

Food Security

Suman Sahai and M.S. Banga

INTRODUCTION

For any modern nation, the question of food security is . paramount. For any society, the availability of sufficient food for all is a key indicator of its success. Never has the art and science of food, from production to consumption, flourished as much as it has today. Yet, hunger-mass, hidden and transient-is in evidence across the globe and sharply so in India.

At the end of the first decade of the twenty-first century, India ranked ninety-fourth in the Global Hunger Index of 119 countries. By some estimates, around 300 million Indians go to bed hungry, if not starving, every day. Worse still, we have the highest number of malnourished children, with every second child suffering from the impact of insufficient and improper intake.

The FAO figures for 2009 show that in India, less food was available to rural households than in the 1950s. Clearly, too many people have been falling through the gaps-with insufficient

family support and few state or social support systems. We have food insecurity at a massive scale at both the individual and household levels. For an emerging economic power, this kind of widespread hunger is completely unacceptable.

It is common knowledge that India faced an acute shortage of staple food grains in the 1950s and 1960s. The American food aid we accepted at the time, through the PL-480 shipments of wheat and rice left its scar on our national psyche. During a long period in the 1970s, eulogized as the Green Revolution, India managed to become self-sufficient in grain and cereal production.

In 2010, a combination of many factors has led to almost a reversal of how we view the benefits of the Green Revolution. At that time, it certainly averted a terrible crisis. Today, experts, some of whom themselves promoted the infusion of massive technology into agriculture at the time, acknowledge the detrimental impact of high-input industrial agriculture over the long run. In states like Punjab and Haryana, the major sites for the Green Revolution, new crisis points have emerged. There is soil degradation, depletion of ground water, lowered food productivity and destruction of ecosystems. Bewilderingly, we are back to a situation where some have raised the spectre of long-term food insecurity once again.

In terms of the total amount of food grains produced and the surplus stored in government godowns, it appears we have sufficient stocks to see us through a couple of consecutive drought years. 65 million tonnes (MT) of food grains were available with the Food Corporation of India in September 2010, way above the government's own buffer norms, and technically enough to feed India's population many times over. That is, we have food security of a sort at the gross national level.

And yet, alarming statistics and more granular data tell us that hunger is increasing, not decreasing in the country.

Hunger is a hydra-headed monster. There is, of course, enormous endemic hunger in India, caused by general poverty and lack of access to food, but there is also hidden hunger. Even if people get adequate quantities of food, its quality may be deficient.

Malnourishment is especially severe among women and children. According to the National Family Health Survey of India (NFHS 3), 55 per cent of children living in rural areas and 45 per cent children in urban areas suffer from malnutrition. Far too many people do not have access to sufficient nutrition, including protein and micronutrients like vitamin A and iron. Although India's cereal production has soared recently, with the agriculture ministry predicting the highest ever food grain production for 2010-11 (235.88 million tonnes, up 8.14 per cent over the previous year), the cultivation of pulses, fruits, and vegetables that provide many nutrients has not kept pace with the growing demand, resulting in higher prices unaffordable to many. In a country of food growers, farmers do not eat well. In a country celebrated for the vast diversity of its food crops and its eating patterns, there is now a narrowing of the food basket for the low-income sections of the population, which are already afflicted by nutrition insecurity. This is partially due to the government's procurement of a narrow range of food items for the public distribution system (PDS) on which so many millions depend.

There is also transient hunger because India has become a mobile republic. Hundreds of millions of migrants move around the country in search of better livelihoods, with no way to access the PDS in their new locations, and not enough money to buy the right amount and the right kind of food.

How and why so many anomalies persist has been the subject of a number of reports. Thinkers and activists from different

sides of the political spectrum see the same problem but often identify contrary sets of causes.

Market enthusiasts believe that there has been insufficient reform of the agriculture and food sector, leading to major distortions at the policy and ground levels. Left-leaning thinkers, on the other hand, believe that there is a structural issue, that the globalized and liberalized economy has itself increased hunger in this country, marginalized farmers further and left many with little choice other than suicide.

The great challenge before the government is to ensure food security at the individual level, wherever that individual may be; at the household level and at the national level. To do so, it must ensure sufficient food production and/or procurement for public distribution; efficiency and equity in the access of sufficient nutrition for all citizens; and a sufficient buffer against system shocks. In a mixed economy like ours, the state is expected to do all this in the face of a growing globalized trade in food, an increased role for private sector players across the food chain, a global diversion of food grains for fuel, changing food choices and worrisome indicators about the climate and the soil.

At the time of writing, the government is about to take up the Food Security Bill, which comes on the back of a strong Right to Food campaign. Increased government revenue post economic growth has made it possible to plan on substantially increasing investments in ensuring adequate food for all citizens. There is debate about the exact contours of such a Bill and its cost to the exchequer, between the finance ministry, the Planning Commission and the second National Advisory Council (NAC), but there seems little doubt that some compromise will be reached.

When it comes to the PDS, which will probably be the vehicle for implementing the new law, everyone agrees that we have an ineffective and leaky system, with disastrous methods of

targetting which leave out the really needy. The right-to-food activists want the universalization of benefits to all citizens in order to overcome such problems. Others feel this has the danger of overloading an already dysfunctional system. But for all the importance given to it, the PDS takes up less than 0.5 per cent of the GDP. Clearly, we need more investment in both the agriculture sector as a whole and in the public distribution system or some alternative system to increase its equity and its efficiency.

But food security is, unfortunately, not just about hunger, even though that remains the main focus. It is also about general health and well-being. India has the unenviable position of leading the world not just in the numbers of hungry citizens but in the rate of growth in diseases of affluence. If there is a narrowing of the food basket for the poor, there is a rapidly growing range of choices for the urban and affluent.

Obesity is fast becoming a problem in the country with diabetes, hypertension and cardiac incidents on the rise alongside. Twenty per cent of the people consume 80 per cent of visible dietary fat.¹ India's well-to-do, especially in urban areas have plenty of choice in what they eat, and exercise it fully. We are part of a globalized food culture--of processed food, fast food and addictive food.

As a country, then, we have the unenviable challenge of coping with both obesity and hunger together. We need a more integrated food and health policy if such extreme conditions have to be avoided in the future. Food and health security are linked to land, to water and to agricultural practices. They are linked to farmers and their markets, and to the many local and global forces acting upon them.

¹ Source: Dr Umesh Kapil, All India Institute of Medical Sciences (AIIMS), New Delhi.

For all the changes that are brewing, India remains a rural country, dominated by agriculture. According to the Indian Human Development Survey (IHDS), 75 per cent of people get some income from farming activity. Most of these are small and marginal farmers, and the productivity potential of their land remains underutilized for many reasons. Agricultural growth in India has stayed below 4 per cent for several years, and despite its potential, and despite the number of people engaged in it, the sector contributes less than a fifth of the GDP. Agriculture accounted for 14.2 per cent of the GDP in 2010-11.²

According to the World Bank, the economic growth of the agriculture sector is twice as effective at reducing poverty as the growth of any other sector. Achieving such growth seems to be a focus area for the 12th Plan. The government has already announced several schemes to improve farm productivity, access to farm credit, development of post-harvest storage and processing infrastructure and the development of markets for farm produce. To achieve more rapid growth, the government also wants foreign direct investment (FDI) to come into the sector and has announced a new policy to attract such investment.

Going by such policies and by business reports, we are likely to see more engagement of the corporate sector in the entire food chain—from farming, field inputs, value-addition, storage, distribution and retail.

There is a worldwide oligopoly of food and agriculture conglomerates and their Indian subsidiaries have big plans, especially for the new Indian consumer of processed food. Clearly, the food industry sees India as a vast market. We are the world's second largest food producer but have less than a 2 per cent share in the world food trade. ² Source: Central Statistical Organization (CSO) estimates.

As the chain of resources and inputs—land, water, fertilizer, seeds, pesticides, and finance, including insurance, moves slowly into the organized private sector, it remains to be seen whether this will create new problems of inequity or become part of the solution to food security for our people.

Among NGOs in India, there is a deep-rooted mistrust of the private sector, "especially of the handful of agriculture, food and beverage multinationals which control the bulk of the global business. There is a worldwide ripple of concern about what is being sold to consumers by these food giants. Genetically modified food products are especially controversial. A successful protest recently stalled the introduction of Bt brinjal in the country.

More battles are lined up ahead, as India has a tremendous diversity of non-profit organizations in food and related issues, working with or against the state and with or against corporations. There are organizations working for farmers' rights, consumers' rights and the right to food. There are groups in the sustainable agriculture and organic food movement, who may also work for the conservation of food crop biodiversity. There are consumer activists and advocates of healthy food choices. They are those concerned with the hunger of special groups, like children or the elderly. There are thousands of charities, both religious and secular that are actually engaged in feeding the hungry. The most significant outcome of these many endeavors in the past two decades has been the sharp focus on the rising indebtedness of farmers, and the Right to Food Campaign.

If the government is to better fulfil its basic obligation to ensure that no citizen goes to bed hungry; that every citizen has adequate access to sufficient, affordable food and equally that the people are healthy enough to absorb nutrition from the food, much needs to be done soon and differently. And if

Uncommon Ground

the government wants the private sector in its myriad forms to play a positive role in the food sector, there are many public policy choices to be made. We need more food, better food, and more sustainable relationships in the whole food chain. We need to reduce the burden on farmers and align their incentives better. For our future food security, it seems clear that we need a complete rejuvenation of the agriculture sector.

Dr Suman Sahai and M.S. (Vindi) Banga in the following conversation tell us that they could not agree more about the urgency of such an agenda.

Dr Suman Sahai has been in the field of agricultural research, biological resources, food security and rural livelihoods for almost three decades. A geneticist by profession, she set up the Gene Campaign, a platform for development and training in sustaining indigenous knowledge and driving new research in these areas. Dr Sahai has served on a plethora of government committees. She is a vocal advocate of her strongly held positions on food and nutrition.

M.S. (Vindi) Banga worked with the Unilever Group for thirty-three years before he decided to quit in March 2010. In 2000, he was appointed chairman and managing director of Hindustan Unilever (HUL), which remains one of the largest players in the domestic food industry. At the time of recording the show, he was on the Unilever Executive Board as president, Foods, and Home and Personal Care. He was also responsible for the sustainability agenda at Unilever. Over a long international career, Vindi was witness to colossal changes in the food business, and also himself, partly, an architect of the role played by food conglomerates in so many people's day-to-day choices.

Suman, millions of our citizens go to bed hungry, including farmers and children. What should be done? Is it a question of increasing productivity or of governance?

Both, but primarily of governance. I think endemic hunger is not an issue of food production, though I will admit that we need to step up on this because of the growing population. Our people are hungry because either they do not have land to grow their own food or they do not have money in their pockets to buy the food that others are growing. That's why we've had this scandal of sixty million tonnes of grain lying in buffer stocks and people still being hungry. I think the key question here is that despite the Indian economy's obvious dependence on agriculture, policymakers have never given it the priority that it deserves.

Look at Europe. So many years after the war, Europe still has a common agricultural policy which has got insane levels of subsidy, to the point they are distorting the WTO; but India has not really fostered this sector. And therein is essentially the problem with Indian agriculture.

Even today, India's ability to feed itself depends on that one southwest monsoon. If the monsoon fails, the economy begins to falter—you notice it in the Sensex; you notice it everywhere. How much emphasis is being put on agriculture development is what we need to think about. You can't be food insecure and divert prime agricultural land to developing special economic zones—the so called SEZs. The key issues are that of governance. You have to have a better policy for agriculture. You have to invest more in agriculture. You have to create job opportunities. You have to have land reforms so that people get access to land—so that people have an education and can get jobs and buy food. And on the other hand, with

Rohini Nilekani; Suman Sahai; *Vindi Banga*

the growing populations, we also have to see about increasing food production.

Vindi, she has talked about the larger context-policy, governance, etc., in this country but we are seeing the increasing role of the corporate sector in the food sector. Do you think this is an opportunity to reduce the disparity and also look at changing lifestyles, food-eating patterns-part of these are being promoted by food companies? Where and how do you think we can strike a balance?

I want to pick up one of the things that Dr Sahai raised but take a different angle. Actually we do need to step up the food production quite significantly in India. And the reason is simple. Our food production, in general, has been pretty static over the last couple of decades. This is a country where we've got population growth and now we've got real income growth. I think people deserve the OPPortunity to eat more and eat better and that will happen only if, q.s a structural sector, we're able to step up agriculture production through better productivity. For sure, I think we need another Green Revolution. Now that's what brings me to the role of the corporate sector and indeed, everybody else. I think these kinds of challenges are too big for anyone stakeholder to tackle. And I think everybody has to partner and come together. I very much agree with Dr Sahai, that the government needs to think more about irrigation where investment has been static, and investment in research.

I think corporates can also help by teaming up with likeminded people-with banks, with seed companies, with input companies-and finding ways to actually promote a farmer's produce in the market.

Some of that is already beginning to happen obviously. There is some resistance to the idea of corporatized farming while others believe that it's an opportunity. What do you feel?

I think that for a country like India-and I would partly disagree with Mr Banga-that the corporate sector can play a role, so long as it facilitates and does not compete with what farmers and producers at farmer levels and corporative levels can do. The crisis there right now is that the more agribusiness gets into food, the more the vertical integration of the food chain that it leads to, puts out a lot of other players from the market. It is partly the reason for the kind of food palette that we are developing-contributing, I think, to obesity. When you tie up the farmer's field to the biscuit and the margarine factory, you're not only reducing the nutritional quality of the food but you're also huning the environment by adding food miles. You're producing here and taking that produce all over the world, so you are increasing carbon units.

You are hurting the environment and you are not delivering fresh produce. Producing and eating locally, to the extent possible, is a good strategy. Downsizing the big conglomerates in food is the answer to sustainable, nutritious food production and also enabling the farmers to participate in this.

Vindi, would you like to respond? Again it's about balance.

Taking up from what I was saying earlier, it's all about complementing the farmers' role, not taking it over. The farmers' real challenge is in finding a market and that's where I believe industry can play a very important role, in helping them to access it. If there is some way, for example, that we can transfer the value that the farmers miss out on, down to them ...

On that, I agree with you.

We would create a wonderfully virtuous cycle because we want our farmers to get richer; because farmers also in the end, are consumers for this country. And that would become a really wonderful, virtuous cycle for us.

Is that possible, that corporations work directly with farmers, increasing farmers' direct revenue, by reducing the role of the middlemen? Is that good for the farmers and what are the implications for the consumers?

I think that in principle it's good for the farmers if they can be assured of a market and the middlemen, so to speak, can be cut out to the extent possible. The only thing that I would worry about in such a situation is that as agribusiness works, the selection of food products could be skewed away from the food and nutritional needs of small farmers, small consumers.

Please give me an example? Is it that you may contract out for a certain kind of crop to farmers, but which doesn't have much of a value in their own food requirements?

Take contract farming: you find gherkin, tomato, strawberriespecialized products-being cultivated. Productive agricultural land is being used for these products that the industry can do much with and for which there would also be a middle-class market. But this could take away from the local level, small farmers' food security because farmers do get into the trap of looking only at cash incomes. We are seeing that consequence. Maintaining a strong basis for food security for the farming community is important. And I believe that industry can theoretically do that, but it doesn't always.

One of the thoughts that I'd like to offer is that you need to create a complementary ecosystem between farmers and all their other needs-including access to markets.

But you could get farmers to come together, even though they are marginal farmers, like a collective farm, so that you can grow gherkins or whatever you need in your supply chain. But

what impact would this have on the nation and food security for our people? How can you look at it differently?

I think what's important is that the nation needs all kinds of foods. It needs the production of staples to go up; it needs the production of vegetables to go up; it's not a case of one or the other. This complementary ecosystem could actually be created, as Special Farming Zones-like the Special Economic Zones. They could be designated by crop type or whatever, and there you could bring together all the complementary capabilities-whether it be input companies, education practices for the farmers, infrastructure and, of course, access to market. I think that's one way to go.

In theory, this may work. But you need to be cautious about creating large tracts of monocrops and monoceteals. Because we're still at a level where food should be and is still being produced locally and that repertoire of cereal, oil seeds, legumes, protein, vegetables is available within a reasonable distance, what we actually need is a sectoral approach ...

How is that possible? I mean the way food grains are moved in our country; the government procurement policy, the public distribution system. People who used to eat ragi and other millets and beans are eating rice, white rice. So that has to change.

That's bad. Changing the food distribution system is absolutely imperative.

For sure.

I don't think that anybody here on this table disagrees with that. Unfortunately, the states don't take responsibility. But you know, talking about Special Farming Zones, what about Special

Agricultural Zones instead? A policy decision had been taken that no two-crop areas would ever be diverted to SEZs. I come from UP, from a place called Tilhar, and I travel home on that road from Delhi towards Moradabad and Rampur. This is a prime alluvial belt, India's most productive, fertile land. Water, soil, everything is perfect. Six months ago when I was driving home, I saw on the left of the road a huge area demarcated for a city! A little city is going to come up on that prime alluvial land. How did that happen? Who allowed it?

The issue of food sufficiency is what led the government to be so proactive--the Green Revolution, and so many things. Are we letting go of that idea or is it going to come back now with the global food crisis? Is that happening?

Unfortunately, the global food crisis is causing governments everywhere, including ours, to think in wrong ways. I mean if we have a food crisis in this country, then our entire focus there I agree with Mr Banga-should be to increase food production. If you want to increase food production, then you cannot make a case for diverting land for jathropa cultivation. You cannot run with the hare and hunt with the hound. Food must be our primary concern.

We can debate its ramifications in many ways, whether this or that would be a good way to go. But I do not think there can be any argument about the fact that our country's resources, prime resources, like land and water, should be devoted to food production.

We've been talking about the larger issues, the context of the food problem. While we have a huge issue of hunger, there's also a huge problem of obesity and bad health. You are in the

foods business. How do we get the right message out to people . . . about what they should eat?

I think obesity is a very complex issue. This is recognized the world over-in fact it was picked up as a target by the World Health Organization (WHO) six or seven years ago. And it's related, of course, with what people eat. But it's also related, very importantly, with lifestyle. Once again this is too big a problem for any single person or entity to attack. I think as food producers we have our own role to play and we're certainly doing our best.

How? Give me an example.

For instance, a few years ago when the WHO took up this issue, they published ideal diets. But that's one thing. There was no nutritional standard for processed food products. So Unilever actually set up a nutritional profiling system and we created standards, based on diets, so that we could identify what products should ideally have in terms of fat, sugar, salt levels-particularly in the context of how much should be consumed daily.

Right, so that's putting the burden on me, the consumer. But I'm always getting messages, you know, about eating all those wonderful chips, which are very hard to resist, and biscuits made of all kinds of flour and sugar. There is so much messaging out there because of the way the media is today, does industry take responsibility for that? Do you think there'll be much more regulation because now we're understanding issues of health and food so closely? Is industry prepared for all that regulation?

The solution in these things very often is proactive voluntary moves and let me explain to you some of the things we're doing. First of all we have leveraged our technology once

we established these profiles to make our products so much more nutritionally balanced and better. We've actually gone through twenty-two thousand of our SKUs around the world and improved their nutritional profile-reducing the level of fat, reducing the level of salt, reducing the level of sugar, and very importantly, without changing the taste. Because if you change the taste of food products, then experience shows that people actually don't eat them anymore.

To your point on communication, we believe in being very transparent and open, and helping the consumer see what is inside the product. So we would like to put key nutrient information on every single pack. Now having said that, consumers still find it very difficult to understand and read through packs and figure out for themselves whether this is right or this is wrong. So we've pioneered about two years ago, based on the profiling system, a logo-a healthy choice logo and that's a kind of let's say pass~line and that's a visual device. That's a cross-industry standard. We've done it in one country in Europe and we're trying to get more and more people to sign on for it. It's a cross-industry retail initiative. I think those kinds of moves will really help the consumer understand and make healthier choices in the food they eat.

Packaged food, processed food, convenience food is now a part of our lives both because of urbanization and because women are working outside more, families and lifestyles are changing. What Me Banga is saying, is that enough? What more do we need to do?

Let me ask him. Just like we have a ban on advertising alcohol and tobacco, would the industry consider imposing a ban or allying a ban or suggesting a ban on products that are clearly bad for health? Such as trans fats; such as sugars?

I can tell you our own position. For instance, we do not advertise-this is a voluntary commitment-at all to children below the age of six, for any of our food products. And that's because we have found that the age of six is a critical age where children are not able to distinguish, below that, between programming and advertising. Even above the age of six, up to the age of twelve, we only advertise the products which pass the healthy choice test.

This is certainly one step forward. But is this enough? No, as an industry, it's not enough because the worst kinds of foods are the most effectively promoted. A lot of money is spent on advertising. I think that we should really consider regulation in this area.

Should food companies go for self-regulation?

Appeals to the good sense of the industry certainly should be made. And many will respond-as Mr Banga shows his industry has. Many will not. So I think a mixture of self-regulation and government regulation is necessary.

We should be very careful with what we do because I'm sure all of us would agree that there is already more regulation than need be. Your stance on balance, I would agree with. But may I make a suggestion: we seem to be talking about food as though it's something bad.

Food is really good and you need good food to be healthy. In fact one of the mantras that I strongly believe in is 'let food be thy medicine, let medicine be thy food'. And I think we have a real opportunity. Through technology, we have the real capability to make our food better and provide proper functional benefits through food. For instance, we offer products in our range like Proactive Margarine. And if you take this product

Uncommon Ground

every day-just a little bit of margarine on a slice of bread-it brings back [to normal] your cholesterol level.

Nothing like going back to the Greeks and the Hippocrates notion of food as medicine and medicine as food. I'll take up something else that you mentioned: improving the nutritional qualities of food and the use of technology. I get very scared when people say, 'We need another Green Revolution; we need functional foods', because all of that points to this whole sector of genetically engineered foods. Unfortunately, even today's food crisis has become an .excuse for promoting genetically-engineered foods. As a geneticist, I can say that the science of genetic engineering is still far from maturity. Had this been in the hands of universities, the technology would not be on the market today. These products that have been genetically engineered are on the market today because they are in the hands of the private sector, with its various compulsions of profit margins and so on. But I believe that because food is something so completely personal, so integral to one's h~alth ...

... And so sacred in our culture. • .

... and it has cultural and social and religious values, we must be super cautious about this. I do not believe that genetic engineering today is in a situation to offer us any options.

I would agree with your word of caution. But I honestly believe that we must welcome technology in food just as we do in any other sector. After all, technology has shown h~ge benefits in terms of giving us more benefits, better health, and, indeed, in all sorts of other areas, productivity, etc. We should really keep an open mind. There are three aspects which need to be kept in mind. One is this sector needs to be really thoroughly regulated for all the reasons that you bring out, Dr Sahai. Secondly, we need to ensure that whatever is done

is sustainable. And thirdly, in this area particularly, we need to make sure the consumer is quite aware of what's in the product. So that he or she can make a choice.

Right. Make the choice and make sure the consumer is assured of a safe product. My point was that this science should continue but it is not ready yet for the market.

While it's right to promote technologies and wait and see what develops, what about organic food? Are we agreed that organic food is good? A lot of Indian food is organic for various reasons, because it hasn't been able to get market inputs, etc. How can we promote organic food in this country to a point where it's viable for the consumer and for the farmer?

Nothing could be easier than promoting organic food. Unlike the Western concept of organic food being this big premium food, organic food in India is essential because it reduces input costs. Here I admit that nothing grows out of nothing, so you do need soil nutrients; but there are ways of providing soil nutrients that are different from chemical inputs alone. We come back to balance. You need to provide soil nutrients because you need to grow crops sustainably. But, unfortunately, the leftover of the Green Revolution in this country, the agrochemical model of food production is such that our scientific community is unwilling to accommodate the concept that there can be another way of producing organic food.

Studies across the world and in this country have shown that it's a very viable method of food production-the keeping quality of the food is better; the nutritional quality of organic food is better; residues are low; the agro-chemical load in that food is low. So there are a lot of advantages. It's a political decision.

I agree it's certainly something we should pursue. But a word of caution: the yields in organic farming are so low that

Uncommon Ground

overnight, if the world had only organic farming, we would actually exaggerate the food shortage. While we pursue organic farming and learn more about it and drive it because it has all the benefits that were just tabled, alongside we need to think of sustainable agriculture because that's really important for us today. We buy a lot of crops; two-thirds of our raw material is agricultural and for us sustainability is absolutely crucial. We buy 12 per cent of the world's tea, for example, and have committed that in a few years' time, we will only use tea that is certified as sustainable.

Excellent.

So I think sustainability is a very important driver alongside organic farming.

But sustainability cannot be ensured with nutrient mining. This premise that organic agriculture has low productivity is not really borne out by facts. What happens is that since we have not supported this sector, only urea is being subsidized; it is cheap and so the farmer is dumping it in his farm. You start subsidizing vermiculture, organic composts, get into the organic mode of thinking and you will not see a drop in productivity. And there are ways of doing it. There are already studies done.

Productivity as many people have said, as you know, can be doubled in any case. But how do you double it?

Just provide irrigation in eastern India; you will double India's overall productivity. All you need to do is to provide water there.

The most important thing is that we have so many ideas whether it's sustainability, whether it's organic farming, whether it's the use of technology to really increase food production and get better-quality food and I think that's really paramount.

80

What kind of food production is also important. We used to have thirty thousand varieties of rice. We have so many millets—all gone. There's a movement to conserve those seeds, those lines. Should we go back to thinking of crop diversity?

Tell me about it! Gene Campaign is setting up seed banks in Jharkhand. What we are doing is to conserve the traditional crop diversity, especially of rice because India is the birthplace of rice. This is where rice developed as a crop, in eastern India. So we are setting up seed banks and you will be surprised that, despite the promotion of the Green Revolution model, farmers are so happy to see seed of varieties that they had lost two generations ago. Gene Campaign has taken the trouble to travel around, garner those seeds from wherever we could find them, multiply them and make them available. I think that's the way to go.

And these seeds are more drought resistant, more flood resistant. We're going to see many climate change effects perhaps. So is this something that must be aggressively promoted and understood by people? ~

What we need to understand is that India's great USP is the genetic wealth in its crop varieties. Whether for the farmers in this country who need to minimize their risks and distribute their risks, or Mr Banga, who is concerned about having a greater palette of products and making it available for consumers—it's win-win for both. Conserving this diversity is crucial.

It sounds like a kind of middle path; the Indian solution which we all need. We've seen that the old ways were not enough for a burgeoning population. We've seen the Western kind of models may not work for us in this situation. What we've been talking about is a kind of an Indian model. Do you think there's a unique Indian business solution that needs to be developed?

81

In everything very often we have seen that we need our own local solutions. Usually what wins is taking the best of the world and the best of the local, marrying the two. And Indian ingenuity is very good.

You mentioned briefly climate change. And I'd just like to use this opportunity to pick up one issue which is very much in focus these days, which came out of climate change ostensibly and that is bio-fuels. I really do believe that the way in which governments are setting targets for first-generation bio-fuels in today's situation is wrong. Because in the end, we are diverting food to fuel a car.

It's indefensible.

I'm just hoping that that conversation is a no-starter because there is enough evidence to show the impact of it on world food prices and we're seeing it every day.

But governments have to realize that and go back On that.

Especially, the Indian government. Even if we're talking about second-generation bio-fuels like ethanol.

Well, there are lots of ways to supplement fuel without putting farm land into generating it.

We need a global consensus on this because this issue is being driven from all sorts of corners. We need to raise the level of the debate.

Is India uniquely placed, do you think, to push this debate in the right way?

India can be uniquely placed because it should take the moral high ground. I believe, on this question of bio-fuels, there is no real substantive basis for bio-fuels-it's an American policy

decision. My view is that the Americans want to negate the Kyoto Protocol.

How can India take the moral lead?

The moral high ground would be that India should substantiate an Indian position. There is no way that you can divert any land that can grow >food crops into growing bio-fuel crops. /"

