

Every day, some 24,000 people die from hunger, starvation and related diseases. And by the year 2015, by which time the FAO aims at reducing the number of hungry by half, more than 122 million people would succumb to mankind's greatest shame – hunger and that too at times of plenty.

Sustaining the Future of Food and Agriculture in the WTO Regime: Developing Country Perspective

By Devinder Sharma*

At first impression, news reports appearing in the American media in 2002 looked like emanating from a drought-stricken village in India's hinterland. Till of course you were to see the dateline. You continue to read in utter disbelief. About 100 desperate farmers and rural residents praying for rain at the St. Patrick parish church in Grand Rapids, Ohio. With hands clasped and eyes cast downward, they seek divine intervention. "None of us have control over whether it is going to rain or not," said Sister Christine Pratt, rural life director for the Catholic Diocese of nearby Toledo told *Reuters*, the wire agency. "But the people are praying for one another and there is some hope."

Another report in the *Washington Post* stated President George Bush was unwilling to extend anymore finances under drought relief than the support that came from \$180 billion farm bill he signed in May. The president however underscored his commitment to helping farmers under current programs, including the Agriculture Department's decision that provides \$150 million in surplus milk --- "spoiled milk," as Democrats called it – to be made available for use in animal feed in four drought-stricken states, including South Dakota.

Cattle were dying and crops shrivelled. Fodder become scarce, and, therefore, the need to feed surplus 'milk' instead. There was a scramble for new water sources as town and city residents were asked to stop watering lawns and washing cars. In heat-baked fields ranchers sold off herds rather than let them starve for lack of pasture. "I have never seen it like this and I'm 60 years old," said Richard Traylor, who owns 37,000 acres in Texas and New Mexico but had sold off much of his cattle herd.

Serious hydrological problems with wells and reservoirs emerged. Streams went dry. The groundwater table fell drastically. Wildfires became more rampant, and an estimated 4.6 million acres, had been scorched this year, twice the average acreage burnt in the previous decade. "It is pretty dire," said Mark Svoboda, climatologist for the National Drought Mitigation Center. From southern California to South Carolina and from Montana to New Mexico, individuals and industries were suffering, the news agencies reported.

America was faced with its worst drought since the days of the great 'dust bowl' of the 1930s. By a strange coincidence, far away, India too was reeling under its worst drought

of the century. As many as 26 of the 50 American States were reeling under a severe drought, with "exceptional drought" conditions --- the worst level of drought measured -- prevailing in thirteen states, including New Mexico, Arizona, Colorado and Utah. In India, drought had ravaged through 12 of the 28 states. Such was the crop damage that like the drastic reduction expected in rice production this year in India, the US wheat production is anticipated to fall to its lowest levels in nearly 30 years.

The American agriculture that we all studied in the universities and appreciated has fallen apart with one year of severe drought. The drought proofing that we heard so much about the American agriculture appears to be untrue. It is a known fact that Indian agriculture falters because of its complete dependence on monsoons. For Indian agriculture, with its fragmented land holdings, subsistence farming methods, poor productivity and the exploitation of the natural resource base as a consequence have cast serious doubts over the sustainability and viability of the farms. The only escape for the country, we are invariably told by agricultural scientists, is to follow the American model. With the kind of industrialisation and technology advance that took place in American agriculture, and with the amount of investments made, we were always told that the US agriculture is the model for world agriculture.

One year of severe drought, and the scientifically sophisticated industrial farm model crumbled.

Feeding the hungry: In 2001, hundreds of people in the United States, mostly agricultural scientists, signed an AgBioWorld Foundation petition appealing to the seed multinational giant, Aventis CropScience to donate some 3,000 tonnes of genetically-engineered experimental rice to the needy rather than destroy it. More than feeding the hungry, the appeal was a public relations exercise to demonstrate the concern of the biotechnology proponents towards feeding the world's poor.

Aventis had expressed concern about the hungry in the world, stating that it is "working hard to ensure that US farmers can grow abundant, nutritious crops and we hope that by contributing to that abundance all mankind will prosper". And AgBioWorld Foundation, at the same time conveyed its "disapproval of those who, in the past, have used situations similar to this one to block approved food aid to victims of cyclones, floods and other disasters in order to further their own political (namely, anti-biotechnology) agendas."

Eradicating global hunger is certainly a pious intention. For a mere 3,000 tonnes of genetically modified rice, the human health risks of which have still not been ascertained, the US agri-biotech industry as well as the scientific community had made so much of hue and cry. But when told that India had a food surplus of 65 million tones, and that too non-genetically modified, and has a staggering population of some 320 million people who go to bed hungry every night, those who signed the appeal were not interested. Suddenly, all the concern for feeding the hungry evaporated, "the humanitarian intentions" vanished into thin air.

And if you are wondering whether the international community is in any way genuinely concerned at the plight of the hungry, hold your breath. At the time of the first World Food Summit (WFS) at Rome in 1996, Heads of State of all countries of the world had 'reaffirmed the right of have access to safe and nutritious food, consistent with the right to adequate food and fundamental right of everyone to be free from hunger.' They considered it unacceptable that more than 840 million people throughout the world did not have enough food to meet their basic nutritional needs.

These leaders committed themselves to halving that number by the year 2015. The WFS vowed to feed half the world's 840 million hungry by the year 2015, meaning thereby that it would need another 20 years to provide food to the remaining 400 million hungry. In other words, they had postponed the monumental task to feed to world. And by the time the year 2015 dawns, the number of hungry would have multiplied to 1.2 billion. So in all plausible terms, the heads of State had actually expressed their helplessness in tackling hunger and malnutrition.

The Heads of State met at Rome again for the 'WFS plus Five' in June 2002, to take stock of the efforts made to reduce hunger since they met five years ago. That too at a time when every day, some 24,000 people die from hunger, starvation and related diseases. And by the year 2015, by which the FAO aims at reducing the number of hungry by half, more than 122 million people would succumb to mankind's greatest shame – hunger and that too at times of plenty.

Not acknowledging that lack of political will exacerbates hunger and destitution, also the way political power is being exercised to promote technologies and strategies that actually creates these imbalances that is responsible for human debacle that we are all faced with, politicians have joined hands with industrialists and agricultural scientists to chant the mantra of the potential of genetic engineering in boosting food production and solving hunger, hidden hunger and malnutrition deficiency.

At the same time, free trade and globalisation is being enforced to push in highly subsidized agricultural products from the OECD into the majority world. Cheap and highly subsidized food imports have already resulted in further marginalisation of small farmers and the loss of supplementary livelihoods and other poverty-coping mechanisms for millions of agricultural workers in the developing world. Since importing food is like importing unemployment, the world is fast heading towards a situation when the developing countries would be left with little option but to remain dependent upon the West for its basic food requirement.

Free trade and market domination of food and agriculture will quite clearly be inadequate to make food reach those who need it most. Market intervention in the developing countries are geared towards supporting more commercial farmers and export crops. Projections for various time horizons indicate that market demand for foodgrains can be met mostly from production within the countries. Dependence on foodgrain production from within the developing world is required more than imports from the developed

world. The food-insecure populations need income through employment generated in the production of food, and not just physical availability of food.

The twin engines of economic growth -- the technological revolution and globalisation -- will only widen the existing gap. Biotechnology will, in reality, push more people in the hunger trap. With public attention and resources being diverted from the ground realities, hunger will only grow in the years to come.

Simply launching a frontal attack on hunger, to ensure that food reaches those who need it most, could have drastically reduce if not eliminate hunger for almost 35 to 40 per cent of the world's population of the hungry and malnourished and that too in 2002. The world does not have to wait till 2015 to halve the number of hungry.

Biotech age: It is being said that the development of genetically modified technology holds great promise, with the potential to complement other more traditional research methods, as the new driving force for sustained agricultural productivity growth in the 21st century. Such agricultural productivity growth is crucial if the world is to produce enough food to provide for what is likely to be a stable but large world population in this century. Numerous projections over different time horizons are being projected so as to create the necessity for the biotechnology industry to step in.

The belief that the biotechnological silver bullet can 'solve' hunger, malnutrition and real poverty has prompted the industry and the development community, political masters and the policy-makers, agricultural scientists and the economists to see the immense potential of "harnessing technology to address specific problems facing poor people". And, in the bargain, biotechnology is coming wrapped with stronger intellectual property rights thereby depriving the developing countries the ability to undertake research based on its own specific needs. Add to it the usurping of the traditional rights of the farmers, the induction of 'genetic use restriction technologies' (GURTS), the technological dominance of the corporate world is complete.

Even the generally respected United Nations Development Programme (UNDP) annual Human Development Report 2001, entitled 'Making New Technologies Work for Human Development', made that mistake. On the one hand, for instance, the controversial report wrote that "technology is created in response to market pressures -- not the needs of poor people, who have little purchasing power" and, yet, went on to eulogies the virtues of a risky technology, being pushed onto the gullible resource-poor communities of the South and that too in the name of eradicating hunger and poverty.

The report states that emerging centres of excellence throughout the developing world are already providing hard evidence of the potential for harnessing cutting-edge science and technology (as biotechnology is termed) to tackle centuries-old problems of poverty. But what the report did not mention is the fact that the biggest challenge facing the global community is the growing hunger and poverty in the developing countries, which need to be tackled by a social and political commitment rather than a market-driven technological agenda.

To say "if the developing community turns its back on the explosion of technological innovation in food, it risks marginalising itself," is in reality a desperate effort to ensure that the corporate interests are not sacrificed at the altar of development. Such is the growing desperation at the growing isolation of the genetically engineered food industry because of its 'transgenic' food that all kinds of permutations and combinations, including increased food-aid to Africa's school-going children and force-feeding the hungry populations in southern Africa, are being attempted.

The reality of hunger and malnutrition is too harsh to be even properly understood. Hunger cannot be removed by producing transgenic crops with genes for beta-carotene. Hunger cannot be addressed by providing mobile phones to the rural communities. Nor can it be eradicated by providing the poor and hungry with an "informed choice" of novel foods. Somehow, the international community misses the ground realities, misses the woods from the trees in an effort to bolster the commercial interests of the biotechnology industries. In its over-enthusiasm to promote an expensive technology at the cost of the poor, what has been overlooked is that biotechnology has the potential to further the great divide between the haves and have-nots. No policy directive can help bridge this monumental gap.

While the political leadership and the development community is postponing the monumental task to halve the number of the world's hungry, the scientific community too has found an easy escape route. At almost all the genetic engineering laboratories, whether in the North or in the South, the focus of research is on transgenic crops that adds to profits, edible vaccines and bio-fortification to address the problems of malnutrition or "hidden hunger" by incorporating genes for Vitamin A, iron, and other micro-nutrients. But what has been forgotten in the first instance is that unless hunger is removed, 'hidden hunger' cannot be eradicated. In other words, if the global scientific and development community were to aim at eradicating hunger at the first place, there would be little "hidden hunger".

In India, which is technically speaking "self-sufficient" in foodgrain production, reports of hunger and starvation pour in regularly from the infamous Kalahandi region and more recently from Kashipur in Orissa on the eastern coast. The region, with a population of 20 million, suffers from the pangs of hunger and malnutrition despite any visible signs of ecological devastation. Kalahandi is otherwise a fertile tract and has traditionally been a basket of food. So much so that in 1943, at the time of the Bengal Famine, Kalahandi had come to the rescue of the famine stricken Bengal!

The problem is certainly not of production. What is not well known is that the Kalahandi region is the biggest contributor of surplus rice to the central food reserves. Between 1996 and 2001, Kalahandi provided some 50,000 tonnes of rice surplus on an average to the food reserves of the government of India. The reason why people die of starvation and hunger is not because there is not enough food, but because they cannot afford to buy the food they produce. Biotechnology has no mechanism to ensure that food comes within the reach of these poorest of the poor.

Biotechnology, it is said offers the only or the best "tool of choice" for marginal ecological zones -- left behind by the green revolution but home to more than half the world's poorest, dependent on agriculture and livestock. It is true that the green revolution left behind the small and marginal farmers living in some of the world's most inhospitable areas. But the way the tools of the cutting-edge technology are being applied and are being blindly promoted, it is obvious that the interests are not altruistic.

Such is the desperation to push in the risky technology, and that too before the farmers, consumers and the policy makers realise its negative consequences, that even the judiciary is being co-opted. In India, a visiting American delegation of 10 judges and scientists sometimes back met the then Chief Justice of India, Mr. Justice A.S. Anand, to impress upon him—and to the judicial fraternity—the benefits of biotechnology. Reports in *The Hindu* (Jan 5, 2001) quoted Dr. Franklin M. Zweig, president of Einstein Institute for Science, Health and the Courts in the United States, who was a speaker in favour of genetic engineering at the 88th session of the Indian Science Congress in New Delhi in January 2001. Asked pointedly, Dr. Zweig denied that the two-hour meeting was to "influence" the judiciary, but said it was to "educate" the judge(s) about the basic principles of public information for use of courts and court systems.

The delegation, the report said, invited the Chief Justice to the U.S. and offered to hold "workshops" in America for the judges of the Supreme Court and the High Court to educate them about transgenics, and safety protocols in biotechnology research. The delegation, which also comprised some Indian-born U.S. scientists, explained its intention to work out agreements between nations to set "ethical guidelines" on genetic engineering. Similar attempts had been made by the working groups of the Einstein Institute in the Philippines, South Africa, Israel, Italy, the UK, Netherlands, and Canada.

Blocking research: The writing is clearly on the wall. The United States Supreme Court's crucial ruling that upholds 'utility patents' over plant varieties has merely affirmed it. And in the bargain, the American farmers have for all practical purposes lost the right to save seed.

The US Supreme Court's judgement in December 2001 comes at a time when at the other end of the spectrum, India recognises the right of the farmer to save seed under a newly formulated Plant Variety Protection and Farmers' Rights Act, 2001. For India, farmers' right to not only save seed but also to share and sell is politically correct considering that a majority of the estimated 110 million farming families comprises small and marginal landholders. For America, agriculture is an industrial activity and therefore the world must conform to the 'protective shield' laid down by the US government and its legal system for its seed and agri-business multinationals.

It is only a matter of time before the two diverse and diametrically opposite systems clash. The conflict that arises will surely have a profound impact on the farming communities in not only India but in the entire Third World where seed saving has been a practice ever since man began to farm. With the biotechnology industry throwing its

weight behind any and every move that strengthens monopoly through a patent control over plant varieties and its genes and cell lines, it may not be long before the trade-related intellectual property rights (TRIPs) under the World Trade Organisation are re-interpreted.

Equally worrisome is the manner in which the US Supreme Court brushed aside two other laws -- the Plant Patent Act and the Plant Variety Protection Act, which many thought were the only route for seeking patent protection for plants and plant varieties. The court rejected the argument that patents for plants reproduced from seeds were not authorized under section 101 of the federal patent law. By a convincing 6-2 margin, the US apex court finally concluded that the patent law authorizes patents for sexually reproduced plants. Such a patent protection would be available for 20 years.

It is not that the 'utility patents' were not in vogue earlier. Already hundreds of utility patents had been granted to seed multinationals like Monsanto and Pioneer Hi-Bred International Inc. Although the US Justice Department had earlier warned that limiting the scope of the federal law to exclude sexually reproduced plants would reduce incentives for research and development in agricultural and horticultural areas, the fact remains that such 'utility patents' have been the greatest hurdle to crop improvement.

There is this classical case of a 'utility patent' over a hybrid maize variety. At the time when the International Center for Maize and Wheat Improvement (CIMMYT) in Mexico made available the semi-dwarf improved varieties of wheat to the developing countries, literally sowing the seeds of green revolution, a single-cross hybrid variety of corn was denied to India. This variety, which was responsible for the growth of the corn sector in America, was covered under a 'utility patent', and therefore was never made available to India. With the result that despite India being the seat of the green revolution, maize production never really picked up.

The number of utility patents issued has grown up very rapidly in the US. By December 1994, 324 Utility Patents had been issued for new plants or plant parts and 38 were issued for animals. As with PVPC's, most utility Patents were awarded to the private sector (Fugile, Klotz, and Gill, 1995). Thus, IPR has encouraged the private sector to develop new agricultural technologies by enabling firms to capture greater share of the commercial value of their inventions.

But still what is equally more worrisome is the speed at which life sciences firms are drawing patents over genes, gene sequences and cell lines. For instance, Monsanto owns US patent (No: 5,159,135) which covers all GM cotton but there are 228 other cotton gene sequences patented too. *The Guardian* (Nov 15, 2000) reports that there are 25 patents on pineapple, 25 on raspberries, 21 on grapes, six on kiwi fruit, 11 on oranges, nine on apples, eight on pawpaw, four on strawberries and cherries, two on grapefruit, one each on tamarind and peach. There are also 43 patents on silk genes, including several on the golden orb-weaving spider, which makes the strongest and finest thread.

The report goes on to say that although wheat is the greatest hope for mankind, gene companies have already drawn patent on 228 gene sequences. Genetically modified wheat is still far away from the market. Meanwhile, 152 patents have been applied for on rice. Those patents cover 584 genes or partial gene sequences. US Multinational Dow has applied for patents on 655 maize gene sequences, which is 30.3 per cent of the total number of applications. Du Pont has applied for another 587, Affymetrix (US) for 418, Monsanto for 102, AstraZeneca for 83. The top five maize companies have nearly 85 per cent of the total 2,181 applications between them.

Much of the focus is on cereal crops with huge global commercial value like rice, maize, wheat, millet, sorghum, soya and cassava. Patent protection by agri-business companies now covers many of their genes and gene sequences, compounds and properties. And all this will have profound impact on the future of agricultural research in the developing countries. Let us see how.

Rice is one crop, which is known to originate from the Indo and the Japanese regions. It is primarily for this reason that rice is broadly classified into two categories: indica and japonica. The name is itself indicative of the regions from where that particular kind of rice originates from. But unfortunately, the origin of rice provides no special provision for agricultural scientists. The Indian Council for Agricultural Research (ICAR), world's second biggest farm research infrastructure in the public sector, had recently bought a cloned rice gene from Japan at a cost of Rs 30,00,000. The gene was inserted in the rice varieties but failed to show positive results. It was then inserted in eggplant knowing well that it would not work properly.

If in future the ICAR is to purchase genes for rice from foreign agri-business companies and institutes, the future of developing countries research is at stake. For the public sector, which is finding it difficult to provide salaries to its scientific personnel, buying genes at a prohibitive cost for biotechnology research will only block future research. With product and process patents in agriculture already coming into vogue, the world is fast heading towards a scientific apartheid in the Third World.

Crop Diversification: Ever since the World Bank/IMF began the holy grail of Structural Adjustment Programmes (SAP), credit was tied with crop diversification. It continues to force developing countries to shift from staple foods (crucial for food security needs) to cash crops that meet the luxury requirement of the western countries. It has therefore been forcing developing countries to dismantle state support to food procurement, withdraw price support to farmers, dismantle food procurement, and relax land ceiling laws enabling corporate to move into agriculture. Farmers need to be left at the mercy of the market forces. Since they are 'inefficient' producers, they need to be replaced by the industry.

The same prescription for farming has never been suggested for the rich and industrialised countries. Let us be very clear, one part of the world that needs to go in for immediate crop diversification is the industrial world. These are the countries that produce mounting surpluses of wheat, rice, corn, soybean, sugar beat, cotton, and that too

under environmentally unsound conditions leading to an ecological catastrophe. These are the countries that inflict double the damage – first destroy the land by highly intensive crop practices, pollute ground water, contaminate the environment, and then receive massive subsidies to keep these unsustainable practices artificially viable. These are the countries that are faced with the tragic consequences of massive farm displacements, and are in the grip of obesity arising from consumption of food products from industrial farming.

If the WTO has its ways, and the developing countries fail to understand the prevailing politics that drives the agriculture trade agenda, the world will soon have two kinds of agriculture systems – the rich countries will produce staple foods for the world's 6 billion plus people, and developing countries will grow cash crops like tomato, cut flowers, peas, sunflower, strawberries and vegetables. The dollars that developing countries earn from exporting these crops will eventually be used to buy foodgrains from the developed nations – in reality, back to the days of 'ship to mouth' existence.

Take the case of Central America. The debt crisis that inflicted the Central American countries in the 1980s, was very conveniently used as the right opportunity to shift the cropping pattern to non-traditional exports. Aided and abetted by the United States Agency for International Development (USAID), farmers were lured to the illusion of greener pastures in the developed world. They shifted to crops like melons, strawberries, cauliflower, broccoli and squash that were shipped to the supermarkets, mainly in America. In turn, these Central American countries disbanded cultivation of staple crops like corn and bean, and have now become major importers and that too from the United States.

In India, which has only three decades back emerged from the shadows of massive food imports, the strategy is the same. World Bank/IMF have forced successive governments to adopt policies that forces farmers to abandon staple crops like wheat, rice and coarse cereals, and diversify to cash crops. Punjab, the country's food bowl, is presently engaged in a desperate effort to shift from wheat-rice cropping pattern to cultivating cut flowers and the likes. Andhra Pradesh, in south India, has already embarked on a misplaced rural development vision that aims at industrial agriculture at the cost of its millions of small and marginal farmers. As if this alone is not enough, biotechnology companies are being doled out with State largesse and prime real estate so as to encourage corporate farming.

For a country which is the biggest producer of milk in the world, imports have begun to have a telling effect on producers as well as the industry. In 1999-2000, India imported over 130,000 tonnes of EU's highly subsidized skimmed milk powder. This was the result of Euro 5 million export subsidies that were provided, approximately 10,000 times the annual income of a small-scale milk producer. Butter export subsidy paid by the EU, for instance, is currently at a five-year high and butter export refunds have risen to an equivalent of 60 per cent of the EU market price. Consequently, butter oil import into India has grown at an average rate of 7.7 per cent annually. This trend has already had a dampening effect on prices of ghee in the domestic market. Similarly for vegetables –

India is the biggest producer of vegetables -- the imports have almost doubled in just one year -- from Rs 92.8 million in 2001-02 to Rs 171 million in 2002-03.

Looks shocking, but this is merely a peep into the destruction wrought by the 'disagreement' on agriculture. Everyday, thousands of farmers and the rural people in the majority world -- without land and adequate livelihoods -- constituting a reservoir of frustration and disaffection, trudge to the cities, their abject poverty contrasting vividly with the affluence of the urban centres. These are the victims -- in fact, the first generation of the affected -- of the great trade robbery. These are the hapless sufferers, who are being fed a daily dose of promises -- increase in poverty in the short-run is a price that has to be paid for long-term economic growth.

Produce and perish: At the height of the paddy harvesting season in September 2000, hundreds of thousands of farmers in the frontline agricultural states of Punjab, Haryana and western Uttar Pradesh, in northwest India, had waited for over three weeks before the government agencies were forced to purchase the excess stocks. For three weeks, farmers sat patiently over heaps of paddy in the grain markets. At least a hundred farmers, unable to bear the economic burden that comes with crop cultivation, preferred to commit suicide by drinking pesticides. In Andhra Pradesh, in south India, there were no buyers for the five million tonnes paddy surplus. Even in the poverty-stricken belt of Bihar and Orissa, in north-central India, farmers waited endlessly for the buyers.

Farmer's suicides are perhaps a reflection on the breakdown of institutional safety nets, which in the past have cushioned the impact of agrarian crisis. The state government of Andhra Pradesh has publicly asked farmers not to produce more paddy. In Punjab, the citadel of the green revolution, farmers are being asked to shift from staple foods like wheat and paddy to cash crops. There appears to be something terribly wrong with the way the scientists, industry and the planners blindly support biotechnological breakthroughs in the name of feeding the world, whereas political masters in the developing world are actually asking farmers not to produce more.

What lies ahead is frightening. Committed to the WTO, the government has in reality begun to remove trade barriers much in advance. Take the case of edible oils, the government has reduced the custom duties further thereby opening up the country for massive imports. From a position of strength, India has in the past decade turned into a major importer of edible oils regardless of the impact such cheap imports have had on the livelihood security of millions of oilseed farmers. With the blue revolution already sucked dry by the aquaculture industry, the yellow revolution in oilseeds turning colourless, and the white revolution under attack from the private dairy industry and cheap imports, all eyes are now set on dismantling the gains of the much-acclaimed green revolution.

Consider the following situation: At the time of Independence in 1947, India had about five million farms. By the early 1980s, the number had risen to about 90 million, and the estimate is that there are now some 110 million farms in the country. Every fourth farmer in the world today is an Indian, and nearly half the country's land is being utilised for

crop production. Already the population has crossed the one billion mark. At the same time, India also has 20 per cent of the world's animal population. Given the dismal nutrition standards, more than 320 million people, mostly women and children suffer from chronic hunger. And that too at a time when the grain silos are bursting at the seams.

In 2000, India had a record food surplus of 44 million tonnes, including 24 million tonnes required for the buffer. In 2002, the foodgrain surplus had grown to 65 million tonnes. Not because of excess production, but because more and more people are unable to buy the food that lies stocked. Ironically, while the Indian government is asking its farmers to diversify from rice and wheat cropping systems to cash crops, the National Agricultural Policy had projected an annual growth rate in food grains at four percent to meet the growing food requirements in the years to come. Regardless of what the agricultural scientists and the policy makers say, the government is slowly but steadily dismantling the procurement system and the pricing policy that has been an effective instrument to usher in food self-sufficiency following the green revolution.

The paradox of plenty is not only confined to India. Till recently, Pakistan, Bangladesh and even Indonesia were overflowing with food grains. In Pakistan, farmers have earlier burnt the harvested grains lying in markets because the prices were too low. In Indonesia, farmers wait endlessly to sell rice while the government imports it from Vietnam. Strange, that those who swear in the name of hunger do not know that farmers in India and for that matter in Asia are waiting endlessly for buyers for the grains they harvest.

The choice, therefore, is limited. The only viable path towards sustaining the natural resource base to satisfy the demands of the growing population for food and other agricultural commodities lies in enhancing the potential of domestic agriculture. A correct mix of policies, coupled with strategies that restore the shine in agriculture, is the answer to the emerging food crisis in the developing countries. It requires location-specific technologies and production packages based on the time-tested sustainable farming methods that meet the aspiration of a majority of the farmers owning small pieces of farm lands. #

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