# Policy Brief 5


Agricultural activities in Nattrampalli and Thirumangalam location–Rainfed theme

## Executive Summary

Indian Agriculture depends mostly on monsoons. The erratic and uneven distribution of monsoons has a direct bearing on agriculture. In this scenario of high risk and uncertainty of rainfed agriculture, mitigating the risk of the farmers is an aspect, which the decision makers have to handle with care. This indicates a need for contingent plans that will help to improve handling of risky outcomes across individuals.

The various kinds of risk faced by farmers are human or personal risks, asset risks, production or yield risks, price risks, institutional risks and financial risks. In India, traditionally risk would be managed either privately or through implicit contracts within family or network. Another form of risk coping strategy among farmers is income diversification/crop diversification that will reduce their income variation.

For coping with natural risks, crop insurance is one of the mechanisms available to mitigate loss. In this context, the Government on pilot basis developed many crop insurance schemes. These schemes were further modified and the recent National Agriculture Insurance Scheme (NAIS) has been evolved. Recently, apart from Government players, private players like ICICI Lombard, IFFCO-Tokio have developed weather-based insurance products. These weather-based insurance products are advantageous over yield-based insurance products in terms of time taken for claim settlement and transparency in settlement of claims. But it has limitations to reach large number of farmers.

The reach of crop insurance schemes to farmers is less because of inadequate manpower, dependency of data from Indian Meteorological Department (IMD) and Adverse Selection and Moral Hazard of individuals.

Insurance Regulatory Development Authority (IRDA) should come forward to provide many players in the field to bring innovative products for upscaling.

## DHAN's Experience in Crop Insurance

DHAN Foundation has been piloting insurance schemes for life and health through **People Mutuals** (it is a social security initiative Institution based on mutuality concept promoted by various people's organisation of DHAN Foundation). It has taken the initiative of piloting crop insurance scheme, based on rainfall in rainfed areas like Thirumangalam in Madurai District and Nattrampalli in Vellore District of Tamil Nadu. Based on the experiences gained from Rainfed Farming Development Theme (RFDT) in the field, a seminar on "Crop Insurance for Sustaining Agricultural Production" was organised by DHAN Foundation and invited multiple stakeholders in the country to share their experiences and recommend coping mechanisms to mitigate risks.

This brief focuses on analysis of various existing crop insurance schemes available in India and other countries, their reach and limitation and introduction of a new concept "Mutuality". This lays emphasis on crop insurance not only for farmers but also for the landless people, artisans and others who depend on agriculture.

## Summary of Suggested Changes in Policy and Practice–Departmentwise

| Existing Policy and Practice | Policy/Practice changes required |
|---|---|
| **1. Ministry of Agriculture, Government of India** | |
| Crop Insurance is not given sufficient thrust in the agricultural policies at Central and State level. There is no mention about implementation of Crop Insurance in the National Commission on Farmers Report. | Need for thrust on Crop Insurance in the Central Agricultural Policy. It should include risk prevention and risk management by involving farmers.<br>When new products are launched, the Government may consider subsidising the premium initially for 3–5 years to help the farmers.<br>Insurance components should be compulsorily included in the Central/State Government Schemes like NWDPRA. |
| The present scheme has limited reach among farmers. A recent National Sample Survey Organisation (NSSO) report suggests that only 4% of the farmers are covered under Crop Insurance Scheme. | It should be made mandatory to cover both loanee and non-loanee farmers under group approach, instead of individual approach. Non-loanee farmers can be covered through community organisations.<br>A permanent sounding board in the Ministry of Agriculture for Risk Prevention and Risk Management in Agriculture should be created. |

| Existing Policy and Practice | Policy/Practice changes required |
|---|---|
| | A detailed guideline to be prepared for implementation of policies governing control of risk in various agroclimatic zones by involving State Government, Insurance Providers, Banks and Civil Society Organisations. |
| **2. Ministry of Finance, Government of India** | |
| There has been small allocation of funds for inclusion of farmers in the Crop Insurance scheme. | Specific budget should be allocated for encouraging the farmers to take up Crop Insurance.<br>More budgetary support should be provided to cover the risks faced by farmers.<br>Allocation of budget for piloting/experimenting products based on other countries' experiences, product testing based on group approach and on a region-wise basis. |
| **3. Insurance Regulatory Development Authority of India (IRDA)** | |
| Micro Insurance Regulation governs Crop Insurance facilitation measures. Inadequate scope of cover; only 10% of crops and 2% of cattle are insured. | To provide solvency support and to ensure financial viability.<br>To encourage the concept of ***Mutual Insurance***. Providing support to Government Institutions initially on reinsurance.<br>Thrust on identifying Micro Insurance agents. Micro Insurance agents can widen network. Micro Insurance could be effectively used for reaching the unreached through appropriate agency. Recognise and encourage SHG Federations, Farmers' Federations, and Civic bodies, MFIs as Micro Insurance agents.<br>To provide a regulating and an enabling environment for insurers and reinsurers to pilot/experiment mutuality concept in Micro Insurance. |
| **4. National Agriculture Insurance Company (NAIC)** | |
| Currently there are very few products released by insurance companies based on yield data, rainfall etc., and current products do not offer compensation for catastrophic income losses. Not all crops and regions are covered. Only specified crops or regions are covered experimentally.<br>NAIS has inadequate scope of cover because of complex underwriting procedures, high administrative cost, delay in claim settlement and high claim ratio. | Introducing an agency model into the existing insurance scheme will make Crop Insurance more effective. Instead of an individual approach for insurance, a group approach can be followed which can act as checks and balances.<br>Adequate manpower to be deployed. Changes in procedures by simplifying the documents and use of vernacular language for underwriting procedures.<br>To ensure speedy claim settlement, procedures need to be simplified by trimming down too many functionaries and tedious administrative design. |

| Existing Policy and Practice | Policy/Practice changes required |
|---|---|
| | To provide adequate solvency requirements, thereby ensuring financial viability of the scheme. |
| Because of Adverse Selection and Moral hazard, performance of crop insurance schemes is not satisfactory. | Educating the farmers on the implications of Moral Hazard and Adverse Selection through agencies, Agricultural Department and Bank network. |
| **5. NABARD** | |
| Coordination between Bankers, Primary Agriculture Cooperatives (PACs), Regional Rural Banks (RRBs), NAIC and Agricultural Department is poor. We need to ensure that crop insurance is implemented with full vigour. | Sensitisation programme to bankers and Agriculture Department to be inbuilt and better coordination has to be ensured.<br>In priority sector lending, NABARD should provide guidelines, and follow-it up with commercial banks, RRBs and Primary Agricultural Cooperatives to make Crop Insurance mandatory for farmers, in alliance with Insurers and State Government. |
| **6. Indian Meteorological Department (IMD)** | |
| Limited scope/cover of weather insurance. | The scope has to be increased by covering more weather parameters like temperature and wind, apart from rainfall. Improving infrastructure facilities will help to achieve this.<br>Increasing the number of automated weather stations and installation of temporary weather stations.<br>Improving the operations of data providing agencies for adequate and accurate procurement of data which would reflect the true state of farmer's field. |
| **7. State Agriculture Department** | |
| Technologies used for assessing the risk are outdated.<br>Currently crop-cutting experiments are done at Firka (Block) level. | Improved technologies like satellite imagery can be used to assess the vigour of the crop and to settle the claims on timely basis.<br>The crop-cutting experiments should be done at village level so that more farmers can be covered and compensation can be given to individual farmers. |
| **8. State Agricultural Economics and Statistics Department** | |
| Claims are being settled on the basis of the yield data for the past three years. | An attempt has to be made to widen the database for at least ten years. Individual farmer/Village Panchayat shall be encouraged to maintain the records of their crop yield and these can be computerised. |
| **9. State Finance Department** | |
| Provisions should be made in the state's annual budget towards crop insurance. | State should allocate subsidy to cover Crop Insurance by sharing the premium ratio with farmers and Central Government. The subsidy may be gradually withdrawn over a period of five years. |

| Existing Policy/Practice | Policy/Practice changes required |
|---|---|

## 10. Academic Institutions

Universities have not paid adequate attention on risk management studies.

Studies should be undertaken by academic institutions to support in designing a comprehensive Crop Insurance scheme.

Piloting and experimentation on a wider basis have to be encouraged.

This brief proposes recommendations to Departments and suggests alternative mechanisms, approaches and products for risk mitigation among farming communities.


**Policy seminar on "Crop Insurance for Sustaining Agricultural Production"**

# Crop Insurance for Sustaining Agricultural Production

## I. Introduction

Agriculture and allied sectors like forestry, logging and fishing accounted for 18.6% of the GDP in 2005 and employed 60% of the country's population. It accounts for 8.56% of the India's exports. About 43% of India's geographical area is used for agricultural activity. Despite the steady decline of its share in the GDP, agriculture is still the largest economic sector and plays a significant role in the overall socio-economic development of India.

Farming is both a way of life and the principal means to livelihood for 60% of India's population. While our farm population is increasing annually by 1.84%, the average farm size is becoming smaller each year and the cost-risk-return structure of farming is becoming adverse, with the result those farmers are getting increasingly indebted.

Farming is fraught with many risks. These can be categorised as human or personal risks, asset risks, production or yield risks, price risks, institutional risks and financial risks. The production risks include weather risks, pests and diseases, and disasters like Tsunami. Among these risks weather risks are the predominant ones as more than 60–80% of the yield is decided by the adequate quantity and proper distribution of rainfall. In many parts of India, 60% of the sown area depends on rainfall and at least 50% of the variability in crop yields is caused by rainfall variations. Weather is becoming increasingly unpredictable because of climate change and other global environmental factors. Further, the risk due to long dry spell and drought are recurrent. The consequences of recurrent weather risks are also having far reaching effects on the farming families like lack of credit availability, migration, and change of vocation etc.

The traditional coping mechanisms used by farmers include accumulation of buffer stocks as precautionary savings, varying cropping practice, (planting different crops, like drought resistant varieties, planting in different fields and staggered over time, intercropping and relying on low risk inputs), diversification of income sources or enterprises, distress sale of farm assets, withdrawing children from school, migration and borrowing. At times, these may prove to be costlier than the income opportunities that farmers are likely to lose. This is where the existence of perfect capital and insurance markets can provide better management of farm risks.

State's response in addressing agricultural risks through various kinds of Crop Insurance has faced plethora of issues throughout the world. The table given below shows the financial performance of State run crop insurance programme in different parts of the world. It can be seen that these programmes are unsustainable due to continuous losses.

**Financial Performance of Crop Insurance Programme in six Countries**

| Country | Programme Period | A+I/P |
|---|---|---|
| Brazil | 1975–1981 | 4.57 |
| Costa Rica | 1970–1989 | 2.80 |
| Japan | 1985–1989 | 2.60 |
| Mexico | 1980–1981 | 3.65 |
| Philippines | 1981–1989 | 5.74 |
| USA | 1980–1989 | 2.42 |

**Note:** A–Average Administration Cost; I–Average Indemnities paid; P–Average premium paid.

**Source:** Skees et al. (1999), www.cgiar.org/ifpri

True, insurance, by itself cannot increase productivity or be a source of financing. Nevertheless, availability of insurance enables a farmer to recover his losses owing to crop failure and recoup his financial strength to undertake next season's cultivation. Crop insurance, is thus a risk management tool for sustaining agricultural production.

## II. Evolution of Crop Insurance

Growth of agricultural sector in India is not just a desirable end but also an imperative, since it supports the majority of the work force and contributes 22% of the Gross Domestic Product (GDP). Food security for the nation must be accompanied by financial security for the producers of food. Unfortunately in India, the rural economy is very fragile, since 65% of the agricultural sector is dependent on natural factors especially rainfall. As a result, farmers are often debt-ridden and extremely vulnerable to destitution, hence the need for insurance in the agricultural sector.

The idea of Crop Insurance germinated as early as the beginning of 20th Century. Credit for pioneering work on Crop Insurance in India goes to Mr. S. Chakravarti, who in 1920, proposed an Agriculture Insurance scheme based mainly on the rainfall approach. Soon after Independence, the Ministry of Food and Agriculture took steps to introduce crop and cattle insurance. The major debate was whether to adopt a homogenous area approach or an individual one. Homogenous area approach was favoured as the entire unit would pay the same rate of premium and get the same coverage benefits. But this scheme was not accepted by most of the states.

In October 1965, Government of India introduced a Crop Insurance Bill. The Bill provided a re-insurance scheme, which was not accepted by the States because the financial obligations were too high. In 1972, the General Insurance business was nationalised and General Insurance Corporation of India (GIC) was set up. Then a Pilot Crop Insurance scheme was introduced, which was based on area approach. This covered cereals, millets, oilseeds, cotton, potato and gram, and was limited to loanee farmers. It was implemented in 13 states and carried on until 1984–1985. In 1985, All Risk Comprehensive Crop Insurance Scheme (CCIS) was launched in Kharif season to protect major crops. The scheme was linked to short-term crop credit and used the homogenous area approach. CCIS was an instrument of risk management in agriculture and as a measure of providing relief to farmers whose crops are damaged due to natural calamities. The sum insured is equal to crop loan disbursed subject to a maximum of Rs. 10,000 per farmer. The premium is charged at the rate of 4% for rice, wheat and millets and 1% for pulses and oilseeds. Since inception of the scheme in 1985, about 6.45 crore farmers have been covered up to Rabi 1997–1998 season. The total amount of claims paid was Rs. 1623 crore as against a premium collection of about Rs. 313 crore up to Rabi 1997–1998 season. The scheme is thus unviable. The Government of India and the concerned State Governments meets the losses incurred in the ratio of 2:1. The main drawback of the scheme is seen in the claims entertained for one single crop, namely, groundnut, because of which Gujarat state alone received Rs.792 crores. Thus, one single crop (groundnut) in just one state (Gujarat) alone claimed 48.8% of total claims between 1985 and Rabi 1997–1998.

In 1997 a modified CCIS namely Experimental Crop Insurance scheme was introduced during Rabi season in 14 districts of five states to cover non-loanee small and marginal farmers giving them a 100% subsidy in premium. The Central and State government shared premium and claims in the ratio of 4:1. About 4.78 lakh farmers were covered with the insured sum amounting to Rs. 172 crore under the scheme during the Rabi 1997–1998 season. The total premium collected was Rs. 2.86 crore against that the claims amounted to around Rs. 39.78 crore. This scheme lasted only one season and discontinued because of administrative and financial difficulties.

Gradually, the government saw the need for more evolved forms of crop insurance in the country and the need for a specialised entity to plan and implement such schemes. The objectives of the Crop Insurance schemes implemented in the country since 1985, have been:

a) To provide insurance coverage and financial support to the farmers, in the event of failure of any of the notified crops as a result of natural calamities, pests and diseases;
b) To encourage farmers to adopt progressive agriculture; and
c) To help stabilise farm incomes, particularly in disaster years.

Insurance Regulatory Development Authority (IRDA) came into existence in the year 1999 through IRDA Act. The main missions of IRDA are

1. To protect the interests of the policy holders.
2. To regulate, promote and ensure orderly growth of the insurance industry.

Thus Agriculture Insurance Company (AIC) was set up in December 2002. The newly formed company took over crop insurance activities from the GIC in April 2003. The AIC is the largest body offering insurance cover to cultivators in India. The schemes offered are Varsha Bima, National Agricultural Insurance Scheme (NAIS) and Farm Income Insurance Scheme (FIIS). AIC proposes to use remote sensing technology for crop insurance for acreage estimation, stress detection, crop health and yield modelling. The AIC has three policy goals implied in the scheme.

1. Social response–providing support to the poor farmers who stand to lose the most during severe crop failures;
2. Risk management–improving rural financial services' ability to manage commercial risk, which is important for improving access to finance by the farmers;
3. And controlling the fiscal exposure of the government, in terms of the average exposure as well as the peak exposure during disaster years.

The NAIS replaced the CCIS from the Rabi season in 1999–2000. It covers all food crops, oilseeds and horticultural crops. This is a nation-wide crop insurance programme offering yield protection and is being implemented in 23 states and two union territories. NAIS covers over 30 crops during Kharif season and over 25 crops during Rabi season. Since its inception the scheme covered only 46.21 million farmers.

Farmers have difficulty in finding an effective insurance because of the following:

1. **"Moral hazard"** is omni present; once insured, farmers are less likely to apply extra fertilizer, labour, and other inputs needed to maximise chances of success: the very fact of being insured raises the probability of losses.
2. **"Adverse selection"** arises since the farmers in the riskiest situations are naturally the most eager to purchase insurance. When insurers cannot tell before hand that is most risky, they have to charge everyone the same price for insurance, but often that only ends up pushing "safer" farmers further away. If insurers lowered prices, they might be able to attract a better pool of clients, but profit margins will fail if the improvement in clients is less than proportional to the price drop. Charging different prices to different types of farmers could solve this problem, but the insurance company has little to go by when distinguishing the best prospects from the worst.
3. It is hard for insurers to provide crop insurance in a cheap way, since contracts are generally for small amounts and damages have to be assessed by insurers on an individual basis; scale economies are thus limited.

## Private Initiatives

The only major private player in the insurance industry to offer agricultural insurance is ICICI Lombard, which has insured about one lakh farmers. Under its terms, the insurance company is seeking to insure farmers against extreme changes in weather patterns. With the support from the World Bank and the International Finance Corporation (IFC), ICICI Lombard conceptualised and modelled the "Rainfall Insurance" policies. The insurance schemes are tailored to provide protection against deficient rainfall, excess rainfall and low temperatures.

ICICI Lombard launched the following products

- During the Kharif season, generic product was launched in eight states across the country at 72 locations
- Cover for excessive and deficit rainfall was provided
- Crop specific product
- Soya bean, coriander, kinnow and oranges in Rajasthan
- Paddy and wheat in Punjab
- Groundnut, grapes and chillies in Andhra Pradesh
- Groundnut and cotton in Tamil Nadu

The other private insurance players are Royal Sundaram, IFFCO-Tokio, Reliance, Cholamandalam who are piloting rainfall based insurance products.

## Comparison between the schemes offered by Private and Government Insurers

| Weather Insurance | Crop Insurance |
|---|---|
| Coverage for deviation in rainfall index. Compensation for economic losses due to deficit or excess rainfall | Coverage for droughts and floods, under extreme situations and coverage for pest attacks are also available |
| Low administration costs | High administration costs, high costs ratios |
| Calculation of rainfall index is fully objective and transparent | Claim settlement basis is non-transparent |
| Immediate claim settlements | Lengthy claim settlement process |
| Reinsurance is available | Reinsurance is limited |

Note: ICICI LOMBARD and other private insurance companies offer exclusive Weather Insurance, while Crop and Weather Insurance is offered by AIC.

*Weather insurance does not suffer from the usual Moral Hazard and Adverse Selection and high administration cost problems of traditional crop insurance and it is therefore more suited to small farmers in rainfall dependent countries such as India.*

## Emerging solution–Mutuality Concept

Despite high premium subsidies there has been low penetration of insurance in agriculture sector. High administrative costs and claims exceeding the amount of premium paid, **Moral hazard** and **Adverse Selection** have led to a new concept of insurance known as "Mutual Insurance". The main features of this insurance are

- Sharing risks–cooperation between public and private sector.
- Socially responsible and sustainable orientation through stakeholder cooperation and integration with local culture.
- Instruments for risk retention–risk reduction by means of prevention and by means of self-regulation.
- Risk analysis models and data collection, crystal clear risk calculation models.

Mutuality is a contemporary instrument to support individual responsibility.

This type of Mutual Insurance is being implemented in The Netherlands and has been well received by the farmers. There is an enabling environment provided by the Dutch regulator in providing exemption for specific mutual risk insurance. For example, Netherlands Potato farmers were covered under Potatopol, where potato growers faced many problems due to brown rot and ring rot. Focus was on risk prevention and risk management. The experiment had excellent claims history. Other agriculture related activities like poultry and fisheries were also covered under different Mutual Insurance schemes. The experience of Netherlands can be studied and applied in the Indian context.

# III. Sectoral Review

Farming though risky is being pursued by farmers all over the world with passion to meet the growing food demand. India being an agrarian economy, monsoon plays a crucial role in crop production. As weather is unpredictable, the agricultural output is uncertain. About 43% of India's geographical area is used for agricultural activity. Assured irrigation is available only to 3.6% of the land. This leads to farmers being more dependent on the monsoon. The erratic and uneven distribution of monsoon rains lead to risks and uncertainties for farmers.

Traditionally risks in India were managed either privately or through mutual understanding

within the family. In the modern context, crop insurance, as a tool for risk mitigation and risk sharing is the essence of insurance.

IRDA is of the opinion that various insurance schemes have not become commercially viable. The scheme has to be sustainable both in terms of remuneration and professional administration.

The country has about 11 crore farmers of whom only about 20% avail crop loans from financial institutions and only half of those are insured. Basix recorded from their field observations that most important shocks farmer faced were natural disasters (80%) and crop related shock was only (15%). Because of shocks, on an average 25% of their annual income drop was noticed. It was found that farmers report several strategies to cope with these adverse shocks and they were: additional borrowing (30%), delay immediate payment (23%), sale of asset (15%) and work off-farm (11%).

Over the years, the Government of India evolved many crop insurance schemes with improvements in each scheme over the previous one. Currently the NAIS is being implemented since Rabi 1999–2000 with the main objective of providing insurance coverage to all farmers (loanee and non-loanee) irrespective of their size of crops, land holding, and to encourage the farmers to adopt progressive farming practices, high value inputs and improved technology in agriculture.

The drawbacks of NAIS are

**Limited reach:** In 2003, only 1.3 million hectares out of 142 million hectares of cultivated land was covered, a negligible fraction;

**Compulsory coverage:** The product is tied to the crop loans given by Rural Public Sector Banking System. The coverage is compulsory for the borrowers and not voluntary;

**Lack of transparency:** Claims are assessed by crop cutting experiments in which yield assessment is made in few farms and the results are supposed to represent a large geographical area, usually a Taluk. The results are not available for public verification and therefore the objectivity of the experiments is in doubt;

**Uniform premium:** The premium rate is uniform for a crop across the whole country while the risk is not uniform nation wide;

**Delayed compensation:** The claim settlement process takes a very long time, from six months to two years.

NAIS is being compulsory for loanee farmers and optional for non-loanee farmers. It provides insurance irrespective of the size of holding of farmers and 50% subsidy in premium given to farmers is borne by the Government. In case of non-loanee farmers they have to open bank accounts for getting cover under Crop Insurance Scheme. Most of the farmers are unaware of the procedure for insurance. Instead of individual accounts for farmers, groups can maintain the account, which will make the process easier. Taking into account all these factors and high claim or premium ratio, there is a need to refine the programme to enhance the economic viability, so that the scheme will sustain over time to serve large section of the farmers to insure their risk and hence agricultural productivity.

A recent National Sample Survey Organisation (NSSO) report suggests coverage of 4% of the farmers under the Crop Insurance scheme. It is significant to note that only in three states: Andhra Pradesh, Madhya Pradesh and Maharashtra, 10% or more of the farmers had the benefit of Crop Insurance. Crop insurance in our country has just touched the periphery of the total number of farmers. The small farmers do not have the capacity to withstand risk and hardly have any other risk-mitigating device. All food grains should be in the ambit of crop insurance. One can expect that all small farmers will be covered by rural financial institutions and therefore would enjoy cover for their food crops and every food crop grower will have an insurance cover.

As against this, weather insurance that is offered by Government Insurers as well as Private Insurers has certain advantages like transparency in premium calculation and immediate claim settlements. But the main disadvantage is the dependence on the IMD data as the weather stations are generally located in district headquarters and rainfall may not

represent the actual rainfall in the farmer's field. Moreover, it is also not practical to install weather stations in each village.

The National Policy on Agriculture 2005–2006 seeks to actualise the vast untapped growth potential of Indian agriculture, strengthen rural infrastructure to support faster agricultural development, promote value addition, which inturn would accelerate the growth of agro business, create employment in rural areas, secure a fair standard of living for the farmers, agricultural workers and their families, discourage migration to urban areas and face the challenges arising out of economic liberalisation of globalisation. The policy seeks to promote technically sound, economically viable, environmentally non-degrading and socially acceptable use of country's natural resources: land, water and genetic endowment to promote sustainable development of agriculture.

This policy specifies that NAIS will be made more farmer-specific and effective. This scheme will cover all farmers from financial distress caused by natural disasters. This scheme should give more thrust on scaling up and adopt different approaches such as agency and group approach.

National Commission on Farmers suggests a strategy for achieving 4% growth rate in agriculture through a mix of technology, credit, insurance and marketing support and knowledge connectivity.

Recent shifting of the responsibility from the Cooperative Department to Agriculture Department has brightened the scope of extending crop insurance to farmers, however the Extension Department of State Agriculture Department has to create more awareness among farmers in Crop Insurance.

Currently all settlements are ensured through Banks, however banks generally involve loanee farmers but non-loanee farmers are out of the ambit of insurance. There has to be better coordination between Agriculture Department, Banks and NAIC and revamping of the existing delivery mechanisms is desirable.

Price risk management for non-perishables through development of infrastructures like godowns and cold storage structures for perishable goods should be given emphasis. Since the products can be stored for a long time and can be marketed at the time of need.

*It appears that farmers are experimenting with the product, with no major changes in input usage or area devoted to cash crops: perceptible change in behaviour is seen. "Villagers who insured their crops were less stressed".*

In a survey by Basix in their area of operation, 97% of farmers in the villages preferred insurance due to security (60%) and payout in the following year (30%). This success is due to better understanding of the insurance product by the farmers because of the intervention of the promoter.

Another emerging field is **Mutual Insurance** which is being followed in certain countries and it is being piloted in India as it is handled by people themselves who are well aware of the risks in farming and allied activities.

There is a high need for emphasising Crop Insurance since it is a risk management and risk prevention tool. Thrust should be given by Government of India, State Governments, Insurance Companies, Civic bodies and farming community for making the insurance schemes successful.

## IV. Crop Insurance Initiatives

### 4.1 DHAN's experience

Water is the key to sustainable development but it is a limiting factor in agricultural production. Compared to agriculture, rainfed agriculture is more risky than irrigated agriculture. The failure of crops is more pronounced and the yields are not uniform from year to year. Hence, the farmers are always under financial stress. As compared to this, farmers from assured irrigated regions have some kind of livelihood security as they can take up at least one crop in a year, which might be just sufficient for their personal consumption. As against this, farmers from rainfed regions are dependent on the "Rain Gods". When crops fail because of bad weather, the farmers are prone to borrowing from the village moneylenders. They

get trapped into the vicious cycle of debt. In order to bring about some improvements in the lives of the farmers, DHAN took the initiative of piloting crop insurance. Insurance is a tool by which the poor and marginal farmers can make use of, to mitigate the risk arising in dry land agriculture.

DHAN Foundation took up two field projects in collaboration with ICICI Lombard, one each in Vellore and Madurai District, to understand more about crop insurance under rainfed agriculture.

Under the Deficit Rainfall Insurance (DRFI) piloting Programme, crops like groundnut and cotton in Vellore and black gram and cotton in Madurai were examined. DRFI is an index-based insurance, which uses weighted and capped rainfall during different stages of the crop period, as proxy for assessing the rainfed crop yield loss. In the first year 272 farmers were covered and sum insured was Rs. 6,36,000/. The rainfall was deficit and damage was found in all the crops but payout was done only in one of the locations. During the second year of the study, groundnut and cotton in Vellore and cotton in Madurai were covered. Though the rainfall was deficit in the initial stages and excess in later part of the season, no payouts were made. A total of 604 farmers were covered against an insured sum of Rs. 21,343,700/.

In essence, DRFI is a potential tool for managing losses due to long dry spell/drought. But this instrument is in the early stage of development and is in need of evolution and promotion to make it effective. Using local weather station data, precise bio-actuarial modelling, insuring for specific rainfall events and utilising DRFI as reinsurance for Mutual Crop Insurance can improve this insurance product. The other major step to be taken is to educate and create more awareness about the product and make the farmers participate voluntarily to make this programme a success.

To strengthen the DRFI further the following areas needs to be improved.

- Actual data base on probability of loss (crops, geographical area and quantity) that includes the study of rainfall data and occurrence of other natural calamities.
- Trends in changes of crop, rainfall, crop failure and its coping mechanisms among farmers.
- Present practices of agriculture crops, and their risk factors, it includes the cost of production, statutory minimum price, possibility of risks in years.
- Awareness level of farmers on crop insurance, sharing of risks, willingness to contribute.
- Farmer's views, interest in insurance, areas of coverage such as crops, seasons, rainfall, geographic area, quantity of loss and its costs.
- Crop Insurance provider's inventory.
- Financial sustainability of the scheme and affordability by farmers.
- Possibility of alliances with State, Centre and other general insurance companies.

## 4.2 Other organisations' experiences with private insurance players

Basix having worked on Crop Insurance pilot programme for four years launched India's first rainfall insurance programme in July 2003, through ICICI Lombard. Farmer's response was immediate as the farmers valued the quick payout of the weather policy, in comparison to the crop insurance policy of the Government.

Karnataka Government and IFFCO-Tokio General Insurance Company launched Barish Bima Yojana. Under this scheme, Barish Bima Yojana provided crop insurance coverage to farmer in groups of a minimum of 25 members. A group of 25 farmers together having a minimum of 100 acres of cultivable land was selected. The crop insurance was awarded on the basis of the amount of rainfall in an insured area. Insurance was decided on the area of land insured and the type of crops grown. Yield was not the criteria for deciding the compensation.

## 4.3 Experiences from other countries

a) Crop Insurance in the United States is subsidised by the government but administered through private companies. As hail insurance is not subsidised, so most insurances offer hail insurance along with subsidised Government policies.

b) Crop Insurance in South Africa was started in 1929 where a group of farmers started a pool

scheme. Subsidized multi-peril insurance which was offered but for the last 15 years no subsidies have been given. Several crops like maize, wheat, sunflower and citrus fruits are covered. Here it is a case where private players are offering crop insurance, which are beneficial to farmers and crop insurance has survived without subsidies.

c) In Canada too Crop Insurance, though voluntary is administered through an area approach similar to our country. Research survey in 1995 indicates that area approach was inequitable and also inefficient.

d) In Netherlands, Mutual Insurance concept among farmers has gained momentum. Dutch regulator gives an enabling environment for the mutuality concept of insurance. The role played by insurance providers and Reinsurance providers like Interpolis and Eureko-Re gives a good support to farmers and their councils and unions. They also support activities like risk modelling, risk analysis, risk management and providing advice, and assistance for establishing mutual insurance. Risk transfer is done through reinsurance activity.

A few examples of Mutual Insurance is given below:

### Avipol

This is a Mutual Insurance product developed for chicken Breeders in 1966. This covers direct and indirect losses caused by *Salmonella*. The main features of this product are risk prevention stimulated by differentiation of premium and deductible, contract specifications on due diligence of hygiene. More features were added to the product in the following years because the *Salmonella* risk was under control in 1999. Hence claims were not above retention threshold.

### Potatopol

This is a Mutual Insurance product for potato growers to control Brown rot and Ring rot bacteria, in 1996. The focus is given on high-risk prevention, stimulated by additional retention when irrigated with surface water. Since potato is the major crop grown in Netherlands, multiple reinsurances are involved in giving support to specific mutual insurer. Experiments show an excellent claim history.

The cases show that the thrust given by mutual insurers in insurance is because of the following:

1. Agricultural and horticultural risks cause volatility and reputation damage in the sector and chain related activities.
2. Risk management and risk prevention is in the interest of the sector as well as their banks.
3. The prime concern among insurers is Noblesse oblige. Stake holders are entitled to optimal mix of protection and opportunities.

## V. The Policy Seminar

Realising the importance of Crop Insurance, DHAN Foundation organised a one-day seminar on "Crop Insurance for Sustaining Agriculture Production". The seminar provided a platform for all the stakeholders: Farmers, Government Officials, Mr. Y. C. Nanda, Member, National Commission on Farmers, Academicians (National Insurance Academy, Pune), Research Scholars and Eminent Scientists from Universities (TNAU) and Professionals from IRDA and various Insurance Companies (AIC, ICICI Lombard). The Seminar mainly focused on the following:

- To share knowledge and experience among crop insurers.
- To identify risks and issues in crop insurance.
- To find ways of solving problems and to meet the challenges in crop insurance.
- To find a mutually beneficial solution for agriculture related risks.

Policy seminar on "Crop Insurance for Sustaining Agricultural Production"

The deliberations and debate of the seminar with further sectoral review brings the following recommendations:

## VI. Recommendations

- **Awareness** about Crop Insurance is limited among farmers. Hence Agricultural Extension Department of the Government should take initiative for promoting Crop Insurance.
- Crop Insurance should be made **mandatory** irrespective of loanee or non-loanee farmers, crops and regions.
- Appropriate institutions including civil society should seriously consider canvassing of crop insurance on agency mode.
- Calculation of premium to be **transparent**. Settlement of claims to be timely and it should be **speeded** up.
- **Satellite imagery** can be used for calculating the vigour of crops and can be correlated with settlement of claims.
- Steps should be taken for creating awareness on **Mutual Insurance**. Private agencies and NGOs can be used for **capacity building of People Institutions** and **funding support for the NGOs.**
- SHGs–women groups are ideal channels for marketing and facilitating Weather and Crop Insurance, which would provide security to our beleaguered farmers.
- A **comprehensive Crop Insurance Scheme** covering all types of risks that would be suitable to all farmers should be evolved.
- Crop Insurance should be a **permanent feature** of the **National and State Agricultural Policy.**

## VII. Way Forward

DHAN Foundation will take this policy brief into consideration of bringing required changes in Policies, Practices and Research for the benefit of small and marginal farmers.

This can be done in consultation with the following departments:

- Central and State Agricultural Department
- State Agricultural University
- Planning Department of Tamil Nadu
- Commercial Banks
- Experienced Farmers' Federations
- NGOs

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## Abbreviations

| | | |
|---|---|---|
| AIC | — | Agricultural Insurance Company |
| CCIS | — | Comprehensive Crop Insurance Scheme |
| DRFI | — | Deficit Rainfall Insurance |
| FIIS | — | Farm Income Insurance Scheme |
| GDP | — | Gross Domestic Product |
| GIC | — | General Insurance Corporation |
| IFC | — | International Finance Corporation |
| IMD | — | Indian Meteorological Department |
| IRDA | — | Insurance Regulatory Development Authority |
| MFI | — | Micro Finance Institution |
| NAIS | — | National Agricultural Insurance Scheme |
| NGO | — | Non-Governmental Organisation |
| NSSO | — | National Sample Survey Organisation |
| PAC | — | Primary Agriculture Cooperative |
| RRB | — | Regional Rural Bank |
| SHG | — | Self-Help Group |
| TNAU | — | Tamil Nadu Agricultural University |

## Why this Policy Brief?

DHAN Foundation is involved in Natural Resources Management focusing mainly on Community based Development and Management of Water Resources in South India. The initiatives taken so far have reached several villages through rejuvenating water bodies benefiting thousands of families. By working closely with the community, DHAN has gained valuable experience over the past two decades. DHAN believes that for better management of water resources, certain changes in the present policies and practices are needed. Hence it has now been decided to come out with Policy Briefs to disseminate the changes needed in specific sectoral issues. This will facilitate Administrators and Field level Organisations in their attempts of better management of scarce water resources.

Policy Brief 5 focuses on the emerging issues related to crop insurance scenario in the country. Crop insurance is a risk management tool for sustaining agricultural production. This brief is planned for focusing the attention of Agriculture Department, Banks, IRDA, Private Insurance Providers, Academic Institutions and NGOs. Through this document, we hope to share and disseminate knowledge and experience among the stakeholders for paving the way for developing need based Crop Insurance products.

## About DHAN Foundation

DHAN Foundation is a grassroots development organisation and was initiated with the objective of bringing highly motivated and qualified young professionals to the development sector for new innovations in development programmes and for upscaling development interventions to eradicate poverty. The Foundation works towards bringing significant changes in the livelihood of the poor through innovation in themes and institutions.

The approach of the Foundation is to promote people's organisation and their networks aiming at improving the livelihoods of poor communities by organising development works around themes. These people's organisations would sustain themselves and excel in long run. Presently DHAN Foundation is working on the themes namely Community Banking, Conservation of Tanks, Information and Communication Technology for Poor, Rainfed Farming and Panchayats.

## About the Centre for Policy and Planning

The Centre for Policy and Planning of DHAN Foundation provides support to the programmes and institutions of the DHAN Collective so that they evolve, develop and modify their policies and fulfil their aims. It shapes the sectoral policies to practice at the grassroots. DHAN Foundation as a member of many policy-making bodies on Microfinance and Water Conservation strongly advocates pro-poor policies. The Centre takes up policy study and initiating research on Microfinance, Water Conservation, Rainfed Farming, Panchayat Raj Institutions and Disaster Mitigation. As a resource centre, it organises many capacity building events and training programmes for Bankers, Government officials and representatives of NGOs within and outside the country.


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