promise of C2+50 per cent would be the MSP, submitted an affidavit in the courts and said that it cannot be done because it would lead to a distortion of the markets. Therefore, they were worried about the distortion of the markets and not about the distortion in the lives of millions of human beings, who are farmers.

In 2016, Radha Mohan Singh, the agriculture minister claimed that no such promise had ever been made.

In 2017, they said "what Swaminathan?... The Madhya Pradesh has gone much further than the Swaminathan Commission. Look at how Shiv Raj Chauhan is doing it". One saw how he was doing it during the Mandsaur firing; in the killing of five farmers.

In his 2018 budget speech Arun Jaitley acknowledged that such a promise was made and said that not only did they make this promise, they

In 2015, the government came to power on the promise that the MSP would be C2+50 per cent but submitted an affidavit in the courts that it cannot be done because it would lead to a distortion of the markets. Therefore, they were worried about the distortion of the markets and not about the distortion in the lives of millions of human beings, who are farmers

had implemented it. It had been implemented in the kharif crop; the MSP was cost of production plus 50 per cent. In July, Modi and others said that they were going to implement MSP at cost of production plus 50 per cent. They have had five different positions in four years.

What is this MSP all about? People get confused about it. I get hundreds of emails asking me about it. There were various ways of calculating MSP, not just three. There was A1, A2, C1 and others but only three mattered, which people were using at one level or the other. One was A2, which is purely the input cost – the paid out costs of the farmer. Two was A2+FL that was input cost plus imputed family labour cost. Three, which the Swaminathan Commission had actually asked for, was (CP2 or C2), the comprehensive cost of production, which would include the rental value, land and debt...

PGT: *Which the government is saying that it cannot give; in effect, in not so many words...*

Sainath: Which, by the way, no enterprise in the world functions without calculating. Can you name an enterprise, any business, which functions without taking these calculations into account? To give you an example of what the difference (see page 37) is, under A2 for the cheapest variety of wheat, if the cost of production was ₹500, the MSP would have been ₹750. Under A2+ FL, cost of production was ₹800 and MSP would be ₹1200. If the CP2 is ₹1,200 per quintal the MSP would be ₹1,800. Between ₹750 and ₹1,800 or even ₹1,200 and ₹1,800, it is a huge sum of money. That was the cheating they were doing; most of the products were under A2. A few were at A2 plus FL.

PGT: *Sainath, you have been actively involved in trying to mobilize support from various sections. I understand that 200 organizations have come together to have this march to the national capital in November. In March 2018, a lot of people were taken aback when 40,000 farmers, forest dwellers, adivasis, the underprivileged section, walked for seven days from Nashik to Mumbai, in the peak of summer... Do you think that there will be... an even bigger march of people in Delhi?*

Sainath: Paranjoy, there is a very big misunderstanding here. This is not my march. I am trying to see how middle-class professionals like you and I can make ourselves relevant to and worthy of the 201 farmer organizations that gave a call for a march on July 14 this year. A couple of weeks before that, the largest body, the All India



Photo: Pixabay

Kisan Sabha had given a call but the 201 farmers organizations, banded together under the All India Kisan Sangharsh Samiti Coordination Committee, gave this call. I feel that we have to respond to this AIKSCC call, for a big march. It is a call of the AIKSCC. It is their call, which people like us feel that we should respond to. The idea of it, and the credit for it, goes to not only them but also to the 40,000 farmers, who showed a different world from what we had come to believe in.

PGT: *They walked at night, so that children appearing for their school examinations would not be disturbed. Even in a city like Mumbai, large sections of the middle-class came out to give them food and water... but from there on, where are do we stand now? The Maharashtra chief minister said that they would look into their demands, trying to sort of defuse the matter.*

Sainath: Of course, they will try doing that. That is why you have a larger march at the national level because so many of the issues concern the centre. You ask what did they achieve? They achieved something fantastic. Remember that when the AIKS march began from Nashik to Mumbai, there were about 12,000 people. When they reached Mumbai, there were about 50,000 in the Azad Maidan. People joined all along the way, in Nashik and Thane. When they were coming up the Kasara Ghat, it was a spectacular sight of 40,000 people winding up the mountain.



What did they do? They showed us that it can be done. These are people so poor that they do not own footwear; they came with their feet cut and bleeding. Old women, many of them, stopped the bleeding of their feet by cellotaping them; they were too poor to afford chappals. Activists of the AIKS gave them rolls of cellotape that they put around their feet and marched in 380 to 420 plus, walking on the highway and they came to Mumbai. In Mumbai, they were exhausted but they decided, as you said, to march at night and in silence without raising slogans. They did not want to disturb the lakhs of children who would appear for their board exams. I think that triggered a wave of respect and gratitude in the middle classes of Mumbai. People came out and gave thousands of pairs of free chappals, packets of food, water. I have not seen this in 35 years.

When the march started, the ministers of the Fadnavis government said that they would not talk to these people; after all, 'who were they'? They are not farmers, they are urban Maoists. When they came with 50,000 people, the government caved in to 90 per cent of the demands in four hours. They showed us that sometimes you just have to go yourself and get it done. They also showed us they could reach out to sections like the middle classes and students. Their achievement was fantastic.

PGT: *You are hopeful that the march being planned during the last few days of November would be able to scale up? That there would be more people? I understand the government of Delhi has given you support.*

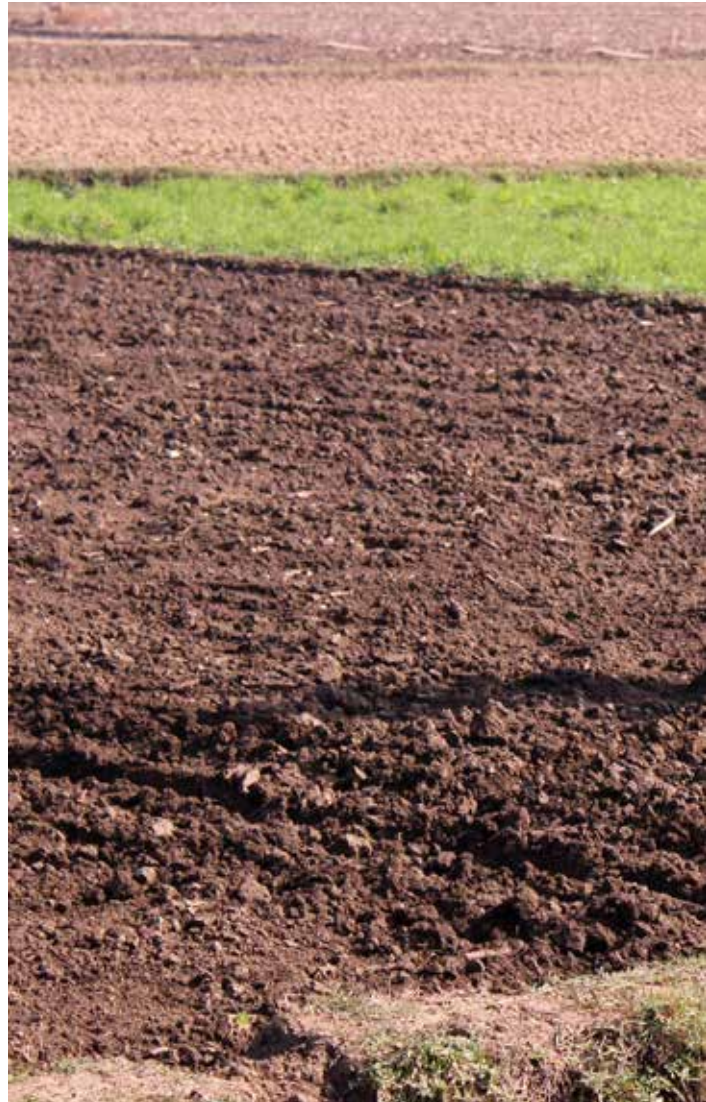
Sainath: The Delhi government has given us support for the march.

PGT: *But are you prepared for what the union government would do? Your plans of surrounding Parliament; there would be Section 144 there. Your plans of saying that we will have a special session of Parliament to discuss the farmers' issues, the government will possibly not give a damn... We have had protests by farmers in Delhi, protests by farmers in Tamil Nadu; farmers displaying skulls in Jantar Mantar. Now this so called 'Occupy Delhi' march; I am being cynical...?*

Sainath: You are.

PGT: *I am. I ask you, what impact it could possibly have?*

Sainath: I believe that you were present at a meeting where a network of middle-class professionals on a holiday, 35-50 people were contacted, 200 people showed up really enthusiastic. Some of them were



veteran activists who have been part of many marches, who know what is possible and what is not possible.

PGT: *Like Ashok Dhawale, who was the moving force behind the Maharashtra march.*

Sainath: Yes, he was one of the big organizers of the Nashik to Mumbai march. There too, I was not an organizer. The People's Archive of Rural India played a role in that. We were, from the first hour, putting out information about the march, which the Marathi press picked up from us in a very big way. But the farmers scored a victory by getting a video of themselves coming up the Kasara Ghat and sending it out on WhatsApp. That went viral, even on Marathi television.

PGT: *The same media that had ignored the march, was forced...*

Sainath: I was getting 90 calls a day from the media. They were asking me to sum up in a few





Photo: Pixabay

The marchers are asking all Members of Parliament, who agree with their demands to join the march to Delhi. They should be escorted by the MPs to the Parliament

‘sound-bytes’ the complex issues of two decades! But the marchers made the deaf hear, they made the blind see. Do not underestimate these people.

About the Modi government, of course, I believe they might try and stop the marchers... but they may not. The marchers are asking all Members of Parliament, who agree with their demands – and there are many – to come and join in the march to Delhi. So they should be escorted by the MPs to the Parliament. Second, this is a most democratic protest. What are people saying? They are saying that we want our Parliament to function. The protesters are saying we want you to function, we want you to come and join this march. We want you to escort us to Parliament, we want to sit

there. Third, they are asking for a special session of Parliament, a democratic demand. Fourth, they are saying the focus of the session should be on the agrarian crisis and related issues, beyond MSP.

Now one thing is that the government will accept MSP; it will agree to ₹5,000 per quintal tomorrow but it will never implement it because it will not procure. If there is no procurement system – outside of Punjab, there hardly exists one anymore – I can offer ₹10,000. They will open the procurement centre 10 days late, in which case the farmers...

PGT: *The MSP announcement took place well after sowing had begun. It should have been announced one month earlier.*



Sainath: Yes, and they will open the procurement centres 10 days late and close them five days early. So at both ends, farmers are forced to sell off at lower rates. When you undertake any activity of protest, you do expect problems. But the farmers and labourers in this march are making their protest within the highest standards of democratic behaviour.

Coming to your point about the Delhi government. The chief minister, Arvind Kejriwal, said that he would personally receive the farmers at the borders of Delhi. He said, the Delhi government would help with arrangements of food, water and toilets. So you do have a government here. The host government in the capital city of Delhi; his attitude was entirely refreshing.

PGT: *Even though his government has been hamstrung or constrained badly because of the union government.*

Sainath: But his attitude was totally refreshing in his saying that they are coming to their capital city. We will receive them.

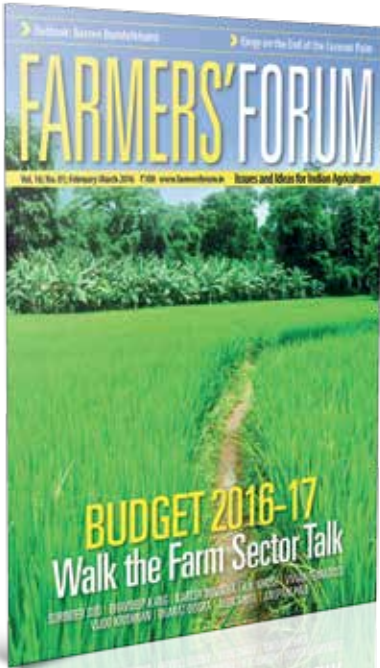
The People's Archive of Rural India put out information about the march that the press picked up. The video of the farmers coming up the Kasara Ghat went viral...

PGT: *My last question to you: what would or could be the political impact? Did the march of 40,000-50,000 farmers in Maharashtra have an impact on politics? I ask this question, because after 2014, the Congress became weaker than it ever has been before. The Left too became weaker than it ever has been before. You mentioned Tripura earlier – which had a good track record in implementing the MGNREGA – that government is gone. The Left is in power only in Kerala. The Left movement has been weakened considerably. What kind of political impact do you foresee?*

Sainath: The first thing that we see is the lesson taught to us by the farmers of the Nashik-Mumbai march, which was totally unforeseen by us, which is the impact on the consciousness of the urban middle classes. In April-May, I spent three weeks in Punjab. I was then in Andhra Pradesh. These tours were after the Nashik march. In far off places in Sangrur and Bhatinda, farmers had heard of the Nashik-Mumbai march and were very proud that their counterparts could do it.

PGT: *These are supposed to be 'the wealthy farmers' in the most agriculturally prosperous part of India.*

Sainath: Yes, and they were saying that we should do it; we should go to Delhi. By the way, the farmers who came from Nashik to Mumbai were the poorest of farmers. They did not own footwear. It caught the imagination of the farmer. The protest with skulls at Jantar Mantar was so sad because it was a tactic aimed at the media, which would otherwise not pay attention. That was the problem. But everywhere that I went, two things caught my attention. In Chhattisgarh, in Sangrur, in Bhatinda, Ludhiana, in Kakinada, in Mehboob Nagar in Telengana, people knew two things: the Swaminathan report, which has caught the imagination, since it is the big one; and they said: tell us about the Nashik march. ●



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OUTLOOK

PUTTING A FINGER ON
India's Pulse Crop

Bharat Dogra



India's place of global eminence vis-à-vis pulses is evident from the fact that it is the biggest producer as well as the biggest consumer of pulses in the world. Over the years, it has also emerged as the biggest processor as well as the biggest importer of pulses.

The crying shame, however, is that the poor Indian can no longer afford the daily dal-chawal; dal has all but vanished from the diet; placing it amongst India's major areas of concern vis-à-vis nutrition security. Table 1 shows that the per capita availability of pulses, traditionally the most commonly accessible source of proteins for the aam aadmi, has declined very significantly.

Despite recent efforts to make up some of the lost ground, the achievement of around 43 grams in 2016 is much below the achievement of over 69 grams in 1961. In fact, in 1961, India was quite close to the WHO recommendation of 80 grams but the advent of the green revolution brought a big decline as is evident in the figure of 51 grams in 1971 and 37 grams in 1981, which got further reduced to 29 grams in 2003.

A decline from about 70 grams to just 29 grams in the most staple source of proteins is alarming and that too in a period when drums were being beaten from the rooftop to celebrate the success of the green revolution. Without undermining the achievements of the green revolution one needs to understand the collateral damages; its effect on pulses was one.

The more recent recovery on the pulse front may be attributed to a significant extent to large pulse



BHARAT DOGRA
Senior journalist,
specializing in the
farm sector



Photo: Pixabay

Table 1: Per Capita Net Availability of Pulses Per Day (in grams)

Year	Quantity
1951	60.7
1961	69.0
1971	51.2
1981	37.5
1991	41.6
2001	30.0
2003	29.1
2007	35.5
2011	43.0
2016	43.6

Source: Economic Survey 2017-18, Volume -2

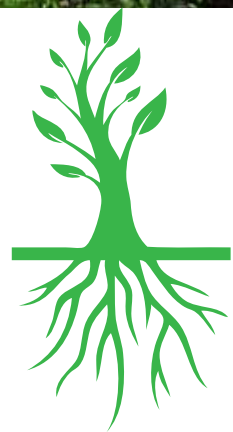
imports that amounted to around 14 per cent of the total consumption in recent years. A lot of the imports were badly contaminated by very harmful sprays, particularly glyphosate, a herbicide that is also used as a desiccant.

What the statistics also indicate is a significant decline during the green revolution years that could not be made up by later day efforts to correct the balance even by arranging for huge imports. This decline of staple proteins brought by the green revolution in many countries has been considered so important that it has even been described as the divorce between agriculture and nutrition by perceptive observers.

According to statistics in the 12th Plan document, the average annual growth rate in yield per hectare of pulses was 2.3 per cent from 1951-52 to 1967-68 (broadly pre-green revolution



In a leading green revolution state like Punjab, the area under pulses declined from 13.4 per cent in 1966-67 to just three per cent in 1982-83; a very big decline in just 16 years



years) that compares poorly to minus 0.2 per cent during 1968-69 to 1980-81 (post-green revolution years). If the growth of value of output (2004-05 prices) is considered, the two figures are 3.0 and 0.7 per cent respectively.

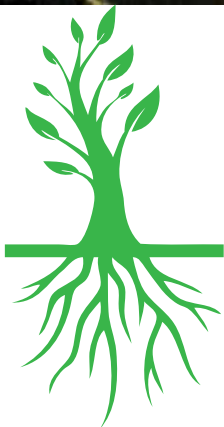
In a leading green revolution state, Punjab, the area under pulses declined from 13.4 per cent in 1966-67 to just three per cent in 1982-83, a very big decline in just 16 years. To get an idea at the country-wide impact, one needs to keep in mind the fact that a lot of pulses have been traditionally cultivated in mixed-farming systems that may not be adequately captured in official data.

Hence, even where the existing data does not reveal a decline, a reduction of mixed-farming cultivation of pulses may have taken place as the green revolution cereal varieties were considered more suitable for monocultures and not so much for mixed-cropping patterns.

The special importance of pulses must be understood in the context of traditional mixed-farming systems as well as dietary patterns of India and several other countries. It is not just that the pulses themselves have high levels of proteins. They, additionally, enhance the biological value of proteins when taken in combination with cereals.



Photo: Dinodia



A meal becomes more satisfying when the cereal is consumed in combination with pulses. This is what explains why dal-bhat and dal-roti have been such a relished diet

This is a scientific explanation for a feeling most people have of a meal being more satisfying when the cereal is consumed in combination with pulses. This explains why dal-bhat and dal-roti have been such a consistently relished diet for centuries in India. There are similar cereal-pulse combinations in other countries.

Additionally, the compatibility of this combination for the human body is matched by its compatibility for soil health. These leguminous crops have root nodules and can fix and utilize atmospheric nitrogen. Hence, while cereal crops take nitrogen from soil, pulse crops can add nitrogen to soil and improve its fertility.

In this context, mixed cereal-pulse farming systems have been very helpful for maintaining soil fertility while the abandonment of these mixed farming systems has proved very harmful for soil health.

In the interests of sustainable farming and food systems then, it is poor policy to somehow make up for pulse shortages by importing pulses, it is important to grow them within the country in mixed-farming systems so that both nutrition and soil health problems can be tackled at the same time.

There are several other benefits of growing pulses too.

- Many pulses are consumed in their early green stage as highly nutritious green pods.
- Even green leaves of some pulses are used as high nutrition food.
- Some pulses are also known for their medicinal value. Germinated seeds of Bengal Gram are recommended for curing scurvy. Malic and oxalic acids collected from its green leaves are prescribed for intestinal disorders.

- Moth bean is highly useful against wind erosion in sandy areas due to its mat-like growth.
- Arhar (red gram or pigeon pea), being deep rooted, is also planted as a soil renovator to break up the hard sub-soil and as a hedge to check erosion. The heavy shedding of its leaves adds organic matter to the soil.
- Some pulse crops provide good quality fodder for animals. Leaves and tops of arhar pulse crop in particular are known for this use.
- The dry stalks of arhar also have multiple uses, including use as thatching material and fuel, as also making baskets.
- Pulse crops can provide the raw material for several cottage scale agro-processing units, with more employment potential for women.

This list of the many virtues of the pulse crop can be easily increased. The bottomline is that the important place traditionally assigned to pulses in the Indian food and farming system should be renewed and strengthened so that pulses and, in particular, their mixed farming systems can recover.

The last year was a good one for the pulse crop. Although only provisional figures are available, government documents convey good news on the pulse front. However, this should be seen in the right perspective because the production increase is partly a reflection of the decline in the previous year's crop. Also, higher per hectare yields have been achieved in the past.

What is needed is not just a one-time increase but a sustained strengthening of India's pulse cultivation so that the per capita availability of this staple source of proteins can come close to proper nutrition norms.

Table 1 numbers on the per capita availability indicate an alarming decline with serious implications for the weaker sections of society. Often times the average consumption conceals the fact that the poor consume very little of pulses and the healthier figures are arrived at courtesy much higher levels consumed by the richer sections who consume not just the staple form of pulse but also a variety of snacks, sweets and such others made of pulses. Interactions with weaker sections reveal very low levels of pulse consumption.

This is extremely sad and reveals a systemic failure.

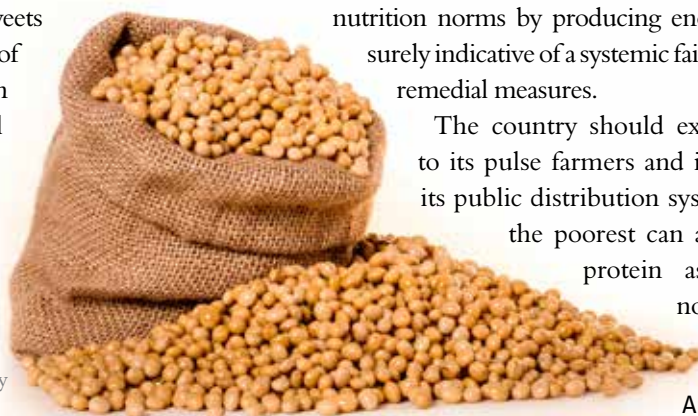


Photo: Pixabay



Photo: Pixabay

The country should extend all support to its pulse farmers and include pulses in its public distribution system so that even the poorest can access this staple protein as per nutrition norms

India has land suitable for cultivating many types of pulses. It has farmers who are very well-informed about growing a diversity of pulse crops and have a wealth of traditional wisdom to support them. There is also a vast market for pulses and pulse products in India.

The government can complement this by making purchases on a large scale for supplying to the public distribution system and nutrition programmes. If, despite all these plus points, India cannot meet its nutrition norms by producing enough pulses, it is surely indicative of a systemic failure that demands remedial measures.

The country should extend all support to its pulse farmers and include pulses in its public distribution system so that even the poorest can access this staple protein as per nutrition norms. ●

Folk Tales from Bengal's World of Rice

Aditi Roy Ghatak

Anupam Pal is as busy as a bee and, while not quite making honey, this assistant director of the Agriculture Training Centre (ATC) at Fulia, West Bengal, is busy helping farmers make money; significantly through the ecological route. Farmers are now reaping the ecological benefit from the new rice ecosystem based on decade old knowledge that they have adopted. The current obsession at the ATC, Fulia, is with rice, especially the folk varieties.

ATC, Fulia, has been focused on conserving Folk Rice Varieties for the last 17 years with remarkable results. Ask the farmers of Chaitanya Chandradaya Agricultural Trust at Mayapur, Iskon. They now produce aromatic rice that Bengal had all but forgotten about; varieties that the local tribes once grew.

Once scientists from ATC Fulia started working with them, they got a whiff of success; literally. Jetha Hansda, a tribal farmer, remembered what he

had once practiced and the Fulia scientists worked with him to revive a lost world of Kala Bhat, Hamai, Jhumpuri, Khara, Balam and more.

Manoj Mukherjee and other farmers of Balgarh, Hooghly, maintain more than 10 folk rice varieties over 20 acres. Himadry Maity and his associates of Shyampur I, Howrah, commercially conserve 10 varieties over 25 acres. Chamatkar, another fine folk rice, is a favourite with Avra Chakroborty of Burdwan, who has chosen to grow it over more than 50 acres in Phansidewa near Siliguri. The list is impressive.

As far as Hansda's aromatic rice is concerned, the Fulia scientists first examined and researched the varieties for ambient production conditions and realized that the local agro-climatic conditions would nurture these rice varieties. Soon seeds were procured and locally supplied. Production caught on without use of any chemical fertilizers. These organically grown rice varieties are fragrant and have retained all their nutrient qualities.



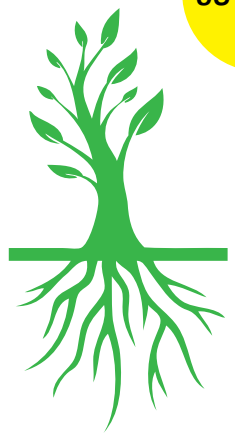
More than 400 FRVs have been transplanted by July this year and all varieties were transplanted by July 2018 thanks to timely seedling preparation in poly houses by the ATC field staff

Says Anupam Pal, “Folk rice has gained momentum due to its low cost of cultivation and sustainable yield. Varieties like Kerala Sundari, Bahurupi, Megha Dambaru and such others can yield six tons per hectare without any chemical fertilizers or pesticides”.

For nearly two decades ATC Fulia, on a conservation mission, has been collecting seed from across the state and India. “This year more than 400 FRVs have been transplanted by July and we have been able to transplant all the varieties by July 2018 due to timely seedling preparation in poly houses by our field staff”, Anupam Pal says.

The approximately 15-day old seedlings were transplanted singly at a spacing of 12x10 inches, keeping a three-foot gap around each plot of 64-66 hill depending on the variety and plot size. “This was maintained by following the principles of flowering asynchrony, recommended by Debal Deb, renowned folk rice conserver and ecologist”.

To prevent cross pollination, the plots are filled up with short duration (85-100 days) varieties like Shatia, Jay Prakah 90 (JP 90), Pari and such others. Thus, more than 500 such plots have been established to accommodate all 430 FRVs.



Rice Variety and Numbers

- Red Rice: 40
- Aromatic: 60
- Desi High Yielding (4.5-6 ton/ha): 20
- Black Rice: 7
- Deep Water: 20
- Fine Rice: 30
- Short Duration (85-110 days): 20
- No Boiling Rice: 2
- Winged Paddy: 3
- Cluster Rice: 5
- Purple Leaves: 4 and others



Photo: Pixabay



**Agricultural Training Centre:
Fulia, Nadia, West Bengal**

Biodiversity Conservation Farm

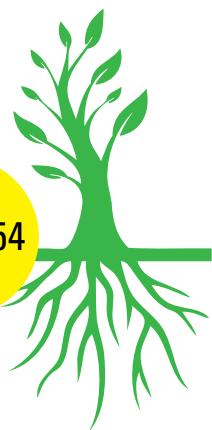
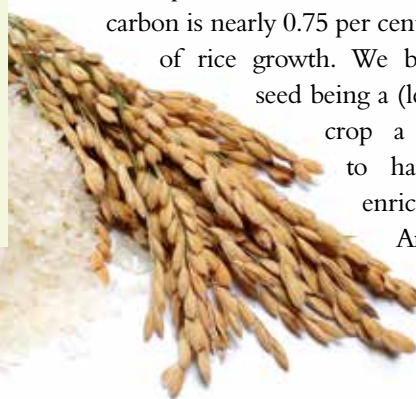
The ATC Fulia was set up in 1952 over 15 acres, 86 km north of Kolkata. Essentially, it imparts training for field level workers of the department of agriculture and farmers. Declared a Biodiversity Conservation Farm under the aegis of the Biodiversity Act of the Government of India, 2002, by the state Directorate of Agriculture in 2006, it is the only state-run organic farm amongst 150 other state-run farms. Organic farming started in 2001 with five folk rice varieties by Dr Anupam Paul.

Folk rice varieties were collected from VRIHI (www.cintdis.org), different farmers, DRCSC (West Bengal) other states like Odisha (Sambhah and Living Farms), Uttar Pradesh (J P Singh of Benaras), Kerala (Thanal, Save Our Rice Campaign), Karnataka (Sahaja Samrudha), Jharkhand (Pradhan; Soumik Banerjee), Maharastra, Assam and Nagaland and seeds were exchanged with them. The centre has some special rice: red and black rice, double grained, seeds with an extension of empty glume, deep water and salt tolerant varieties. The number of tillers varies from 8-65 and this is dependent on many factors. Everything has been grown organically here till 2011, applying cattle and liquid manure produced in the farm. From 2012, application of all external organic matter has been stopped except floating azolla. More importantly, morphological studies are conducted at the centre and university research scholars study here as well.

‘We do not use any outside organic matter such as cattle manure save for floating azolla, an aquatic fern that fixes nitrogen, released 22 days after the first intercultural operation’

“We do not use any outside organic matter such as cattle manure save for floating azolla, an aquatic fern that fixes nitrogen, released 22 days after the first intercultural operation. The azolla grows and multiplies in the fields with an inch of standing water. It releases nitrogen and other nutrients apart from organic matter and suppresses weeds as well”. However, this year we had to apply external input like rice flour and molasses at the rate of 15 kg per hectare to boost growth in some plots”.

The analysis of soil microbial status shows that it has nearly 10 times higher microbial population than its counterpart chemical farms and the soil organic carbon is nearly 0.75 per cent. “This takes care of rice growth. We broadcast lathyrus seed being a (leguminous) pulse crop a few days prior to harvesting rice to enrich the soil”, says Anupam Pal. ●



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