JAN SUNWAI
ON
THE PRESENT AGRARIAN CRISIS
A
REPORT

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THE AGRARIAN CRISIS IN INDIA- A BRIEF BACKGROUND

Twenty first century India has emerged as a major economic power in the world, with the growth rate of the gross domestic product reaching impressive levels and the poverty ratio coming down significantly. In the context of such a scenario, it is indeed very incongruous and difficult to believe that the Indian countryside where the large majority of its people reside is in the grip of a severe agrarian crisis. In the opinion of Prabhat Patnaik[1], this crisis in Indian agriculture is "unparalleled since independence and reminiscent only of the agrarian crisis of pre-war and war days".

According to Sahai[2], the most tragic face of India's agrarian crisis is seen in the increasing number of farmer suicides, not just in the hotspot areas of Andhra Pradesh and Vidarbha but in the allegedly prosperous agricultural zones of Punjab and Karnataka as well. Farmers' suicides are no longer limited to the drought and poverty stricken areas of the country. Now farmers in the most productive agricultural regions such as Karnataka, Punjab, West Bengal, Andhra Pradesh, and Maharastra are ending their lives because of their massive indebtedness. Mishra[3] also expresses a similar view when he says that the conventional notion of agrarian distress being part of the broader landscape of underdeveloped agriculture and backwardness no longer fits to the emerging evidences from rural India. Manifestations of agrarian distress in contemporary India is not confined to the pockets of backwardness; even the regions having a high degree of commercial agriculture, using relatively better technology and having a relatively diversified cropping pattern have reported high indebtedness and distress of various kinds.

More than six thousand indebted farmers, mainly cotton farmers, have committed suicide in Andhra Pradesh alone during the period from 1998 to 2005 as its government which had entered into a state-level Structural Adjustment Programme with the World Bank, raised power tariff five times even as cotton price fell by half. In Maharashtra, 644 farmers committed suicide across three of its six regions between January 2001 and December 2004.

[1] Patnaik, P., "The Crisis in India's Countryside", http://ccc.uchicago.edu/docs/India/patnaik.pdf , accessed on May 5, 2007.
[2] Sahai, S., "Are Genetically Engineered Crops the Answer to India's Agrarian Crisis".
[3] Mishra, D.K., (undated), "Behind Agrarian Distress: Interlinked Transactions as Exploitative Mechanisms", *E-pov* (a newsletter of the Centre for Science and Development),

In Karnataka, 49 suicidal deaths occurred between April and October 2003 in the drought-prone region of Hassan. Over the same period of time, 22 suicides occurred in Mandya, the state's 'sugar bowl'; 18 occurred in Shimoga, a heavy rainfall district, and 14 occurred in Heveri, a district that receives average rainfall, owing to indebtedness to private moneylenders. While statistics may show Punjab to be India's 'breadbasket,' claiming that its soils are rich and its five rivers supply abundant water throughout the state, the reality of this image of prosperity is revealed by the increasing number of suicidal deaths among Punjabi farmers. Over a thousand farmer suicides have also taken place in Punjab mainly in the cotton belt. In the four years from 2001, over 1,250 suicides took place in Wynaad in Kerala. In Burdwan, the region of West Bengal commonly called the "rice bowl of the East," 1,000 farmers ended their lives in 2003.

Kidney sales and nine thousand suicides (between 1998-2005), according to Utsa Patnaik,[4] are only the tip of the iceberg of increasing deprivation. A crucial index of this deprivation is an astonishing fall in food grains absorption to levels prevalent 50 years ago, and decline in average calorie intake in rural India. Availability or absorption of foodgrains is calculated on the annual net output adjusted only for change in public stocks and in trade. It covers all final uses – direct use for consumption as grain and its products, use as feed for converting to animal products (a part of this is exported), and industrial use. The per capita availability or absorption of food grains in India has descended to a mere 155 kg annually taking the three year average ending in 2002-03. This level is the same as fifty years ago during the First Plan period, and it is also the level seen during 1937-41 under colonialism. After Independence, from the early 1950s to four decades later, the per capita food grains availability had climbed slowly from 155 kg to 177 kg, which was completely reversed during the 1990s. Per head availability/ absorption is now one of the lowest in the world, with only Sub-Saharan Africa and some least developed countries registering lower absorption than India. Since urban India has been increasing average absorption and average calorie intake, it is rural India where the fall has been very steep.

According to Prabhat Patnaik[5], one can also understand the extent of the agrarian crisis in India, by looking into the command which an average person belonging to the "agriculture-

[4] Patnaik, U., "Theorizing Food Security and Poverty in the Era of Economic Reforms", Public Lecture in the Series "Freedom from Hunger", India International Centre, New Delhi, April 12, 2005.
[5] Patnaik, P., "The Crisis in India's Countryside", http://ccc.uchicago.edu/docs/India/patnaik.pdf , accessed on May 5, 2007.

dependent population" has over a specific bundle of goods. The benchmark bundle of goods can be taken as that bundle which is actually supposed to be consumed by the average industrial worker, according to official statistics. It turns out that between 1994-95 to 2003-04, the per capita command over this bundle of goods by the agriculture dependent population increased by only 5% in absolute terms, which amounts to virtual stagnation. The virtually stagnant per capita command over "private goods" has been accompanied not just by growing economic insecurity but also by a decline in the quality of public services provided to it, which includes the decline in public health and public education facilities in rural areas, abysmal state of rural infrastructure and the reduction in the availability of electricity in the countryside[6].

Various reasons have been attributed for the present agrarian crisis. It has been felt that the present crisis is the result of deflationary public policies and trade liberalization (with falling global prices), which has slowed output growth, contributed to rising unemployment, income deflation for the majority of cultivators and labourers, enmeshing of cultivators in unrepayable debt, and loss of assets including land, to creditors. According to Utsa Patnaik[7], "forty years of successful effort in India to raise foodgrains absorption through Green Revolution and planned expansionary policies, has been wiped out in a single decade of deflationary economic reforms and India is back to the food grains availability level of fifty years ago". Another reason being given for the agrarian crisis is the drastic reduction in the state's spending on rural development which has led to loss of purchasing power among rural people. Expenditures in rural development, under which fall the heads agriculture, rural development, special areas programmes, irrigation and flood controls, and village and small scale industry, have been slashed to an all time low of 0.6% of NNP in 2004.

An attempt to have a correct appraisal of the crisis afflicting Indian agriculture in recent times has been made by the Tata Institute of Social Sciences (TISS) in Mumbai, which had conducted an investigation into the Vidarbha agrarian crisis and farmer suicides at the behest of the Bombay High Court. The study found that the main reasons for the crisis are repeated crop failure, inability to meet rising cost of cultivation and indebtedness. According to Sahai[8], emergency in agriculture has developed because of the rising cost of agricultural production

[6] *op.cit.*

[7] Patnaik, U., "It is Time for Kumbhakarna to Wake up", *The Hindu*, August 5, 2005

[8] Sahai, S., "Are Genetically Engineered Crops the Answer to India's Agrarian Crisis".

which is not offset by either the Minimum Support Price offered by government or prices available on the market. The combination of high cost of production (owing to higher input prices and higher cost of labour), low market price and non- availability of easy credit has contributed to an enormous debt burden. This is further compounded by personal needs taken for social needs like marriage and education. The crisis becomes acute when farmers, exhausting their credit with banks, turn to private money lenders who charge usurious rates of up to 60% per annum.

The official policy response to the present agrarian crisis has generally been one of denial and insensitivity. The recent initiative of the Government regarding the rural employment programme has been criticized as "a limited gesture totally inadequate to meet the enormity of the crisis", while the projected enhancement of agricultural credit by the government has been dismissed as "exaggerated" and "inadequate" in the context of the policy environment of withdrawal/ reduction of minimum support price programmes[9].

A strange argument has also been advanced in certain quarters to account for the decline in per capita food availability. It is contended that because of a change in the dietary habits of the people, they have diversified their consumption pattern from food grains towards all kinds of less-elemental and more sophisticated commodities. Therefore, far from it being a symptom of growing distress, the decline in food availability is actually indicative of an improvement in the conditions of the people, including the rural poor. Some have even gone to the extent of suggesting that with the changes occurring in Indian agriculture in terms of the cropping pattern and use of machinery, peasants and workers do not need to put in hard manual labour. Correspondingly, the need for consuming huge amounts of foodgrains no longer arises. This argument is completely untenable in the light of the hard facts of rising unemployment, falling output growth, entrapment of farmers in debt and land loss and especially, when the agrarian crisis has found expression in the acute desperation and hopelessness of the farmers, leaving them with no recourse but to take their own lives. Gene Campaign strongly feels that such policy conclusions which are contrary to realities would have dangerous repercussions if implemented, reducing food security further and impoverishing farmers.

[9]Shukla, S.P., "An Initiative for Agrarian Analysis and Action", ATIS (Agricultural Trade Initiative from the South", September 30, 2005.

JAN SUNWAI AS A TOOL FOR PUBLIC PARTICIPATION IN SOLVING PROBLEMS

With the objective of understanding the problems besetting Indian agriculture from the key stakeholders themselves- farmers, consumers, experts and civil society, Gene Campaign together with Madhya Pradesh Kisan Sangharsh Samiti (MKSS) and INSAF, organized a *Jan Sunwai* on 30th March, 2007 in New Delhi at Jantar Mantar. The *Jan Sunwai* was organized as part of "Sangharsh 2007" called by people's movements and people's organizations to protest against the current form of development. Organizations participating in the *Jan Sunwai* included

- Madhya Pradesh Kisan Sangharsh Samiti,
- Indian Social Action Forum (INSAF),
- Kisan Sangharsh Samiti, Uttar Pradesh
- Krishi Jamin Raksha Samiti
- Mazdoor Kisan Shakti Sangharsh Samiti, Rajasthan
- Madhya Pradesh Kisan Sanghatan
- Narmada Bachao Andolan
- National Alliance Of People`s Movements (NAPM)
- National Forum Of Forest Peoples And Forest Workers (NFFPFW)
- Gene Campaign, Jharkhand

The main objective of the *Jan Sunwai* was to frame a set of recommendations to resolve the agrarian crisis, based on a correct assessment of the situation. Views and evidence were presented to a Commission consisting of Justice Rajendra Sachar, Sri Prabhash Joshi (Senior Editor, *Jan Satta*), Mr Sanjay Parikh (Advocate, Supreme Court) and Swami Agnivesh (President, World Council of Arya Samaj). Having first hand knowledge of the various problems afflicting Indian agriculture and being the victims of the present crisis, the farmers and other stakeholders at the *Jan Sunwai* articulated a number of demands to address the problem. Some of these demands have been to rationalize water use, ensure sufficient water to farmers and develop policy for water pricing, diversify agriculture; move away from the

paddy- rice rotation and introduce new crop varieties and undertake agricultural renewal on water footing. They also demanded completion of the unfinished agenda on land reforms, investment in restoring social heath and in appropriate science and technology, making rainwater harvesting mandatory, conserving agricultural diversity. They also pointed out the need to provide insurance and credit to farm families, assured and remunerative farmer centered marketing and pro- farmer policies.

Dr. Suman Sahai of Gene Campaign addressing the Jan Sunwai

held at Jantar Mantar on 30th March 2007

The *Jan Sunwai* was conducted operating on the premise that problems afflicting a democracy are best resolved through more democracy and by affording more opportunities for the participation of various interest groups in planning and decision- making. Problems are best solved through public action of cooperation, consensus and construction.

Different forms of participatory organisations are being employed in democratic practice which aims at identification of different viewpoints, discussion of the pros and cons and finalisation of areas of consensus that need to be created. In the United States, *Citizen's Juries* bring together a group of representative citizens to consider an issue in depth for a period of three to five days. During this period, they receive evidence, written and oral, examine witnesses and discuss the issue thoroughly before arriving at a conclusion which is presented in the form of a report. These Juries enable concerned citizens with different kinds

of expertise to analyse an issue and come to a conclusion, which can help a rounded appreciation of it.

Planning Cells is a German system akin to the Citizen's Jury. It aims at involving the stakeholders, experts and citizens in the planning process based on their experience and expertise. The logic behind involving the three groups is simple: since stakeholders have an interest, they will be fully involved in bringing out all the issues involved, experts provide the technical input and citizens are the neutral observers who can be either the victims or the beneficiaries of the planning measure.

Deliberative Opinion Polls have been tried out in the United Kingdom. Essentially a representative sample of the population to be covered is taken after a baseline survey. They are called to a single place and exposed to various facets of the matter in question. They are given the opportunities to understand the issue in full and have the freedom to discuss and deliberate. Thereafter an opinion poll is conducted.

Round Tables are used in Canada to bring together groups of interested parties and stakeholders to discuss various issues on a continuing basis. All members participate on an equal basis.

In India, *Public Hearings* and *People's Hearings,* more popularly known as *Jan Sunwai,* have become key tools for ensuring people's participation in planning and development. *Public Hearing* is a form of explaining to the public various aspects of a proposed development project enabling the public to air their concerns and get clarifications. This helps the public to be informed of the implications of a development project and assist Government to prepare mitigative measures to address the concerns and fears of the public.

The *Jan Sunwai* is mostly a method of representing grievances by public testimony of groups like Dalits, women, tribals and farmers to highlight and sensitize the participants on problems mostly rooted in rural contradictions. A model of *Jan Sunwai* was developed by the Madhya Pradesh Kisan Sangharsh Samiti (MKSS) of Rajasthan and has been used as a post *facto* social audit of development expenditure by the community. Typically the community is given all the details of a proposed work and after completion, details of expenditure, materials used, labour employed etc. are also given. This then has to be validated in a public meeting and if deficiencies are pointed out, rectification would be required.

The *Jan Sunwai* is fast gaining popularity as an alternative method of collective expression, as not just the media but also the judiciary has failed in hearing and solving the problems faced by these marginalized groups. While it does not have any public or penal authority it does have the 'moral power to influence the State and civil society in favour of a democratic spirit'. Public hearings and *Jan Sunwais* have played a very important role in the Narmada Valley movement[10], giving voice to the movements of resistance and struggle and articulating the concerns of the displaced people. These have given the people a centrality in the planning for development in the valley and in the execution of plans generated.

The *Jan Sunwai* is a vehicle for broadening the interface between the government and the citizen, helping citizens become more aware of governmental activity and the government becoming more responsible to public concerns. In the present instance, Gene Campaign and the other organizations involved have adapted the *Jan Sunwai* to look into the problems afflicting Indian agriculture, using it as a democratic system for consultation, to arrive at solutions.

CAUSES OF THE AGRARIAN CRISIS

In the *Jan Sunwai* conducted by Gene Campaign, Insaf & MPKSS, the key stakeholders highlighted a number of causes they themselves have been confronted with, which have contributed towards the present agrarian crisis. The agrarian crisis has been attributed to growing cost of cultivation, higher input prices, higher cost of labour, higher requirement for cash and falling price of agricultural produce. This has been compounded by collapse of soil health due to excessive use of agrochemicals and falling water table due to irrational, wasteful use of water resulting from free electricity and free water. Of 5723 ground water blocks in the country, over 1000 are critically exploited. At the same time, there has been diminishing investment in agriculture by the government, with allocation to agriculture falling in Five Year Plans and reduced institutional credit availability to farmers. Repeated crop failures, inability to meet rising cost of cultivation and rising indebtedness have been responsible for farmers' suicides in the countryside. A fact which came to light at the *Jan Sunwai* was that 70% of the farmers who killed themselves were cultivating Bt cotton. The crisis in the rural areas of India is manifested in the rising number of villages and the

[10] Ramanathan, U., "Along the Narmada: *Jan Sunwai*", International Environmental Law Research Centre Working paper, July 13 to 15 2002.

increasing expanses of agricultural land being put up for sale at throw away prices because the farmer has committed suicide or migrated.

Thus, it emerges that a number of issues need to be resolved in order to solve the present agrarian crisis. This report seeks to attempt an indepth analysis of the broad issues which have emerged at the *Jan Sunwai,* which are as follows:

Agricultural Credit Availability and Indebtedness

Finance in agriculture is as important as the development of new technologies, as technical inputs can be bought and used by the farmer only if he has the means to do so. The average Indian farmer does not have adequate funds, due to which finance or credit becomes indispensable for him.

With the objective of providing easy institutionalized credit to the farmer, 14 major commercial banks were nationalized in 1969. After nationalization, it was made mandatory for these banks to provide finance to agriculture as a priority sector. Thus, agricultural credit acquired multi-agency dimension. The credit available to agriculturists through banks is of three types: long term, middle term and short term credit.

The period of long-term credit is generally 5 to 20 years or even more in some special cases. In any industry, long-term investment is necessary, to create permanent assets which give returns over a period of time. The special banks providing Long-Term loans are called Land Development Banks.

Crop loan is a short term credit and is generally obtained from primary credit co-operative society of a village or also from commercial banks. The period of loan is about one year except for sugarcane for which the period is 18 months. There are two criteria for granting crop loan: one third of gross value and the cost of cultivation. In cost of cultivation, direct paid-out costs are only considered. They include items like seeds, manure, fertilizers, pesticides, diesel/electricity, hired labour etc. In the case of a crop loan, it is expected that all direct costs to be incurred by the farmer should be covered and accordingly he should get adequate credit.

Crop loan is an annual requirement and the farmer has to borrow fresh loan for new crop season every time. Therefore, he has to repay the earlier loan with interest within the stipulated time. Crop-loan is the most important need of the farmer to increase and maintain his productive ability. With the help of this loan amount, he can purchase modern costly inputs and adopt new technologies on his farms. So through these loans co-operative banks play important role in the development and prosperity of agriculture. Among the various types of bank loans to agriculture, the share of crop loan is the highest.

In the rural areas of India, where almost a third of the working population is in the agriculture sector, farmers' earnings are so low that they sometimes cannot even meet minimum needs for their families.

Agricultural workers also face difficulty in acquiring bank loans due to high interest rates and the poor financial states of cooperative banks. Without help from state governments and cooperation from commercial and regional banks, farmers are facing a decrease in income share in their regions. In Andhra Pradesh where 18 per cent of bank loans were to go to farmers, their actual share of loans has never exceeded 11 percent. This dearth of credit forces farmers to take loans from rural lenders who charge interest at exorbitant rates (anywhere between 36 and 50%) that would cause the demise of even the largest of corporations. And, while banks complain about bad loans that had been given to farmers, they have yet to recover Rs 1 lakh crore from the corporate sector. Conversely, farmers only owe about Rs 15,000 crore.

The institutional credit deadlock: the Case of Vidarbha

Vidarbha has a good banking network, according to RBI records. The direct finances to agriculture are lump sum Rs.2449.76 crore. However, 80 per cent farmers are defaulters, meaning they are not eligible for fresh loans, which makes access to institutional credit for them difficult. As the Planning Commission's fact-finding mission members found out, nearly 2.8 million of the 3.2 million cotton farmers in Vidarbha are defaulters. The team found that the current outflow of credit was miserably insufficient. Also unless the existing loan burden on farmer is eased, he won't get fresh loans. The timing too is important. If a farmer doesn't get loan in time, he opts for private lending. To fill the gap between availability and need, the farmers take loans from private moneylenders, who then clearly gain from any profit in agriculture. In that district, the study shows, the gap of Rs.75 crore between credit needed and credit available from institutional sources is then filled from private sources – illegal moneylenders, who lend close to Rs.30 crore, inputs dealers who give a credit of Rs.21.5 crore, grain merchants with a credit outlay of Rs.10.7 crore and other sources pay Rs.10.2 crore in credit. The informal credit sources charge whopping interest on the principal sum, the study found out. It appears that a large number of farmers are out of the formal credit system, the report mentions.

Over the years, the three-tier structure of disbursement of loans to the farmers has proved detrimental. NABARD gives crop finance through state cooperative bank at the rate of 5.75%; the state cooperative bank lends it to the district cooperative banks at 6.75%, and they in turn lend this money to the primary agriculture cooperative societies at 8.75%, who levy an additional interest of 3% on it to give the loans to farmers at 11.75%. Accounting for deduction of expenses to run the societies, the final rate of interest to the borrowers comes to a whopping 13%.

In the present day, with cooperatives and rural banks failing to provide sustainable credit, and public sector banks being privatised relentlessly, rural credit has dried up and farmers are pushed into borrowing from moneylenders. The failure of the private sector in Indian banking was what had ushered in the nationalisation of banks in the late sixties. The pre-nationalisation period witnessed the growth of a banking system, which, driven by profits, could not cater to the development needs of the nation with virtual inaccessibility to credit for the vast rural and poor population.

The area and group wise classification of banks shows the concentration of foreign banks in metropolitan areas and a complete absence of foreign banks in the rural areas, while private banks are mostly concentrated in the semi-urban areas. In the event of the nationalised banks giving way to private participants, it wouldn't be long before

the rural areas are isolated from the financial scene. These trends are but suggestive of a return to the pre-nationalisation era that had doomed to be a failure. Even today, banks are refusing to give farmers enough credit, because they are not sure if they would be able to repay the loans, this – despite the Prime Minister's intervention into the issue. The government has asked the banks to give farmers the credit, but that is of no use, until the government gives them a guarantee.

Lastly, the Kisan credit card, a tool to get hassle-free loan has failed to rescue farmers from local moneylenders and corruption-minded rural banks. These banks mortgage farmers' land before issuance of the card. It is well known fact that more than 50 percent farmers are always in the need of credit and owing to easier availability of credit, so credit cards will push them further into the debt trap. At the end of the day credit card scheme will be a bane rather than a gift. Government should apply some checks and controls on moneylenders. The best available option for such checks is implementation of Moneylenders' Regulation Act.

Diminishing Investment in Agriculture

According to Sahai[11], one of the prime factors contributing to the heavy rural indebtedness is the diminishing investment in agriculture which has reduced credit availability to cultivators. Allocation to agriculture and allied sectors from the total outlay for the Five-Year Plans has fallen from 14.9% during the First Plan to 5.2% during the Tenth Plan. Utsa Patnaik[12] also expresses a similar view when she says drastic reductions in the State's spending on rural development has led to loss of purchasing power during the last decade, which continues and

[11] *op.cit.*

[12] Patnaik, U., "It is Time for Kumbhakarna to Wake up", *The Hindu*, August 5, 2005

is reflected in a steep fall in per head foodgrains absorption in India. As far back as the 7th Plan, 1985-90, the average share of rural development expenditures in Net National Product (NNP) had been raised to nearly 4 percent, with very positive effects by way of rising employment and rising real wages. In rural development expenditures can be included five heads – agriculture, rural development, special areas programmes, irrigation and flood control, and village and small scale industry.

In the year 2004-2005, rural development expenditures taking these same heads, have been slashed to an all-time low of 0.6 per cent of NNP. The absolute outlay (budgetary estimate) was a insignificant Rupees 13.5 thousand crores, which is exactly the same amount, even without any adjustment for price rise, as that spent fifteen years ago in 1990-91. According to Patnaik, this brutal contraction in spending has added to the present continuing crisis of jobs and has increased hunger. This contraction in spending has been brought about to a large extent by the policy adopted by the government of reducing the developmental expenditures and deflating the economy, a prescription urged by global financial interests.

In the recent budget for the year 2007-08, an amount of around Rs 2, 25000 crores has been earmarked for agricultural credit. However, not more than a small percentage of it can be expected to reach its destination owing to the fact that the money flowing route is too time-consuming and full of hassles like conflict between political ideologies of Center and State Governments, threatening political instabilities on both Center and State Governments, lack of coordination among disbursing agencies and little awareness among farmers. Government should shorten and lubricate this disbursement route to materialize results.

The Finance Minister had to admit that agricultural production, which is the principal means of subsistence for about 115 million farming families, grew at a meager average annual rate of 2.3 per cent during the Tenth Plan period against a desired level of 4 per cent. He had to admit further that, “a country with a large population has to be nearly self-sufficient in essential food items; otherwise supply constraints could upset macro economic stability and growth prospects…supply constraints have emerged in some essential commodities such as wheat, pulses and edible oils.” To mitigate the indebtedness of the farmers and the peasants, the Annual Budget has tried to increase the quantum of bank loan to the farming sector to the extent of Rs. 2, 25,000 crore and bring an addition of 50 lakh new farmers under the credit net. However, it is difficult to understand why despite such a ‘satisfactory’ volume of farm

credit flowing into the agricultural sector, peasant indebtedness and suicides have been continuing, if not increasing.

This problem can hardly be tackled merely by increasing the volume of farm credit. The delivery system of institutional credit has several drawbacks, which compels a large section of middle farmers to resort to private credit to finance their increased cost of cultivation engineered by the pro-WTO agricultural strategy pursued by the government.

Others have again expressed the view that the actual allocation for agriculture is grossly inadequate and plan outlay as a proportion of GDP remains stagnant. It has been felt that despite the hype about its tilt towards the agriculture sector, the budget has failed to put together a package to bail out the ailing sector[13]. Also, despite being the first budget of the

[13] http://www.downtoearth.org.in/fullprint.asp

11th Five-Year Plan, it has failed to give an overall direction for the plan period.

The state of agriculture can be gauged from the available estimates: while the economy grew at 9.2 per cent in the 2006-07 fiscal years, agriculture and allied activities grew at 2.7 per cent. The poor performance of the sector holds good for the entire 10th plan period. But despite the admission that agriculture has received far less than its due, especially in comparison to the corporate sector, the budget has failed to address the palpable crisis. The share of agriculture and allied activities in budgetary allocation has declined from 7.8 per cent in 2006-07 to a projected 7.5 per cent in 2007-08. As a proportion of GDP, agriculture's share has been declining—down from 1.5 per cent in 2000-03 to 1.26 per cent in 2007-08. This issue has not been addressed. In absolute terms, however, the allocation for agriculture and rural development has gone up to Rs 50,122 crore, an increase of 25 per cent, over and above the fertilizer subsidy.

It needs to be noted, however, that allocations for seven flagship rural programmes have been hiked. The budget for the Bharat Nirman programme has gone up by 31.6 per cent. After three months of feuding between the Union ministries of finance and rural development, 130 more districts have been brought under the National Rural Employment Guarantee Act. Similarly, the allocation for the Backward Region Grant Fund has been hiked by 8 per cent.

But apart from two schemes, the budget's 18-point plan for agriculture has nothing new to mitigate the crisis. The new schemes are the Aam Aadmi Bima Yojana, an insurance scheme for landless labourers, and a groundwater recharge plan, which is part of a larger focus on water management. There are some other proposals for expansion of credit and extension programmes, and proposed changes in the fertiliser subsidy regime.

The centerpiece of the budget's water strategy is the allocation of Rs 1,800 crore to dig 7 million wells for groundwater recharge. The government proposes to fully subsidise marginal farmers to dig wells and give a 50 per cent subsidy to other farmers. But though the finance minister has raised the allocation for the Accelerated Irrigation Benefit Programme from Rs 7,121 crore to Rs 11,000 crore to extend irrigation facilities in rainfed areas, other budgetary provisions take the sheen off this hike. First, the government has made a provision of only Rs 100 crore for the new Rain fed Area Development Programme, under which it formed the

National Rain fed Areas Authority last year. According to the government's own assessment it needs a minimum of Rs 10,000 crore every year for the next 15 years for development of rainfed areas, which constitute 60 per cent of India's cultivable areas. Considering this fact, the budgetary allocation is quite paltry. Moreover, it also failed to table a status report on 35 central irrigation projects to be completed during 2006-07 or the progress on irrigating 900,000 additional hectares of land.

Input cost & Market Price

The present crisis in agriculture has developed in large extent owing to the rising cost of agriculture production which is not offset by either the Minimum Support price offered by the government or prices available in the market. The input costs in agriculture come under the following heads:

(i) Seeds

Seed is the most important input to agriculture. It is essential to ensure quality seeds of improved genotypes in adequate quantity. India created seed corporations in the states as well as the Seed Corporation of India at the Centre. The job of the agricultural universities and research institutes was to produce enough quantities of foundation seeds of the recommended varieties. The seed corporations got these seeds multiplied in the fields under the supervision of Seed Testing Authorities of the states to maintain the purity of the seeds produced. This ensured the availability of pure, certified seeds of recommended varieties in adequate

In some progressive states, the foundation seed was distributed in small quantities directly to the farmers at fairs also so that they could multiply their own seed for the next crop. This system, while ensuring adequate supplies, reduced the time gap between research and its adoption by farmers, and enhanced the seed replacement

rate. Unfortunately, the system has lapsed into performing routine functions especially at a time when production patterns need to be diversified for higher incomes and efficiency of resource use. Seed policy, therefore, needs to be streamlined so that the

varietal development effort of the universities and research institutes bear fruit on the fields. The private sector is entering the seed business at a very fast pace. Yet, in the absence of definitive seed policy, the farmers are being exploited without any accountability on the part of the seed companies. This is a major challenge before policy-makers, who need to regulate the production and supply of seeds for a minimum level of productivity under specified conditions and practices.

(ii) Irrigation

Water is the second most important input after seeds. Yet, it is the scarcest social asset; harvested, usable water is becoming scarcer by the day. It is estimated that yield of food grains under irrigated conditions are two to six times higher than the yield under rain fed conditions. Similarly, the instability in yields of irrigated crops is less than half of un-irrigated crops. Yet, for optimum results, irrigation has to be under the control of the farmer so that he can supply water to the crops as required in time. Expansion of canal supply undoubtedly helps farmers grow the crops better, but alongside it is the tube well irrigation that gives the farmer independent control on water for his crops. Assured irrigation is the major factor that allows large-scale adoption of improved varieties and increased intensity of cropping. A one per cent increase in irrigated sown area raised the cropping intensity by an average 0.16 per cent in the country from 1965 to 1980. Thus, it is not the availability of irrigation water per se that determines productivity; more important is assured irrigation under the farmer's control.

Here a word of caution is necessary. With such independent, free access to the underground

water through private tube wells, there is every possibility that farmers would overdraw subsoil water, thereby, upsetting the balance between withdrawal and recharge of water. This is what happened in Punjab, Haryana, Gujarat and several other parts of India. In a democratic set-up, electoral compulsions play a major role. The groundwater table in several states, especially in Punjab and Haryana, is receding at an alarming rate. It is a suicidal approach to supply electricity (for farm operations) and irrigation water free of cost or at excessively low rates. Flat-rate charges are as harmful as free supply, because after paying these charges, the farmer entertains no urge to save on power or water.

The system plays havoc on underground water resources, so much so that farmers and urban centers are now installing submersible pumps to lift water for irrigation and drinking purposes. There is, therefore, no scope for laxity in this respect. Sustainability of production and environmental conservation demand that, regardless of electoral compulsions the balance between withdrawal and recharge of water should never be upset; and water should be treated as a social asset and not allowed to be irrationally exploited by individuals. This demands the inclusion of social costs in production estimates of commodities, both in terms of the resources used and environmental externalities. Therefore, a definitive policy — incorporating the harvesting of water, its utilisation, right pricing, ecological considerations and sustainability of water as a social resource — must be put in place to avoid the disastrous consequences of unchecked over-exploitation.

(ii) Input supplies

The dwarf varieties of crops such as wheat and rice cannot be grown profitably without irrigation, fertilizers and pesticides. High yielders require higher inputs as well as pest control. Subsidised supply of fertilisers to farmers, though at a huge cost to the exchequer, enabled even the small farmer to use fertilisers. In some parts of the country, such as the states of Punjab and Haryana and western UP where assured irrigation was available, along with high-yielding seeds, improved production technology and effective extension service, fertiliser use increased tremendously, and production as well as productivity touched new heights. Yet, all this did not happen without negative results either. Today, the groundwater in these areas is highly polluted with fertiliser and pesticide residues rendering it unfit for drinking. The situation demands a policy stance that encourages the farmer to use these chemicals selectively and at optimum levels which leave minimum residues in the soil and water. India needs to design policy options that encourage the contractual participation of

chemical-producing and distribution companies in integrated pest management, which would lower the cost and health risks for the farmers; and, at the same time eliminate excessive and wrong use of pesticides and minimise environmental degradation.

(iv) Production credit

Agriculture production, being a biological process, has a long periodicity in harvests. The farmers, especially the resource-poor small farmers, do not have the financial capacity to invest on costly inputs and wait for returns. Credit support at affordable cost (interest) is, therefore, essential. It improves farmers' access to purchase inputs. Credit, if properly used for the sanctioned purpose, brings future opportunities to the present; if diverted to unproductive purposes, it can lead to bankruptcy. The amount of credit, its timeliness, interest rate, prior evaluation of proposals and continuous monitoring are essential inputs to make credit a positive determinant. Unfortunately, we have remained overly concerned with the supply side of the credit. The situation is that financial institutions with the mandate to advance a minimum of 18 per cent of their credit to the agriculture sector have a high level of liquidity, but are not finding viable avenues of investment. There is, therefore, a need for enhancing the capacity of the recipients in the farm sector through creating complementarities of technology dissemination, market clearance and appropriate priced credit support

Rising input prices, declining income

While production cost had risen sharply to over 100% in the last five years, incomes have steadily dwindled. Today, all farmers are unable to recover even the production cost. That's largely due to the stagnated prices of commodities, and a heavily rigged international market that is integrated with local markets in the post-globalisation era. There is not enough protection to the farmers from the international market volatility, in terms of commensurate import duties etc.

A report of the fact-finding mission of the Planning commission says the cost of production for per quintal of cotton is Rs.2215, whereas the Minimum Support Price is Rs.1960. The MSP for soybean is Rs.1000, and it requires Rs.885 to grow one quintal of soybean. Even in case of Jowar, the MSP of Rs.515 is lower that the production cost of Rs.629 per quintal. These production costs may in reality be much more than the estimation of the mission, since

many hidden costs haven't been included in it. For instance, the interest on the credit goes in to production cost, but the mission has not included it for the estimation of cost in its report.

A woman putting the evidence before the commission

Production is not complete till it reaches the consumer in the form, at the time and place he demands. Therefore, market plays a crucial role in the production process. Farmers, especially small farmers, do not have much staying power and holding capacity for their produce. Their marketable surplus becomes spot arrivals in the market as soon as the crop is harvested. They have to invariably operate in a buyers' market. They need to be protected from the vagaries of market and buyers' monopolies and cartels. In an economy of shortages, it is particularly important to protect farmers, because post-harvest glut often leads to a price slump when the farmer disposes off his produce; and lean period shortages lead to high prices when the produce is in the hands of the trade. This puts a damper on the production effort of farmers and, at the same time, consumers do not benefit in any manner.

The problem of MSP (minimum supportive price) happens year after year. In the bargain, the only farmer suffers. Due to the general price level going up every year and unpredictable weather, the agriculture sector keeps registering a heavy rise in the cost of inputs. This is where the problem starts. The farmer clamors for adequate remuneration, if not more. Delayed announcement of prices creates serious problems for farmers, private agriculture development agencies like commission agents and even for the procurement agencies in the long run. Commission agents provide very important input to agriculture. The whole agriculture infrastructure is being financially supported by them. Government financial agencies have miserably failed in this direction.

In order to alleviate this recurring problem, the government must do the following:

1. Create a price mechanism for the agriculture sector and the mechanism must cater for rising input costs and bad-weather relief.

2. Link the price fixing mechanism to the agriculture price index as well as the general price index. The agriculture price index must cater for mainly the input items of the sector.

3. It should be a national price fixing mechanism in character. The government should avoid dealing with the problem in a piecemeal fashion for each state.

4. Declare agriculture an "industry" with attendant benefits, including financial benefits.

5 The government must make an effort to promote domestic and international marketing platforms for the rotated crops.

6. The procurement agencies must enlarge the scope of items to be procured. Thiswill help promote crop rotation

The minimum support price and procurement system served very well in eliminating market uncertainty for farmers, but the rigidities of the system put the prices of foodgrain out of alignment with international prices. Flexibility and rationality are key elements in pricing and procurement policies. Now, it is time that the private sector should be enabled to play a competitive role in the agricultural markets through amendment of the Agricultural Produce Markets Act in the states, though it should not replace the existing markets. This will reduce the pressures on the public sector market operations and, simultaneously, control unhealthy market practices of private players.

According to Swaminathan[14], in a country with a high prevalence of poverty and malnutrition, the government should always retain a commanding position in the management of the food security system. This will call for a grain purchase policy that takes into account the changes in the cost of production (such as a rise in diesel price) subsequent to the announcement of a minimum support price (MSP). Building a sustainable food security system will require attention to both the availability of sufficient stocks and who controls them.

[14] Swaminathan, M.S., “Avoiding an Unequal Social Burden”, *The Hindu*, July 6, 2006.

Changing Climate and Uncertain Rains

The term "climate change" refers to projected changes in the Earth's climate that are the outcome of human activities. The Greenhouse Effect is the natural phenomenon that warms the Earth, enabling it to support life. Greenhouse gases are a natural part of the atmosphere and without them; life could not be sustained on Earth. However, human actions, particularly the burning of fossil fuels, are increasing the concentration of these gases. This is believed to be raising the Earth's temperature, creating the prospect of global climate change.

The main impacts of climate change are expected to manifest in the form of rising temperature, sea level rises, changes in rainfall patterns and increased variability of weather events. The Earth's mean surface temperature is predicted to increase by about 2^0C by the year 2100 if emissions continue to increase at current rates. Global mean sea level is estimated to have risen 10-25cm over the last 100 years .In the next 100 years the average sea level is projected to rise by about 50cm higher than today, due to the oceans warming and expanding and increased melting rates of glaciers and ice caps. The frequency and intensity of extreme weather events such as cyclones, floods, droughts and heat waves may also be expected to increase.

Climate change is linked to agricultural yield directly because of alterations in temperature and rainfall, and indirectly through changes in soil quality, pests, and diseases. It has been predicted that the yield of cereals will decline in India, Africa, and the Middle East[15]. As the temperature rises, conditions will become more favourable for pests such as grasshoppers to complete a number of reproduction cycles thereby increasing their population. In the higher latitudes (in the northern countries) agriculture will benefit with the rise in temperature as the winter season will be shorter and the growing seasons longer. This will also mean that pests that will move towards the higher latitudes as the temperatures rise.

Climate change can be expected to increase production risks and require changes in the way farmers and growers select and manage their enterprises in the future.
Some of the major risks include:

- Loss of productivity, loss of income and associated social stresses.

[15] http://edugreen.teri.res.in/EXPLORE/climate/impact.htm

- Transitional costs of shifting from one land use activity to another more suited to a new climate.
- Increased frequency of extreme weather events (e.g. more droughts, high winds and localised flooding) leading to business disruption and infrastructure damage.
- Increased pressure on water resources.
- Increased pest and disease problems (a significant risk for the horticulture sector), due to increased activity of organisms already present and the increased risk of any new species entering the country being able to survive and reproduce.

As already mentioned, changing climate leads to uncertain rains. In India in particular, during the past few years, a lot of uncertainty has been witnessed in the amount of rainfall in various parts. Uncertain rains are attributed to be one of the major causes of the present agrarian crisis. Indian agriculture is heavily dependant on the annual Monsoons and the available irrigation facilities are highly inadequate in the country. Inadequate rains also leads to groundwater depletion which has a major impact on agriculture and related activities. In Rajasthan, the chief reason for the agrarian crisis is the acute crisis of water. Rains, always scarce in this desert belt are becoming scant and infrequent. In many districts, it has not rained for five years in a row. In Punjab**,** drought-like conditions in the year 2006 have caused significant damage to paddy. Only the eastern parts of Punjab have been getting isolated showers. Under such an uncertain situation, fodder crops and pulses are the only options left, as these require less irrigation. Since basmati requires pounded water, it may not be a good choice. Unlike the plains, the impact of deficient rain is much more in the hills as almost 80 per cent of the cultivated area is rain fed. In Himachal Pradesh, the loss on account of damage to agricultural and fruit crops due to drought has been estimated as Rs 450 crore in the year 2006. Horticultural crops like apple, citrus varieties and stone fruit have been affected and loss on this account has been estimated at Rs 80 crore. Southwestern Haryana was also one of the worst affected regions in 2006 because there are no sources of irrigation in the area and agriculture is completely dependent on rains.

It is apprehended that climate change will lead to serious problems in the coming years, to solve which all countries must get together. Over the years, several conferences to discuss environmental issues have been held, and many agreements signed. The process began with the Stockholm Conference of 1972, but negotiations on the issue of climate change started in 1990. These negotiations resulted in the adoption of the United Nations Framework

Convention on Climate Change; in 1992.Since human activities have a large impact on the climate, a large part of the solution lies in our hands. We can bring down the use of fossil fuels, cut down on consumerism, halt deforestation and use more environment- friendly agricultural methods. In the energy sector, emissions can be lowered if the demand for energy is reduced and if we shift to cleaner sources of energy which do not release any carbon dioxide. These include solar, wind, geothermal, and nuclear energy.

Governments all over the world should ensure that forest cover is maintained because plants use carbon dioxide to grow and help remove it from the atmosphere. Forests are therefore, called 'sinks' of carbon dioxide. If trees are felled, reforestation should be immediately carried out. Wetlands are another ecosystem that play a very important role in maintaining ecological balance and thereby the stability of the climate. Preserving these areas has to be given top priority.

In the context of the Indian scenario, roof water harvesting (RWH) offers an option, where conventional water supply systems have failed to meet the needs of the people. The main objective of rooftop rainwater harvesting is to fulfill the water requirements at individual level throughout the year. Excess water will be recharged into the ground through recharge tube well. Scientists have also pointed out that the key to success lies in conservation of soil moisture through scientific techniques.

Water Scarcity and Irrigation

India faces a serious water crisis in the present day and the International Water Management Institute estimates that by 2025, one third of India's population will be suffering from severe shortage. India supports over 15% of the world's population but has only 4% of the world's water resources. Of the total 5723 geographic blocks into which the country is divided, over 1000 are considered to be critically overexploited with respect to the groundwater available. Water for irrigation is being threatened by rapidly increasing nonagricultural uses in industry, households, and the environment. There is an urgent need to increase the existing water use efficiency in Indian agriculture, mainly due to the increasing demand for water from different sectors and the rapid decline of the available potential of water. Water is also being overused and wasted in many states as it is free. The electricity needed to run pumps is free in some states and heavily subsidized elsewhere, although the public agencies in charge of generating and distributing electricity are structurally loss-making.

People vehemently supported the issues of Agrarian crisis in Jan Sunwai

Data from the various states of India are reflective of the acute shortage of water which is seriously hampering agriculture in India. In Punjab, eighty per cent of the groundwater blocks are considerably overexploited. The gravity of the situation can be gauged from the fact that water table is falling in 90 per cent of the State's area. The central districts, including Moga, Sangrur, Patiala, Jalandhar, Ludhiana and Kapurthala, are the worst hit as the area with the water table below 30 feet depth increased from 3 per cent in 1973 to 95 per cent in 2005. According to scientists at the Punjab Agriculture University, the emergency in agriculture has developed because of the falling water table, a situation aggravated by the irrational and wasteful use of water and by politicians who have announced free electricity and free water for irrigation. It has been predicted that by 2030, in about 66 per cent of the central districts the depth of water table would have receded to between 70 ft and 160 feet, unless immediate steps are taken.

In Madhya Pradesh, the major water supply comes from groundwater. Central Groundwater Board (CGWB) estimates that 25% of the sources are over exploited (CGWB 2005). This is due to both over exploitation of groundwater sources combined with inadequate recharge structures. A study by the National Environmental Engineering Research Institute (NEERI) estimates that with the increased number of private boreholes, more and more water is being used for domestic consumption.

The state of Andhra Pradesh has a semi-arid climate and geologically, it has a granite substratum, making water tables hard to access and well drilling extremely costly and

haphazard. Yet there are plenty of wells here. The open wells draw water from as deep as 60 metres (compared to 15 metres with open wells). But too many wells have led to competition: as a result, two-thirds of them are already dry and have had to be abandoned. There are now 575,000 wells in the state of Andhra Pradesh, nine times more than in 1975, but many have gone dry. In many villages the irrigated area is shrinking, whereas the number of wells is paradoxically growing: the less water there is, the more wells are drilled, which makes water even scarcer. Such a situation spells crisis for the majority of farmers as only the better-off farmers have any chance of maintaining their livelihoods, given that a well costs about 50,000 rupees.

The same phenomenon can be observed in the alluvial plain of the Ganges, where in some places water-table levels are dropping by more than one meter a year.

The inherent variable character of rainfall in semi arid west Rajasthan has often caused drought, which manifests in terms of crop failure, unreplenished ground and surface water resources and deprivation of fodder for cattle, thus adversely affecting the livelihoods of the people and leading to migration. Exacerbating the water scarcity is the cheap populism of the political class which has announced free or heavily discounted water for farmers. The result of this is reckless extraction of groundwater to the extent that aquifers are running dry. Farmers and the new class of ‘water vendors’ that provide underground water to government schemes are pumping up groundwater without any restraint, knowing that it is running out. With no rains or water harvesting structures to harvest what little rain is received to charge the underground aquifers, groundwater is expected to finish in about another ten to fifteen years.

As water for agriculture is critical for food security, there is urgent need for improved water management and new investments in irrigation and water supply systems. The *Jan Sunwai* pointed out the need to rationalize water use and develop a policy for water pricing, however, unpopular such measures may be. Thre is also need for further reseach and experiments to augment water availablility for agriculture. For instance, the drip method of irrigation (DMI) introduced recently may be expected to increase water use efficiency significantly, besides increasing the productivity of crops. The results of experimental station data show that water saving from DMI varies from 12% to 84% per hectare for different crops besides increasing the productivity of crops. The farm level data do confirm that DMI helps to save water by 29% for bananas and 37% for grapes per hectare over FMI in addition to substantial increases in productivity.

Need for Improved Soil Health

Soil health is an indicator of environmental health and, like human health, provides an overall picture of the condition of many properties and processes; the terms *soil health* and *soil quality* can be used interchangeably. The definition of soil health commonly used by agriculturalists has emphasized soil productivity - a healthy soil produces abundant, high-quality crops. Soil health or quality is the soil's fitness to support crop growth without resulting in soil degradation or otherwise harming the environment.

Soil quality changes slowly because of natural processes, such as weathering, and more rapidly under human activity; land use and farming practices may change soil quality for the better or for the worse. Soil health deteriorates mainly through lack of water, loss of organic matter, breakdown of soil structure, salinization, and chemical contamination.

Chemical fertilisers have played a significant role in Indian agriculture facilitating Green Revolution and making the country self reliant in food production. However, continuous, concentrated and indiscriminate use of chemical fertilisers affect the soil health, leading to acidification, micro nutrient depletion, soil degradation, reduction in the activity of micro flora and micro fauna, poor crop health and lower crop yield and quality. It may also increase environmental risks like increase in global warming, ground and surface water pollution etc.

Protesters raising slogan despite the police barricade

The crisis that has engulfed Punjab agrriculture, which along with haryana and Western Uttar pradesh was considered to be the grain bowl of India is attributed in large part to poor soil health. According to Sahai, the wheat paddy fields, the mainstay of the agriculture of Punjab, are stagnating and becoming unsustainable partly because of the intensive agriculture cycle which has been mining soil nutrients relentlessly and has led to the collapse of soil health. The excessive use of agrochemicals has also destroyed soil quality and eventually its productivity and additional expenditure on restoring degraded soils is adding to the already inflated costs of production. The total cost of production of wheat and paddy has gone up by Rs 65 per ton for wheat and Rs 190 per ton for rice.

Thus, there is urgent need for a shift in our thinking about agriculture. It has to be viewed not as a closed operation, but rather as part of a much-broader ecological system, which interacts with, and affects other parts of, the system. We need a new definition of soil health that goes beyond productivity and connects with the environment as a whole. To that end, we need to define soil health for agriculture as the soil's fitness to support crop growth without resulting in soil degradation or otherwise harming the environment. Too much chemicalisation of agriculture leads to adverse effect on soil health and disturbance in biological equilibrium. Therefore, there is need to find alternatives and revive the age-old traditional techniques of

natural farming. It is essential to find economically cheaper and ecologically safer alternative to agro-chemicals. Earthworm culture (vermiculture) along with blue green algae, biofertilisers and biological control of pests hold promise for restoring soil health. In India, vermiculture is being increasingly used to sustain soil fertility, to reclaim wasteland and to treat solid waste and waste water. Vermiculture can also be practiced in all plantation crops where soil disturbances through the chemical tillage can be avoided. Vermiculture can decrease soil PH, increase potash content and improve crop yield, besides increase in posture production. The major utility of these worms for improving the soil fertility is through constant burrowing, earth insetting and certain physical and chemical changes in the upper layer of soil which sustain plant growth. The economic value of vermiculture lies in the elimination of the organic wastes and small generation of a useful compost and production of earthworm biomass which have got pronounced effect of the plant growth and development.

Again, while it would be difficult to eliminate use of chemical fertilizers altogether, it would be helpful if farmers could know the right amount of fertiliser to use. Without adequate training on chemical fertiliser use, overuse of such fertiliser can be a problem. If a low-cost method of soil testing for nitrogen, phosphorus, potassium and other minerals were available, then this problem could be solved to some extent.

Employing such methods would in the short run save the farmers a large part of a typical farmer's costs, while the long term benefit would be that the soil will not be damaged so quickly and future yields will not be compromised.

Special Economic Zones (SEZ) and the Agrarian Crisis

A Special Economic Zone (SEZ) is a geographical region that has economic laws different from a country's typical economic laws. The Union Government notified the Special Economic Zone (SEZ) Rules in February, 2006 operationalising the SEZ Act 2005. SEZs are specially demarcated zones where units operate under a set of rules and regulations different from those applicable to other units in the country. The emphasis is on enhancing exports and creating an environment for attracting foreign direct investment (FDI) by offering tax sops. While units in the zone have to be net foreign - exchange earners, they are not subjected to any pre-determined value addition or minimum export performance requirements. Any private, public, joint sector or state government or its agencies can set up SEZs. Foreign companies, too, are eligible.

SEZ units are eligible for 100 percent tax exemption for the first five years, 50 percent for the next two and 50 percent of the ploughed back export profits for the next five years. Losses will be allowed to be carried forward. Developers may import / procure goods without payment of duty for the development, operation and maintenance of SEZs. They will enjoy income tax exemption for 10 years, with a block period of 15 years. The developers will also have the freedom to allocate developed plots to approved SEZ units on a purely commercial basis. They will also have the full authority to provide services like water, electricity, security, restaurants, recreation centers etc. on commercial lines. Moreover, they will be exempt from paying service tax.

Jan Sunwai at Jantar Mantar the Group of protester staged a dharna at Parliament street

Since the enactment of the legislation, some 400 SEZ projects, offering incentives to big businesses had been approved (formally and in-principle) amounting to 1, 25,000 hectares, around the size of Delhi. Haryana has started to set up the country's largest multi-product SEZ, stretching over 25000 acres between Gurgaon and Jhajjar off the Delhi-Jaipur highway. It is being set up jointly by Reliance Industries Limited (RIL) and the Haryana State Industrial and Infrastructure Development Corporation (HSIIDC). Maharastra tops the list of special economic zones accounting for one third of the 237 cleared till October 2006, according to Central government figures. West Bengal, Andhra Pradesh, Gujarat also do not lag far behind. India’s Special Economic Zones are currently under review having drawn sharp criticism and continued protest from a wide range of environmental and human rights groups, as well as farmers, villagers, fishing and agricultural workers who face losing their lands, homes and livelihoods.

Until June 2005 when the SEZ Act was enacted, it was governments that decided upon the land use and identified the land that needs to be provided for industrial and commercial growth. Through this Act, it has been felt by many that the Government has not only

abdicated its responsibility of regulating and managing precious natural resource like "land" bestowed on it by the virtue of 'eminent domain' but has also left millions of the 'people' on behalf of whom the India was declared 'sovereign, secular and democratic republic' at the mercy of the ruthless Corporations[16].The use of the outdated colonial Land Acquisition Act of 1894 to forcefully evict peasants and grab their lands for corporations is violative of the Constitution and the human rights of farmers. Serious concerns have been expressed with regard to the people displaced by land acquisition. Important issues include: the kind of land to acquire for SEZs; the extent of state involvement in selecting and taking land; how to provide land losers with financial stakes in SEZs; and how to retrain economically displaced people, especially landless agricultural workers for jobs in SEZs. Indeed, some of the loudest political opposition to SEZ projects comes from the landless, who may not receive lasting compensation for land conversion and who lack the capital to become self-employed.

Protests against SEZs by people whose land and livelihoods are being threatened have been witnessed in all parts of the country. The Kakinada SEZ of Andhra Pradesh, which is being developed by ONGC, has acquired about 3000 acres out of the total proposed 10,000 acres which is to displace 1 lakh people.

The struggle of 50,000 affected fisher folk in 3 big blocks against the proposed SEZ is continuing. Out of the 3 SEZs of Vishakhapattanam district, the Brandix Apparel city is being opposed by hundreds of fisher folk. 10,000 members of In Gujarat, the fishing community in Mundra are having sleepless nights over the threat to their livelihood posed by the development of a Special Economic Zone (SEZ) in the area. According to a recent survey conducted by the Bhadreshwar unit of Setu, a network of NGOs across Kutch, as many as 1,015 fishermen families comprising 9,945 people across these villages are feeling the heat.

On July 31, 2006 the West Bengal Government signed an agreement with Indonesia's Salim Group, to implement developmental projects, including a chemical industrial estate to be spread over 10,000 acres in a 50:50 joint venture. In the deal, the Government will acquire around 20,000 acres of rice farming land in Nandigram for the development of a

Save Letter and Spirit of the Indian Constitution".

chemical hub. The move is expected to displace some 300,000 farmers who were served eviction notices. In response, the farmers launched widespread protests against government attempts to take over their farm lands, and had prevented the entry of police and other officials into the area. The community is being offered meager compensation for their

lands. They however refuse to sellout, and have instead organised themselves under the banner of 'Save the Rice Farm Land Committee' to resist the move. In Singur in West Bengal, more than 15,000 rice farmers have lost their livelihood when about 1,000 acres of multi-cropping fertile rice lands were handed over to TATA by the state government for the construction of a car manufacturing plant. In September last year TATA moved in and destroyed the crop and fenced the area with the help of police. When the rice farmers protested, the government unleashed a series of brutal attacks on the people in response. Houses were burnt down, children and women ruthlessly beaten up and the place turned into an inferno. According to Biplap Halim[17], "this move would destroy the livelihood of thousands of rice farmers who do not have the skills to work in the industries as they only know how to cultivate the land," he stated. Moreover he said those who took up employment in the factories will not have rights as the SEZs were subject to different regulations, and are effectively 'immune' from the law of the country.

Special Economic Zones (SEZs) have aroused much controversies relating to the acquisition of farmland for non-farm purposes, which would only aggravate the present crisis in agriculture. Thus, it has been pointed out by Swaminathan[18] that it is in the national interest that agriculture and industry both should prosper in a mutually reinforcing manner: they should not be portrayed as being one against the other. He suggests that for fostering industry-agriculture harmony, every State should constitute a Land Zonation Team consisting of soil scientists, agronomists, and remote sensing specialists to earmark soils with a low biological potential for farming - such as wastelands, lands with salinity, acidity, etc. - for constr speedily. Dark ugh SEZs and te a national conse d.

[17] "C he Pacific, http://v

[18] Swa

Signature Campaign in Jan Sunwai at Jantar Mantar

The Debate Surrounding GM Crops

In the backdrop of the severe agrarian crisis with which Indian agriculture is faced, proponents of GM technology perceive GM crops as offering a solution to hunger in the developing countries. The Department of Biotechnology and the Biotechnology industry in India have taken the position at several policy forums that raising agricultural growth from the current 1.7% to the desired 4% and alleviating the agrarian crisis could be achieved by promoting genetically engineered crops. US led programs like the secretly concluded and controversial Indo-US deal on agriculture and the ABSP I and ABSP II (Agriculture Biotechnology Support Project) funded by the USAID and led by Cornell University and implemented in India through the Department of Biotechnology, are invoked by the government and the science administration as enabling programs to achieve the goal of uplifting Indian agriculture. Sahai[19] has questioned the desirability of such direct US intervention in India's program on GE crops and foods and also the ridiculously simplistic approach of suggesting that one single technology could address the many factors for decline in agriculture. She further expresses the view that as genetically engineered crops have been developed essentially for the large land holding, mechanised agriculture of industrialised countries; they do not fit the developing country context. Further, there is little available in the repertoire of genetic engineering today that is geared to address the problems of developing country agriculture. At present, GE technology offers only four major crops,

[19] Sahai, S. "Are Genetically Engineered Crops the Answer to India's Agrarian Crisis?"

Soybean, Corn, Cotton and Canola which is a kind of mustard that is cultivated in temperate areas. Apart from a few virus resistant GE varieties, herbicide tolerance and insect resistance (the Bt trait) are the two traits that dominate the field of genetically engineered crops. According to the data for 2005, of all GE crops planted in the world, 82 percent carried the herbicide tolerance trait; the remaining 18 percent carried the Bt trait. The Biotechnology industry, which owns both these traits, is therefore very keen to promote them as much as possible. Herbicide tolerant crops contain a gene that makes them resistant to the herbicide that is sprayed to kill herbs and weeds. The company that owns the herbicide tolerant crops (in this case Monsanto) is also the company that owns the herbicide that particular crop variety will tolerate. Hence the company promoting herbicide tolerant crops makes a double killing, one on the sale of the herbicide itself, and two, on the sale of the crop varieties which are tolerant to that proprietary herbicide.

Herbicide tolerance was developed for industrial agriculture with its large farms and labor starved conditions, where weed control was possible only by using chemicals like herbicides. In developing countries like India weeds are controlled manually.Weeding is an income source in rural areas, especially for women. Sometimes it is their only source of wages. Farm operations like sowing, weeding, harvesting and winnowing are the key sources of rural employment. As the herbicide tolerance trait is essentially a labour saving and hence a labour displacing trait, its introduction will take work away from agriculture labour and destroy income opportunities in rural India.

Cultural Programme by Gene Campaign Jharkhand Unit

Bt technology is the second category of genetically engineered crops like Bt cotton which is the only GE crop being cultivated in India at present, although many others are in the pipeline. In Bt crops, a toxin producing gene from the soil bacterium Bacillus thuringiensis (Bt) is put into plants. These GE plants which produce the Bt toxin are in essence producing their own insecticide. Pests that feed on the plant are supposed to die on eating the poison. They do up to a point but then like all pests, they too will develop resistance. This has begun to happen. Reports are coming in about the collapse of the Bt cotton technology from China and from the state of Arkansas in the cotton belt of the US. Cotton scientists in India are warning that with the way that legal and illegal Bt cotton is spreading everywhere, without farmers following the recommended crop management practices, it is only a matter of time before the pests become resistant to the toxin and the technology collapses here as well.

In India, the Bt strategy for disease resistance is likely to collapse earlier than predicted since in the absence of any coherent policy, the Department of Biotechnology has sanctioned such a large number of Bt crops that today, about 42 percent of all the research on GE crops in India, is based on the Bt gene. Ranging from cotton to potato, rice, brinjal, tomato, cauliflower, cabbage, even tobacco, to maize, the Bt gene is everywhere.

Assuming that the crops that are being researched are targeted to reach the fields one day, we are facing a situation when a wide range of crops growing in both the Rabi and Kharif season

will contain the Bt gene. So throughout the year, there will be standing crops containing Bt endotoxin. Not only that, in the same season, there will be a number of different Bt crops growing next to each other in small fields specially in regions where farmers grow a variety of vegetables. When the bollworm is exposed to the endotoxin, constantly, year for year, in every season, resistance to the Bt toxin will surface very quickly in the pest. Every pest, in its effort to survive, will ultimately develop a resistance to the poison that is aimed to kill it. That is why a constantly evolving Integrated Pest Management (IPM) approach, using a variety of strategies, is the only approach that can work over the long term to control plant pests and diseases. That is the reason that the very expensive Bt technology will not work for Indian agriculture.

Film Show on Bt. Cotton

On top of all this, the high cost of Bt technology makes its cultivation economics adverse for small farmers. Bt cotton seeds cost several times the price of successful, local non Bt seeds. So exorbitant has the pricing been, that the Government of Andhra Pradesh has filed a case against the owner of the Bt technology, the Monsanto Company.

Gene Campaign[20] which presented the first scientific data from the first harvest of Bt cultivation in Maharashtra and Andhra Pradesh, showed that net profit from Bt cotton was lower per acre compared to non-Bt cotton in all types of soils and that because of the high investment costs and poor performance of Bt cotton, sixty percent of the farmers cultivating Bt cotton were not even able to recover their investment and incurred losses averaging Rs. 79 per acre. Research has in fact shown that Bt cotton has been a disaster and in fact responsible for crop failure leading to suicide by victims. The TISS study[21] found that seventy percent of the total number of suicide victims in Vidarbha grew cotton as their primary cash crop; the district records of the region show that seventy percent of the farmers who killed themselves were cultivating Bt cotton. An independent study[22] was conducted by agricultural scientists Dr Abdul Qayum and Kiran Sakkhari on Bt cotton in Andhra Pradesh which involved a season-long investigation in 87 villages of the major cotton growing districts - Warangal, Nalgonda, Adilabad and Kurnool. Bt cotton was found to have failed on all counts: it failed miserably for small farmers in terms of yield; non-Bt cotton surpassed Bt by nearly 30 percent and at 10 percent less expense. It did not significantly reduce pesticide use; over the three years, Bt farmers used Rs2 571 worth of pesticide on average while the non-Bt farmers used Rs2 766 worth of pesticide. It did not bring profit to farmers; over the three years, the non-Bt farmer earned on average 60 percent more than the Bt farmer. It did not reduce the cost of cultivation; on average, the Bt farmer had to pay 12 percent more than the non-Bt farmer. It did not result in a healthier environment; researchers found a special kind of root rot spread by Bollgard cotton infecting the soil, so that other crops would not grow. The Vidarbha Jan Andolan Samiti (VJAS) has also alleged that 170 cotton growers from Western Vidarbha, who had opted to sow Bt cotton of a US-based seeds company, had committed suicide during the period from June to December last year[23].According to VJAS president Kishore Tiwari, among the 182 suicides in Western Vidarbha, 170 were by Bt cotton growers. According to him, over six lakh farmers from Vidarbha had sown Bt cotton on the assurance that the minimum yield would be 20 quintals per acre. However, the average yield per acre was only two to three quintals per acre.

[20] "Performance of Bt .cotton", *Economic & Political Weekly*, July 26- Aug 2003, Vol. XXXV111, no. 30; pp. 3139-3141.
[21] Tata Institute of Social Sciences, "Causes of Farmer Suicides in Maharashtra: An Enquiry", March 15, 2005.
[22] "Science Finds against Bt Cotton", Genet, February 5, 2006.
[23] "Most Farmers who Committed Suicide were Bt Cotton Growers: VJAS", Genet 20/04/06

Dissemination of information with the help of published materials of Gene Campaign

Leading farmers' organisations have demanded a ban on Bt cotton and a moratorium on any further approval of genetically modified (GM) crops for commercial cultivation. Three varieties of Monsanto's Bt cotton failed miserably in Andhra Pradesh[24]. The Genetic Engineering Approval Committee (GEAC) had to ban its cultivation in Andhra Pradesh on receiving adverse reports from the state government and farmers. The GEAC also banned the cultivation of Monsanto's Mech-12 Bt in entire South India. The government also had to concede for the first time that Bt cotton had indeed failed in parts of India, particularly in Rajasthan and Andhra Pradesh. [25] A report from Nimad district states that Bt cotton is causing allergic reactions in those coming into contact with it, and cattle have perished near Bt cotton fields in another district. Sixteen hundred sheep died in Warangal district after grazing in fields on which Bt cotton had been harvested[26]. This year again, Bt cotton has been found to have raised its ugly head with the deleterious affect of Bt cotton on livestock starting to re-surface in Warangal district.[27]

[24] "Farm bodies seek ban on Bt cotton cultivation", Genet 26/09/2005.

[25] "A Disaster Called Bt Cotton", Genet 05/12/05.

[26] "1600 sheep die after grazing in Bt cotton field",Genet 04/05/06.

[27] " Goats/ sheep Mortality after Grazing on Bt Cotton", Genet 10/02/07

Worrying is the fact that complaints of allergenic reactions among farmers growing genetically modified cotton has come in from Barwani and Dhar Districts of the state of Madhya Pradesh[28]. Till date, no comprehensive health and risk assessment of Bt cotton has been done. A three member panel was set up to investigate the matter. The investigators talked with various groups of people associated with the handling of the cotton as well as experts in the Barwani and Dhar Districts. They found that these people who had a direct contact with Bt cotton suffered allergic reactions in various body parts which included hands, feet, face, eyes and nose, with some having fallen seriously ill. The study found that 82.6 % persons interviewed suffered from redness of skin, 48 % had eye symptoms and 39% persons had symptoms related to nose (upper respiratory tract). The local doctor of the area has reported that he has received 100 and 150 cases of allergy in 2004 and 2005 respectively in the cotton season.

Thus, in the light of the above facts, it would be unrealistic to assume that GM crops, in their current form, could contribute to alleviating the agrarian crisis.

RECOMMENDATIONS

An in depth analysis of the above issues reveals the severity of the present agrarian crisis. To mitigate the present crisis, the Jan Sunwai came up with a number of recommendations , which are as follows:

- Input costs should be reduced.

[28] "Bt Cotton and Farmers' Health", Genet 24/03/2006.

- Markets must be made available for agricultural produce.
- A good market price must be provided for the agro products.
- For farmers, credit should be made available at low interest rates.
- Extension system should be revived to solve problems in the field.
- There should be a proper system to address the issue of water scarcity.
- Adequate water for irrigation should be provided.
- Conserve Agro Bio-Diversity in Gene and Seed banks.
- Increase budget outlay for Agriculture in every Five Year plan of the Government of India.
- Agricultural land should not be given to SEZ.
- The use of Genetically Modified Seeds should be stopped and organic agricultural practices encouraged.
- Farmers' Rights law to be implemented immediately.
- Investments should be made to restore soil health.
- Agriculture should be diversified with introduction of new varieties.