

# Role of Crop Insurance in National Food Security

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## Abstract

Food Security Bill (FSB) is considered a boon for Indian people who live with meager income, starve and hunger. Farmers are means for Right to Food as producer of food grains, maintenance stock of food grains in granaries, for Public Distribution System (PDS). This article attempts to provide some facts regarding FSB. Indian agriculture revolves more or less on monsoon and catastrophic conditions with risk of natural hazards. Crop insurance is an avenue for the FSB to curtail risk of Indian agriculture to sustain yield. The authors depend on some research papers and other literature surveyed to the nature of Indian Agriculture, its indemnification and challenges to the FSB, further, to learn about the role and extent of the crop insurance in India. The paper aims at providing suggestions and remedies to curb the challenges to the FSB and its better application through crop insurance.

**Keyword:** National Food Security, Indian Agriculture, Crop Insurance.

## Introduction

Food is the first among many basic needs of human beings. It is a vital challenge to ensure food security to mass of India. The Food Security Act (FSA) is the first step of Indian government to ensure food in legal perspective. In India, ending hunger is viewing as a national issue and as a social rather than an individual concern. Feeding 820 million people (beneficiaries) is a challenging task with nature of Indian farming and yield of farmers. Indian agriculture is facing many natural hazards and crises.

Agriculture is the backbone of Indian economy and half of population of India is employed in this sector. Their only source of income is agricultural yield. In this age of service, Indian agriculture loses its importance and interest of farmers due to lower yield and risks like flood, drought and lack of adequate irrigation. Without proper infrastructure rate of spoilage of food grains is another challenge to FSB. Globalisation in India is not promoted by the agriculture and agricultural policy makers to minimize cost of inputs of cereal products. However, Indian farming became more productive after the green revolution in some regions. Green revolution enhanced the productivity of crop. It also indicated some aspects for the researcher regarding techniques, infrastructure and irrigation. The concern and nature of Indian agriculture (farming) become more important in the present time of National Food Security (NFS). Role of crop insurance is widening with need. Crop insurance is most suitable for the stable growth of farming to ensure food without depending on the global market and price.

However, crop insurance is prevalent in Indian market. The FSB has expanded its marketplace with need of stable farm yield of cereal and under this phenomenon, crop insurance may be the key criterion for the ensure food to all beneficiaries of FSB.

## National Food Security

Food Security became a law in India on 12 September 2013 with nod of president after passing in both houses of parliament Mishra (2013). Under this scheme approximately 820 million eligible beneficiaries are benefited. Central government allocations of food grains to the states and union territories are estimating in this

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act is 54.9 million metric tons per annum, lower than previous estimates.

It covers additional part of society i.e. pregnant women, lactating mothers, and certain age groups of children who are entitled to daily free meals (Mustard, 2013).

It proposed to cover 75% of the rural population and up to 50% of the urban population to be entitled to 5 kg of food grains per month at the highly subsidized prices of Rs 3, Rs 2, and Rs 1 per kg for rice, wheat, and coarse grains respectively. The Targeted Public Distribution System delivers food grains. The poorest of poor households would continue to receive 35 kg foodgrains per month under *Antyodaya Anna Yojana* at subsidized prices. NFSA would improve the existing allocation of foodgrains to the states/union territories, where they are already adopted. Eligible households to be identified by the state/union territories Govt. beneficiaries of NFSA consist of 75% of the rural and 50% of the urban population all around India, which is determined by the Planning Commission of India. Identification of eligible households is left with the states/union territories, which depends on their own criteria and measurement based on economic, social or caste basis.

## Indian Agriculture

In India, agriculture is incessantly losing its share in GDP in comparison to previous decade rate. According to Singh (2013), agriculture is a critical sector of the Indian economy. It has undergone momentous structural changes in the form of decrease in its share of GDP from 30% in 1990-91 to 14.5% in 2010-11 indicating a shift from the traditional agrarian economy towards a service dominated one. Agriculture in India today, is in a state of crisis. Farmers in India would like not to be in farming. Farming is seeing as an unviable activity with lower interest of farmers in farming, due to rising input costs and un-remunerative prices of crop. Indian agriculture is at the crossroads today on all fronts – there has been a failure of support systems across the board, particularly quality seed availability, timely credit, marketing of crop and remunerative prices to sustain interest of farmers.

Irrigation systems are inadequate that lead to crop failures in many states of the India. Lack of water is the major challenge to irrigation plans of crop. Natural calamities like regional floods, poor quality of seeds and inefficient farming practices affect farmer's ability and growth of his

yield. Imperfect canal system in India restrict to irrigation access all-around India. Risk in Indian agriculture is not new it facing by farmers from long time ago regarding finance, seeds etc. Rural institutions, lender and farmers are facing problems over generation regarding finance.

In India, liberalisation is not having its effects on the way of farming techniques. Indian agriculture is combination of traditional and modern farming techniques. In India, traditional use of cattle turns to plough without any technical support. Traditional farms have some of the lowest per capita productivities and farmer incomes. Lower prices of crop yield are not able to catch interest of national and international bodies. Somasekhar (2013) identified that in today's scenario, the farmer's interest loses due to oligopolistic prices of crop yield because of global trade. The returns of various crops have decreases due to increase in cost of productions, slow growth rate of agricultural productivity, weak marketing mechanism and increase in input intensity. Realizing the present situation and problem, the Indian government should take effective steps to protect and strengthen our agriculture sector.

However, new techniques of farming help farmer to increase the productivity. India has shown a steady average nationwide annual increase in the kilograms produced per hectare for various agricultural yields, over the last 6 decades. These gains have come mainly from India's Green Revolution, improving transportation and power generation infrastructure, knowledge of food grains and agricultural reforms. Mahadevan (2003) highlighted that in India, food grain production is at hike and soared. Production of wheat increased to 4.7 tonnes in 1975 against the 0.8 tonnes in 1948 from the same land. Higher growth in farm productivity of cereals enabled India to become self-sufficient by the 1970s for food grains. It also empowered the small farm holder farmers to seek further means to increase food and industrial staples produced per hectare. By 2000, Indian farms were adopting those wheat varieties, which are capable to produce 6 tonnes of yield per hectare.

## Challenge to the Act

Indian agriculture is totally dependent on monsoon and rainfall that directly affects the yield. There is a great difference of average rainfall state wise. States that have lower average of rainfall in India are partly, farmers are in vulnerable condition. Yield of farming is not stable all-

around India due to weather and climate conditions. Weather and climate plays major role due to regional imbalances of temperature, geographical circumstances and average of rainfall. Desert and Suitability of land for the food grains and agricultural activity is another challenge.

It needs huge stock of food grains in granaries of India for Public Distribution System (PDS) to deliver beneficiaries. However, India is suffering with lacks of storage capacity, packaging of stock as well as safe and efficient rural transport system for efficient uses of food grains for NFSA. Lack of infrastructure facility causes one of the world’s highest food grainspoiling country, particularly during monsoon rainfall and other adverse weather conditions. These infrastructural facilities lead to the hygiene risk to beneficiaries. Lower infrastructure, lack of hi-tech stores and packaging decrease the quality of food grains in stores. India suffers losses after harvest due to poor infrastructure. Unorganized retail causes India to experience some of the highest food losses in the world. Food travels to the Indian consumer through a slow and inefficient chain of traders. Present PDS system is time consuming processing of distribution that not only leads toward burden of stock but it also decreases nutritious power of stock. Control over the nutritious value of stock is a bigger quandary against the Act.

**Table 1 : Trends in per capita availability of food grain in India (Decadal average)**

(gms/person/day)

Year	Rice	Wheat	Other Cereals	Total Cereals	Pulses	Total Foodgrains
1951	159	66	110	334	61	395
1961	201	79	120	400	69	469
1971	193	104	121	418	51	469
1981	198	130	90	417	38	455
1991	222	169	80	469	42	510
2001	191	136	56	386	30	416
2007	194	158	55	407	35	443
2008	175	145	54	395	42	436
2009	188	155	64	407	37	444

**Source:** Agricultural Statistics at a Glance. 2009, DAC, Min of Agriculture, GOI

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Somewhere, slow agricultural growth is a concern for policymakers. Two-third of India’s population depends on farming as employment for their livelihood. Present

agricultural practices of Indian farmers are neither economically nor environmentally sustainable and India’s yields for many agricultural commodities are deprived. Poor irrigation systems and almost universal lack of good extension services are among the factors responsible. Poor roads, rudimentary market infrastructure, and excessive regulation regarding marketing, irrigation, electricity etc. hamper farmers’ access to markets for fair pricing of their yield. Indian consumers buy agricultural produce in suburban markets known as ‘*sabzimandi*’ such as one shown or from roadside vendors. Traditional marketing system is stretching from the new system of distribution may affect livelihood of these vendors.



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The Indian Ministry of Agriculture’s Commission on Agricultural Costs and Prices (CACP) has proposed Right to Food. Gulati (2013) has referred to the Bill as the biggest ever experiment in the world for distributing highly subsidized food by any government through a ‘rights based’ approach. Right to food is adversely affecting the investment in the agriculture due to lower earning Gulati (2012).The Bill would restrict private initiative in agriculture; reduce competition in food grain market due to government domination of the procurement of food grains for PDS. The Bill would shift money from investments in agriculture development to subsidies. It is adversely affecting the changing pattern of consumer needs of protein; fruits and vegetables by continue focus on cereal production.

Health and hygienic condition of children and women are not robust in measures of World Health Organization (WHO). The Bill is focusing on the health and hygienic

of children and women with agenda of nutritious meal to them in same proportion. There are variations in the levels of malnutrition by gender and caste (Mendelson and Chaudhuri, 2010). Current PDS is not working properly with the MSP of FCI Parikh (2013). If, FCI is not able to expand it, operation to cover the country, farmers who grow food grains for their own consumption would stop growing food grains as it would be more profitable to grow something else and obtain food grain at low price from the PDS. This is already being observed in Chhattisgarh. The total food grains production can collapse and meet the obligation. Government may be forced to import food grains which may be push us to world prices and increase the cost of grains.

## Role of Crop Insurance

Food security enhances the demand of food grains for Public Distribution System (PDS). For that purpose, Food Corporation of India (FCI) purchases huge stock from the farmers on the Minimum Support Price (MSP) to maintain stock in granaries. The want of stable and growing crop yield is required for the FSB. Farmers and farming are the keys of FSB as producer of food grains, and stabilize stock as need of the bill. Indian farmers are facing many challenges in stabilization of yield i.e. weather, climate, rainfall etc. Crop insurance helps in stabilization of farm production and income of the farming community (Mehta, 2013). A properly designed and implemented crop insurance programme will protect the numerous vulnerable small and marginal farmers from hardship, bring in stability in the farm incomes and increase the farm production (Bhende 2002). It will lead farmers to farming in adverse conditions. Insurance provides coverage for both yield and price risks for a growing season, the annual results will be volatile due to the catastrophic nature of weather, as well as price changes. The process for insuring farmers for the revenue risks associated with yield and cattle has been developing, and the introduction of new policies has changed the index and measurement for calculation of the indemnities to the farmers in the event of loss (Ashenbrenner, 2010).

Insurance helps in optimal allocation of resources in the production process of crop yield. Indian Government has been worried about the risk and uncertainty prevalent in agriculture. As all of us are aware about the unfortunate deaths of farmers in Maharashtra who were caught in a debt trap and the devastating affect it had on their families

(Mehta, 2013). Change in the prices (lower) and other factors may lead to the farmers from farming activity to non-farming activities (Sinha, 2013). Sometimes, lower prices led to mental depression and suicide of the farmers to get rid from the financial losses. In these cases crop insurance becomes a boon for them. When the loss arises, the insurance company is bound to make the payment of claims of crop insurance, whereas the government extends its assistance to the farmers that depending on the economic condition of farmers (Mathew, 2010). Govt. assistance is need of farmers as well for insurance companies to promote crop insurance in India.

Indian agrarians are facing natural hazards like floods and droughts. There are some new challenges emerging in agriculture sector such as climate change, deterioration in the quality of soil and declining levels of ground water, and lack of technology. These hazards will be indemnified with crop insurance. For that, the farmers must be provided with comprehensive crop insurance policy so that in the event of unforeseen climatic aberrations like cyclones and floods, they would be provided with compensation. Though Government of India has initiated efforts for providing crop insurance to farmers since independence, a major boost was given in the form of Comprehensive Crop Insurance Scheme (CCIS) in 1985 during the Seventh Five Year Plan period, which covered the risk in cultivation of major crops against natural calamities and pests and diseases (Raju and Chand, 2009).

Price of the product (food grains) has direct link with the production of cereals. Higher prices of product motivate farmers to superior agricultural inputs and hi-tech techniques to enhance the yield. In general, price is influenced by demand and supply factors of crop product in global market. Food grains and vegetables are normally subject to gradual and predictable changes in demand. On the other hand, industrial crop price is subject to business cycles and technological developments. Global price mechanism influences demand side of consumer besides supply within country, it may also increase the possibility of diversification across a larger set of factors in global phenomenon. NAIS is implemented by the Agriculture Insurance Company of India Ltd (AIC) and the scheme helps the farmers to adopt new and innovative farming practices and scientific modern technology (Brahmanand, 2013)

Achieving food security is not an overnight activity, it is a time consuming, grim and fully cautious program to

serve necessitate people in India. Food security in India can be achieved by paying higher attention to issues such as climate change, integrated water management, agricultural pricing and crop insurance (Brahmanand, 2013). There is a strong need to address changes in institutions and resource accessibility to tackle the climate induced natural hazards. Efficient risk reducing and loss management strategies such as crop insurance would enable the farmers to take substantial risks without being exposed to hardship. Access to formal risk diffusing mechanisms will induce farmers to maximize returns through adoption of riskier and advantageous option in farming viz. investment in development of groundwater, purchase of exotic breeds for dairy will be encouraged due to insurability of the investment.

## Suggestions and Remedies

National Food Security (NFS) is a strong Act (Plan) of Govt. of India to eliminated starvation and hunger of those who are not in access of market-priced costly food. Malnutrition, hunger and globalisation of agriculture enhanced its need for poor people. To make pace with the availability of stock of food grains in granaries of India, there is need of strong agriculture devoid of risk. It requires reducing risk of agriculture to carry on farmers in farming sector. Risk of Indian agriculture: drought, flood, failure of crop etc. demotivate farmers to remain in the farming. Price of the yield is effective tool to motivate the farmers. Farmers are afraid of pricing of their cereal products with implementation of FSB because it will shorten the market demand of food grains in open market that can push the farmer leave farming. To retain him attached to farming is need of FSB for food grain production. FCI is the solitary buyer of food grains for the NFSA from the farmers; it leads towards the oligopolistic market of food grains. To eliminate fear of oligopolistic market of food grains, there is a need of insurance policy that assures farmer for qualitative food grains with effective training of farmers and advice and assure them to procure their yield by FCI.

Present functioning of FCI is time consuming for PDS that affects the nutritious values of food grains. This process is required to build faster to hoard the nutritious and qualitative power of food for wellbeing of beneficiary. Rotten and decayed food are common in PDS therefore emerges the need of insurance that covers the beneficiaries' health and hygienic. Handling of procurement process of FCI and PDS also should review

their functioning providing food grains on time. MSP of food grains for procurement is mandatory to update with the cost of input of agriculture. Now, emerges the need of policies that cover the quality of granaries.

To sustain the fertility of land and nutrition value of food is necessarily promoted with the bio farming. The very first need for availability of food grains in granaries is irrigation facility to all regions. For that purpose, the government has to take bold steps to include water as a central subject and link all the rivers, which should be made the top priority of any government, which comes to power (Christopher, 2010). Govt. of India is required to retain the farmers in farming with the stipend and pension plans for them with help of insurance cover to reduce the burden on the govt. treasury.

## Conclusion

Many people of India are not in access of food. FSB will bring some security in people's lives and make it easier for them to meet their basic need of food. However, it is facing challenges: risky nature of Indian agriculture, lower quality of infrastructure, lower quality of food grains and unfair remuneration of farmers. Indian agriculture is depending on monsoon, rainfall and irrigation. Indian farmers are in front of many challenges: price, marketing and livelihood. Farm yield is uncertain and risky due to catastrophic conditions. Risk and uncertainty of Indian agriculture can be covered with the crop insurance.

Overall, it may be concluded that food security in India can be achieved by paying higher attention to issues such as climate change, integrated water management, fair remuneration to farmers, agricultural product pricing and crop insurance. There is a strong need to address changes in institutions and resources accessibility to tackle the climate induced natural hazards. The impact of globalisation and other factors has been both positive and negative in terms of agricultural prosperity and there is a strong need to regulate the policies related to globalisation for reducing its negative effects on foodsecurity in India.

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