

RISK MANAGEMENT IN AGRICULTURE IN INDIA

Dr. Sharda Gangwar*
Ankita Patel**

ABSTRACT

There is no certainty of life, anything can happen at any phase, Agricultural sector also deal with uncertainty and risk. Every year one part of food crops is affected by natural calamities. They face a series of risks like flood, drought, and plant diseases, it not only affects the income and welfare of farmer's households but also affects the Indian economy as Agriculture is a dominant sector of our economy. To achieve satisfactory management in agriculture and minimize losses, it is necessary to manage all these risks properly. Risk Management involves adopting appropriate strategies as a part of decision-making on daily basis and choosing among alternatives that reduce the financial effects of such uncertainties. The government of India has also implementing schemes to provide help to farmers facing adversity. This paper discusses the concept and performance of Risk management Strategies and various initiatives taken by the government to reduce the risk in agriculture. Research is Exploratory in nature. Secondary Data is used for the study. The data will be collected from different, articles, magazines, journals, and the internet.

Keywords: Risk Management, Agriculture, Agricultural Risk Management, Natural Calamities.

Introduction

Every business and any other employment has risk involved in it but probably agriculture is riskier than any other employment. A great many uncertainties are involved with the enterprise of agriculture. Yet, 54.6% of the total population of India is engaged to earn their livelihood from the agriculture sector, than from all other economic sectors put together. The agricultural environment is exposed to a variety of risks which occur with high frequency. The agricultural environment includes numerous and diverse factors such as events related to Climatic conditions and weather, animal diseases, pest infections, and any other natural phenomena. Another risk relates to change in the price of agricultural inputs products, and fertilizer prices, change in policies and regulations, not within the control of the farmers. Due to changing climatic conditions and the volatility of food prices some risks have become more severe in recent years. All these factors have a direct effect on farmer's income and they may fail to improve their farming businesses and strengthen household resilience. Agricultural risk is dependent and also linked to each other. Thus a holistic approach is necessary, which includes all available instruments, strategies, and policies designed to manage risk. Unlike any time in the past, India's agriculture challenges have to be understood along within many dimensions.

Challenges	Description
Food Insecurity	<ul style="list-style-type: none">• Chronically undernourished population• Increasing population, limited land• Rampant urbanization• Burgeoning middle class, unsustainable lifestyle, food wastage• Declining agricultural land• Changing food demand profile
Water Insecurity	<ul style="list-style-type: none">• Growing water stress• Declining per capita water availability• Agriculture becoming water intensive• Overexploitation of groundwater• Drought and flood• Upstream-downstream dependence on water• Rain dependent river systems in low and medium rainfall regions

* Professor, Institute for Excellence in Higher Education, Bhopal, M.P., India.

** Assistant Professor, Department of Commerce, SBS Govt. PG College Pipariya & Research Scholar, Barkatullah University, Bhopal, M.P., India.

Energy Insecurity	<ul style="list-style-type: none"> • Food production becoming energy intensive • Energy required in transportation, storage •
Social Insecurity	Forced migration/reverse migration issues <ul style="list-style-type: none"> • Small and marginal farmers and landless poor • Education and awareness • Gender
Climate Change and Variability	<ul style="list-style-type: none"> • Shift in climates (semiarid to arid; sub humid to semiarid etc.) • Changing minimum and maximum temperatures during crop growing seasons • Increasing extreme events such as droughts, high rainfall events, hailstorms, floods, heat wave etc. • Glacial melt water • Uncertainty in water availability

Risk Management Strategies and Initiatives

- **Risk management at Individual Farmer's and Community Level**
 - To reduce the risk farmers can go for a diversified portfolio of agricultural activities, rather than being relied on a single crop.
 - They can adopt technologies, like inter-cropping or drought-resistant crops, they can share risk by contractual arrangements such as sharecropping that reduce the variance of income.
 - To Manage natural risk should keep a check on weather forecasting, climate prediction, In addition, disseminating early warning for flood and cyclones they can also take advantage of the power of ICT, that can be deployed in risk management in agriculture and developing contingency crop plans,
 - By preventing deforestation, faulty and unscientific traditional, the practice of shifting and irrigation practices cultivation, poor management of fertilizer, inappropriate disposal of farm waste residue burning, etc.
 - By promoting good agricultural practices Mixed farming conservation agriculture for carbon sequestration water-saving technologies farming and integrated farming systems, and diversification of income source.
- **Government Initiative and Strategies for Managing Risk**

Crop Insurance

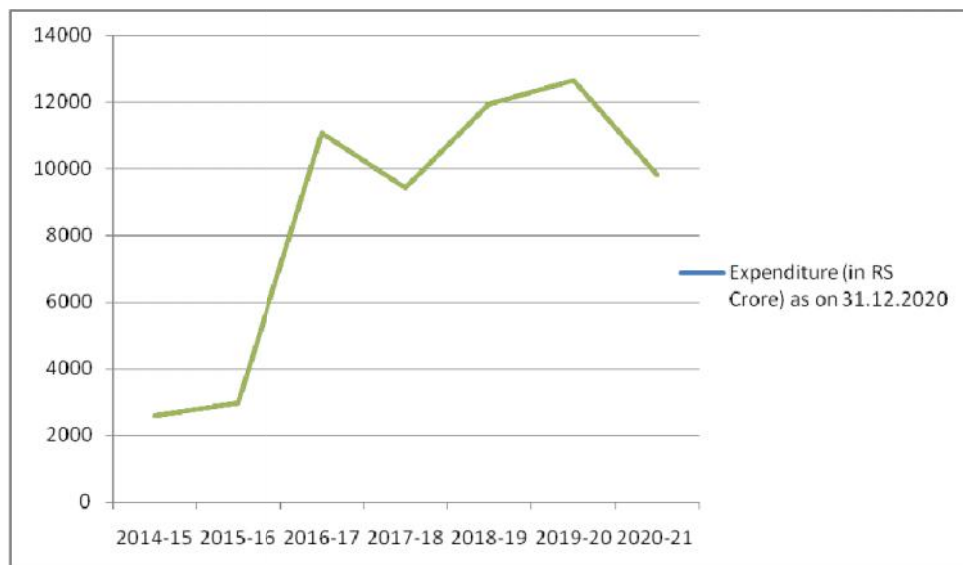
Crop insurance protects farmers, against the uncertainties of crop production, due to natural factors, that are beyond farmer's control. It is a financial mechanism, which minimizes the loss, by distributing the loss burden. In India, Crop Insurance gradually started after Independence in 1947, to find mention more often. Minister of Food and Agriculture, Dr. Rajendra Prasad gave a promise that the government would examine the crop insurance. In October 1965 the GOI introduces a Crop Insurance Bill and a Model Scheme of Crop Insurance. In 1970, the draft Bill and the Model Scheme were mentioned to an Expert Committee headed by Dr. Dharm Narain. Following are some crop insurance schemes that were introduced in India:

- The first-ever scheme on an 'Individual' approach basis (1972 - 1984) was introduced in 1972-73 by the Life Insurance Corporation of India. Afterward, the General Insurance Corporation of India took an experimental scheme. Based on the "Individual Approach". this scheme covered 3110 farmers only up to 1978-79 and it was realized that crop insurance schemes based on the individual farm approach would not be sustainable and practical in this country
- Pilot Crop Insurance Scheme(1979 –1984): introduced by General Insurance Corporation of India (GIC) This scheme covered 6.27 lakh farmers for a premium of 1.97 crores against claims of 1.57 crores
- Comprehensive Crop Insurance Scheme (1985 – 1999) this scheme was introduced with the active participation of State Governments, implemented on a Homogeneous Area approach, and was linked to short-term crop credit. 15 States and 2 (Union Territory) had participated in the Comprehensive Crop Insurance Scheme from Kharif 1985 to Kharif 1999. under an area of 12.76 crore hectares, 7.63 crore farmers are covered by this scheme for an amount insured of 24,949 crores at a premium of 403.56 crores. Comprehensive Crop Insurance Scheme was finally ceased after Kharif 1999. "National Agriculture Insurance Scheme" (NAIS), replaced this scheme.

- Experimental Crop Insurance Scheme (Rabi, 1997 – 1998) was introduced in fourteen Districts of five States are involved in this scheme. The Scheme was like to Comprehensive Crop Insurance Scheme. Experimental Crop Insurance Scheme for all marginal farmers with 100 percent subsidy on Premium. After one season this scheme was discontinued due to its administrative and economic difficulties. this Scheme covered 4,54,555 farmers for an amount insured of 168.11 crores at a premium of 2.84 crores against which the claims were paid 37.80 crores.
- National Agricultural Insurance Scheme: - introduced from the rabi season of 1999- 2000. Introduced by Agricultural Insurance Company of India Ltd (AIC). Potato, sugarcane, pineapple, banana, tapioca, jute, cumin, coriander, chilies, turmeric, onion, and ginger are covered under this scheme.
- Farm Income Insurance Scheme (Rabi 2003 – 04 season & Kharif 2004 – 05 season) the government introduced a pilot project, viz. Farm Income Insurance Scheme during Rabi 2003-04 season. The Scheme was implemented during two seasons only. In all, this scheme covered 4.15 lakh farmers
- Pilot Scheme on Seed Crop Insurance was introduced in Kharif 2000 season in eleven States. Objectives of this scheme were to provide stability to the Infrastructure State-owned Seed Corporations This scheme provides financial security & income stability to the Seed Growers in the event of failure of seed crop
- Pradhan Mantri Fasal Bima Yojana: This new agriculture Insurance Scheme is in line with the One Nation – One Scheme theme. It incorporates the top elements of all the previous schemes and at the same time, all previous shortcomings have been removed. Objective of this scheme is to provide economic support and insurance coverage to the farmers in the event of failure of any of the notified crops as a result of pests, diseases & natural calamities and stabilize the income of farmers. It also motivates farmers to adopt modern agricultural practices. it ensures the flow of credit to the agriculture sector.

The total funds released by the Government of India during the last 5 years under various schemes for crop insurance are as under:

Plan/ Year	Expenditure (in RS Crore)
2014-15	2598.35
2015-16	2982.47
2016-17	11054.63
2017-18	9419.79
2018-19	11945.38
2019-20	9620.7
2020-21	9799.86 (as on 31/12/2020)



above table and chart shows that the Government of India constantly releasing more amount of expenditure on crop insurance, it increases from Rs 2598.35 crore in 2014-15 to Rs 9799.86 Crore the amount of expenditure in 2020-21 may increase as this annual report of Department of Agriculture, Cooperation & Farmers' Welfare only shows expenditure till 31/12/2020. The expenditure is constantly increasing in from 2598.35 in the year 2014-15 to 2982.47 in 2015-16 and 11054.63 in 2016-2017, but there is a decrease in the 2017-18 the total expenditure is Rs 9419.79 which is Rs 1634.84 less than the previous year. In the year 2019-20 the expenditure is again increased to Rs 11945.38 and it may be also increase in 2020-2021 also.

Farm Credit Package

To improve the flow of credit and manage the financial risk of farmers several policy has been initiated by the government of India.

- **Farm Credit Package:** announced in June 2004 to double the flow of agriculture credit in three years with reference to base year 2003-04.
- **Interest subvention to farmers:** The policy came into force with effect from Kharif 2006-07 to ensure that farmers receive short term credit at 7% with an upper limit of Rs. 3.00 lakh on the principal amount. RBI extended time period on account of COVID19 for three months on payment of installments falling due between March 1, 2020 and May 31, 2020 in respect of all term loans including short term crop loans.
- Government has also provide guidelines for providing relief in event of occurrence of natural calamities:
- Kisan Credit Card Scheme was introduced in 1998-99 to meet the basic credit requirements such as cultivation, post harvest expenses, provide working capital for maintenance etc.
- Following table shows the target set and reached by government for agricultural credit flow during last 5 years:-

Year	Target (in RS Crore)	Achieved (in RS Crore)	Increased Amount	% Difference
2016-17	9,00,000	10,65,756	(+)165756	(+)184
2017-2018	10,00,000	1168503	(+)168503	(+)16.85
2018-19	11,00,000	12,56,830	(+)156830	(+)14
2019-20	13,50,000	13,92,469.81	(+)42469.81	(+)3.14
2020-21	15,00,000	973,517.80 crore up to 30th November, 2020.	(-)526482.2	(-)35

The above table shows that every year target for agricultural credit flow has increased consistently, and reached more than the targeted amount. In 2016-17 the credit flow achieved is 1065756 which is 184% more than the targeted amount. In 2017-18 16.85% more is achieved than targeted amount. In the year 2018-2019 Rs 1100000 crore is set target but it reached to 1256830, in 2019-20 the increase in achieved target is only 3.14 percent which is quit less than the increase of previous years. 2020-2021 is the only year in which the target is more than achieved amount, the reason may be the data is not whole year data it is only of eight months of that financial(2020-21) year, it may increase in the next four months.

Conclusion

Agricultural sector also deal with uncertainty and risk. Every year one part of food crops is affected by natural calamities. They face a series of risks like flood, drought, and plant diseases; it not only affects the income and welfare of farmer's households but also affects the Indian economy as Agriculture is a dominant sector of our economy. For the better development and growth a well managed agricultural system is must. Good management is the the only way to avoid uncertainty and risk and can also maximize opportunities. Risk management is not a set of rules that followed once and for everything in the world is dynamic and so are sources of risk, therefore risk management strategies should be kept on updating with it. These strategies should not only be about managing risk damages resulting from hazards but also the process and procedures that empower the individual or a group to take risks.

References

1. Bharat Ramaswami Shamika Ravi S.D.Chopra (2003) Risk Management in Agriculture June Discussion Paper 03-08
2. Dr.K Eswara Reddy (2015) Some Agricultural Risks in India, College, (Volume 20, Issue 3, Ver. II PP 45-48 IOSR Journal Of Humanities And Social Science)

3. Hao Aimin (2010) Uncertainty, Risk Aversion and Risk Management in Agriculture (vol. 1 pp152–156) Agriculture and Agricultural Science Procedia
4. K. Kishore kumar Dr. B. Radha (2016) RISK MANAGEMENT APPROACHES IN INDIA AGRICULTURE: A CASE STUDY (Vol-2 Issue-6 IJARIE-ISSN(O)-2395-4396)
5. Miranda Meuwissen Wageningen Brian Hardaker (2000) Risk and risk management in agriculture: An overview and empirical results (Vol 1 pp1(1/2):125-13 International Journal of Risk Assessment and Management)
6. Risk management in agriculture towards market solutions in the EU September 17, 2010
7. <https://www.ifad.org/en/parm>
8. <https://agricoop.nic.in/sites/default/files/Agriculture-Credit-Overview.pdf>
9. [https://agricoop.gov.in/sites/default/files/Agriculture-Credit-Overview%20\(1\).pdf](https://agricoop.gov.in/sites/default/files/Agriculture-Credit-Overview%20(1).pdf)
10. Ministry of Agriculture & Farmers' Welfare Government of India Annual report from 2016-17 to 2020-21.

