

REPORT OF THE EXPERT BRAINSTORMING SESSION

on

PROFITABLE FARMING AND PROSPEROUS FARMERS

GENE CAMPAIGN 20 YEARS



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Paranjay Guha Thakurta(Moderator) : On this special occasion to mark 20 years of Gene Campaign, let me welcome all of you who are very actively engaged in issues relating to food, farmers, farming and also feel strongly about a number of these issues. The purpose of this one day brainstorming session is to bring together some of the best minds in the subject to discuss what needs to be done to make farming profitable and the farmer prosperous. At the end of the day, we hope to put together a charter of demands to achieve this goal. The charter will be shared widely to support an advocacy effort and to hope that the powers that be will think hard and act according to the views, the consensus opinion of this group of experts.

All of you are aware of the problems, we see food prices going up, we see how inflation has eroded the real incomes of ordinary people in this country, how it has hurt the poor more, how it has widened the inequalities in our society which is always very unequal. We know that agriculture today accounts for barely 16 or 17 percent of our gross domestic product. But we also know that the proportion of India's population directly dependent on agriculture is half, perhaps more than half. Unlike many other countries where we see that as the share of agriculture in national income comes down, the share of population dependent on agriculture also comes down commensurately. We have all seen that happen in India. We know that about 60 percent of the farmers in this country depend on the monsoon. Everybody from the finance minister to the farmer is praying to Lord Indra. We know that public investments in agriculture have not been adequate. We know that a lot remains to be done. The issues are many and complex.

I am going to ask Dr. Suman Sahai to start the day's proceedings by giving her introductory remarks. All of you know her very well. She is not just a person who is engaged in academic work; she has been a social activist, the moving force behind Gene Campaign - a research and advocacy organization started in 1993 by Dr. Sahai and a group of people who successfully fought the people's claim on the genetic wealth

of India and other developing countries like India. Gene Campaign was at the forefront of a national campaign against seed patents and worked to ensure legal rights for farmers. It worked with a number of other organizations on the patent issues of basmati rice, tried to combat bio-piracy efforts especially on turmeric or haldi. The group is working in different locations in the country such as Jharkhand, Uttarakhand among other places, on the conservation of traditional seeds and indigenous knowledge. It set up several village-level gene seed banks and is deeply engaged in issues concerning sustainable farming, household food and nutrition security, community-based seed production, integrated farming. I think we should give Dr. Sahai a big hand for 20 years of Gene Campaign, and ask her to begin the day's proceedings.

Suman Sahai: You are all friends so I don't know how much of a formal welcome I need to extend, but welcome nevertheless. I am happy to see that those who had really wanted to be a part of this discussion are here. What we are trying to do here is very important and we won't be able to do it without the support of everyone. I therefore request active participation and inputs. My colleagues have prepared a comprehensive background paper which lists practically everything that's wrong with agriculture. All of you have engaged with the subject long enough to know what's wrong but it helps to have it in one place.

What are we trying to do today is to try to articulate what it is that we want done to make farmers and farming better. We will discuss the problems briefly because I think it helps all of us to share. That will help the soil people understand what's wrong with water, the water people to understand what's wrong with seed, and the seed people to understand what's wrong with soil and so on. However let us focus our attention on articulating the changes that we want. That is what we want as the output of this discussion. What do we want changed in the field of agriculture? What policy interventions do we want? How much more budgetary outlay do we want? Where should the subsidies shift? And it goes without saying that the focus of this discussion will be small farmers and rain fed agriculture. Those are the really the neglected and weak areas of our agriculture system.

We plan that the final document that we get out of here, an articulation of demands to improve agriculture and the lives of farmers, we will share with all our friends, colleagues and those who are interested in this field to use as the basis for future advocacy. It is clear to everyone that the crisis of agriculture is so bad that something is going to break. I don't know how many people make the connection between growing violence in our hinterland and the deprivation of people who live there. That is a very direct connection. Gene Campaign works in many areas where we have seen the emergence of social unrest and violence because of utter deprivation and denial of their rights to people. If we can't even enable them to make two ends meet then I don't think that we have right to expect adherence to law and order.

Suman Sahai: In the background paper presented for this discussion, we have tried to cluster the problems under broad heads. There are the finance issues, things around the budget outlay, subsidies, credit, insurance. There is the extension system, the fragmentation of land holdings. There are also clusters like the youth, women, policy and legislation. The productivity issues: do we really need to develop more varieties? Do we not need to go back to the farming systems and exploit the genetic potential of existing varieties? There are the other issues like inflation, big ones like water, soil, and seed and the quality of the research being done in this field.

Finally, let us stop trying to just strengthen subsistence agriculture and minimal livelihoods. Let us aim higher and see what we need to do to make the farmer a successful entrepreneur, one who can feed his family and the nation. There is enormous potential in the farm sector. Farmers are by instinct and experience, entrepreneurs, they engage successfully with one of the riskiest professions in the world. They can cope with the most adverse situations and still produce a crop. Our policies have actually tied their hands behind their backs, that is why they cannot bring about the miracles that are possible. Let us demand suitable conditions for farmers to show their potential. We will all benefit if that happens.

Gene Campaign has put together a substantial compendium of information material on the current state of agriculture. This is valuable resource material for those who are into research and writing. We invite you to take copies of this compendium.

Suresh Kumar: I think most of the issues that are in the agenda are very detailed and I don't think they can be questioned. We are really putting through a few issues and questioning how you can get it operational. These concerns should get into the planning system. A lot of time has been spent on farmers' incomes. Currently the agriculture plan deals largely with production, it should also deal with the issue of farmers' incomes and farmers' wealth. We should work out the increase in income, where is it increasing, is there variability for the small farmers and so on. As a first step, those issues which are currently not in the Plan document should be integrated into it.

The second is a concept of the farmers' charter in terms of the services he should get from various public sector and private sector service providers. At present, various departments have their own charters and farmers cannot go to each one. A single window system should be created where every public sector and every private sector service provider should state what service they will provide, the time needed, the quality and so on. This information should also be put on their websites.

Training is another issue. On the lines of the right to education, I think we should also have something like an assured right of training for farmers on a lifecycle basis. Another issue is of urban and peri-urban farming. Which should be included in the national agriculture planning. There is also the concept of edible greening. Instead of having just ornamental greening we can have greening with edible plants. The concept of household food and nutrition security will require giving extension support at the household level. There is a huge wastage of nutrition apart from the food wastage. This happens because there are eating preferences and at least half the plant or some part of it which is very nutritious and edible is thrown away - leaves, peels or seeds. This is a cultural practice. A lot of nutrition loss is at the household level because of cooking

practices and eating habits. So this extension of nutrition will have to be done at the household level.

Then we have the issue of empowerment of women. There should be joint ownership of production assets receipts, received from the sale of farm produce should go into a joint account with the wife. Women should be empowered to protect the village commons.

A major issue in marketing is of equity and access to disadvantaged groups of farmers and disadvantaged regions. If we can build a "disadvantage matrix", we can allocate resources preferentially to their areas to support the marketing of the produce.

A proposal was made in the Planning Commission for a research directory showing the farming situation and farmer group-specific technologies currently available. This will tell us which are the farming situations for which there is no technology; which are the resource-poor sections for which no technology is available? When technology is available, has it been adopted? What has been the impact? This will give us action-points to improve the research break up.

On the issue of sustainability is the assessment of natural resources. Our group in the Planning Commission recommended that the "agriculture wealth" of each area be worked out and these be monitored annually, to detect the status of the "wealth". Every year one can find out what the wealth of say, water is. If there is a degradation of soil, it will result in the wealth of the soil reducing. If there is a decrease in water quality then there is a corresponding decrease in wealth. This monitoring can quantify the impact of degradation of the various resources on agriculture.

Indigenous/Traditional knowledge has been accepted, but the group recommended there should be a policy, whereby every farmer's knowledge or innovation is tested by the research system and validated. If it is adopted by the public extension system after validation, then the farmer should get some monetary compensation for the knowledge

he has generated, or use it to get a better loan, or present it as security for his loan from the bank.

Extension support should reach every farmer. The extension system, can be a multi-agency mechanism including public and private extension systems, NGOs and most importantly, the farmers themselves as extension agents. The extension system should deal with end-to-end solutions, provide help to the farmer, facilitate access to information and give marketing support.

Ajay Jakhar .I will just take up four or five practical points which are required on the ground. One is on the case of subsidy. I think subsidy is being cornered by large farmers, and by large farmers in irrigated areas. My proposal, which I will articulate and you are the best organization to take this up, is to make subsidy inversely proportional to land holding sizes, so that farmers like me don't get subsidy. So, if you have one acre you should get more subsidy per acre, and if you have ten acres or more you should not get subsidy.

The second is that a lot of the subsidy is going to urea. Almost 80 percent of public expenditure in agriculture goes to subsidies; do not let it go to only one kind of fertilizer. Enable the use of fertilisers in a more balanced way by differential pricing, so that farmers use other fertilisers too.

I was in Pakistan ten days ago to look at kinnow farming. There urea is four times more expensive than in India, DAP is twice as expensive; they get no free electricity which is double the price in India; their pesticide consumption is half of India's, their fertilizer consumption was also half of India's and their production was as good as ours. Their profitability was 25 percent more than us.

In Pakistan, pesticides were being sold by large companies in a franchisee model rather than through a shopkeeper. Shopkeepers, dealers and distributors are the bane of Indian farmers. They sell whatever they get more commissions for. As a franchisee you

become answerable because you own those things. So these companies have to be answerable for what they are selling to the farmers.

Like a pharmaceutical shop needs to have certification to sell medicines, certificates should be compulsory for sellers of all agriculture inputs. These people must have a certificate from a certification programme so that they are educated about what they are selling. Right now they don't know what they are trying to sell.

Finally, we really need market linkages. Market linkages will not come with FDI [Foreign Direct Investment] in retail; FDI in retail will build competition. As an organization, I will not differentiate between Walmart and Reliance; I think they are as good or as bad as each other. What I am saying is that public sector investment needs to be made in rain-fed areas where the major problem lies. In Bihar, Jharkhand, and eastern UP, there are no "mandis" (market) where the farmer can go and sell. He gives his produce to the aggregator in the village who takes it fifty kilometres away to a mandi and makes a 20-30 percent profit after one hour of travel. We need public expenditure in places where there are no mandis so that farmers get a better price.

Suman Sahai: Would you like to suggest a model by which subsidy can actually be executed? Right now the subsidy goes to the urea producers and there has been a lot of debate on how the subsidy can actually be redistributed.

Ajay Jakhar: The fertilizer companies all want direct subsidy to farmers because they are not being paid the subsidy amount by the government of India which owes the fertilizer manufacturers around 30 to 50 thousand crore rupees today. Since that's not coming, the government gives them bonds which they discount and sell in the market, and make losses.

Subsidy should go directly to the farmer in inverse proportion to his land holding but you cannot say the farmer should buy the fertilizer, take a receipt and then go back to the government for a refund. The system has to ensure that the farmer gets a certain amount of money so he can buy the fertilizer he wants to buy.

Suman Sahai: What about nutrient based subsidy? How do we manage that? What do we do with nutrient based subsidy, to what extent are we going to subsidize the bio-fertilizer model and how do we do that?

Suresh Kumar: There is some thinking in the government on direct payment. They do it for LPG cylinders.

Ramanjaneyulu: Government supports agriculture either by incentives or by regulation. These are designed to drive a particular model of agriculture, which is high input agriculture. We need to move away from this model.

In Andhra Pradesh, the money spent on seeds is 32 percent of the total RKVY budget of the state. Much of it goes for subsidizing seeds which the government buys from private companies and distributes to farmers, even for crops like groundnut which farmers can easily produce. We need to design a system where the farmers' own resources are supported. This subsidy system should support bio-fertilizers that farmers produce themselves. One of the fundamental shifts in subsidy should be to support the farmer's own resources and labour.

We will get into the details as we move on but this is one part which can solve most of the problems. In Andhra Pradesh, 30-40 percent are tenant farmers and much of this tenancy is not legal, so they don't get any credit support or subsidies. If there is a crop failure compensation goes to the land owner. Identifying the farmer, specially tenant farmers to target them for subsidies is an issue which needs to be resolved. Under the MNREGA, for work on another's field the farmer gets at least 110 to 120 rupees depending upon the state but for working on his own field the farmer gets nothing. Instead of harvesting rice in his field if the farmer cuts the grass in another's field, his labour cost will be higher.

Suresh Kumar: There is a fundamental issue on subsidies which are not only for fertilizer, but also on mechanization, on seeds, on water etc. You can work out a matrix and calculate the level of the disadvantage the farmer faces and base the subsidy on

that. This will help the farmer to optimize use of that money for use on his needs which could be water, or fertilizer.

Ramanjaneyulu: In Andhra Pradesh, it costs me around 20 rupees if I grow my own rice, but if I buy it from the government I get it at one rupee. So I am disincentivized to grow my own food and I am forced to sell it. Similarly, if groundnut farmers in Anantpur use their own seed it costs them around 4000 rupees, but if they buy it from the government it costs 1500 rupees. They are being forced to actually depend on external inputs.

Paranjoy: The government is suggesting that Aadhar is one way forward. Andhra Pradesh at one point had more BPL cards than the entire population of Andhra Pradesh. The land records are inadequate, so how can we overcome some of these issues?

Bala Ravi: The overall production system and profitability of agriculture is a major issue, so also the natural resource base supporting agriculture, and the policies, the government priorities and investments are the third issue. The immediate problem facing the farmer is profitability. Farmers are abandoning agriculture because it is not a good enough livelihood to support the family. When the land holding becomes less than 0.4 hectare it is no longer viable so, the men migrate and farming becomes the responsibility of the woman.

There are many problems: fertilizer prices since 2008 have skyrocketed; phosphatic and potassic fertilizers are already decontrolled and their prices have gone up four times. Urea is being subsidized. So most of the time farmers use urea but not phosphate and potash. The NPK should be used in a balanced manner but this is not followed and soil fertility has come down. For every unit of nutrient applied today the yield return is much less because of the imbalance created over a period of time.

The other issue of concern is the inefficiency in the production of fertilizer. This inefficiency is added to the subsidy of the farmer. At least 15 to 20 percent of the subsidy is cost of inefficiency from which the farmer does not benefit. In the last few

years while India has claimed to be 95 percent self-sufficient in urea, it has been cheaper to import urea than to produce it in our country. That is because of the efficiency of our system. We must structure subsidy to enable balanced fertilizer use.

Paranjoy: There are many issues here, for instance the cost of gas. What is preventing efficiency in fertilizer production? There are so many different types of fertilizer plants?

Bala Ravi: Multi-point subsidy creates problems, we should have a terminal point subsidy. Give the farmer a consolidated amount for farming in certain areas and educate him on using balanced fertilizers. When we talk of chemical nutrients, these are always recommended with organic manures. But the organic manure production in the country is shrinking. The farmer does not use organic manure because it is just not available. At least NPK is available in a nearby store, and if not the right fertilizer, wrong fertilizers are available. This brings me to the availability of the right fertilizer at the right spot at the right time, which again is a big problem.

Agriculture has to be subsidized; there is no second opinion on that. But there is a new danger to agriculture subsidy. As a WTO member, we are bound by certain norms, like agriculture subsidy cannot be more than 10 percent of the agriculture GDP. We have a problem with the Food Security Act taking up a part of the subsidy. If the Food Security Act is included in the agriculture subsidy, the farmer will be in great distress later.

Raghunath Singh: Agriculture implements are an important input and improving their efficiency will help the farmer. Have they improved any of the implements with which the kisan can do his work better? These are very important inputs for agriculture, so please look into these areas as well.

Ajay Jakhar: One of the reasons why farmers go into debt is buying an agricultural equipment. People with 5 to 10 acres of land use a tractor for 20 or 30 days in a year but they pay interest for 365 days. So don't give subsidy for equipment to individual farmers. Let the mechanization industry fail if it has to. We need collective ownership of equipment by cooperatives and its happening already. Landless people can own the

equipment and lease that service to the farmer. Collective ownership of machinery can be by people, by cooperatives, or farmer producer organizations.

A farmer with 2 acres will use a seed drill for ten hours in a year. Why should he own it? Or he will buy a plough and use it for six hours in a year. Why does he have to own it? Any equipment the individual farmer needs should not be incentivized.

Suman Sahai: The concept of collective ownership is extremely important. I don't think cooperatives have worked well in this country, but there is a "small farmer estate" concept particularly relevant for the rain-fed area and for small farmers. A small farmer estate could be run by any one – farmer clubs, self-help groups or other collectives. It could be the place to lease equipment, get inputs and even extension services. Support to establish such structures could go a long way to support agriculture and food production in an efficient, decentralized manner.

Another aspect of equipment is to make it gender sensitive, given the increasing feminization of agriculture and the fact that women will have to handle farm implements and equipment. Existing farm equipment is usually designed for men, making it difficult to use for the smaller, petite women. Agriculture equipment also that available through small farmer estates must include appropriately feminized technology, "feminized equipment" so to say.

Ramanjaneyulu: In Andhra Pradesh, about 50 harvesters and 600 tractors were given in the last two years in one district. There should be proper planning on how many harvesters or how many tractors are needed. Bigger mechanization should not be supported for the individual farmers. The government must invest in collectivising farmers and support them both in production and marketing. If farmers are organized, mismanagement can be reduced. Mismanagement by individuals is much higher. Training farmers and investing in collectivising them will help a lot.

KVS Prasad: I think you need to take a conscious decision not to give individual, input-wise subsidy, which may also include water and power. It may happen that a rain-fed farmer gets subsidy but has no water.

Farmers are becoming more dependant on fossil fuel companies or the fossil fuel chains outside the country. The money from the country is going to these fossil fuel companies.

We have to start looking at how to replace chemical fertilizers. Whether through organic practices or ecological practices.

Gopikrishna: We have to look at improving the soil health and organic matter addition in the soil. But where is the biomass? All biomass available with the farmer is burnt because that is the only source of cooking fuel. Any subsidy or support to farmers should flow through an institutional mechanism. Where farmers can collectively take decisions not only about farming, but about their livelihoods.

Paranjoy: How do you resolve this conflict, you either have the bio mass for cooking or you have it for fertilizer? This is a very real problem and challenge.

Suman Sahai: It is mostly the stover the hard stems of crops which is used for fuel. Biomass is still available as grass and leaf which can go into bio-composting.

KVS Prasad: We need a space for articulating alternatives. There should be a dedicated space for informal and formal discussions on agricultural development. If we want a future where farming is attractive, and a preferred profession, we have to target the rural youth.

If the rural youth experience some gains and social esteem through farming, they will stick to farming. Can there be a fellowship for a person to stay back in farming? Make farming attractive and glamorous revitalize the extension system. The extension system can be of government in partnership with civil society and voluntary organizations? Public-private partnership should not ignore the participation of civil

society organizations. They have a role to play in building the competitive advantage of this nation through rural people.

Ajay Jakhar: Seeing the experience of the government extension we should not depend on it completely. We need the private sector, like it or not, to supplement government extension. What they are proposing is that there should be one officer per village in the country giving extension to one or two villages. You can have a special one-year diploma course in a state agriculture university for that officer where he goes for retraining every year. We calculated that it costs less than half the National Food Security Act. We need to involve the private sector especially for rain-fed farming. Give one set of animals to every farm family and make sure that they get wet service for that. The animals could be different, depending on the region. Don't give the farmer aid, that approach has failed everywhere.

Suman Sahai. Can we spend some time on extension. Extension has to be brought back. The ATMA and SAMETI business is clearly not functioning. It is not only ridden with corruption, it is ridden with inefficiency which is even more unforgivable. We can debate whether it should be public-private, whether it should be only public. I believe extension services should be based on rural youth. Upgrade their skills, give them a certificate or a diploma and build an extension service with village youth who are trained technically.

Extension services should also incorporate indigenous knowledge. There is a wealth of solutions that are available in the knowledge that communities have. This should be included in the extension services. In addition to knowledge derived from the agriculture universities and research system. The extension system of the green revolution days dealt only with production. Now when we develop an extension system, let us think in terms of building value chains as well. An extension system where people are trained in value addition, market linkages and income generation. In brief, working with the concept of farmers as entrepreneurs. Even when the land holding is

small and the farmer produces just five extra baskets of something he can be an entrepreneur. Farmers can come together to collect their produce and sell collectively.

Rideshare Riana: If we agree that we need an alternative paradigm then we need to address two things: accountability, and decentralized capacities.

There are community based seed management system where the state with a lot of support from civil society organizations plays an enabling role. How do we build on the protocols that exist within the states? Decentralized innovation capacities exist within the farming community, also with respect to technologies and institutional alternatives. How do we build on that? We can look at private-government sharing and community based, or community management systems.

With regard to pest management, with some training, one can take a look at the pest data and decide whether to set a pheromone trap, or light a bonfire. But to do this, the state must have data on pests and make it accessible to farmers.

Suman Sahai: Can we have some suggestions on how to improve the direction of research? What are the policy changes required?

Ramanjaneyulu: When we started the community managed sustainable agriculture programme in Andhra Pradesh we faced the issue of accountability. We tried extension from the block coming to the community and the community paying for this. The government gives money directly to the community organization, and reviews it monthly. When community based organizations are the paymasters, the extension works. The second issue is data. We have data of 9 lakh farmers whose pesticide use has come down but the state government and agriculture university do not accept this data. This is a problem.

There should be accountability in research. Have a column mentioning the chance of success of the proposed project and the benefit it will bring to farmers, so the money can be spent accordingly.

If you are talking about pest management it is not about Integrated Pest Management (IPM) or Non Pesticide Management (NPM), it's about how much pesticide use is reduced and how much cost is reduced. We need those kinds of parameters.

Suman Sahai: If we are talking about nutrient-based subsidy for soil fertility, it's not about whether chemical fertilizers or organic, it's about how much the soil fertility improves and how much the input cost has been reduced.

Let me raise some fundamental issues for debate now.

Can we propose that 10 percent of the GDP be devoted to agriculture for the next ten years (that is two plan periods) till a dent has been made in hunger and malnutrition. This money can be used for diverse schemes targeted to achieve this goal. Let me suggest the example of Brazil's BolsaFamilia program which has made great progress in achieving food security. They have made important linkages between food, education and health. All recipients of food support there must be linked to medical care. That means regular health check-ups, inoculation etc. and two, they must go to school. The Zero Hunger project of Brazil, did not succeed by doling out free food, like in our Food Security Act. It succeeded, with a comprehensive program linking food support, education and regular health checkups. That is the model we should follow.

On the costing of farm produce, till we can phase over to a more market based situation with value chains, and farmers as entrepreneurs, should we adopt the recommendation of the National Commission on Farmers which proposed the 'C2+50' formula. C2 stands for the total input costs, that plus an additional fifty percent should constitute the minimum support price and the floor price of the produce.

Incidentally, C2 must also include the cost of family labour. So when a family of five works on a farm, the labour of five people must be calculated as part of input cost.

LUNCH BREAK

Suman Sahai: Let us resume our discussion to formulate recommendations for policy changes in agriculture with the goal of making farming profitable and the farmer prosperous. It's not enough to try and make farming sustainable only, it has to be profitable for the farmer. Farmers must be able to make a decent income from their land and the entire farming system has to become sustainable, profitable and resilient. This is possible if we have sound policies. The goal of farming now cannot be the maximization of yield like in the Green Revolution model, that is high yield at all cost. Minimizing risk has become crucial in today's era of more and more risky climate/weather situations. Adhering to agriculture dogmas and ideologies at any cost will not serve our interest but sustainability will. Keeping damage to the natural resource base to the minimum possible, is going to serve our larger interest.

Devinder Sharma: Thank you Dr. Suman Sahai and at the outset, I would like to congratulate Gene Campaign for a wonderful twenty years and look forward to more.

If after 50 years of Green Revolution, we are still talking about profitable farming and prosperous farmers, it shows that the earlier system didn't work. We need some definite changes to ensure that prosperity comes back to agriculture.

The policy of the government of India is to push farmers out of agriculture. The Prime Minister has said that 70 percent of the farmers are not required. Look at the land acquisition that is taking place in India. They are deliberately keeping agriculture in such an unviable condition that people are forced to move out. We want decide whether India needs a policy of pushing farmers out of agriculture or not.

The thinking is that land must go to industry or real estate, so we have Special Economic Zones. Yet, at the same time there is a call to raise productivity when we talk about food security. These are both conflicting approaches.

I heard people saying that two-crop areas should not go for non-agricultural purposes. Why can we not demand that no agricultural land should go for non-agriculture

purposes? Globally, there are two kinds of agriculture. One is the highly subsidized agriculture of the OECD countries, and the other is the highly subsistence agriculture of the developing countries. In the OECD countries the scale is big, even then, these farms are not economically viable. Studies show that the moment you withdraw the subsidies, agriculture collapses. Agriculture is artificially sustained by subsidies.

As has been suggested earlier, the concept of a farmers' Income Commission is perhaps the way out. None of the instruments being applied now, like converge agriculture, FDI in retail, contract farming are going to work. They have not worked anywhere in the world to make farmers economically viable. This house should suggest very strongly that the time has come for a national Farmers' Income Commission based on production level, ability and location specific requirements. We should try to work out what should be the minimum take-home income for a farming family in different parts of the country. Nothing else will work in agriculture.

We should also look at the trade agreements. In the WTO, the rich countries are saying that our procurement prices are crossing the *de minimis* level. Obviously, the idea is to do away with the procurement pricing or maintain low procurement prices, which means farmers' incomes will be squeezed further. A lot of people say that the market is the answer. A CACP report lists states which they say are market friendly - Bihar, Orissa, Jharkhand, where the paddy is sold for Rs 800 per quintal. Punjab, according to them, is not market friendly, so they are forcing Punjab now to go market friendly. The policies are to push farmers out of agriculture.

In oil seeds by 1993-94, 97 percent of the edible oil was being produced within the country. We were only importing 3 percent. Then we started reducing the duties. Today, we are the second biggest importer of edible oils in the world, because of the trade policies. So trade policies must be seen when we design how to bring in prosperity to agriculture.

With respect to research, I personally think that, regardless of the money given to the universities, things are not going to change. It has to do with the kind of mindset in the

universities. Punjab Agricultural University has already said that they are going for nanotechnology. From biotechnology and GM crops, they are now moving onto nanotechnology. At the same time two farmers in Punjab are committing suicide every day.

We must make an effort to shift the focus of research to the areas we have been discussing since this morning.

Why can we not go in for organic breeding, moving away from chemical input breeding? The systems are productive.

The other thing is the cropping pattern. Why should rain-fed areas be asked to cultivate hybrid crops? Punjab has 99 percent irrigation and they grow high yielding varieties of rice, not hybrids. Hybrid varieties, consume 1.5 times more water than high yielding varieties. In rain-fed areas. When the hybrids pump out water, even a small dry spell will emerge as a drought. In Andhra Pradesh, Karnataka, all vegetables, everything is hybrid. The Government of India, under the Rashtriya Krishi Vikas Yojana (RKVY), is pushing hybrid rice.

Farm mechanisation is another problem. In Punjab where the landholding is about 3 acres per family they are buying big tractors of 95-105 HP. Expensive farm machinery is being offered at a subsidised price. All this adds to the economic burden of the farmer. We must be sagacious and see how much farm mechanisation should be allowed.

Paranjoy: When Dr. Sahai started off this morning's discussion she talked about social unrest, social tensions particularly among the youth, because of the neglect of agriculture. The Punjab situation has led to very high drug abuse there.

Peter Kenmore: I think that all the suggestions are stimulating and it's going to be an interesting challenge. Some of the big problems, like the obsession of policy and planning with price and playing games with prices instead of building farm-to-market roads remains an issue. The percentage of GDP contributed by agriculture tends to go down everywhere. In most of the rest of Asia, forget OECD countries, people leave

agriculture and do other jobs not because they are driven but because other parts of the economy grow. Policy choices are made to grow other parts of the economy. To hold up the example of China, they did make farm-to-market roads, they did educate their children so that they could read, write and count, they did take care of basic maternal and child health.

Thirty five years ago when I worked both in India and China, they were basically comparable but they are not in the same universe now in terms of what's happening in the rural areas. China is way ahead because of the policy choices it made. In India policy makers were playing with prices, which I am now beginning to understand were short-term political pressures of cartels playing with prices and pushing elections around. Even in the 1950s, looking back at the obsession with the price of rice and of wheat and trying to break cartels, people got stuck in the path-dependent loop at that point and ignored fundamental things.

China made other mistakes. The Great Leap Forward was worse than anything India has done but they learnt from their mistakes and they changed. Thirty to 35 years ago, India and China were comparable but they are not comparable now. There is rural non-farm employment in China, there are roads, health and education. Remember, they were starting from a base that was lower than India, 30-35 years ago.

The share of agriculture in GDP, dropped in China, in Korea, Vietnam, Indonesia and the Philippines. In these places other parts of the economy are growing and people are going into those other growing parts. The basic human development indicators, their MDG indicators are going up but that is not so in India. It is going up here but very slowly, and India continues to have the largest number of poor people, the largest number of stunted kids, and the highest levels of maternal mortality. There are a lot of things that are really difficult here and policymakers need to address that.

What are the things we should push for? Can we have some innovations? In Brazil they have the local food security circuits. Here the safety net programs, the midday meal programs, the ICDS anganwadi centres, the pensioners, all the food support schemes

are compelled by law and regulation and supported by policy to source and procure the food for those programs within say, 25 kilometres. Doing this you drastically decentralises the procurement and give incentives to farmers who can then have a proper contract to produce the food you need.

As the food miles go down, the quality will go up and the losses will come down. So these ideas of local food security circuits are linked to the safety net programs whereby the marginal farmers, the small farmers are actually being better taken care of. Why does nobody ever mentions the small farmer agribusiness consortium? It's more than just a paper tiger, it's actually doing something for small farmers. Marginal farmers are the ones we have to talk about those with one hectare or less. If one can do contracts with them and say that half the money used in procurement will be used to procure food from marginal farmers within a radius of 25-30 km, then those farmers benefit and good food is procured at lower cost. This could be something that is policy actionable.

Programs like MNREGA, regardless of all the problems in implementation have shown impact. But the question is what are they building? If they can build agricultural assets that can really improve the resilience of a micro watershed of 5000 to 30,000 hectares, they are building water harvesting structures, systems that are linked to water distribution systems that waste less water and are connected to the local geo-hydrology. If they can be educated about the aquifers below the ground and the pattern of water flow above the ground, that would be of benefit. MNREGA can be used to create locally useful, productive agricultural assets.

Whether it's in China, Korea, Philippines, Indonesia, wherever, as employment opportunities go up in rural areas or people migrate, many of those are males who migrate for jobs. That means more and more women are making more decisions but they do not own the land. Oxfam has started a campaign on women's property rights. I think it's a very good one, well based in research. The number one point in systemic discrimination against women is land. Credit is number two; access to other inputs like water, number three.

Participation and management control of local scale institutions may be getting a little bit better but there is a long way to go. Facing up to discrimination and using existing law, constitutional and legislative acts; just enforcing the laws that exist would improve resilience, productivity and sustainability when they are aimed at women who are increasingly managing the farms.

Finally, discrimination is not just gender-based; it is also caste and tribal status based. FAO, I'm proud to say has been funding some work with Indian Institute of Dalit Studies (IIDS), looking at the impact of caste. The difference between 3 percent annual growth in agriculture and 4 percent can be clearly shown to be based on discrimination, especially caste discrimination. That is not something that can be trivialized, or put off as a political issue. There is a micro and macro-economic impact of discrimination that has to be faced up to. And that should be a part of whatever we say today.

Juned Khan: This is based on some field experience in trying to locate farmers who operate less than 2 hectares of land in India and can be called, prosperous. I did this experiment as part of a research collaboration and I went around looking for farmers in different states and finally covered Maharashtra, Gujarat and Punjab. Surprisingly there were not many such farmers in Punjab. We found farmers operating less than 5 acres of land with irrigation and making at least Rs1 lakh net income per annum per acre. That was the benchmark, but we also came across farmers making Rs. 5 to 10 lakh per annum per acre as net profit. It is not that there is no money in agriculture. My conviction is that there is money in agribusiness but somebody else is making the money, not the farmer. We need to take the farmer beyond the farm. We need to make him or her a participant in the value chains, the networks of production and marketing. These farmers are definitely growing high-value crops. We are taking a larger view of food security in terms of enabling the farmer to buy and consume whatever he or she would like to.

Then I think there is a need to look at how we make farmers look beyond farming. The issue in many states like Punjab and Haryana, some parts of the north and even the east is that farmers just think of themselves as farmers - primary producers who don't want to step out of the farms. But now things are changing, markets are changing, new channels are coming up. I think we also need to train the farmers in terms of looking at what to grow, how to grow, where to sell, how to sell, and why to grow at all. I think there are a lot of farmers in this country who are doing things that they don't need to do. They are making losses in the process, or there may be structural or resource constraints in some cases, but that is not the case everywhere.

There are many places in this country where farmers can do better if they understand the markets better. If they can examine their role in the whole chain and look through where the money is and how that money can be captured, the value captured in the value chain. How do you capture that surplus where somebody else is now making the profit, whether it's a wholesaler, retailer or somebody else?

I have come across farmers, really small farmers like those Peter said suffer from caste discrimination, who are not talked about. When we talk of farmers in Punjab, We don't think of the Muslim farmers who are very professional vegetable growers. They are the ones who are making net profits in the range of a few lakh per acre per year. They are growing 3-5 crops on the same land, sometimes without the help of tube wells given by the state but with the motors meant for domestic water consumption. They are using those domestic connections to irrigate their high-value crops because they just can't get access to irrigation water from the formal agricultural tube well.

Similarly, there are farmers in Maharashtra, growing three crops simultaneously in the same farm - sugarcane, maize and cauliflower with three different harvesting schedules. And they do this three to five times a year.

All this is possible because there is a market which is well connected to these farms and these farmers. We should not look at agriculture as a hopeless situation and look at the possibility of bringing enterprise into agriculture the opportunity for which exists. In

fact, these days you come across people from non-agricultural backgrounds, people who are getting into agriculture as joint ventures, as venture capital, as new start ups. I get a couple of these enquiries every month. They are doing very well in terms of not only providing services but also making money right from the start. That means there is money to be made in agriculture and the food sector. We need to enable the farmer to partake of that, to become a partner in sharing that value addition or surplus being generated in the market. If we are talking about livelihoods not just farming as a traditional occupation, we have to take a call on commercial farming.

I think it is possible to bring marketing extension to make farmers familiar and capable of dealing with markets, to some extent individually, but to a large extent collectively. One can talk of marketing entrepreneurs in agriculture, many of whom who are not from farming families but have come from outside to make money in agribusiness. We need to look at agriculture in a positive fashion. Though Ramoo may talk about income security for farmers, I think there is a limit on how much you can ask in terms of providing security to farmers who are 52 percent of the population in this country. We are already talking about the non-feasibility of the Food Security Act. How about looking at the kind of income security I am talking about and it's feasibility by sustaining and supporting it? I think we need to take this route, perhaps not with every farmer but those who are small or marginal, and who are enterprising enough to be given this choice in terms of being entrepreneurs.

Sukhpal Singh: A lot of farmers in Karnataka own a one hectare farm and are earning five lakh. It is dry land, not irrigated. Of course, they do high-value, they do nursery, they do commercial, they do farm system. I think this concept of farm enterprise has to be introduced. It's not farming. It is farm enterprise, it is business management, farm management. I want to tell you that this concept of marketing extension has now been introduced and managed I led a committee based on that marketing extension. The key thing here is the concept of Krishi Lakhpati whereby you can earn one lakh rupees per acre. You have to develop those models. You can do one or more and then have very

strong extensions led by farmers themselves who have converted this thing. From the number of cases one has seen, this has to come.

Comment: In the light of what Sukhpal has been saying, I was thinking we are in the 21st century and we are constantly painting the picture of farmers as victims. There is no doubt that some farmers are victims but that's not all. In terms of policy recommendations, let us look at positive examples of what's working. For example of what Dr. Sahai was saying about Gene Campaign's fieldwork in the states, or what Peter Kenmore raised about the small farmers business council. There are positive examples in this country and there are organisations who are doing this work.

KVS Prasad: First of all, I would like to reiterate the importance of making farming glamorous and youth to be the focus. Incentivizing youth and creating enabling conditions for them to stay back in farming and pursue it will I reverse the trend of farmers leaving farming.

Secondly, we need a democratic space. We need to ask the mainstream institutions to create an annual dialogue of alternatives coming from field experiences and see what they could do about it. We can also flag the learning from various international studies.

Thirdly, I have always had a slight reservation about this market-oriented entrepreneurship. The majority of small farmers now are losing hope in farming. First, we have to create hope in farming and make them a little more confident. Then they can move to being entrepreneurs. This is a transition process and not a quick-fix solution. There should be a long-term strategy of ecological, livelihood-supported agriculture which can talk about malnutrition, poverty, hunger and the ecological footprint. We cannot wish away these four dimensions of our intervention. If we do, we will have what Suman has said, the other side - social unrest.

Lastly, public-private partnership is will drive away farmers from farming, and institutions helping farmers. Only private sector agencies should not be allowed as

partners. Agriculture development must be context specific, self-supporting, with inclusion of local markets. Scale need not be the criteria.

Sukhpal Singh: Historically in agriculture, apart from the subsistence farmers, all others were entrepreneurs. But these enterprises were driven into a particular model which is loss-making because of government policies about say, how certain technologies are driven, or particular regulations are brought in, or systems put in place. Instead of farmers making their choices, somebody else made those choices on behalf of the farmer. All incentives were put in systems which the government wanted to promote, whether chemical fertilizers, certain models of marketing, or certain models of extension. If farming is to become a better enterprise, the choice should be with the farmer. And the choice which the farmer makes will work only if it is a well-informed choice which it is not the case today.

The entire system should be made accountable. Whatever changes are made, whether in research, technology, extension or marketing, all the systems must be made accountable for farmers to become independent & successful. Industry, which is also an independent enterprise, is running because of government policy, regulations and support. Similarly, how do we change agricultural policy so that farmers can become independent? Today all policies are pushing farmers to become more dependent on the government and with the way policies change, agriculture is also changing. Instead, we should make it more farmer-centric. In that context I had talked about the income-centric approach. In the income-centric approach, measure all the policies together. They should be measured in terms of how much income the farmer could get rather than looking at how much productivity has increased. Income security is not about giving 100, 200 or 300 rupees to farmers. It's about ensuring that the enterprise survives. It is how all enterprises are surviving; they are not forced to sell at a lower price. Yet today, farmers are forced to do that in agriculture.

Suman Sahai: There is a general consensus that the farmer must have the choice to decide on what he or she wants to grow and whether to grow it at all. Advice to

farmers for planting in a particular season. That should come through the creation of a market intelligence organization that tracks what is being shown across the country. Two after we have seen, for instance when mustard prices go up half of north India starts growing mustard, and then mustard prices crash. Guar prices go up, and all of Punjab and Haryana starts growing guar and Guar prices crash so if a lot of mustard is being planted, farmers should be informed and advised to plant another crop. Farmers can be helped to make their choices locally or regionally, assisted by market intelligence which tracks cultivation; the sale of seeds etc year to year. Allowing a scarcity and glut situation to develop plays with prices and does not help the farmer. Crop tracking is done quite routinely in other places. Farmer innovation, farmer independence, farmer decision making can be very ably supported by market intelligence on seed, crop, price, availability etc.?

Rajeshwari Raina: Many of the points that have come up point to decentralized local markets and local resource based farming systems. If we want profitable, sustainable farming, then factors like water, agricultural research, or increased funding, it must be handled in a way that facilitates decentralized structures and institutions. If we recommend higher allocation for agriculture, then it should not, go into the same pots as before. It must be done differently. The funds should go into decentralized knowledge, and institutional support mechanisms including marketing intelligence and resource intelligence.

Paranjoy: You are talking about farmers making more informed and more intelligent choices but in the government of India there are multiple departments and agencies that most often do not work in coordination with each other. The absence of coordination is perhaps one of the reasons why things do not happen

Suresh Kumar: Market intelligence is currently being provided by a large number of organizations and universities but market intelligence alone won't be enough. In Pune, the farmers are grouping together.

Farmer groups decide that they should bring only this much area under tomato or onion and so on, and then they release as per the market rates. They don't just release everything together. That is how they are able to control price. For this to happen, farmers should be allowed to market on their own and they should get retail market space in urban areas. Maharashtra has already started doing this.

Sanjeev Chopra: The issue of profitable farming and prosperous farmers is something that I'm concerned about, both, individually and professionally. The orchestra of government departments is not performing well and that is why there is dissonance. Individually, there are a lot of good things happening with several sterling examples throughout the country of good FPOs, good interventions by private sector, good interventions by NGOs, as also those by research bodies, and government officers as well. There have been exceptionally good government officers and exceptionally bad ones in all cases - bad officers, bad NGOs, bad corporates. The root problem arises from markets not being transparent. There is a very strong political economy which prevents these markets from becoming transparent. Things have not happened because there are very strong vested interests in a position to scuttle reforms. So it's going to be difficult to bring change.

The issue is how do we break this nexus? And the only way is by having some very major investments. I think the ten percent thing is very valid. It ought to be done. Over the last few years, the agriculture department is getting more money but it lacks the ability to absorb the money. The ability of the PWD as also the electricity board to absorb money is much higher but in agriculture this is a problem. Take the case of Punjab Agricultural University. As against a sanctioned strength of 1600 professors and teaching staff there, you have got just 600 people. And that's true for universities across the country. This means that the departments are losing the ability to absorb the money structurally. When you don't have the ability to absorb the money, higher allocation will not solve the problem.

We have created a lot of these departments like horticulture, agricultural marketing, fisheries etc but without being able to strengthen agriculture. We must have a very strong agricultural department with the ability to absorb the extra funds and show creative leadership in research. That is missing in the agriculture universities and in the ICAR system. We have expanded our institutes, do not have the people who can actually deliver results. This is something we'll have to address.

The fact is some farming is profitable and some is not profitable. Land prices have shot up to a level where farming in the conventional sense just does not make sense any more. We need to look at things very differently, there are some new models coming up, for instance, the Kerala Land Army. They often organized professional services for agriculture. A lot of land is under sub-optimal utilization because the resources were not available, so these resources will have to be made available. The time has come for professional help for a lot of farm services. This is an area funds could be provided for the sort of facilitation that has been done in Kerala.

There is another example from Kashmir. Professional agencies have come up to manage the farms and orchards of Kashmiri Pandits who left Kashmir. Such a model can be tried in parts of Himachal and Uttarakhand which are not under the plough because the farming families have moved out. These large terraces can be farmed by professionals. There is a situation that needs to be addressed before the model will be accepted. At present people do not give their land because of the fear that a tenant might not move out. So some mechanism will have to be created where by professional services can be offered with the assurance that land ownership is secure.

The other very important aspect are our policy instruments which are designed for the wheat and rice. All our instruments, whether it is the kisan credit card, the financial markets, the market information system, crop insurance, everything is designed for the wheat-rice cycle rather wheat, rice and sugarcane. Prosperity in agriculture will not come from wheat and rice. It will come from milk, eggs, poultry, pomegranates, grapes, bananas etc and an entire spectrum of things for which the agricultural policy is not

designed. Which covers only wheat and rice. We need to strengthen the level of the agricultural extension services, the agriculture departments and the universities which are going to be the bedrock for profitable farmers and prosperous farming.

Bhavdeep Kang: I agree with most of the discussion Sanjeev that you leave the choice to the farmer. You give him agricultural intelligence, and technological support then leave it to him. He's going to do what's best for him.

DISCUSSIONS TO REACH A CONSENSUS AND ARTICULATE A CHARTER OF DEMANDS

Charter of Demands to make Profitable Farming and Prosperous Farmers:

1. The government must increase annual budgetary outlays for agriculture, by the Union and state governments, to 10 per cent of India's gross domestic product (against less than 1.5 per cent at present) for the next ten years. Of these outlays, between 60 per cent and 70 per cent should be reserved for rain-fed farming systems.
2. Programs for food security must include nutrition security. Fortification of common staple foods with micro-nutrients should receive attention. A comprehensive program to establish homestead gardens should be promoted to boost household nutrition.
3. All programs providing food and nutrition support to children must be linked to their being registered in school and receiving regular health checkups.
4. Credit and insurance facilities should be provided to all those who cultivate land and keep livestock (not merely to land owners) by revamping the *kisan* credit card and making insurance more widespread.
5. Given the growing feminization of agriculture in India, there an urgent need to: enforce property rights of women and encourage joint ownership of productive assets, incentivize women's access to credit cards (through an interest rate subvention of at least one per cent), invest in agriculture equipment suitable for women.
6. Restore and reorient agricultural extension services to promote high yielding, diversified and ecologically sustainable agriculture. This should be backed by research support and indigenous knowledge.

7. To reduce financial burden on small farmers, establish and incentivize Smallholder Farmer Estates with common facilities and equipment, skill building in joint estate management, bio-nutrition and IPM , water conservation and management, micro irrigation, fertigation , post-harvest value addition , packaging and collective marketing etc

8. Government policies must strengthen and promote a broad genetic base for agriculture and encourage conservation of agro-bio-diversity, to build resilience in farming

9. Launch a comprehensive soil testing program across India to implement location specific measures to restore and improve soil health.

10. Develop a policy and research framework for the development of agriculture in the mountainous regions of India.

11. Launch a water literacy campaign at policy and implementation levels that demand management is the main strategy for overcoming water scarcity.

Water management must be used as an entry point to improve livelihoods through productivity enhancement, value addition, and income generating activities through market-led diversification.

12. The public distribution system must be diversified and decentralized. Government policies should encourage procurement from about 50 km from the points of consumption and the PDS should include a range of locally produced foods.

13. Divert a part of fertilizer subsidies to public investments in agriculture leading to capital formation for strengthening alternative farming systems, especially climate resilient agriculture.

14. Encourage and incentivize states that reduce reliance on chemical inputs in agriculture and encourage bio-organic farming systems.

15. All government policies must be geared towards enabling the Indian farmer to become an entrepreneur. Only then can those who are in the riskiest profession in the world be empowered, making farming profitable and farmers prosperous.

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