

An Interview with Dr. Bharat Ramaswami

Dr. Bharat Ramaswami is a Professor of Economics in the Planning Unit of the Indian Statistical Institute. He has made significant contributions to the research and debates on food policy and technology in agriculture.

The introduction of Genetically Modified (GM) crops in India has been a contentious issue. On the one hand, there have been media reports blaming GM crops as a major cause of farmer suicides in India, while on the other are claims of increased agricultural productivity and yield of Indian agriculture due to introduction of GM crops. What is your position on the issue?

It is true that there have been reports of farmer distress for a long time. Suicides seemed particularly rampant in the first half of the 2000s but such reports were coming through even before the planting of GM crops. I know of no research investigation that concluded that GM crops were responsible. The proximate economic causes were usually seen to lie in crop failure and debts. Small farm sizes, lack of non-farm employment opportunities and limited capacity to bear risks explain why growers are vulnerable to adverse economic shocks. It is particularly cruel that some of our poorest economic agents are trapped (because of poor skills and asset base) in occupations with high volatility. Unless this changes, how can we expect (with or without GM crops) farmer distress to decline?

Cotton is the only GM crop grown in India. Since about 2003, there has been a near doubling of yield. In the 40 years prior to the introduction of Bt cotton (the insect-resistant GM cotton grown here), yields stagnated. Such a shift of the yield frontier surely constitutes an agricultural revolution. Was it due to Bt cotton alone? Like in any other similar question, a decisive answer depends on controlling for other inputs. However, other inputs (in per hectare terms) have not doubled. More subtle explanations have been offered in terms of improved germplasm and so on. Cross-sectional studies have readily confirmed that Bt cotton is associated with higher yields. Now we are beginning to see similar results with panel studies.

The other fact that is important to consider is that the adoption of Bt cotton is now extensive (80% and more).

Doesn't this say something about farmer perceptions about Bt cotton? This is worth remembering in relation to media announcements that assign guilt to GM crops for everything wrong with Indian agriculture. Second, it is also worth remembering that technologies can become ineffective too. This might well happen with Bt cotton when the target pests develop resistance to Bt toxin. How this should be managed is an important question. The issue is not specific to GM crops. It is relevant to conventional inputs as well as to technologies outside agriculture (e.g., antibiotics in medicine).

Through the PDS, the government principally sells rice, wheat and kerosene. Do you think that a distribution system which caters to different food habits in different states (principally consumed grains vary from place to place) can be more helpful for the poor? What possible impact do you think it will have on the cropping patterns in different regions?

A food subsidy system that caters to local preferences is better for the poor, the local grain economy and for food subsidy expenditure. An example of all three benefits comes from Maharashtra during the international price spike of wheat in 2006/07. Because of a shortfall in procurement, the government decided to import wheat at prices above the level prevailing domestically. Yet during this time, jowar and bajra (important in the diets of the poor in Maharashtra) prices were below that of wheat prices (domestic and international). If the poor had the choice, they would have used the food subsidy to procure jowar and bajra; the demand would have been directed to locally produced goods and the government subsidy needed to preserve the welfare of the poor would be lower. Note that local staples could also mean local varieties of rice (of which there is an astonishing variety in the country) as opposed to the standard FCI varieties.

The rights based approach to food should—by definition—be universal. However, the proposed National Food Security Act proposes to give different PDS entitlements to people, depending on the group they belong to (Priority, General or Excluded). What possible problems could arise in the implementation of such a proposal?

Within the eligible group of beneficiaries, the National Food Security Bill (NFSB) makes a distinction between ‘Priority’ and ‘General’ households. Priority households are entitled to more subsidized grain and at a higher subsidy rate than general households. At current prices, an individual in the priority category would receive the monetary equivalent of Rs.1330 per annum. The similar benefit for an individual in the general category is Rs. 418 per annum.

Existing methods do not allow for even a reasonable division of the population into these groups. On the other hand, it is clear that substantial difference in program benefits across these classifications will lead to much jostling and scrambling as households attempt to get themselves classified as ‘priority’. Past experience should make us fear that many of the truly poor and deprived will find themselves tagged as a ‘general’ household.

Yet, there is a simple solution that does not increase the fiscal burden either. The provisions of this bill will cost the government Rs.78,575 crores per annum. Distribute this amount equally across all individuals in the eligible population and eliminate the distinction between priority and general households. This means a subsidy transfer of Rs.966 per eligible person per year. In grain equivalents, it amounts to 25 kg, at the priority subsidy rate, for every eligible household (of five individuals) as against the entitlement of 35 kg for a similar sized priority household and 15 kg for a general household in the current proposal.

Equal subsidy transfer is easy to implement and does not require controversial targeting methods. It is also more respectful of our federal structure and the joint responsibilities of the Central and State governments in delivering food subsidies. Indeed, State governments have long been aggrieved that while the Central government sets the targeting parameters and transfers resources accordingly, the messy business of targeting has to be done by the States themselves.

In your article titled “Sectoral Labour Flows and Agricultural Wages in India, 1983-2004: Has Growth

Trickled Down?” you write that “the stock of labor force already locked into agriculture is large and the best way to improve their living standards would be the most direct one – of boosting farm productivity”. In your opinion, how important can agricultural subsidies prove to be in this regard? What changes, if any, would you want to suggest in the present trends of the agricultural subsidies?

Agricultural input subsidies have to be carefully used. Fertilizer, water and electricity subsidies have improved the profitability of farming. However, the sustainability of these policies is in serious question. Subsidies have distorted input choices. In the case of fertilizer, soil health is a concern. In the case of electricity and water, it has led to inefficient and excessive use. Electricity boards are on the verge of bankruptcy which has led to rationing of supply. Ground water levels have fallen drastically and as aquifers get depleted, the future of such farming is bleak.

There is no easy solution as subsidies are hard to eliminate because of political opposition. Growers would have to be compensated with direct subsidies. In some cases, they might be willing to pay more for inputs if that means that they get regular supply.

How useful can Biofortification be as a strategy for dealing with micronutrient deficiency in India? (Biofortification is a method of breeding crops to increase their nutritional value. It differs from ordinary fortification because it focuses on making plant food more nutritious as the plants are growing, rather than having nutrients added to the food when it is being processed. This is an improvement over ordinary fortification when it comes to providing nutrients to the rural poor, who rarely have access to commercially fortified food. As such, biofortification is seen as a strategy for dealing with deficiencies of micronutrients). What measures do you think should be taken to encourage usage of biofortified crops by Indian farmers?

Biofortification of staple foods could indeed be very useful. Poor households receive much of their sustenance from these staples. As they become richer, they would consume more of milk, fruits, vegetables and other foods that supply the necessary micro-nutrients. However, not only would this process be slow (and uncertain), the costs of nutrient deficiency would persist across generations (which in turn could feedback into their economic capabilities). Biofortification holds the

promise of immediate change and therefore ought to be given priority.

Whether farmers will grow biofortified crops depends on whether such crops will receive a price premium over the non-fortified crops. This in turn would depend on whether the market and consumers value biofortification. I am aware that there is research bearing on this issue; however, I have not studied it and I am unable to provide an answer.

What according to you is the role of Research and Development (R&D) in improving farm productivity? What possible steps could the Indian polity take in order to promote efficient R&D in agriculture?

R&D is a broad term encompassing basic research, technology development and commercialization. A key complement to R&D is extension that allows effective dissemination of technology to farmers.

R&D is critical in agriculture. The social rates of return to agricultural R&D are typically very high – of the order of 30% or more.

Private sector R&D is increasingly important; however much of R&D is such that its benefits cannot be appropriated by the technology supplier (such as basic agronomic research, breeding of open-pollinated varieties). In such cases, incentives for private sector R&D are weak and public sector R&D needs to be the major player. More funds are needed; equally important, public sector R&D needs to be more productive. Past studies have found the institutional design of public sector R&D to be bureaucratic and that projects often get mired in red-tape. Political support for agricultural R&D (and reforms) is weak. Probably, a crisis will lead to greater attention to these issues. The impending food security act may well act as a catalyst. ■