

Lerma Rojo and Taichung Native No. 1

There is life in the ground: it goes into the seeds; and it also, when it is stirred up, goes into the man who stirs it.

—CHARLES DUDLEY WARNER

My mother remembers fondly her visits to my great-aunts once a year in the country. It was the big event of her childhood, taking weeks of planning and coordination. There was excitement and bustle in our Lyallpur house for days together. The entire family went by train from Lyallpur to Gujranwala, and along the way, at different stops, many relatives would join the train. By the time they arrived, it had become a great big clan party. At Gujranwala station, they piled onto tongas, and amidst much merrymaking, they would head for the village to enjoy the generous hospitality of our country cousins.

Even at that time, my mother tells me, there was a sharp divide in attitudes between town and country. My mother's family considered themselves superior, even though they were not as wealthy as their landowning cousins. This was primarily because they lived in a town, were better educated, and spoke English. My mother tells me that she used to feel squeamish about the hygiene and bathroom arrangements at the farm, but she was very conscious of their money and their generosity. Lyallpur was a "model town" in British India—what Le Corbusier's Chandigarh would be to Nehru's India. It was orderly, rationally planned, and reflected a spirit of modernity. Our Lyallpur family was part of India's educated, urban upper-caste elite—that is, professionals with status and voice but with little money and economic power. My grandfather used to say that the policies of the Raj, especially learning the English language, had divided us from our Gujranwala family and the rural elite. We held the status but they had the money.

Agrarian power was different across India's geography, but it rested everywhere with those who controlled the land and its produce. Many of the rural landowners were themselves the creation of British rule. Our country cousins, for example, had acquired wealth because they had shifted to Gujranwala after the building of the canal. In other parts of the country many families came up with the colonial land policy, introduced first in Bengal in 1793 and then extended in haphazard fashion to other parts of the country. It assigned ownership to local landlords in return for rents paid to the East India Company. From these settlements emerged a class of wealthy landlords called zamindars in the east and the north, and smaller tenurial cultivators, the ryots, in the south and the west. Many zamindars, of course, traced their position to the pre-Mughal days. However, in Punjab zamindars were fewer because land was tilled by independent and vigorous landowning peasant castes such as the Jats.

Landowners had profited from the peace and stability of British rule and they were not anti-British in their views. For this reason, the nationalist struggle did not engage them particularly. Indian nationalism was a product of urban stirrings among the educated intelligentsia, men like my uncle Sat

Pal. Typically, nationalists were successful lawyers like Motilal Nehru. Mahatma Gandhi's great achievement was to lay a bridge after 1920 between the town and the countryside, but social differences and attitudes were never reconciled. These differences remain to this day and explain a great deal about Indian politics. The partition in 1947 changed the circumstances of our cousins and cut our tenuous connection with the countryside. They lost their lands because Gujranwala went to Pakistan and they became poor. Like my grandfather, they too settled down in Ludhiana in 1947, and after a few years the government partially compensated them for their lost lands, but they never quite recovered their old glory. They could not get going primarily because they were uneducated.

I grew up without any organic link with the village, where two out of three Indians still live. I did not visit an Indian village until I was in my early twenties. My boss wanted me to find out how we could sell more Vicks VapoRub in villages and he packed me off on a tour of rural India. I spent a month in Madhya Pradesh, Gujarat, and Tamil Nadu. It was not a good year to go to the villages because the rains had failed and there was enormous anxiety and misery. On my return, I wrote a longish report saying that getting our products to villages would not be a problem because of a highly developed network of wholesalers. We would need to subsidize our rural vans until they became self-paying. However, we had to create demand, and for that I recommended advertising in traveling cinemas, and I took the initiative to negotiate rates and logistics with cinema owners in the districts that I visited. In my report, I also wrote extensively about the condition of the peasants, and my boss began to worry that he might have an unpleasant radical in the company.

I was struck by the self-sufficiency of the village economy. The typical village was functionally integrated between agriculture and handicraft industry, with some communal ownership of land, and well-defined social responsibilities for the different castes. I found agriculturists, craftsmen, astrologers, tanners, carpenters, barbers, priests, smiths, petty retailers, musicians, record keepers, headmen, and so on. I counted thirty-two occupations, although not every village had all of them. For the first time, I began to understand Mahatma Gandhi's dream of building modern India along the lines of self-governing village republics. Marx too, curiously enough, had talked about the independent nature of the Indian village, with its blend of agriculture and industry. Marx, among others, had said that the Indian village is self-sufficient because it "contains within itself all the conditions of surplus production" that guarantee an independent economy to each village. But this independence also made it stagnant and resistant to change, he felt. It bred in the peasant an indifference to politics, making him susceptible to despotic rule, and doomed him to conquest by foreigners. Marx thought that Western technology would change all that. The destruction of their handicrafts was the price Indians would have to pay for becoming modern and joining the flow of world history.

Although I found this self-sufficient community romantic and attractive, Marx had condemned it as closed, stagnant, and a victim of nature. In a vitriolic passage he said, "These idyllic village communities ... had always been the solid foundation of oriental despotism ... they restrained the human mind within the smallest possible compass, making it the unresisting tool of superstition, enslaving it beneath traditional rules, depriving it of all grandeur and historical energies." Although Marx denounced British rule in India, calling it "swinish," he approved of its modernizing influence. British machine-made textiles might destroy Indian handmade cloth, but they would undercut India's

stagnant village economy and society. “By blowing up the economic basis of India’s villages, Britain was producing the greatest, and to speak the truth, the only social revolution ever heard of in Asia,” he said. Marx predicted that “modern industry, resulting from the railway system, will dissolve the hereditary division of labour upon which rest the Indian castes, those decisive impediments of Indian progress and Indian power.”

Mahatma Gandhi had the opposite prescription for the Indian village. He wanted a revival of village handicrafts and industries. Only thus would the villager attain gainful employment and dignity. He admired the simplicity of village life and did not wish to alter its basic character by multiplying the villager’s wants. He sought, therefore, to promote hand-spinning, handweaving, hand-pounding of rice, hand-grinding of corn, and traditional oil pressing. “The traditional old implements, the plough and the spinning wheel, have made our wisdom and welfare,” he said. “We must gradually return to the old simplicity The railways, telegraphs, hospitals, lawyers, doctors—all have to go You cannot build non-violence on factory civilisation; but you can build it on self-contained villages.” Unfortunately, Gandhi was going against history. He could not stop the advance of industrialization. His followers, however, made a heroic effort after Independence to implement his ideas. “Rural uplift” and “community development” became extremely fashionable words for a long time, but in the end, Gandhian programs failed and probably did more harm than good because they made us ambivalent. Most Congress men ritually wore handwoven clothes and performed their quota of spinning, but they did not believe in it. They put their faith behind Nehru and the world of machines and a factory civilization.

On 27 May 1964, I was roaming the wilds of Madhya Pradesh when I heard on the radio that Jawaharlal Nehru had died. I remember it vividly. I was in our stockist’s van that day, going from village to village in Sagar district. Everyone seemed to be in a daze. Many retailers had closed. A shopkeeper told me, “Son, you want to sell me Vicks when I have lost my appetite for life. My love has gone and left me.” Not since Mahatma Gandhi’s death did the nation grieve as it did that day. Every American who was old enough then remembers where he was when President Kennedy was shot. The same, I think, is true for Indians of my generation when it comes to Nehru’s death, or my parents’ generation when it comes to Gandhi’s.

Since the late 1950s we had asked persistently. “After Nehru, who?” Foreign correspondents had regularly predicted India’s descent into chaos after Nehru’s death. Now the moment had come and we were worried. I was on a train on 2 June when I heard that the Congress Parliamentary Party had unanimously elected Lal Bahadur Shastri as Nehru’s successor in the Central Hall of Parliament. The same afternoon President Radhakrishnan invited Shastri to form a new government. With that, the succession was complete. Everyone in our train compartment was relieved. Some applauded; others smiled. The prophets of doom had been proved wrong. Even Indians like myself, who had been optimistic that the succession would be orderly, were surprised by the mature and dignified transfer of power. We were proud that we had passed an important test of democracy.

In the late 1950s, Selig Harrison of the *Washington Post* had argued, most plausibly, that India would disintegrate. But this has not happened. The dangerous decades have come and gone. There have been regional tensions to be sure, but India remains intact. Nobody, I think, would seriously

offer such a thesis today Those who glibly argued that India was a creation of the British, or a “geographical expression,” as Churchill used to say, were plainly wrong. Clearly, we underestimate the historical unity of India and the strength of its cultural, social, and even economic bonds. Amartya Sen once told me to read the first volume of *The Cambridge Economic History of India* in order to appreciate the extent of social and economic integration that obtained in India before the British.

Lal Bahadur Shastri inherited an economic crisis. There was terrible scarcity of food. Prices had risen, bringing misery all round. Agriculture had been stagnant. Industrial growth had slowed and unemployment was growing. Foreign exchange reserves were virtually down to nil. Worse, there was a crisis of confidence both in the Congress Party and outside. It was not the best setting for a new leader. The Congress Party bosses had selected Shastri because he was nonthreatening: a modest and unassuming man who was also homegrown—in short, the complete opposite of Nehru. He was less ideological and far more pragmatic. Feeding India was his first priority.

Shastri was aware that agriculture had been neglected. Although he was guilty of ignoring it, Nehru periodically expressed his frustration with the food situation. In 1957, Nehru confessed with his usual candor: “It is a painful thought that after ten years of Independence, an agricultural country cannot feed itself. It would be wrong for us to blame the gods or the stars or floods and drought. We must recognise that there must be something lacking in our approach which has led to this relative lack of success.” Honest words, indeed. Alas, Nehru’s ability to act and manage did not equal his verbal capabilities. If Nehru had wanted to focus on agriculture and food and had brought the weight of his office to bear on it, he could have made a difference. For years, the Americans had been gently suggesting that we pay greater attention to agriculture. However, on each occasion the ideologues around Nehru had shot these proposals down, seeing in them an evil American plot to keep India poor and underdeveloped. This despite the fact that America’s foreign aid program to India—over \$600 million a year—was at the time the largest in the world.

India had begun regularly importing wheat from the United States in the early 1950s. The Americans were overproducing and had piled up huge stocks in old Second World War freighters. Behind the surplus was the farm vote. Against common sense and their religion of the market, the Americans guaranteed their farmers a support price, which invariably turned out to be higher than the market price. As a result, the government was stuck each year with unsalable wheat, which had to be stored at huge expense. As a result, they were left with the choice of having to burn it, dump it in the sea, or give it away to a country like India. Since getting rid of it actually saved them money, the United States passed a law called PL-480, which allowed sales to developing countries in local currencies—it being understood that these were “blocked funds” and would not be used. In his fine autobiography, B. K. Nehru, a former ambassador in Washington, describes this subterfuge as being necessary because of opposition in the U.S. Congress. “The representatives of the people had objected to giving away the taxpayers’ money to the foreigner. They had relented only when they were told that the proposal was not to give away anything but to sell it on credit.” The congressmen were satisfied with this explanation. The American wheat came in especially handy when the monsoons failed in 1957–59 and scarcity reached a danger point. However, we became addicted to PL-480. Between 1960 and 1964, India imported a massive quantity—16 million metric tons.

Because of these imports, India began to be seen as a “basket case” in the world’s eyes, especially in Washington.

As usual, Indians were divided on the issue. At one end were the leftists who argued that there was no food shortage—the scarcity was caused by traders and middlemen who were holding back the food in order to let the prices rise and thereby reap huge profits. Their solution was to nationalize trading in food grains, have statutory rationing, and put the errant traders behind bars. At the other end were rightists—men like S. K. Patil—who said that the shortage was real and caused by state intervention. Yes, wheat was being hoarded by two million peasants (as well as traders), but it was because they lacked confidence in the government. Traders and farmers were scared by the draconian talk of state trading. Their answer was a completely free market. Let prices rise for the farmers, who would then be encouraged to produce more. In between these two extremes was a range of opinion held by economists and commentators, who blamed the “food zones” artificially created by the states, the disincentive to farmers from large-scale American imports, and a variety of other factors. Very few among the Indian elite were grateful for America’s generosity; nor did we mute our criticism of American involvement in Vietnam. The problem, in fact, got much worse in 1966 and 1967. We had two consecutive droughts and a real famine threatened. Starvation was prevented only by the arrival of ships from the United States with over 14 million metric tons of grain worth more than a billion and a half dollars. At the peak, grain ships were leaving American ports at the rate of one every ten minutes.

B. K. Nehru was responsible for the logistics of this massive operation. He recalls that suddenly one day the ships stopped. BK panicked. He “rushed around like a headless chicken”—to Dean Rusk, the secretary of state, to Orville Freeman, the secretary of agriculture, to David Bell, the head of USAID, but to no avail. No one knew why the ships had stopped. New Delhi was in a panic and bombarded its ambassador with telegrams. The media got hold of it and the *New York Times* viciously attacked the administration for this inexplicable behavior. It turned out that President Johnson himself had given the order. He later told B. K. Nehru that his daughter Lucy had said to him, “What are you doing, Daddy? You can’t let the Indians starve at Christmas.” “I told her not to worry,” said LBJ, “no Indian was going to starve at Christmas.” The next day the ships started moving again. B. K. Nehru speculated that it might have had to do with Johnson’s displeasure over the joint communiqué issued by the Indians and the Soviets, which was critical of U.S. policy in Vietnam. More likely, though, he thinks, it was LBJ’s way of “reminding us of the consequences if we failed to pursue with vigour our new agriculture policy.”

When Shastri took over, he rightly felt this could not go on and agriculture reform became his top priority. One of Shastri’s first and best moves was to place C. Subramaniam, a dynamic and intelligent man, as minister of food and agriculture. He had a modern mind and could be counted on to be independent and bold. He learned that Norman Borlaug, an American scientist, had developed a remarkable dwarf wheat in Mexico which could dramatically raise output. He had found his answer. Quietly and patiently, he negotiated with the states for several months. Once he had won their support, Subramaniam announced a dramatic new agricultural strategy. It gambled the nation on this new wheat.

C. Subramaniam was a man in a hurry and he chartered several Boeing 707s and flew in 16,000 metric tons of seed of this miracle wheat. To support his gamble, he organized massive fertilizer imports and invited foreign private investment in fertilizer plants. The rest is history. This dwarf wheat went on to create the famous green revolution and make India self-sufficient in food. Punjabi farmers still speak lovingly of Mexico's Lerma Rojo, one of the earliest varieties to take root in their soil. Indian democracy is not used to bold action by its leaders. Not unexpectedly, there was great criticism in Parliament and the media. Fortunately, the intellectual elite trusted Subramaniam, who also defended his policy with great skill and credibility. Subramaniam also impressed President Lyndon Johnson. "That Subber Mainyam of yours. He's a good feller," Johnson told B. K. Nehru. The American President was interested in India's food minister because India had been importing huge quantities of food grains every year, which affected American farm policy, and this in turn had a great impact on politics in America. It is ironic that America was preaching capitalism to the world while engaging in such a vast socialist program at home. Even more ironic is the history of official attitudes and prickly relations between the two largest democracies in the world. It is individuals who make history rather than the other way around, and no two men did more harm to this relationship—setting it on a sour path for fifty years—than John Foster Dulles, the American secretary of state in the 1950s, and Krishna Menon, Nehru's leftist confidant and India's representative at the United Nations at the time. After the bitter experience of British colonialism, India wanted to be neutral (or nonaligned) in the Cold War, but Dulles declared, "You can either be our friend or our enemy" Krishna Menon compounded the folly by regularly lecturing to the world about evil American capitalism and imperialism, which naturally set the U.S. State Department on edge. No one in subsequent years had the courage to reverse the stance on either side, and the relationship has remained strained ever since.

Subramaniam continued to face enormous opposition from within the cabinet and the Congress Party. T. T. Krishnamachari, who was cabinet minister again in Shastri's government, fought hard against the proposal to raise wheat prices by 15 percent. But Subramaniam was adamant. He insisted that the farmers needed an incentive to take the risk and adopt the new high-yield wheat. He understood that if the new technology was not supported by right policies on prices, fertilizers, land ownership, water, and credit, it would not work. He saw it as a package deal.

Thanks to Shastri and Subramaniam, and supported by M. S. Swaminathan, a technocrat, and Sivaraman, a bureaucrat, India implemented the new strategy with vigor. The rewards came quickly. Indian agriculture was finally placed on a growth path, and the stagnation of the colonial period decisively broken. Wheat production rose 5.5 percent a year for a whole decade from 1967 to 1977. By 1980, official U.S. documents—the *Report of the Presidential Commission on World Hunger*—quoted India as being the "only developing country in the world which has built a solid system of food security." In the 1980s India was in a position to donate food to relieve famine in Ethiopia and give a wheat loan to Vietnam. Food grains production has risen from 54 million metric tons in 1950–51 to 200 million metric tons now, a growth of 3 percent a year, and ahead of a 2.1 percent population growth. In contrast, food grains output had grown less than 1 percent between 1905 and 1945.

On the negative side, the green revolution has mainly benefited the irrigated wheat areas of the

northwest, and it has led to widespread disparities with other parts of the country. By 1985, the three northwest states accounted for 83 percent of the surplus and Punjab alone accounted for 50 percent. Some people worry that one region has become the breadbasket for the whole nation, and they think this is bad for national unity. I disagree. I believe that this is how it happens in nature, and man should learn to accept nature's limitations. Even industry has a habit of clustering in regions. There is new evidence that the green revolution has moved eastwards to the poorer states and has also included rice, although with less dramatic impact than wheat. Wherever it has gone, the revolution has shown great appetite to absorb surplus labor. This partially explains why 65 percent of Indians still live in the rural areas, although agriculture's contribution to the GDP has now declined to 25 percent. This is despite increased mechanization and the adoption of labor-saving practices. In the beginning of the green revolution, it was the larger farmers who took advantage because they had the capital and the ability to take risk. Gradually, it caught on with the smaller farmers, and in course of time, it has expanded to the poorer regions. Hence, regional disparities in wages also started declining from the mid-1970s. The poor have gained not only because of jobs but also by the decline in the *relative prices* of food grains.

Despite this bright spot in an otherwise depressing economic scene, it is odd that Indian intellectuals, especially the powerful left, have been consistently critical of the green revolution. Newspapers in the 1970s, I remember, used to call it a "sellout to America." For years, academics wrote serious essays in the *Economic and Political Weekly* condemning the revolution. Some of the essays were by committed radicals whose hope for a peasant revolution was cut short. They had hoped for the Marxist process of "immiserizing growth," which would radicalize the lower peasantry and landless labor. At its root, I am certain, their opposition to the green revolution is on account of their hostility towards markets, profit, and capitalists. They rightly saw the transformation as promoting capitalist agriculture. Even Ashok Rudra, normally a balanced economist, wrote, "The task of developing agriculture is being entrusted to the greed and the acquisitive spirit, which motivates capitalists. *In traditional Indian agriculture greed was located and condemned in the professional moneylender, the speculative trader. ...*"

During the late 1960s, I met Daniel Thorner, an extraordinary American economist who had traveled extensively in Indian villages, and I learned much from him about the green revolution. Daniel and Alice Thorner came to India in the 1950s partially to escape from the witch-hunts of Senator Joseph McCarthy in the United States. Because Thorner refused to save his skin by naming his leftist friends, he lost his job and a government-funded fellowship for a research trip to India. Undeterred, he and Alice borrowed money from their parents and came to Bombay. They quickly built a large circle of friends and admirers. Sachin Choudhary asked Thorner to write on agricultural questions in the *Economic and Political Weekly*; V. K. R. V. Rao invited him to lecture at the Delhi School of Economics; P. C. Mahalanobis, the czar at the Planning Commission, gave them a research project to refine the concepts relating to the 1961 census.

When I first met Thorner, in 1966, it was after one of his long trips to the countryside. He looked tanned and relaxed as he spoke about capitalist stirrings in rural India. He enthusiastically described a boom in agriculture in many parts of India. He painted a hopeful picture of thousands of farmers, big

and small, investing in new hybrid seeds, new tube wells, tractors, pump sets, and fertilizers. Not all the investors were farmers, however. He described a visit to the agricultural officer in Karnal district of Haryana, where he met a short, chubby, gray-haired man in his fifties. Although he looked a sedentary sort, he turned out to be the prize cultivator of the area. This model farmer told Thorner that he had been a moneylender. But he gave up this occupation after the elaborate regulations of 1938. After showing him round his fields, he took Thorner across the road to see new plots of Taichung Native No. 1 hybrid paddy. There Thorner noticed another man, short and wiry, who came up to them in bare feet. He was wearing only an undershirt, drawers, and a wristwatch. Thorner asked, "Is this your supervisor?" Back came the reply: "Oh no, this is Lalaji, my neighbour." Lalaji, he discovered, owned both a tube well and a tractor. "For the life of me, I could not recall ever having previously seen an affluent man of mercantile origin out in his fields so scantily clad, taking personal charge of the agricultural work." Thorner saw the same thing in Meerut and Bara Banki in Uttar Pradesh, in Gujarat and coastal Andhra, where many farmers who had earlier given their lands to sharecroppers were now beginning to farm them on their own with help of a tractor, a tube well, and even a power tiller.

I had not realized until I met Thorner that the development of a technologically advanced, profit-oriented village agriculture was a very recent phenomenon. In the years down to 1947, large landholders had contented themselves for the most part with giving out small parcels on tenancy. "It was rare to come across in the days before Independence a genuine capitalist producer who worked his land with hired labour to produce crops for sale at a profit and re-invested his gains in intensifying production or enlarging the scale." There was a revolution under way.

Thorner's observations confirmed what I had also seen on my visits to the Terai region of western Uttar Pradesh, which lies between the plains and the hills. I had gone there for my company to assess if farmers would be willing to grow mint of a particular variety (called *Mentha arvensis*). From this mint we hoped to distill oil and eventually make menthol, a decongestant which went into Vicks VapoRub. Alongside peasants, I found many retired military officers who had cleared the wasteland and reclaimed it. They were enthusiastic and scientifically inclined. Because our mint was potentially a "bonus" third crop for them, after the winter rabi wheat crop, they became "early adapters" and set an example for the smaller, more conservative farmers. These farmers had also been the first in the area to plant the Mexican varieties of wheat. When I met them in 1968, they proudly showed me Lerma Rojo, which had created such a sensation on the farms the previous year.

Thorner said that the same thing had happened with grapes in Hyderabad, Bangalore, and a number of places in Maharashtra. I recall that grapes were a rare luxury in our home in the 1950s, but by the 1970s there had been a veritable revolution in the Deccan. Prices dropped year after year, and it became a common fruit on middle-class tables. The same happened to strawberries in the early 1990s. As an early witness of the green revolution, Thorner saw the emergence of an advanced capitalistic sector in agriculture that was similar to the advanced sector in industry. He saw landowners who had never tilled the land take advantage of government subsidies and begin to work on the land themselves after the technological breakthrough with Mexican seeds.

While leftists complained of the growing inequalities, Thorner predicted that these capitalist

farmers would one day solve India's food problem. He was right. Wherever it went, the green revolution also brought huge purchasing power to millions of small farmers and provided a tremendous boost to the entire economy with "multiplier effects" upon the output of tractors, tools, fertilizers, consumer goods, banking services, and so on. Whereas the left focused on the failures of the government, especially in land reform, Thorner spoke about the success of capitalist farming. He conceded that there had been widespread evasion of land reforms, but he continued to focus on the positive picture. He wrote that the "decade after 1947 witnessed an impressive series of land reforms. A sizeable number of landlords, particularly among the absentees who had made their homes in the cities, lost much of their land in favour of their tenants in the villages. Many millions of cultivators who had previously been weak tenants or tenants-at-will were enabled to become superior tenants or virtual owners." The land reforms, such as they were, had the effect of inducing landed proprietors to undertake cultivation, or, at the least, to make a show of cultivating, if they wished to hold on to some of their ancestral lands.

Thorner had no illusion that landless laborers would obtain land through these reforms, but he found that they benefited through rising opportunities for employment as the new hybrid varieties were more labor-intensive. As yields rose with the Mexican varieties, the farmers experienced labor shortage. Wages rose and they began to import casual workers from other parts, especially Bihar, during the harvest season. Within two years the labor rate doubled from one to two rupees a day (in 1995 it had crossed Rs 50 per day in Punjab and western Uttar Pradesh). Although the chief beneficiaries of this revolution were the owner-cultivators, Thorner contended that rural labor had also shared in this prosperity. "For many months of the year in Punjab, Haryana, central Gujarat and coastal Andhra agricultural labourers managed to eat two and a half to three meals per day. In the lean seasons they may have to do with a scanty breakfast, some scraps at mid-day and only one proper meal, usually in the evening"

How times have changed! In the 1960s we were a "basket case." Now, India comfortably sits on a grain mountain year after year. Stocks in the central pool typically swell to 35 million metric tons by June every year. This is not a good thing either, because it blocks a colossal amount of taxpayer's money and burdens the nation in avoidable inventory-carrying cost. Although we have become a surplus nation, we continue to suffer from a scarcity mentality.

Where do we go from here? Experts believe that we are on the verge of a second green revolution. With our large area of arable land and plentiful sunshine, India can become a major global power in agriculture. First, we must change our "poor starving country" mentality and regard the World Trade Organization and the global economy as not enemies but allies. Second, we will not conquer the world through peasant farming, but through technology and capital. Remember, the first green revolution was a technological revolution. Third, technology is now with international companies and they will have to play an important role. All the talk about terminator technology is rubbish. We heard the same talk about Mexican wheat in the 1960s. Fourth, we have to liberalize agriculture and remove needless controls.

Ashok Gulati, the agricultural economist, has spelled out a clear reform agenda. He has demonstrated that India has a global competitive advantage in a dozen commodities. Among these are

cotton, wheat, rice, horticulture, and dairy products. We should allow them to be freely exported and imported and link them to world prices. Consumers will benefit from lower world prices and farmers from a larger market. Let us begin by liberalizing one commodity—for example, cotton. We have definite comparative advantage in longer staple, labor-intensive cottons. Once cotton exports explode, we will gain the confidence to make reforms that are more sweeping.

Liberalizing agriculture is not going to be easy because the price of food is politically sensitive. Today, the government controls both the consumer and producer prices. Although agricultural growth slowed somewhat in the 1990s, the economic reforms have changed the terms of trade in favor of agriculture. With the opening of the industrial economy, the relative prices of manufactured goods have declined and agricultural prices risen. Consequently, farmers have increased their investment in agriculture. Freeing some farm exports has also benefited farmers. On the negative side, public spending on agriculture and irrigation has declined. Because the treasury is bankrupt, subsidies on power, water, and fertilizers will soon have to go, but politicians will have to be kicked and dragged before they free agriculture prices.

Agricultural expansion is not enough to conquer poverty. Amartya Sen has repeatedly reminded us that what causes hunger in India is the wide prevalence of poverty. It is the inability of a large number of people to buy enough food, or, as Sen would put it, “to establish entitlement over an adequate amount of food.” He is rightly harsh against dubious claims that the problem of poverty is adequately addressed through the green revolution. He has vividly demonstrated that just raising food output does not solve the problem of undernourished people in India. He has shown that undernourishment is higher in India than in sub-Saharan Africa, especially among the children. The problem relates to the endemic poverty of the Indian masses. Africa is more susceptible to periodic declines and transient famines, but India has a larger proportion of persistent undernourishment and endemic hunger. Although this does not in any way undermine India’s agricultural achievement, it is a sobering corrective to our thinking.

The six billionth child was born sometime in October 1999. There were plenty of scare stories in newspapers around the world, accompanied by the usual neo-Malthusian breast-beating about the population explosion. This happens periodically, but the Malthusian nightmare has not happened. Total food output has consistently outstripped population growth, and per capita income of the world has risen since 1945. Malthus was wrong, and food has won the race. Amartya Sen also settled the question of famines long ago by showing that famines are caused by income failures rather than harvest failures. If the government launches a sensible “work program” to create purchasing power among the poor, famines can be avoided. If the six billionth child is born in India, there is a 50 percent chance that it will be malnourished. But there is every likelihood that its life will improve as it grows older.

All in all, the green revolution is a good story of contemporary India. There is another equally exciting story. It is of a “white revolution” in milk—about how a terribly deficient India has become the largest milk producer in the world. Again, it was one man. Dr. Verghese Kurien, who created this miracle, which in many ways is unique because it is the success story of cooperative farming in a country where cooperatives have miserably failed. The lesson I have learned is that only individuals

make history, and often unknowingly, without understanding the eventual consequences of their deeds. The British would not have possessed India without Clive's stubborn wish to teach Siraj a lesson. India would not have become surplus in food or be sitting on a mountain of grain today were it not for C. Subramaniam's willfulness and the unfailing support of Prime Minister Shastri.