

# Poverty, Agriculture and Sustainable Development in India

Chandana Chakrabarti

Director, Sukriti, Hyderabad, India

Convenor, The MARCH, Hyderabad, India

## Address

Manorama Ghar  
2-16-137/1, Road No 3  
Prashanthi Nagar  
Uppal  
Hyderabad 500 039  
India

Email: [chandana.chakrabarti@gmail.com](mailto:chandana.chakrabarti@gmail.com)

Mobile: +91 9848012090

## **Abstract**

*Poverty is intrinsically linked to sustainable development. Seventy percent of India lives in village, most of whom derive their total sustenance from agriculture or a related activity. Their security is synonymous with agriculture security, food security and farmer's security. Agrarian crisis since the 1990s has been one of the major problems India is facing, driving hordes of farmers to suicide. Seed, agrochemicals, water, power, soil health, agricultural practices, remunerative prices, erosion of agro-biodiversity, post-harvest technologies, augmentation of income through other sources, education, affordable healthcare, accessibility to loans, transportation, and infrastructure, are some of the factors that impact rural security. With all the resources India has, whether natural or man-made, it has the means to eradicate poverty, but do those who govern, have the will?*

## **Keywords:**

India, poverty, sustainable development, agrarian crisis, farmer suicide, food security, rural security, plant-based drugs, Ayurveda, traditional knowledge.

## **Introduction**

Poverty is the single greatest curse of mankind. At an individual level, it completely relegates a person to a life of indignity. At a collective level, it affects a society and nation by grossly reducing its social capital, which is an indispensable factor for its development. That poverty alleviation and sustainable development are closely linked neither needs further proof, nor can it be over-emphasised.

The criteria to define poverty, vary from country to country and from time to time. India has one-sixth of the world's population, and is home to the largest number of poor in the world, irrespective of the criteria used to define poor. Therefore, I will deal here only with India's poor.

## **The crisis**

According to the 2001 census data, 77 per cent of Indians lived in less than Rs.20 per day; in terms of dollar parity, it would mean living in the United States in less than two dollars a day. Today, it would, perhaps, translate to Rs.30 a day in India or three dollars a day in the US. In any developed country today, one would simply cease to live if one had to live on three dollars a day. Therefore, it would not be wrong to consider 77 per cent of India's population as poor.

Seventy per cent of India lives in villages and 62 per cent of all Indians derive their total sustenance from agriculture or a related activity. The 77 per cent poor would, therefore, clearly include most of the village dwellers and agriculturists. Therefore, it would not be wrong to consider the security of the rural sector (that is 70 per cent of India) to be synonymous with agriculture security, food security and farmer security.

Agrarian crisis since the 1990s has been one of the major problems India is facing. Agrarian distress over the last twenty-five years, with greatly reduced income, and unaffordability of basic healthcare, food and nutrition among agricultural workers, has driven farmers to insurmountable debt, and resulted in some 300,000 of them committing suicide in the last 20 years, as reported by the National Crime Records Bureau. Some 16,000 farmers commit suicide every year as of now.

On the other hand, unrestrained chemical use in agriculture along with falling ground water levels, has led to soil degradation, environmental pollution, and water scarcity, thus also affecting human health. On the other hand it has also led to ecological crisis in many parts of the country. All of these problems remain unaddressed.

It is common knowledge that the factors that largely comprise agriculture security are seed, agrochemicals, water, power, soil health, agricultural practices, remunerative prices, erosion of agro-biodiversity, post-harvest technologies, augmentation of income through other sources, education, affordable healthcare, accessibility to loans, transportation, and infrastructure, to name a few.

Today, it is fairly easy to have power over a country, if one can acquire control over its food production through regulating its agriculture. And to do this, all one needs to do is to have control over seed production and agro-chemicals. As of today, India's seed security is under serious threat. Currently, over 30 per cent of seed production in

India is in the hands of multinational corporations. This is partly through marketing of their genetically modified seed, which has been permitted without ever actually assessing whether India needs them or not. The same is true of agro-chemicals. Excessive use of pesticides through high-pressure, irrational and unethical advertisement, has led to serious contamination of farm produce with pesticides, which continues to play havoc with the health of people. The same is true of fertilizers. Strangely, we give fertilizer subsidy to companies that make it and that aggressively market it; if only we would remove this subsidy we would have much lesser contamination of our soil and of subterranean water. Besides, there is widespread deficiency of trace elements in the soil. It has also increased the cost of farming and has in turn pushed farmers to further indebtedness. Ironically, India has been traditionally strong on integrated pest management and use of biopesticides, which have been known to control pest attack on at least 80 crops. But we seem to be pandering to the greed of multinationals keen on selling their genetically modified crops to achieve the same objectives, but with enormous rise in cost and risks to human and animal health, plant health, environment and soil.

Then there is the entire question of using validated traditional agricultural practices. Some years ago the Indian Council of Agricultural Research brought about a series of books documenting over 4000 traditional agricultural practices, out of which over 90 had been validated and nearly 40 cross-validated. Why are we not using such traditional practices, which would include organic agriculture, which is less harmful and brings better price to the farmers. It has been shown to work in our country over and over again but on account of lack of support from most Governments, its application is still limited. Products of organic agriculture are in great demand all over the world and can get the farmer 20-40 per cent more revenue than agricultural products grown with chemical pesticides and fertilizers.

Then we have the problem of marketing agricultural produce at fair and remunerative prices. Our government has no problem allowing the import of wheat from outside India for two consecutive years at about twice the price that we paid for its procurement from our farmers, but it is loathe to incentivize wheat production by offering that price to our own farmers.

Today, much of the research we are doing in agriculture is not what would benefit our farmers and our people, but what corporate agriculturists see as profitable for them, and our government is only too happy to oblige.

One degree rise in ambient temperature could mean loss of five million tonnes of wheat every year. What are we doing about this aspect of climate change? Nothing substantive.

### **The way forward**

Not long ago, the contribution of agriculture to our GDP used to be over 40%. Today, it is less than 16% and, regrettably, progressively coming down. This is ironical because if we exploit our rural resources and expertise – remembering that we have a hundred million craftsmen (and women) with unparalleled expertise in an astonishing variety of beautiful and useful crafts, largely in our rural sector, we can bring up the contribution of our agricultural and rural sector back to over 40% of GDP.

We have more than 150 vegetables and 150 fruits in use in India in contrast to a score or so in most other countries. But why is it that our five-star hotels and the food industry uses less than a dozen of each. This is particularly ironical as a large number of vegetables that we use at home in one part of the country or another but which are not used in hotels, have amazing pharmacological properties. Not only that, in the case of most vegetables, we have a plethora of varieties. Thus in India we use over 2,500 varieties of brinjal – and over 400 varieties of mangoes. India thus has the capability of capturing (say) 80% of world vegetable market and a substantial proportion of the world's fruit market. Just a few steps to make this possible will increase substantially the income of our farmers. Why are we not doing what is required? And why is it that in our country some 40% of agricultural produce worth over 1500 billion goes to waste every year?

India has over 40,000 distinct plant-based drug formulations that have come to us through five traditional systems of medicine: the documented Ayurveda, Unani, Siddha, and Tibetan systems and the undocumented tribal systems. They use some 8,000 documented plants and probably another 2000 undocumented plants. Just as we know that some of these formulations will not stand rigid scrutiny of validation required by the modern system of medicine, we also know that some of them certainly would. Vincristine, taxol and quinine, like many others, have all come to us through traditional medicinal plants. It is believed that out of this 40,000 and odd drug formulations, at least 4,000 are likely to be validated using today's stringent criteria. Even if we can do so in the next one hundred years, we would be adding 40 new formulations to our repertoire of drugs every year, and at very little cost. In the modern system of medicine, not more than 16 to 17 new chemical entities, come into the market every year, and each of them costing approximately 1.5 billion dollars for development. The number of such NCEs (new chemical entities) entering the market is decreasing every year, though the need is increasing. For example, today, we badly need new antibiotics; the methicillin-resistant strain of *Staph aureus* (MRSA) is resistant to all known antibiotics excepting one, which can only be used under strict medical supervision. And the list is endless.

Design, decoration, fashion, architecture, water harvesting or take any such area and our traditional knowledge has much to contribute. The variety we have in our classical and folk dances and music is mind boggling, but we have not marketed them internationally. We have a tradition of folk theatre and drama, puppetry and story-telling. We have not marketed any of them as we could and should have. And these are but a few examples that could make poverty (eventually) vanish in our country.

### **Conclusion**

We have all the means to remove poverty. Very few countries in the world have the resources that India has: natural resources, man-made resources, historical and cultural resources. We have an unbroken history of aesthetics and beauty for over 5,000 years, which no other country in the world has. We have the potential of using our traditional resources (plant-based drugs, rain water-harvesting, preventable loss of agricultural produce, organic farming, marketing of our vegetables and fruits and of our creative and cultural industries) to earn a potential income of over 6000 billion a year, and provide highly productive employment to a hundred million people. Indeed, we have all the means of alleviating poverty but the problem is we don't want to do so. Our emphasis is on growth rate which is making the rich richer

by leaps and bounds, with the gap between the rich and the poor increasing exponentially. After all, the Government today, with only a few notable exceptions, is for the rich and powerful and they need poor people to stay rich and powerful. So why remove poverty!

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