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1. FOOD SECURITY IN INDIA: SUSTAINABILITY, CHALLENGES AND OPPORTUNITIES

According to food and agriculture organisation of United Nations, food security is a situation when all people at all times have sufficient food to meet their dietary and nutritional needs to lead a healthy and productive life.

Path to food Security

The Indian council of Agricultural research (ICAR) through its vast network, provided leadership to ensure national food and nutritional security by promoting indisciplinary, system based, knowledge intensive and problem solving research. As a result, India could harvest more than 252 million tonnes of food grains in 2015-16 crop year despite deficient rainfall and consequences.

The Government schemes like Pradhan Mantri Fasal bima yojana, Pradhan Mantri Krishi sinchai yojana e-NAM, Paramparagat Krishi Vikas yojana and Kissan credit card yojana are playing very important role in technological and financial empowerment of farmers.

As far as nutritional security is concerned, India has made good progress in fruit and vegetable cultivation by integration production technologies input management and policy support. Because of these efforts, India ranks second in fruits and vegetable production after China.

Implementation of National Food Security mission (NFSM) is envisaged to increase the production of rice, wheat and pulses. Due to its success in 11th Five Year Plan, it was extended to coarse cereals, sugarcane, jute and cotton in 12th five year plan and extended to all districts.

Seed minikits are provided free of cost for introduction and popularisation of latest released / pre released varieties. Moreover the seeds are given at subsided rates for the farmers to ease the financial stress.

The Government scheme of “Food for all”, which focussed and included the PDS system made the improvement in access to food grains to the people in inaccessible and hilly areas.

Schemes like mid day meal scheme served the dual purpose. It encouraged the enrolment and attendance and raised the nutrition levels indirectly.

Challenges

Indian food and nutritional security is being challenged by many socio, economic and environmental factors such as increase in population, increasing urbanisation and increasing demand for food due to rising income.
The dietary preferences such as high demand for livestock products and consumption of more processed foods are also creating more pressure on food supply system.

Global climate change is one of the most important challenges in achieving food security. The rise in temperature can affect the kharif crops and can impact the milk, fish, and meat production.

Changing weather patterns, declining rainfall will hinder the production from the rain fed agriculture and it also poses a threat to food security.

Declining and degrading land resources also pose a great threat as the availability per capita land is sharply declining due to increase in population.

**Way forward**

Genetic enhancement of plants/animals/fish is considered to be a major option to sustain food security by increasing productivity.

Bio technological advances in agriculture may improve soil productivity and may provide a safety net to food production through employment of environment friendly tods for insect and pest management.

Mechanisation of agriculture and food production systems may enhance the overall productivity to save labour and cut production cost.

To sustain food security, a substantial increase in food processing sector is suggested by increasing investment infrastructure and facilities.

The issue of energy development and management in agriculture sector requires urgent attention as it is crucial to both food production and processing.

Government policies regarding agricultural pricing, agricultural marketing, land use and investment in subsidies in agriculture need to be reoriented and repositioned to meet the food demand in future.

**2. FOOD SECURITY ACT: A REVIEW**

In Indian content, the underpinnings for food security of the people can be found in the constitution, through there is no explicit provision on right to food.

The fundamental right to life enshrined in Article 21 of the constitution has been interpreted by Supreme Court and National Human Rights Commission includes right to live with human dignity, which include right to food and other basic necessities.

Under DPSP, it is provided under Article 47, that the state shall regard raising the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties.

**National Food Security Act 2013**

In order to strengthen the efforts to address the food security of the people, the Government has enacted the National food security Act 2013.

It marks a paradigm shift in approach to food security from welfare to rights based approach.
The Act legally entitles up to 75% of rural population and 50% of the urban population to receive subsidised food grain under targeted Public distribution system (TPDS). About 2/3 of the population therefore will be covered under the Act to receive highly subsidised foodgrain.

There is a special focus in the Act, on nutritional support to pregnant women and lactating mothers and children up to 14 years of age by entitling them to nutrition meals.

Pregnant women will also be entitled to receive cash maternity benefit of Rs.6000/- in order to partly compensate her for the wage loss during the period of pregnancy and also supplement nutrition.

It has an important provision for women empowerment by giving status of head of the household to the oldest woman of the household, for the purpose of issuing ration cards.

**Challenges to NFSA**

The yield is constant. Data shows that the area under food grain has remained more or less stagnant with a relatively stagnated yields rate.

The percentage changes in average yields of rice, wheat and pulses are showing declining trends, which is a cause of concern.

The affordability dimension of food security is influenced by the price movement of food grains in the country. The volatility in prices creates uncertainty in the economic access pillar of food security.

There are wide interstate variations in the performance of PDS that it has performed much better in meeting household requirements in some states when compared to others.

The NFSA seems to be suggesting a regressive step of going back to centralised procurement model which was found unsustainable in the earlier schemes.

The increase in food subsidy bill is also a worrying concern. Increasing economic costs of handling food grains, record procurements in recent years and widening difference between economic cost of food grains and the central issue price have been the major factors leading to ballooning of food subsidy.

Many of the states have a very scanty level of market infrastructure with lower market surpluses and handling per market. These states need much investment in the market infrastructure, to facilitate procurement.

The storage facilities also have to be improved as the Act mandates, the high capacity of procurement and storage.

**3. NATIONAL FOOD SECURITY ACT, 2013 ENABLING SMALL FARMERS TO GROW MORE**

The National Food Security Act, 2013 aims at covering overall 67% of population (75% rural and 50% urban) and promised to give them rice/wheat/coarse cereals at Rs.3/2/1 per kg through public distribution system. This has certain implications in the marginal and small farmers Marginal & Small Farmers (M & SF) Sector.

**Implications of NFSA ON Marginal and Small Farmers**

Under the NFSA, most of the M & SF will come under the ambit of subsidised food grains.
They will get the supply at 1/8th of the price which they produce and sell and hence it will promote them to switch over to other crops.

Small & Marginal Farmers contribute more than half the total value of agricultural output in India. They are also actively involved raising much animals and animal husbandry activities. If the cropping pattern changes, food security will be in question and the animal husbandry sector also gets affected.

The food bill is bound to encourage Small & Marginal Farmers to go for easy alternatives like commercial crops and horticulture. Most states are deficient in food production. If in those states Small & Marginal Farmers shift away from food grains, the country will face a huge dent in food security.

**Government Initiatives to boost production from Small and Marginal Farmers**

The promotion of Farmers produced organisation (FPOs) particularly by organising small holder producers, has the potential to reduce the costs of marketing of inputs and outputs and provide a forum for members to share information, coordinate activities and make collective decisions.

NABARD is also supporting producer organisations out of its producers organisations development Fund, adopting a flexible approach to meet the needs of producers.

Recently, RBI has directed scheduled commercial Banks to achieve target of 8% lending to Small & Marginal Farmers within 18% target set for agriculture.

Other important programs that can sustainability benefit Small and Marginal Farmers include soil health card scheme, Pradhan Mantri Sinchai yojana, Pradhan Mantri Fasal bima Yojana, National Agricultural market, Agricultural portals among others.

**Way Forward**

There should be an integration of technology with credit and services. The technology of integrated nutrient supply, water and pest management needs wider dissemination along with bank coordination.

The crop farming must necessarily be combined with livestock (poultry, diary, sheep, pig farming) and fish farming to mitigate production income and financial risk.

Timely supply of quality hybrid seeds at affordable prices to SeMFs is necessary for achieving higher agricultural production and productivity.

Linking Small and Marginal Farmers in improved market systems and successfully demonstrated business models like Amul, so that they can significantly benefit in terms of increase in production and income generation.

FCI should earmark atleast 10% of targeted procurement from M & SF through MSP channel.

Programs to establish food processing industries, mega food parks, cold chains, preservation infrastructure need to be intensively expanded to minimize wastage.
4. ADDRESSING ISSUES OF FOOD STORAGE MANAGEMENT

India has the potential and capacity to increase and feed everyone under the National Food Security Act, 2013 if food losses due to huge wastage are substantially minimised and the FCI is enabled to execute its mandated food management policies efficiently viz food procurement, storage, transportation and distribution in particular.

**Challenges**

Despite the strict policy of first in - first out with respect to the crop year as well as within crop year during which the stocks are accepted, data shows that food grains pertaining to crop years 2008-09 are lying in central pool as on 31 March 2012.

In absence of covered storage space, food grains are stored under the cover and plinth (CAP) storage (Open storage) without following the established procedure which requires that the stock should be turned over every 6 months and in no case grains be stored for more than a year.

When the grains are stored in CAP mode, the unexpected rainfall, pest infestation risks are more.

Procurement of excessive grains more from the prescribed buffer stocks is an added problem. During the last five years, on the average buffer stocks with FCI have been more than double the buffering norms, which created unbearable pressure on limited storage capacity.

One of the reasons for the wastage of food is that grains are not moved out of the warehouse in time and distributed.

The allocated stocks for the PDS system is not lifted due to the poor transportation techniques and facilities also adds fuel to the problem.

**Way forward**

For optimum utilisation of the capacity, proper planning for timely moving stock from the major processing states to the consuming states can make available storage space for ensuring procurements.

Use of sophisticated information technology supported by robust monitoring and management information system can help in this regard.

The grain should not be stored in the CAP godowns, convert them into silos with mechanised / robotic assemblies in PPP mode.

The transportation should be in the form of containers instead of gunny bags to reduce losses.

Total end–end computerisation of the entire food management system, starting from procurement from farmers, to stocking, movement and finally distribution through TPDS.

Proper integration of all regions with an efficient and robust MIS managed by efficient and competent professionals.

Immediately after the procurement, give 6 months ration to poor beneficiaries with cheap grain bins for storage, thus FCI will have to store less grain in is godowns.
5. TRANSPARENCY IN PUBLIC FOOD DISTRIBUTION THROUGH DIGITIZATION

PDS was introduced after 2nd world war due to severe food shortage in the country. Initially the subsidy was common to all. In 1990s, PDS was restructured to include hilly and in accessible areas. Finally, the scheme was moved with a targeted approach and is known as Target PDS (TPDS). Under essential commodities Act 2001, public distribution system order was passed

Department of Rural development through BPL Survey decides criteria for inclusion or exclusion of beneficiaries. With the enactment of Food Security Act, 2013 has done away with the need for BPL based identification.

**Hurdles in PDS**

Major challenges in the PDS system emanates from bogus ration cards belonging for fictitious families and shadow ration cards, that is genuine ration cards are being used by same one else.

Attempts of preventing physical theft by human monitoring, Global Positioning System (GPS) of truck movement and electronic weigh bridges are inadequate and easily by – passable.

Quality and quantity of grains, uneven distribution of grains all over the country etc are some of the other issues to a robust PDS system

**Digitisation : Way Forward**

The Government should create a database so that, the Ghost beneficiaries can be eliminated, if the database is linked to Biometric identification and Aadhar.

By digitisation, we can track the individual beneficiaries and can be utilised for various other schemes and programs.

The redressal mechanism can be evolved so that consumer complaints are addressed and better trust is created between citizens and Government is enabled.

Better identification of individuals and families leading to better targeting and increased transparency.

A mechanism of verifying the ID of the person at the time of delivery of grains will help in improving and targeting of the grains and beneficiaries.

The database created can be utilised for direct benefit transfer through bank account.

**Other steps to strengthen PDS**

Decentralisation of procurement and distribution of locally produced food grain would ensure diversity of food grains requirement.

Proper identification and classification of beneficiaries APL, BPL, or AAY household in a fool proof manner.

Incentivising the Fair price shops (FPS) for extended opening hours and selling commodities not covered under PDS with permission.

Like the Chattisgarh e-PDS, project, which has the real time GPS monitoring from depots to the FPS, other states also have to follow this way.

Food coupons can be utilised to reduce corruption, since the owner gets the same price from all the buyers. As these food coupons has the same value and only be redeemed at specific outlets or Government authorised agencies, it will promote distortion free trade.