

## “Indian agriculture faces 101 problems. But I’m confident for the future.”

Wise policies and private sector innovation are crucial

**From famine to farm exports: India has come a long way since the 1960’s. But major agricultural challenges remain. We asked Professor Ashok Gulati of ICRIER\* about his country’s recent history, and how it should best tackle the future.**

***Syngenta Foundation:** You have been closely involved with Indian agriculture for many years. How, briefly, would you summarize the current challenges?*

**Ashok Gulati:** India today has 1.3 billion inhabitants; by 2020 we will probably have more than China. Everybody has to eat. But land is limited, and water diminishing. And we already have the largest number of undernourished people in the world.

*When you compare the situation today with that of your childhood, what strikes you most?*

The changes have been quite extraordinary. In the early 1960’s, India really lived “ship to mouth“, heavily dependent on food imports for basic staple like wheat. Then came the Green Revolution, driven mainly by public institutions. Two generations later, in 2012-14, the country exported 62 million tons of grain!

Our position today is also much better in other ways. 60 years ago, India’s paltry foreign exchange reserves could not buy enough wheat from international markets, so it had to come as international aid under Public Law 480 of the USA. Today, we have currency reserves hovering around USD 380 billion. There are also far more technical resources available today than in the 1960’s. And we have many more well-educated people than in the Independence generation.

*The Green Revolution has tended to dominate discussions about India’s agricultural progress. But fortunately, history didn’t stop there...*



Not at all. From the 1970’s onwards, we also enjoyed the White Revolution. As a child, I remember queuing for two hours just to get a litre of milk. In those days, the USA produced about three times as much as we did. Nowadays, we are the world’s largest producer, about 80% ahead of America. Most of the milk comes from small farms. On average, smallholders only have four cows or buffalo each. But they make up for this by being really well organized in cooperatives.

In this century, we have also benefited from the Gene Revolution. Thanks to *Bt* technology, cotton production has increased 150% since 2000. India is now the world’s second-largest exporter. Maize harvests have doubled thanks to hybrids. So we’ve risen to the challenge in all the four „f’s“: food, feed, fiber and fluid.

*In 2014 and 2015, India faced drought. After three successful revolutions, are things now going to get worse again?*

It's easy to get pessimistic. This was only the fourth set of successive droughts since 1900, but climate predictions suggest that such series will worsen. However, despite back-to-back droughts, we are still exporting farm produce. Don't get me wrong: Indian agriculture still faces 101 problems. But our successes so far give me confidence for the future.

### **“Using water inefficiently is stealing the rights of future generations“**

*You cite land and water as two major problem areas. That is true in many countries. What's special about the Indian situation?*

The pressure on land will get much worse, not just because of population growth. India also has a huge amount of construction work on which to catch up. And at the moment, our farmers use water totally inefficiently. The groundwater table is falling by 70 cm per year in some regions. That is simply robbery – we are stealing the rights of future generations.

*The Green Revolution was very much driven by the public sector. What role should government play in tackling today's challenges?*

The public sector continues to play a crucial role through policy. The government needs to create the kind of enabling environment that both gives smallholders access to new tools, and encourages corporate innovation. Farmers need technology, in order to increase yields on the land that remains available. The tools include better seeds, fertilizer, crop protection, ICT applications and machinery. But the government should also reroute misguided subsidies for fertilizer into capital for investment. That would significantly accelerate the switch to water-saving drip-irrigation, for example.



### **Further ag progress depends heavily on the private sector**

*So are you saying that this time, India's agricultural progress depends on private sector innovation?*

To a considerable degree, yes. After all, each of the agribusiness multinationals alone spends more on agricultural R&D than the Indian government! Our country's ICT sector is a world-leader, and could do much more for farmers.



*Returning to policy, however: What other aspects need particular government attention?*

The Syngenta Foundation and I have written a Policy Brief\*\*. We call it “Supporting Indian Farms the Smart Way“. A longer publication is in preparation\*\*\*. I shan't repeat all its points here. But I would emphasize that policy is not just about the input side of the farming equation. India needs to make a major change on the output side, too: It's time to remove export controls and restrictions on

produce prices. They only make India's farmers poorer.

*Enabling market forces to determine food prices sounds wise. But urban politicians seeking re-election are unlikely to promote this. In 2011, food accounted for 45% of Indian household expenditure.*

That percentage is falling, and will continue to do so. We've been enjoying annual GDP growth of 7 - 8%, well ahead of population increase. So income per capita is rising.

*Let's assume that political timidity initially prevails here. What else should the state be encouraging?*

Infrastructure investment can further boost farm income. The obvious example in a sunny country like India is solar power. Investing here clearly makes ecological sense, replacing some of the country's countless diesel pumps. But solar panels can also provide a third 'crop' from two-season agriculture. Farmers can harvest power, and earn money by feeding the surplus power into the grid. That is probably an easier change for many politicians to support than liberalizing food prices. But the two absolutely need to go hand in hand.

\* <http://icrier.org/>

\*\* [https://www.syngentafoundation.org/sites/g/files/zhg576/f/final\\_policy\\_brief\\_14062017.pdf](https://www.syngentafoundation.org/sites/g/files/zhg576/f/final_policy_brief_14062017.pdf)

\*\*\* <https://www.syngentafoundation.org/supporting-indian-farms-smart-way>

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