# India's National Food Security Issues and Challenges

Dr. S. D. Naik



#### SHAILESH KAPADIA

(24-12-1949 - 19-10-1988)

Late Mr. Shailesh Kapadia, FCA, was a Chartered Accountant by profession and was a partner of M/s G.M. Kapadia & Co. and M/s Kapadia Associates, Chartered Accountants, Mumbai.

Shailesh qualified as a Chartered Accountant in 1974 after completing his Articles with M/s Dalal & Shah and M/s G.M. Kapadia & Co., Chartered Accountants, Mumbai. Shailesh had done his schooling at Scindia School, Gwalior and he graduated in Commerce from the Sydenham College of Commerce & Economics, Mumbai, in 1970.

Shailesh enjoyed the confidence of clients, colleagues and friends. He had a charming personality and was able to achieve almost every task allotted to him. In his short but dynamic professional career, spanning over fourteen years, Shailesh held important positions in various professional and public institutions.

Shailesh's leadership qualities came to the fore when he was the President of the Bombay Chartered Accountants' Society in the year 1982-83. During his tenure he successfully organized the Third Regional Conference at Mumbai.

Shailesh was member, Institute of Fiscal Studies, U.K.; member of the Law Committee and Vice-Chairman of the Direct Taxation Committee, Indian Merchants' Chamber. He was also a Director of several public companies in India and Trustee of various public Charitable Trusts.

He regularly contributed papers on diverse subjects of professional interest at refresher courses, seminars and conferences organised by professional bodies.

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## Introduction

What has been the single most controversial policy issue of recent times before our country that has come to assume primacy of our attention? The obvious response is the National Food Security Bill [NFS]. And this is legitimately so. Why? The answer is that it offers the most ambitious program of food security anywhere in the world. It promises highly subsidized basic food – the cereals – to over 800 million people of India. There are multiple dimensions of this program – with is implications on politics, society and economics.

Not surprisingly, NFS has evoked passionate as well as partisan debate depending upon one's political or ideological predilections. At the political level, UPA II government has come to believe that the NFS is virtually the end all and be all of its strategy of "inclusive development"; and it is a "game changer" promising to yield rich political dividends. The leftists wanted NFS to be endowed with much wider scope and coverage, unmindful of its fiscal implications. The main opposition party – the NDA group has mainly come to argue that NFS is an eyewash and a rehash of the existing PDS; and more importantly, that many of the States currently ruled by the BJP have much better and more effective schemes of food security.

At the more intellectual and ideologically driven economic debate, the focus has essentially been on three counts: first, growth first *versus* social **welfare/** equity first [Dr Sen *versus* Dr. Bhagwati]; second, fiscal dimensions of NFS and the capacity of the economy to bear the burden of such ambitious program at the current stage of our economic predicament — most arguing it would severely damage the delicate fiscal balance, while some suggesting it is well-nigh doable; and last, the capacity of agricultural sector to deliver sustainable growth in food-grains production.

Be that as it may, with the enactment of NFS legislation, the food security program has become a reality. Dr. S. D. Naik has done extremely well to comprehensively cover the various facets of NFS in this booklet. He has researched various studies and writings of eminent economists and well-known experts to highlight the challenges involved in effective execution of NFS. We are sure our avid readers – be they keen students, teachers, researchers or professionals, would find this article very useful, informative and educative.

Sunil S. Bhandare *Editor* 

## India's National Food Security Issues and Challenges

by Dr. S. D. Naik\*

## **Setting the Perspective**

The controversial and much intensely debated National Food Security Bill [NFS], which seeks to provide heavily subsidised food grains to two-thirds of India's 1.23 billion people, has finally been passed by both the houses of Parliament. It has become an Act after the President Mr. Pranab Mukherjee gave his assent on September 12 this year. It guarantees 5 kg of rice, wheat or coarse serials per month per person at Rs.3, 2, and respectively. With this, the food security entitlement has become a legal right covering about 67% of

The writer is former Chief, ET Research Bureau and Economic Editor, the Hindu Business Line. The views expressed herein are fhat of the author and not necessarily of the Forum of Free Enterprise.

India's population. The avowed objective of this ambitious program is to eliminate hunger. In effect, it dramatically expands the coverage of existing food subsidy program from 200 million at present to 800 million people in the country.

While the principal objective of NFS is doubtless laudable, it is based on several weak assumptions and inadequate preparations, as pointed out by many critics. What is more disappointing is that it does not address the crucial problem of largescale malnutrition prevailing in the country. The ardent supporters have welcomed the NFS on considerations of guaranteed legal entitlement of basic needs of food to a vast mass of Indian population. But we strongly contend that this legislation has been passed at a wrong time, especially when the economy is besieged with numerous challenges. Witness: a rapid economic slowing down for the second consecutive year; a persistent high inflation rate; an unsustainable high fiscal and current account deficits; declining investor confidence - both domestic and foreign; a fall in household sector's financial savings; and the sharp depreciation of the rupee by over 12% in the current financial year so far.

Even a member of the Planning Commission, Dr. Arun Maira, has pointed out that such ambitious initiative is not sustainable, given its likely huge adverse impact on the country's fiscal deficit in the coming years. He aptly observes: "the government needs to change its orienfafion fowards inclusion, if we want a more inclusive, more susfainable and fasfer economic growfh. If inclusion is to give handouts fo those who currenfly do not have enough, it is nof susfainable. Insfead, fhe government should focus on creating more jobs and more employmenf as people want inclusion rather than hand outs".

Many others have also been very critical about the NFS and the list of such eminent economists and experts include Dr. Ila Patnaik of the National Institute of Public Finance and Policy, Dr. S. L. Rao, former Director-General, NCAER, Prof. Alok Ray, and Prof. Arvind Panagaria. All of them seem to argue that sustained high economic growth is a better antidote to poverty, rather than handing out doles. For growth not only creates more jobs, but also generates more tax revenues for the government for funding the well-designed welfare programs.

In this contextual framework, a word about the recent high level controversy between India's two internationally acclaimed economists, namely, the Nobel laureate Prof. Amartya Sen and Dr. Jagdish Bhagwati. During his recent visit to India to launch his new book "An Uncertain Glory", co-authored

with Dr. Jean Dreze, a leading member of the National Advisory Council, Prof. Sen expressed his concern about lack of food security and strongly supported the NFS legislation. In contrast, Dr. Bhagwati along with his colleague Prof. Arvind Panagaria have argued in their book "Why Growth Matters: How Economic Growth in India Reduced Poverty and the Lessons for Other Developing Countries?" and have contested the assertion of Sen and Dreze that redistribution had led to the rapid growth in Asia and compared such viewpoint as putting the cart before the horse. It is pointed out: "Growfh has made redistribution possible and not fhe other way round".

However, Prof. Sen responded by pointing out that he was not against growth per se, but it must be combined with devoting resources to remove illiteracy, ill health, under-nutrition and other deprivations. In a sense, the differences between two divergent viewpoints are essentially in terms of sequencing and prioritization of growth-equity-social welfare matrix. From our perspective, what matters most for the Indian economy is refocusing the planning strategy first to the cause of growth so that the economy builds its potential and capability to resolve the intractable issues of equity and social welfare within a reasonable time span. India requires at least a decade more of high growth.

In quest for social welfare and ambitious schemes like the NFS, we cannot compromise growth, as evidently has been the case in the current tenure of UPA II government. More importantly, the proponents of "growth should come first" hypothesis legitimately cite the recent data for the period 2004-05 to 2011-12 relating to higher growth and relatively faster rate of poverty reduction in states like Odisha, Bihar, Rajasthan, etc. compared to states like Uttar Pradesh, Jharkhand, Chattisgarh, etc. wherein the growth performance was found to be poor. Even at the all-India level, the rate of poverty reduction has been much faster over this period thanks to relatively faster GDP growth.

### Main Highlights of the NFS

But now that the NFS has become a reality, it is imperative for us to examine its economic implications. To begin with, let us look at its key provisions:

- ➤ First, the Act is deemed to have come in force from July 5, 2013. It offers legal right to highly subsidized food-grains to 67% of the country's population 75% in rural areas and 50% in urban areas.
- Second, it guarantees 5 kg of rice, wheat or coarse cereals per person per month at Rs.3,
   2 and 1, respectively. For meeting these

- requirements, NFS scheme will require 61 million tonnes of food-grains annually.
- ➤ Third, NFS makes special provisions for certain identified sections of the society. For example, pregnant women, lactating mothers, and certain categories of children would be eligible for daily free meals. They would be entitled to nutritious "take home ration" worth 600 calories. The pregnant women would also be entitled to maternity benefit of Rs.6,000 per month for six months. Like-wise, children between 6 months and 14 years of age will receive free hot meals or "take home rations".
- 9 Fourth, the poorest households would continue to receive 35 kg of grains per month under the "Antyodaya Anna Yojana" at subsidized prices.
- ➤ Fifth, the Central government would also provide "assistance" towards the cost of intrastate transportation and handling of grains.
- 9 Sixth, in a bid to give women more authority in running their households, the oldest adult woman in each house would be considered the head of that household for issue of ration cards.
- 9 Seventh, State Food Commissions will be formed for implementation and monitoring of

the provisions of the Act. Also, there will be state- and district-level redressal mechanism.

It is evident that excepting for some welcome provisions of providing daily free meals to pregnant women, lactating mothers and certain categories of children and the entitlement of maternity benefit of Rs.6,000 per month to pregnant women for six months, there is virtually no holistic strategy to address the problem of mass malnutrition. Further, the NFS is to be implemented through an extended public distribution system (PDS), which is already riddled with mind-boggling inefficiencies and deficiencies, and large-scale corruption. And it is managed by the most inefficient organization, namely, the Food Corporation of India (FCI). The mandatory annual procurement under the Act is 61 million tonnes of food-grains at minimum support prices (MSP).

It is also imperative to reckon with the viewpoints of the States, which are going to have the ultimate responsibility in delivering the NFS. Several states such as Punjab, Uttar Pradesh and Tamil Nadu have criticized the provisions of the Act on grounds that it has been passed in a 'hurry' without looking at financial and physical challenges likely to be faced by states in its implementation. Thus, speaking at the meeting of State food ministers early October, the Punjab food minister Adaish

Pratap Singh pointed out that "we need to have clarity on cost- sharing between Centre and the States for implementing the legislation.'. Likewise, while stating that the Centre should bear the expenditure incurred for the implementation of the NFS, Uttar Pradesh Food Minister, Rajendra Chaudhary said that the provision of highly subsidized food-grains could depress purchases by private traders and impact farmers' income as a large chunk of grain could be diverted from the PDS into the open market. It was argued: "If PDS is not improved, farmers may not get minimum support prices as there may be large diversions of food grains':

## **Reflections on Six Major Concerns**

While analyzing the main provisions of the NFS, this article seeks to reflect on thefollowing key issues:

- First, the cost estimates, including the largescale leakages and wastages in the prevailing Public Distribution System (PDS);
- Second, whether the so-called food security is going to be real or a mirage?
- > Third, the prevailing issues of malnutrition;
- Fourth, a lost opportunity in framing a comprehensive legislation by addressing the

- problem of large-scale malnutrition among the country's mothers and children;
- ➤ Fifth, the failure to address the farm security concerns; and
- ➤ Last, the need for a second Green Revolution keeping in mind the persistent shortages of pulses, edible oils, fruits and vegetables and the need to address the escalating water shortages, in order to ensure both long-term food security as well as farm security.

#### **Cost Estimates**

What would be the realistic cost of implementing the NFS? There are wide variations in the cost estimates of the scheme by various. experts – ranging from Rs.1 lakh crore to Rs.3 lakh crore per annum. On a conservative estimate, the direct food subsidy bill for a full year has been estimated at around Rs.130,000 crore(at 2013 prices) for 2013-14, up from about Rs.80,000 crore during 2012-13. After the full roll out of the scheme, there would be at least 10% increase in the cost every year on account of rising support prices and costs of procurement, storage, distribution and administration.

And this does not include additional investments that would be needed for (a) storage and transportation; (b) modernization of the PDS at the state level; and (c) augmenting and stabilizing food-grains production. If one were to add all these additional costs to ensure that the NFS becomes a genuinely meaningful right to food, the costs could escalate to over Rs.200,000 crore a year initially and will increase progressively with every hike in the MSP of food-grains, and all the attendant expenses of storage, distribution, etc.

Such massive cost burden could be justified if the benefits of the NFS reach out to the intended beneficiaries. However, as pointed out earlier, the entire PDS system is mired in large-scale corruption, leakages and wastages. Several studies have brought out the fault-lines of the existing system. For instance, according to the Eleventh Plan. 54% of the off-take from the Food Corporation of India (FCI) never reached the intended beneficiaries in 2004-05. On top of that, large quantities of FCI grains stored in the open were washed away by rains, devoured by pests or stolen. Further, according the Planning Commission's report in 2005, as much as half the grains procured by the government were siphoned off by middlemen before reaching their intended beneficiaries and they ended up being sold illegally in markets rather than in fair price shops. Like-wise, another study in 2007 had revealed that over a three-year period alone, Rs.31,596 crore

worth of wheat and rice meant for the poor were siphoned off and sold in the open market illegally.

Some academic studies have found that almost 70% of the food subsidy budget was accounted for by pilferages, wastages in FCI go-downs or used for bureaucratic or transportation costs. Incidentally, the FCI is widely perceived to be the most inefficient and corrupt organization; and there are reports that lakhs of tonnes of food-grains stored by it in open go waste every year. According to Dr. Ashok Gulati, Chairman, Commission for Agricultural Costs and Prices, a simple departmental loader in FCI costs 7 to 8 times the cost of a contract labourer doing the same job.Similarly, a study by Asian Development Bank showed that (a) deserving poor in India receive only 10% of the intended benefits from the system; (b) nearly twice accrue to the undeserving - the middle class; (c) about 43% is siphoned off by the system illegally; and (d) and as much as 28% are the excess costs incurred by the distribution system - the FCI, and so on.

Thus, a million dollar question is whether such system can be reformed at all. The task appears well nigh impossible. Decades of efforts to plug the leakages along the government supply chains have failed to improve matters since the entire system is corruption-ridden. Sometime back, it

was estimated that there were 23 million bogus ration cards in the country. At the same time, a large number of poor people do not have access to ration cards. In fact, there have been horrifying reports of starvation in remote and tribal areas of the country. Since the NFS legislation does not address these problems, it will surely provide new avenues for bureaucratic and political corruption.

In this context, it may be interesting to recall that India had universal PDS until 1991 with 100% coverage and its cost was much less. It was dismantled under pressure from the World Bank and the IMF in 1991 in the wake of economic crisis. It was felt that the actual subsidy burden under the targeted PDS would be less. However, the actual cost of food subsidy went up by almost four times, instead of coming down; thanks to the huge administrative costs of identifying the beneficiaries and issuing and managing ration cards. It also became a source of political corruption.

According to many experts, including Prof. Arvind Panagaria, there are at least two delivery mechanisms that can potentially deliver goods and services more efficiently and at much lower cost. The first is a voucher scheme that allows its holder to buy the specified goods or service at subsidized price from a public or private provider of his choice. The second is direct cash transfer. Under

this option, the government gives cash directly to the beneficiary who decides precisely how he will spend the income so received. Cash transfers and vouchers could reduce leakages significantly. At least the evidence from the rarely existing cash transfer schemes in India is quite encouraging. A careful recent study finds that 96% of the benefits intended for widows and elderly persons in Karnataka and 93% of those in Rajasthan went to the intended beneficiaries; and leakages involving bribes were also found to be rare. We, therefore, believe that instead of NFS, the Government could have strategized and made more broad-based the system of direct cash transfers and/or vouchers or any other scheme with optimal combination of the two.

## **Food Security is a Mirage**

The United Nations defines food security as a situation "when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life". Going by this definition, the NFS Act is only a mirage of 'food security'. First, while the NFS promises 5 kg of cereals per person per month, the average consumption of cereals in the country has been estimated at 10.7 kg. That means, even for cereals, consumers will have to

go to the markets for more than half of their needs and often buy at much higher prices. Second, the consumption basket of an average Indian has diversified away from cereals and moved towards more fruits and vegetables and protein (milk, eggs, meat and fish) in recent times. All these have to be bought from the open market. So the largest chunk of food of an average consumer will keep coming from the open market, even after implementation of the NFS.

And the way the food inflation, particularly of these items, has been rising over the past many years makes consumption of such goods going beyond the reach of not only of the poor, but also of the middle class citizens.Indeed, food prices have shot up by 157%, while those of vegetables by 350%during the nine years of UPA's tenure. If the government really wants to help the poor with adequate nutritious food, the highest priority needs to be accorded to sustainable relative stability of food inflation.

## **Challenges of Malnutrition**

As of now, India's main problem is not inadequate availability of cereals to the majority of people, but persistently high incidence of malnutrition. According to the World Bank study released in May 2013, malnutrition is India's silent emergency, and is one of the greatest challenges of human

development of the country. The incidence of malnutrition among India's children is almost five times more than in China and twice those in Sub-Saharan Africa. Nearly half of all India's children –approximately 60 million – are underweight, and about 45% are stunted (too short for their age), and 57% are vitamin A deficient. Malnutrition affects children's chances of survival, increases their susceptibility to illness, reduces their ability to learn, increases their chances of dropping out early from school, and makes them less productive in later life, Much of this under-nourishmenthappens during pregnancy and in the first two years of a child's life.

While the aggregate levels of malnutrition in India are alarmingly high, there are significant inequalities across states and socio-economic groups with girls, rural areas and the poorest people and scheduled castes and tribes are the worst affected. Six states – Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Rajasthan and Uttar Pradesh – account for over half of malnourishment cases of India.

The Food and Agriculture Organisation (FAO) has worked out the cost of malnutrition to the world economy: it works out to about 5% of annual GDP or US\$ 3.5 trillion, in terms of foregone production and health expenditure. Even more important

is the FAO's assessment of potential gain from investment in enhancing nutritional standards. The FAO's report titled "State of Food and Agriculture 2013" maintains that reducing symptoms of malnutrition would boost earnings, with benefit to cost ratio of almost 13 to 1. These estimates have come when the UPA government decided to put in place an expensive NFS aimed at banishing hunger by doling out highly subsidized cereals and not so much as removing malnutrition caused mostly by diets deficient in proteins, vitamins and other vital nutrients. The menace of hunger, which used to cause starvation deaths, has been almost surmounted long ago, but the country's track record in combating malnutrition remains highly unsatisfactory.

## **A Lost Opportunity**

Thus, in many ways, the NFS offers a case of lost opportunity. What was perhaps most imperative was a comprehensive legislation covering universal nutrition services for pregnant women, lactating mothers, children, with special provisions such as community kitchens in urban areas, provision of cooked food for destitute persons, social security pensions for the aged and strong grievance redressal and monitoring mechanism for effective implementation of overall food security. Obviously, the financial costs, operational and organizational

demands of such holistic strategy would be far more formidable. But the government could have had the patience to steer such program at more opportune time, and in the meantime revamped and strategized the existing PDS framework.

In this context, it may be pertinent to point out how some of the states in India have already set in motion a much better system as compared to what the NFS promises. Chhattisgarh, for instance, has a food security law in place, which covers several sections that are not under the NFS. It provides for various subsidies over and above those granted by the Centre. Some get rice at Re.1 per kg, while destitute and disaster affected people get it free. The state law also includes protein security by providing chana at Rs.5 per kg and pulses at Rs.10 per kg. Like-wise, Bihar covers a larger population than that recognized by the Centre, which it manages by spending on extra foodgrains from the state exchequer. Thus, while the Centre recognizes 6.52 million below poverty line (BPL) families in the state, Bihar extends its PDS quota to 11.2 million people. Gujarat too covers almost twice as many BPL families as the Centre recognizes - 2.43 million against 1.31 million.

Take the case of Punjab, which in 2007 identified 0.9 million families with an annual income below Rs.30,000 as beneficiaries of the earlier

government program. Today, their count is 1.54 million. Each family gets 25 kg wheat at Rs.4 per kg and 2.5 kg dal at Rs.20 per kg. Many other states like Madhya Pradesh, Rajasthan, West Bengal, Assam, Himachal Pradesh, Odisha, Tamil Nadu, Andhra Pradesh and Kerala have in place more benign schemes than the Centre's NFS.

## **Concerns about Farm Security**

This brings us to yet another vital issue of farm security. The supporters of food security have time and again cited the argument about massive surplus stocks available in the FCI warehouses, which should be deployed for the needy people in greater amounts rather than rotting in storage. While the logic of this argument is no doubt clear, what is not so clear is whether such surplus can also be ensured in future. Moreover, even the current surplus is due to the fact that there are large numbers of eligible and deserving poor in the country's remote and tribal areas who do not receive any supplies from the country's PDS.

As pointed out by Dr. Ashok Gulati, India has failed repeatedly achieving 4% annual growth target in agriculture production in its successive Plans. In the Ninth Plan, the actual achievement was 2.5%; in the Tenth Plan it was 2.4%; and in the Eleventh Plan it was 3.3%. He further states that this repeated failure speaks volumes about the

hollowness of our policy-making process, which either does not understand what drives growth in agriculture, or does not know how to design policies that can work towards attaining that target, or does not have the political will to do so.

Thus, according to Dr. Gulati one thing is clear: unless the agriculture sector takes off to 4% per plus annual growth trajectory, the chances of reducing poverty in any significant manner and within a short time frame will remain dim, no matter how many freebies are doled out. The policy message for reforming agriculture and ensuring long-term food security for the country would be defined by how we rationalize and prune input subsidies and channelize such savings towards investments in agri-research and development (R & D), rural roads, rural education, irrigation, etc.

As of now, out of total government spending on agriculture, 80% goes towards subsidies and only 20% towards investment. According to Dr. Gulati, this proportion needs to be reversed with 80% going towards investments if we wish to put agriculture on a 4% plus growth trajectory and solve the problem of poverty in rural areas.

In a similar vein, another eminent agricultural economist, Dr. S. Mahendra Dev argues that the slowdown in agricultural growth in India is a cause for concern. He identifies six deficits of

the agriculture sector, namely, (1) investment, credit and infrastructure deficit; (2) land and water management deficit; (3) research and extension (technology) deficit; (4) market deficit; (5) diversification deficit; and (6) institutions deficit. He makes a case for agricultural reforms to bridge these deficits with a view to achieving the goals of 4% annual growth in this sector accompanied by sustainability and equity in terms of spreading its gains to lagging regions, small and marginal farmers, and women.

The Planning Commission in its paper on "Issues for the Approach to the Twelfth Plan" echoes the imperatives of shifting the emphasis in the cropping pattern when it states: "we must aim for a target of 4 per cent agricultural growth. While cereals could only grow at 1.5 to 2 per cent, the aim for the growth rate in other food items (horticulture, dairying, fisheries, etc.) should be more than 5 per cent. Such a shift in the composition of agricultural production also becomes necessary to reflect structural shifts in the pattern of private consumption expenditure".

Many experts have expressed the view that rather than launching the ambitious NFS in such a great hurry, the Government should have, instead, used the funds to support the agricultural sector directly. This is all the more so, because a targeted food

security system covering the people below the poverty line was already in operation. Earlier, in 2010, the Planning Commission Dy. Chairman Dr. Montek Singh Ahluwalia, had proposed that food-grains for above poverty line families may be sold at a much higher price than those for the BPL families.Like-wise, the Union Agriculture Minister Sharad Pawar had initially voiced his doubt over the NFS in the Union Cabinet. His concern is genuine: "if a small farmer can get food-grains for as little as Re. 1 per kg, why should he bother to *gmw his* own': He was then skeptical whether implementation of NFS would be possible at the current level of domestic production. But eventually he seems to have fallen in line under political compulsions.

Fear that the small farmers in the country may stop cultivating their small and uneconomic holdings if they can obtain food-grains at such cheap rates is genuine. This is all the more so because the imprudent direction of official policies over the years has greatly reduced the earlier self-reliance of Indian farmers when they were able to practice low-cost farming. The misdirected official policies have made millions of farmers give up their attitude towards self-reliance and become increasingly dependent on expensive inputs, equipment and machinery.

In large parts of India's farm-land, the natural fertility of the soil has been badly impeded because of the indiscriminate use of chemical fertilizers, pesticides and weed killers. There are already reports from many states that small farmers have stopped cultivating their land since they have already been getting food-grains at throwaway prices. In addition, they can also get assured employment for 100 days in a year in times of need under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGA) with reasonably attractive wages.

In substance, in the quest for so-called "inclusive development", the combination recent policy actions do not augur well for sustained increase in agricultural production and productivity in the country, Instead of offering those doles, small farmers could have been incentivized to go for consolidation of land holdings through co-operative or contract farming with the help of self-help groups at the village level. Wherever possible, they should also be encouraged to adopt suitable framework to go for corporate farming. In fact, people in general, and farmers in particular, seek empowerment and not dependence.

#### **Need for a Second Green Revolution**

Two of India's remarkable success stories over the last six decades were the Green Revolution of the sixties followed by the White Revolution. The first Green Revolution was based on a package of measures including (a) high-yielding varieties (HW); (b) increased use of chemical fertilizers, pesticides, etc.; and (c) farm mechanization in key regions that produced mainly wheat and rice which helped the country to overcome the then prevailing food shortage.

More recently, however, with relatively better economic growth, rising population, rising purchasing power of the people, and growing appetite for consumption, food supplies have started to become tighter, particularly during years of adverse weather conditions. Farm productivity in many regions has already hit a plateau. This is more so in respect of pulses. Production of pulses in the country has remained stagnant for almost four decades at around 14 to 16 million tonnes. To meet the growing demand-supply gap, the country has been importing three to four million tonnes of pulses every year from Myanmar, Canada and Australia. Further, India has not exploited fuller potential of agricultural exports

Hence,it is imperative to intensify better farm practices and R & D efforts to improve the productivity of pulses in the country. With sharply rising prices, most of the pulses have already gone beyond the reach of poorer sections of people.

Similar in the case of edible oils, where domestic production falls short of demand, India has emerged as the largest importer of edible oils, with more than 40% of its domestic demand being met through imports. Against this backdrop, there is an urgency of ushering in Second Green Revolution in India. This would greatly strengthen the drive towards food security in a more holistic way.

Incidentally, in the preamble to chapter 8 on Agriculture and Food Management, the Economic Survey 2010-11 spells out in a nutshell various issues and challenges before Indian agriculture going forward. It highlights the imperatives of second green revolution for enhancing agricultural production in general, and with specific focus on higher productivity of pulses, oilseeds, fruits and vegetables as well as increasing production of poultry, meat and fisheries. All such efforts, it points out, are required in the context of providing food safety net as well as nutritional security to each and every citizen of our country.

In the context of second green revolution, a word about scientific and holistic water management policy in the country: This crucial issue has not been receiving the attention it deserves from the policy makers. While the development and equitable distribution of water is a global challenge, the situation in India is getting more precarious.

The country has roughly **4%** of the world's fresh water resources and 2.4% of the world's land area. On this it supports 17% of the world's human population and 15% of cattle **population.The** per capita water availability in India has dropped from 5,300 cubic meters in 1951 to 1,544 cubic meters in 2011. Moreover, even this reduced availability of fresh water is highly uneven over time and space. Thus, the country is already in a 'water stress' situation. Besides the declining per capita availability of water, there are also issues of deteriorating water quality.

According to World Watch Institute, because of availability of electricity free or at heavily subsidized rates in many states, there has been over exploitation of ground water resource in India leading to faster depletion of ground water and widespread environmental damage. For decades, predominantly agricultural states such as Punjab, Haryana, Uttar Pradesh, and Rajasthan, encouraged farmers to dig tube wells to get free water for agricultural use. Now it is virtually a crisis situation and there is an urgent need to discourage water-guzzling crops in different states. In a state like Maharashtra, for instance, sugarcane cultivation for sugar mills is posing a huge challenge. Apart from consuming enormous water, sugarcane productivity in the state is quite low and the sugar mills survive mainly because of huge subsidies and political patronage. The area under sugarcane could as well be more profitably redeployed for growing vegetables, horticulture, pulses, etc., which are in short supply, via drip irrigation.

The Approach Paper to the Twelfth Five Year Plan (2012-17) approved by the Planning Commission, has called for a holistic water management policy aiming at more efficient conservation of water and water use, particularly in agriculture. More importantly, it has suggested commercial pricing of water to prevent its misuse and large-scale wastage. Far-reaching changes are also required in the land use pattern, reclamation of wasteland etc. Organic farming also needs a closure look to make agriculture sustainable in the long term.

Another major area of concern is that farmers in the country do not receive a fair price for their produce. It is well-known that the Agricultural Produce Marketing Committee (APMC) Act, which was designed to protect farmers and ensure remunerative prices to them, has in effect been misused to enrich traders and politicians. Neither the farmer receives fair prices, nor the consumer benefits from lower prices. Experts are, therefore, of the view that APMCs have outlived their times and should be scrapped. More so because farmers

are much better informed today thanks to the communication revolution; and they can get more remunerative prices on their own. If the layers of middlemen are done away with, not only will the farmers benefit, but it would also help in bringing down food inflation, which has become a major cause of concern for the policy makers in recent years.

In substance, farmers must receive remunerative prices for their produce. This is one of the pre-requisites for ushering in a second green revolution in the country. Unfortunately, corporate houses have been discouraged so far from entering the agriculture sector. It is time they should be provided a space to enter this sector, especially since a large number of small farmers are increasingly confronted with sub-optimal and uneconomicfarming operations. The corporate sector can bring the benefit of latest technologies as well as modern management and marketing practices to the sector.

In conclusion, the launching of NFS through legislative and administrative initiatives is only one part – and rather an easy, despite the acrimonious political debate - of the story. But the most formidable challenges are in its effective and efficient implementation – and here the weaknesses and fault-lines of the system will come

to the fore as we go forward. The fiscal burden of the NFS needs to be fully evaluated; so also, the inadequacies of the food production (not just cereals, but of other crops like pulses, vegetables, etc.) need to be resolved. All in all, next few years are going to decide the success or failure of NFS. The process of efficient implementation of the scheme is now on notice!

<b>FORUM</b>
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