

**UPTAKE ANALYSIS OF PRADHAN MANTRI FASAL BIMA YOJANA IN
KARNATAKA**

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PREFACE

The Pradhan Mantri Fasal Bima Yojana was launched by the Prime Minister of India on 18 February 2016 in place of National Agricultural Insurance Scheme (NAIS) and Modified National Agricultural Insurance Scheme (MNAIS). This scheme envisaged to help decreasing the burden of premiums on farmers who take loan for cultivation and also will safeguard them against the inclement weather. This scheme has been implemented in every state of India, in association with respective state government.

It envisages the uniform premium of only 2 per cent to be paid by the farmers for kharif crops, and 1.5 per cent for the rabi crops. The premium for annual commercial and horticulture crops will be 5 per cent. Pradhan Mantri Fasal Bima Yojana (PMFBY) or Prime Minister's Crop Insurance Scheme aims at supporting sustainable production in agriculture sector by way of: Providing financial support to farmers suffering crop loss/damage arising out of unforeseen events, Stabilizing the income of farmers to ensure their continuance in farming, Encouraging farmers to adopt innovative and modern agricultural practices, Ensuring flow of credit to the agriculture sector; which will contribute to food security, crop diversification and enhancing growth and competitiveness of agriculture sector besides protecting farmers from production risks.

The study was conceptualized to analyse the farmers perception on agricultural insurance, institutional arrangements of the scheme and its drawbacks in successful implementation by Centre for Management in Agriculture (CMA)- IIM Ahmedabad with coordination of Agro Economic Research centres spread all over India. As per the guidance of the coordinating centre the study in Karnataka was conducted by Agricultural Development and Rural Transformation centre, ISEC Bangalore.

In Karnataka three districts were selected based on levels of enrolment viz., Bidar (high uptake), Kalaburagi (medium uptake) and Hassan (low uptake) districts. From each district a sample of 50 farmers were representing three categories were interviewed, to represent three categories of farmers, viz., Loanee Farmer, Non-Loanee and Uninsured Farmer. 30, 10 and 10 farmers were selected to represent Loanee, Non-loanee and Uninsured farmers.

Main objectives of the study were: farmer perception about agricultural insurance in general and with reference to PMFBY in specific; evaluation of institutional arrangement in PMFBY; and bottlenecks in Successful implementation of PMFBY. The literacy rate of un-insured farmers was 74.33 per cent and it was more compared to loanee insured farmers (56.66 %) and non-loanee insured farmers (40.00 %).Majority of the loanee insured sample farmers belongs to OBC category i.e., 52.00 per cent followed by SC/ST (25.67%) and general category (22.33%). Where as in case of non-loanee insured farmers and un-insured farmers majority were belongs to OBC category followed by general category and SC/ST. All sample farmers primary occupation is agriculture and some sample farmers also have secondary occupations like petty shops, employees of dairy cooperatives, private companies etc. 18.88 percent of loanee insured farmers were engaged in secondary occupation followed by non-loanee farmers (10.00%) and un-insured farmers(6.67%).

The average annual income from non-agricultural sources was more in case of loanee insured farmers (Rs. 18927/-) compared to non loanee insured farmers (Rs.18450/-) and un-insured farmers (Rs. 13100/-). These non-agricultural income was generated through different sources such as Salary from employment, farm labor, MGNAREGA, Pension,and Business/trade.Among the sample farmers un insured farmers having more asset value compare to insured farmers. The commercial banks were major credit source for loanee insured farmers i.e., 64.44 per cent of the had took loan from commercial banks followed by cooperative (38.89%) and rural banks (28.89%). 100 percent of farmers had took for agriculture purpose and no one took loan for other than agriculture. The average loan amount sanctioned per farmer was more in commercial bank (Rs. 115068/-) followed by cooperative banks (Rs. 91657/-) and rural banks (Rs. 85200/-).The average land holdings of non-loanee insured farmers was more i.e., 6.88 acres followed by loanee insured farmers (4.79 acres) and un-insured farmers (4.32 acres). The major source of irrigation among loanee insured farmers dug wells (47.48 %) followed by borewell (41.11 %) and canal irrigation (38.89%). In case of non-loanee insured farmers, majority were depend on borewell (70.00%) followed by canal (56.67%) and dugwell (46.67 %). Bidar district, which has highest enrollment, about 23 per cent of them were not aware of PMFBY and 21 per cent of them have not availed any other insurance scheme earlier to PMFBY. According to their own admission, 76 per cent of loanee respondents, were not insured under PMFBY and 84 per cent of loanee respondents opined that they were insured because of loan and only 16 per cent of loanee farmers felt other way, - intention to get PMFBY.

Among major policy suggestions : Department of Agriculture, in tandem with other state agencies have organized PMFBY awareness programs in villages and encouraged the farmers to subscribe to PFBY. Thus personnel of Department of Agriculture became the 'point of contact' regarding PMFBY. However, as the agricultural season proceeded these 'points of contact' were not in a position to answer the queries by the farmers as they themselves were unaware about post-enrolment aspects of PMFBY. This gap or lack of information has led to resentment at farmers end and was aggravated by a) non-payment of claim in self-perceived agricultural losses, and b) delay in payment in those cases where the claim was accepted. This issue can be resolved by providing proper information to personnel of the Department of Agriculture. It can be done by organizing training programs for department personnel in association with Insurance Agency. The 'estimated yield' levels for specified crop in that district and also the making public about tentative details of Crop Cutting Experiments beforehand, so that the farmers are taken in to confidence. Paying the prescribed premium for crop gives the Right to Farmers to demand the compensation from insurance for crop losses and farmer expects the payment sooner than and also as early as possible. But, field interactions have indicated in differently. This has to be resolved by IA without delay, additional manpower may be recruited if the need be.

The findings of the study provide valuable insights into various issues of functioning of PMFBY and have same implications for many welfare oriented programmes. I am sure study would be useful to all including policy planners, researchers, academicians, practitioners and policy makers.

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EXECUTIVE SUMMARY

Agriculture, being first order economic activity, is highly susceptible to vagaries of climate. With small land holdings and low coping capacity, vulnerability of Indian farmer is high to deviations in monsoons. This vulnerability level becomes a serious concern during drought years. To provide some relief to farmers, States have evolved a few instruments, such as Input Subsidy, Minimum Support Price (MSP), Crop Insurance etc. Input Subsidy provides minimum support to farmers to continue with farming in subsequent post damage season and thus becomes operational only when there is a significant damage due to drought or excessive rainfall. On the other hand, MSP is beneficial to farmers in the event of glut of that product in the market. Thus, their utility is significant in select instances only. On the other, it is quite common to observe significant decline in farm produce due to climatic factors and there is no assistance available to farmer to overcome this dip in production. One such effective risk mitigation tools that available to a wide variety of risk situations is Insurance and in view of the extent of risk associated with agriculture, if farmers provided with access to insurance, it can help insured farmers and also reduce agrarian crisis. Efforts were made since Independence to provide such insurance cover to farmers and to improve penetration of insurance schemes, several modifications were also made, but with limited success. One such recent modified scheme is named as Prime Minister Crop Insurance Scheme or Pradhan Mantri Fasal Bhima Yojana (PMFBY). This PMFBY has advantages over previous versions such as the lowest premium to be paid by the farmer, open to all farmers (non-loanee farmers/ lease farmer etc), promoting use of modern technology, and increased time period of insurance cover. The scheme was introduced with effect from Khariff season 2016. In order to understand the farmer's perceptions regarding this version of crop insurance and problems they faced to avail this scheme, this study was envisaged and three different districts that represent high, medium and low enrollment in PMFBY was studied using pre-tested questionnaires to collect information from Loanee Farmers, Non-loanee Farmers and Farmers with no insurance. Interviews with other stakeholders such as Agricultural Department, Financial Institutions were also conducted. This study was conducted from Nov 2017 to Feb 2018. From the interactions with various stakeholders, factors affecting the enrollment have

negative influence enrolment to PMFBY, viz., a) irrigation reduced the enrollment of PMFBY, b) inadequate information/gaps in the knowledge about PMFBY with farmers, c) difficulties in claim reimbursement, d) lack of transparency. In addition, political influences such as waiver of farm loan were found to have negative influence on enrollment. Based on the field interactions with various stakeholders, it was felt that by bringing transparency about eligibility for claim, faster claim settlement, and outreach activities, the enrollment into PMFBY can be increased and can help achieve progress in enhancing farmer's income.

CHAPTER I: OVERVIEW OF AGRICULTURAL INSURANCE

1.1 Introduction to Agricultural Insurance

In view of its uniqueness associated with farming, for instance, risk factor is not only limited to production but also extends to price levels as well, it is difficult to evolve a comprehensive agricultural insurance policy which could provide effective risk transfer mechanism. Different modalities of agricultural insurance policies were evolved in different countries and some details are given in Table 1.

Table 1.1: Details of Crop Insurance Schemes in Some Countries

Country	Crop Insurance Aspects
Germany	Crop insurance is voluntary for German farmers
	No public subsidies for crop insurance. Farmers bear 100% of their crop insurance cost
	Hail insurance products of numerous companies are the most preferred
USA	Only country, where revenue and income insurance exists for agriculture operations for over 100 crops. Crop insurance is subsidized up to an average of 62% by the federal government
	Offers some price risk protection in the form that the reference price is the future of the market.
	More than 70% of the premiums collected comes from revenue insurance
	Policies are sold and serviced through 18 approved private insurance companies
	In 2014, federal crop insurance policies covered 294 million acres
Canada	"Agri-Insurance"- as it is called in Canada, is a provincially delivered program
	The federal government contributes a portion of total premiums and administrative costs are borne by the provincial governments
	The federal government also provides a reinsurance arrangement (deficit financing) to provinces
China	China has become the 2nd largest agricultural insurance market in the world
	In general, organization in China are promoting the weather index based insurance (WII) and most of the agricultural insurance products are traditional products
	Reinsurance is available and most of the reinsurance treaties in the agricultural market are stop loss(SL) treaties
	Sum Insured is based on materialized costs of production, excluding labour costs
Japan	Crop Insurance in Japan involved compulsory participation for all the farmers and is subsidized by 50%
	Covers between planting to harvesting and compensation is given based on loss assessment

Table 1.2: Different Perceptions of Agriculture Insurance

Issue	Dharam Narian Committee	Prof. Dandekar suggestions
Pooling the Risk	Agriculture risk has a significant systematic component and cannot be diversified by pooling — a necessary condition for insurability	May be true for a single region, diversification would be possible over a wider area, e.g., the entire country.
Moral hazard problem and Individual and area based approach	if the area is small enough and is agro climatically homogeneous, the crop output of a majority of the farmers therein would be highly correlated” preferred the “area” approach	Same
Advantages of Area Approach	in terms of the administrative costs of risk assessment and loss estimation, as well as being less susceptible to the moral hazard problem. However, according to the Expert Committee the administrative cost of even the area approach would be quite significant since most of the data required for verifying the homogeneity of an area were not available from sources like the village revenue records.	Same
Individual Approach	first best from the perspective of reducing the basis risk but it requires individual ex ante assessment of risk and ex post assessment of loss for determining individual premium and claim payments. Very difficult to administer	

Source: ICFAI

1.2 Evolution of Crop Insurance in India

In India, Discussions about the introduction of crop insurance had started at the time of independence. However, the first concrete steps were taken in October 1965 with preparation of draft Crop Insurance Bill and a model scheme of crop insurance in order to enable the States to introduce crop insurance. After receiving comments from the State Governments, in 1970 the draft bill and Model Scheme was referred to a Dharam Narain Committee. In its report in 1971, the Committee, arguing that “Crop losses, when they occur, are often so widespread as to affect most farmers, in the region. Thus, the principle that while many pay the premium only a few claim indemnities does not strictly apply in the case of crop insurance. Agriculture risk has a significant systematic component and cannot be diversified by pooling — a necessary condition for insurability”, concluded that it would not be advisable to introduce crop insurance in the near future, even on a pilot basis. But, Prof. Dandekar argued that while this may be true for a single region, diversification would be

possible over a wider area, e.g., the entire country. Contrary to Committee's recommendations, Prof V.M. Dandekar examined in detail the arguments of the Expert Committee and strongly advocated the introduction of crop insurance (Dandekar 1976). Arguing that In view of the extent of risk, farmers should have access to systematic and organised risk mitigation options (Table 2). Based on these recommendations, a publicly administered crop insurance scheme was introduced for the first time in India in 1972.

1.2.1 Individual Approach Scheme (IAS) As a private company, the General Insurance Department of Life Insurance Corporation of India introduced a Crop Insurance Scheme for cotton in 1972-73 in Gujarat. Upon its nationalization in 1972, this experimental scheme, based on "Individual Approach". was extended to groundnut, wheat, potato and gram and to the states of Gujarat, Maharashtra, Tamilnadu, Andhra Pradesh, Karnataka and West Bengal. Though operational for 7 years till 1978-79, IAS has covered only 3,110 farmers for a premium of Rs.4.54 lakhs against claims of Rs.37.88 lakhs.

1.2.2 Pilot Crop Insurance Scheme (PCIS) – 1979 Based on Prof. Dandekar recommendations, GIC introduced PCIS in 1979 in 13 states till 1984-85. It covered 6.27 lakh farmers for total premium of Rs.196.95 lakhs against claims of Rs.157.05 lakhs. The important features of the scheme were:

1. based on "Area Approach".
2. covered cereals, millets, oilseeds, cotton, potato and gram
3. available to loanee farmers only and on voluntary basis as well
4. risk was shared between GIC and State Governments in the ratio of 2:1
5. maximum sum insured was 100% of the crop loan, and later to 150%.
6. A 50% subsidy was provided for insurance charges payable by small and marginal farmers by the State and central Government on 50:50 basis.

1.2.3 Comprehensive Crop Insurance Scheme (CCIS) CCIS was introduced 1985 by the GoI with the active participation of State Governments. The Scheme was linked to short term crop credit and implemented on homogeneous area basis. 15 states and 2 union territories implemented the Scheme until Kharif 1999. A majority of claims were paid in the states of Gujarat Rs.1086 crores (47%), Andhra Pradesh Rs.482 crores (21%), Maharashtra Rs.213 crores (9%) and Orissa Rs.181 crores (8%). The main features of the scheme were:

1. It covered farmers availing crop loans from financial institutions for growing food crops and oilseeds on compulsory basis.
2. the coverage was restricted to 100 per cent of crop loan subject to a maximum of Rs.10 thousand per farmer
3. The premium rates were 2 per cent for cereals and millets and 1 per cent for pulses and oil seeds.
4. Small and marginal farmers were given a subsidy of 50 per cent of the premium payable shared equally by the central and state governments.
5. The central and state governments shared the premium and claims in the ratio of 2:1.
6. The scheme was optional to state governments.
7. The scheme was a multi-agency effort, involving Government of India, State Governments, Banking Institutions and General Insurance Corporation of India.

1.2.4 Experimental Crop Insurance Scheme (ECIS) It was introduced in 1997 and was implemented in 14 districts of five states. The scheme was similar to CCIS except that it was meant for all small and marginal farmers with 100 per cent subsidy in premium. The central and state governments shared the premium, subsidy and claims in 4:1 ratio. The scheme was discontinued after one season due to administrative and financial difficulties. The scheme covered 4,54,555 farmers. The sum insured was Rs.168.11 crores and claims paid Rs.37.80 crores against premium of Rs.2.84 crores.

1.2.5 Pilot Project on Farm Income Insurance Scheme (PPFISS) 18 districts from 10 states for wheat and three districts from 3 states for paddy were selected in 2003-04. It provided comprehensive risk insurance against loss in actual farm income against the guaranteed income in a notified area arising out of adverse fluctuations in yield due to one or more non-preventable perils and adverse fluctuations of market prices as measured against minimum support price (MSP) for the crops covered. Paddy and wheat crops and all farmers (loanee on compulsory and others on Under voluntary basis) in selected states and districts were covered. Average yield of past 7 years, current MSP and indemnity level were used to compute Sum Insured. The premium rates were actuarial for states and crops (irrigated and un-irrigated separately) at 75 per cent subsidy for small and marginal farmers and 50 per cent subsidy for others. Area approach was followed. A commission of 5 per cent of gross premium in case of non-loanee farmers was payable to the Rural Agents and 2.5 per cent of gross premium for all farmers was payable to banks as service charges.

1.2.6 Drought Risk Insurance DRI was specially designed for Rajasthan. Sum insured per hectare ranged from cost of cultivation to value of produce and premium ranged from 5 to 8 per cent. Claims assessment was based on rainfall indices for June to October using appropriate weights and caps. A claim trigger is basically a threshold deficiency percentage of the weighted actual rainfall index as compared to normal rainfall index. The deficiency greater than or equal to claim trigger makes the participating farmers eligible for claims as per the Benefit Table.

1.2.7 National Agricultural Insurance Scheme (NIAS) A broad-based NAIS was introduced in 1999-2000 to provide

1. Insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests and diseases.
2. To encourage the farmers to adopt progressive farming practices, high value inputs and higher technology in Agriculture.
3. To help stabilize farm incomes, particularly in disaster years.

a. Area Coverage The scheme was available to all states and UT on optional basis with a condition that states opting for the scheme were required to take up all the crops identified for coverage in a given year and shall have to continue for a minimum period of three years before it may quit. In 1999 only 8 states and Pondicherry opted for the scheme. This number was increased to 17 in 2000 and to 21 in 2002.

b. Farmers Covered All farmers including sharecroppers and tenant farmers growing notified crops in notified areas are eligible for coverage. However, it is compulsory for loanee farmers availing crop loans from financial institutions.

c. Risks Covered It provides comprehensive risk insurance against yield losses due to nonpreventable risks, i.e. (a) natural fire and lightning, (b) storm, hailstorm, cyclone, typhoon, tempest, hurricane, tornado etc., (c) flood, inundation and landslide, (d) drought, dry spells, and (e) pests / diseases etc.

d. Crops Covered The scheme besides food and oilseed crops also covered annual commercial and horticultural crops. The crops in respect of which the past yield data based on Crop Cutting Experiments (CCEs) are available for past 10 years and the state government agreed to conduct requisite number of CCEs for estimating the average yield during the proposed season are covered.

e. Unit of Insurance The scheme operates on the basis of area approach. The unit area as decided by the state government and assessment of loss is estimated through CCEs conducted by the state administration. In case of localized calamities, the scheme operates on the basis of individual approach. The individual farmers would intimate the crop loss within 48 hours to local revenue or agricultural department.

f. Sum Insured and Premium In case of loanee farmers the sum insured would be at least equal to the amount of crop loan advanced and for non-loanee farmers the coverage at normal rates of premium is available up to the value of threshold yield (at MSP or market price). Three levels of indemnity, viz., 90, 80 and 60 per cent corresponding to low risk, medium risk and high risk areas would be available for all crops (cereals, millets, pulses and oilseeds and annual commercial and horticultural crops) based on coefficient of variation (C.V.) in yield of past 10 years' data.

g. Estimation of Crop Yield, Indemnity and Claim Settlement Crop Cutting Experiments (CCEs) for all notified crops in the notified insurance units is the basis to assess the crop yield

1.2.8 Weather Based Crop Insurance Scheme (WBCIS) is designed to provide insurance protection against losses in crop yield resulting from adverse weather incidences and introduced in 2003. WBCIS operates area approach. Each Reference Unit Area (RUA) is linked to a Reference Weather Station (RWS), on the basis of which current weather data and the claims would be processed. Adverse weather incidences during the season entitle the insured a payout, subject to the weather triggers defined in the 'Payout Structure' and the terms and conditions of the scheme.

Advantages of WBCIS It has many advantages

- a. Trigger events like adverse weather can be independently verified and measured.
- b. It allows speedy settlement of claims. All farmers can buy WBCIS

- c. Government subsidy making premium affordable
- d. It provides transparent, fully objective, efficient and direct payouts for adverse weather incidences
- e. Insured is not required to submit claim form or other documents as proof for loss

1.2.9 Varsha Bima-2005

Varsha Bima covers anticipated shortfall in crop yield on account of deficit rainfall. It is voluntary for all classes of cultivators who stand to lose financially upon adverse incidence of rainfall. The insurance operates during June to September for short duration crops; June to October for medium duration crops; and June to November for longer duration crops. Further, these periods are state-specific. In case of Sowing Failure option is from 15th June to 15th August.

- a. **Coverage Options** various options were provided to farmers about coverage period, viz. **Seasonal Rainfall Insurance** (Coverage is against negative deviation of 20% and beyond in the entire season), **Rainfall Distribution Index** (Coverage is against adverse deviation of 20% and index is constructed to maximize the correlation, for weekly rainfall within the season), **Sowing Failure** (Coverage is against adverse deviation beyond 40% between 15th June and 15th August), **Vegetative Phase** (against adverse deviation beyond 20% between 1st August/16th August and 30th September/31st October to 30th November).
- b. **Sum Insured and Claim Payment** Sum Insured is pre-specified and normally is between cost of production and value of production. In case of sowing failure option, it is the maximum input cost incurred by the cultivator till the end of the sowing period, which again is pre-specified. Premium varies from option to option and crop to crop. The premium rates have been optimized vis-a-vis benefits, and starts from one per cent. The procedure for working out claims is automated i.e., there is no necessity for submission of loss information or claims intimation by insured cultivator. Normally claims are paid on the basis of actual rainfall data within a month from end of indemnity period.

Rabi Weather Insurance

Weather Insurance (Rabi) is a mechanism for providing effective risk management aid to those individuals and institutions likely to be impacted by adverse weather incidences. The most important benefits of Weather Index Insurance are:

- Trigger events like adverse weather events can be independently verified and measured.
- It allows for speedy settlement of indemnities, as early as a fortnight after the indemnity period.
- All growers, be it Small /Marginal; Owners or tenants/Sharecroppers can buy the weather insurance.

1.2.10 Wheat Insurance Policy

Wheat insurance policy is a unique technology based insurance product combining crop vigour / biomass (Normalized Difference Vegetative Index - NDVI) and weather (temperature / rainfall) parameters. It is insurance against the likelihood of diminished wheat yield resulting from lower NDVI and insurance is linked to biomass triggers.

Table 1.3: Profile of Agricultural Insurances in India

Time Period	Crop Insurance Scheme	Salient Features
1971-1978	First individual Approach Scheme	This was introduced on a limited, ad-hoc and scattered scale
		General Insurance Corporation (GIC) of India introduced the scheme
		H-4 cotton and later included groundnut, wheat and potato
		The scheme was implemented in Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Tamil Nadu and West Bengal
		Totally 3,110 farmers were covered for a premium of Rs.4.54 lakh against claims of a massive Rs.37.88 lakh
1979-1984	Pilot Crop Insurance Scheme (PCIS)	This was based on based on the 'Area Approach' for providing insurance cover against a deficit in crop yield below the threshold level
		It was rolled out by GIC and the scheme covered cereals, millets, oilseeds, cotton, potato and chickpea
		This was restricted only to the loaned farmers of institutional sources on a voluntary basis
		The Scheme was implemented in 12 states till 1984-85 and covered 6.23 lakh farmers
		Total premium collected was Rs.195.01 lakh against claims of Rs.155.68 lakh during the entire period
1985-99	Comprehensive Crop Insurance Scheme (CCIS)	This was the first nation-wide Crop Insurance Scheme
		It was linked to linked to short-term credit and was based on the 'homogenous area approach'
		This scheme was adopted by 15 States and 2 Union Territories (UTs)
		It covered 763 lakh farmers for a premium of Rs 4 04 crore against claims of Rs 2303 crore
Rabi 1999-2000 to Rabi 2013-14	National Agricultural Insurance Scheme (NAIS)	It was aimed to protect the farmers against the crop losses suffered on account of natural calamities, such as, drought, flood, hailstorm, cyclone, pests and diseases
		It was implemented by the Agriculture Insurance Company of India Ltd. (AIC)
		Available to all the farmers both loaned and non-loaned irrespective of their size of holding and covered all crops
		Implemented by 25 States and 2 Union Territories and covered 2084.78 lakh farmers
		Premium collected was Rs.8,67,121 lakh against the claim of Rs.25,37,558 lakh till 2012-13
		The total area insured was Rs.3137.70 lakh hectares during the same till 2012-13
Rabi 2010-11 season	Modified National Agricultural Insurance Scheme (MNAIS)	The scheme was implemented on pilot basis in 50 districts from Rabi 2010-11 season
		The scheme was thought to be easier and more farmer friendly
		It was implemented in 17 States and covered 45.80 lakh farmers
		Total premium collected was Rs 1,08,800 lakh against the claim of Rs 86,400 lakh until Rabi 2012-13
2007-08	Weather Based Crop Insurance Scheme (WBCIS)	Was launched in 20 States and was implemented by Agriculture Insurance Company of India along with some private companies
		The aim of the scheme was to settle the claims within shortest possible time

		WBCIS is based on actuarial rates of premium and premium actually charged from farmers has been restricted at par with NAIS
		Was implemented in 18 States and 469.38 lakh farmers were covered
		Premium of Rs.7,51,920 lakh was collected against the claims of Rs. 52,860 lakh under the Scheme from 2007-08 to 2012-13
2009-10	Coconut Palm Insurance Scheme (CPIS)	Was introduced on a pilot basis in the selected areas of Andhra Pradesh, Goa, Karnataka, Kerala, Maharashtra, Odisha and Tamil Nadu. Later on, it was extended to West Bengal
		The pilot was implemented during the years 2011-12 and 2012-13 and continues to be under implementation
		It has been administered by the Coconut Development Board (CDB)
		Fifty percent of the premium is contributed by Government of India, 25 percent by the concerned State Government and the remaining 25 percent by the farmer
		51,108 farmers were covered for a premium of Rs.167.69 lakh against the claims paid of Rs.214.05 lakh till December 2013
2016	Pradhan Mantri Fasal Bima Yojana	In case of crop insurance, applicable Farmer's share of premium ranging between 1.5% to 5% based on their insured crops is payable by farmer & in case Actuarial premium is more, the Government will provide subsidy equivalent to the difference between Actuarial premium and premium paid by farmer.
		The Scheme can cover all the Crops for which past yield data is available and grown during the notified season, in a Notified Area and for which yield estimation at the Notified Area level will be available based on requisite number of Crop Cutting Experiments (CCEs) being a part of the General Crop Estimation Survey (GCES)

CHAPTER II: OVERVIEW OF PRIME MINISTERS CROP INSURANCE SCHEME (PMFBY)

2.1 Introduction to PMFBY: India is the land of farmers where the maximum proportion of rural population depends on agriculture. Agriculture in India is highly susceptible to risks like droughts and floods. It is necessary to protect the farmers from natural calamities and ensure their credit eligibility for the next seasons. For this purpose, the Government of India introduced many agricultural schemes throughout the country. The Pradhan Mantri Fasal Bima Yojana was launched by the Prime Minister of India on 18 February 2016. This scheme envisaged to help decreasing the burden of premiums on framers who take loan for cultivation and also will safeguard them against the inclement weather. This scheme has been implemented in every state of India, in association with respective state government.

It envisages the uniform premium of only 2 per cent to be paid by the farmers for kharif crops, and 1.5 per cent for the rabi crops. The premium for annual commercial and horticulture crops will be 5 per cent. This scheme replaced the existing two crop insurance schemes viz. National Agricultural Insurance Scheme (NAIS) and Modified NAIS and is being implemented since Kharif season of 2016 (June 2016). Pradhan Mantri Fasal Bima Yojana (PMFBY) or Prime Minister's Crop Insurance Scheme aims at supporting sustainable production in agriculture sector by way of:

- Providing financial support to farmers suffering crop loss/damage arising out of unforeseen events.
- Stabilizing the income of farmers to ensure their continuance in farming.
- Encouraging farmers to adopt innovative and modern agricultural practices.
- Ensuring flow of credit to the agriculture sector; which will contribute to food security, crop diversification and enhancing growth and competitiveness of agriculture sector besides protecting farmers from production risks.

2.1.1 Aim of the PMFBY

Aim of this new crop insurance scheme is to provide a more efficient insurance support to the farmers of the country and become a financial support to thousands of farmers, providing Stability to the income of farmers to ensure their continuous process in farming, so that farmers get encouraged to adopt innovative and modern agricultural practices.

Procedural aspects of Pradhan Mantri Fasal Bima Yojana

- Aadhar card –The farmers, interested in being a part of the project will have to provide photocopy of their Aadhar Card.
- Details of the farm land and prior loans – The farmers will have to provide documents, which are associated with the land. The ownership of the land does not matter. Apart from this, the farmer will also have to provide agricultural credit documents, if they have applied for any.
- Bank account details – As the insurance money will be directly transferred in the bank account, the farmer will have to provide the bank and the account details along with the application form.

Implementing Agency The Scheme is implemented through a multi-agency framework by selected insurance companies under the overall guidance & control of the Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW), Ministry of Agriculture & Farmers Welfare (MoA&FW), Government of India (GOI) and the concerned State in co-ordination with various other agencies; viz Financial Institutions like Commercial Banks, Co-operative Banks, Regional Rural Banks and their regulatory bodies, Government Departments viz. Agriculture, Co-operation, Horticulture, Statistics, Revenue, Information/Science & Technology, Panchayati Raj etc.

Preconditions for implementation of the Scheme The main conditions relating to PMFBY which are binding on States/ UTs are as follows:

- State has to conduct requisite number of Crop Cutting Experiments (CCEs) at the level of notified insurance unit area
- CCE based yield data will be submitted to insurance company within the prescribed time limit.

- State/ UT will make necessary budgetary provision in State/ UT budget, to release premium subsidy based on fair estimates, at the beginning of the crop season.
- State/ UT should be willing to facilitate strengthening of weather Station network.
- Adoption of innovative technology especially Smart phones/hand held devices for capturing conduct of CCEs.

Crops and notified area: The Scheme covers all the Crops for which past yield data is available and grown during the notified season, in a Notified Area and for which yield estimation at the Notified Area level will be available based on requisite number of Crop Cutting Experiments (CCEs) being a part of the General Crop Estimation Survey (GCES). Notified Area is the Unit of Insurance decided by the State Govt. for notifying a Crop during a season. The size of the Unit of Insurance depends on the area under cultivation within the unit. For major crops, the Unit of Insurance shall ordinarily be Village/Village Panchayat level and for minor crops may be at a higher level so that the requisite number of CCEs could be conducted during the notified crop season. States may notify Village / Village Panchayat as insurance unit in case of minor crops too if they so desire.

Farmers to be covered All farmers including sharecroppers and tenant farmers growing the notified crops in the notified areas are eligible for coverage. Special efforts shall be made to ensure maximum coverage of SC/ ST/ Women farmers under the scheme. The overall control on implementation of insurance companies will be under Ministry of Agriculture & Framers Welfare. The Ministry designated empanelled AIC and some private insurance companies to participate in the Government sponsored agriculture, crop insurance schemes. The choice of which private company is left to the states. There will be one insurance company for the whole state.

Coverage of risk Following stages of the crop and risks leading to crop loss are covered under the Scheme.

- Prevented Sowing/ Planting Risk: Insured area is prevented from sowing planting due to deficit rainfall or adverse seasonal Conditions.
- Standing Crop (Sowing to Harvesting): Comprehensive risk insurance is provided to cover yield losses due to non- preventable risks, viz. Drought, Dry spells, Flood, Inundation, Pests and Diseases, Landslides, Natural Fire and Lightening, Storm, Hailstorm, Cyclone, Typhoon, Tempest, Hurricane and Tornado.
- Post-Harvest Losses: coverage is available only up to a maximum period of two weeks from harvesting for those crops which are allowed to dry in cut and spread condition in the field after harvesting against specific perils of cyclone and cyclonic rains and unseasonal rains.
- Localized Calamities: Loss/ damage resulting from occurrence of identified localized risks of hailstorm, landslide, and Inundation affecting isolated farms in the notified area.

Exclusion of the risk The insurance cover will not be applicable in the damage of crops due to any of the following reasons.

- War & kindred perils
- Nuclear risks
- Riots
- Malicious damage
- Theft or act of enmity
- Grazed and/or destroyed by domestic and/or wild animals and other preventable risks shall be excluded.
- Sharing of risk:

Risk to be shared by IA and the Government: The liability of the Insurance companies in case of catastrophic losses computed at the National level for an agricultural crop season, shall be upto 350% of total premium collected (farmer share plus Govt. subsidy) or 35% of total Sum Insured (SI), of all the Insurance Companies combined, whichever is higher. The losses at the National level in a crop season beyond this ceiling shall be met by equal

contribution (i.e. on 50:50 basis) from the Central Government and the concerned State Governments.

Premium Rates: The Actuarial Premium Rate (APR) would be charged under PMFBY by IA. DAC&FW/States will monitor the premium rates considering the basis of Loss Cost (LC) i.e. Claims as % of Sum Insured (SI) observed in case of the notified crop(s) in notified unit area of insurance (whatsoever may be the level of unit area) during the preceding 10 similar crop seasons (Kharif / Rabi) and loading for the expenses towards management including capital cost and insurer's margin and taking into account non-parametric risks and reduction in insurance unit size etc.. The rate of Insurance Charges payable by the farmer will be as per the following Table 2.1.

Table 2.1: Details of Premium in PMFBY

Sl no	Season	Crop	Maximum insurance charges payable by farmers (% of sum insured)
1	Kharif	Food and oilseed crop (all cereals, millets, oilseeds and pulses)	2.0% of SI or Actuarial rate, whichever is less
2	Rabi	Food and oilseed crop (all cereals, millets, oilseeds and pulses)	1.5% of SI or Actuarial rate, whichever is less
3	Kharif and Rabi	Annual Commercial / Annual Horticultural crops	5% of SI or Actuarial rate, whichever is less

Table 2.2: Comparison of previous schemes with PMFBY

Sl. no	Features	NAIS (1999)	MNAIS (2010)	PMFBY	
1	Premium rate	Kharif	2.50 – 3.50 %	Actuarial premium rate*	2.00 %
		Rabi	1.50 – 2.00 %		1.50 %
		Horticulture	Actuarial premium rate		5.00%
2	One Season – One Premium	Yes	No	Yes	
3	Insurance Amount cover	Full	Capped	Full	
4	On Account Payment	No	Yes	Yes	
5	Localized Risk coverage	No	Hail storm, Land slide	Hail storm, Land slide, Inundation	
6	Post-Harvest Losses coverage	No	Coastal areas - for cyclonic rain	All India – for cyclonic + unseasonal rain	
7	Prevented Sowing coverage	No	Yes	Yes	
8	Use of Technology (for quicker settlement of claims)	No	Intended	Mandatory	
9	Awareness	No	No	Yes (target to double coverage to 50%)	

* It is an estimate of expected value of future loss.

Estimation of crop yield: The State/UT Govt. will plan and conduct the requisite number of Crop Cutting Experiments (CCEs) for all notified crops in the notified insurance units in order to assess the crop yield. The State / UT Govt. will maintain single series of Crop Cutting Experiments (CCEs) and resultant Yield estimates, both for Crop Production estimates and Crop Insurance Crop Cutting Experiments (CCE) shall be undertaken per unit area /per crop, on a sliding scale, as indicated in Table 2.3.

Table 2.3: Crop Yield Estimation through Crop Cutting Experiments

Sl no	Insurance unit	Minimum no. of CCEs required to be done
1	District	25
2	Taluka / Tehsil / Block	16
3	Mandal/Hobli/ Phirka / Revenue	10
4	Village / GramPanchayat/Patwar- Mandal/Patwari-Halka	4 for major crops, 8 for other crops

However, a Technical Advisory Committee (TAC) comprising representatives from Indian Agricultural Statistical Research Institute (IASRI), National Sample Survey Organization (NSSO), Ministry of Agriculture & Farmers Welfare (GoI) and implementing agencies shall dispose/decide the issues relating to CCEs and all other technical matters. Inputs from RST/satellite imagery would also be utilized in optimizing the sample size of CCEs.

2.2 Objectives of the Study

With several advantages over previous versions of agricultural insurance schemes, it is expected that the PMFBY will be favoured by farming community and enrollment will be significant. The details of enrollment into PMFBY in Karnataka state is given in Table 1.7 and as can be seen from the table, the enrollment number is significantly high both in Kharif and Rabi seasons of 2016-17. Therefore, this study was carried out to study various undercurrents to understand the factors that influence farmers. Among others, following are major issues that were focused on;

1. Farmer perception about agricultural insurance in general and with reference to PMFBY in specific.

2. Evaluation of institutional arrangement in PMFBY
3. Bottlenecks in Successful implementation of PMFBY

2.4: Enrollment Details during 2016-17

Details of Claims Initiated PMFBY Kharif 2016					Claims settled by Insurance companies (amt in lakhs)		Balance to be settled (in lakhs)	Beneficiary cases Pending	Reasons for pending claims (in lakhs)			
Sl No.	District	No of farmers enrolled	Beneficiaries	Claim Initiated	No.of Beneficiaries	Claims settled	Claims	In number	Bank related issues	Multiling issues	Paddy Rice issue	Total
1	Bagalkote	38805	10311	619.20	10282	617.86	1.34	29	1.20			1.20
2	Bangalore rural	1041	1344	168.31	1233	160.62	7.69	111	6.81		0.23	7.04
3	Bengaluru U	387	398	39.96	300	34.30	5.66	98	5.30	0.00		5.30
4	Belagavi	48492	28884	3279.14	21036	2189.51	1089.63	7848	1.93	723.02	368.44	1093.39
5	Bellary	27508	6476	651.16	1094	132.23	518.93	5382	1.89	364.41	152.19	518.49
6	Chamrajnagara	18601	23594	1808.93	21645	1477.19	331.74	1949	10.74	306.58	12.88	330.20
7	Chikkaballapura	5733	6551	944.18	6108	916.89	27.29	443	24.59	0.00	0.27	24.86
8	Chikkamagaluru	5434	859	67.56	551	56.21	11.35	308	0.71	1.12	9.54	11.37
9	Davangere	24862	24847	4637.17	20380	3908.21	728.96	4467	19.10	370.12	338.05	727.27
10	Gadag	64851	47794	5033.03	30906	3003.12	2029.91	16888	0.00	2008.31		2008.31
11	Hassan	10654	10344	789.95	9907	763.83	26.12	437	17.55	0.00	6.77	24.32
12	Haveri	87506	94939	19284.58	61763	13749.82	5534.76	33176	4.30	4457.13	1054.39	5515.82
13	Kalaburgi	98649	2674	322.73	2214	272.08	50.65	460	24.00	16.05	7.84	47.90
14	Kodagu	3420	1106	29.01	4	0.85	28.16	1102	0.37	0.00	27.75	28.12
15	Kolar	12346	15102	1936.98	14317	1919.80	17.18	785	0.00	0.00		0.00
16	Raichur	31496	3024	577.71	802	344.08	233.63	2222	1.89	11.39	223.50	236.78
17	Ramanagar	631	672	83.92	501	70.41	13.51	171	11.44	0.00	0.90	12.34
18	Tumkur	26219	22118	2206.78	19089	2110.68	96.10	3029	0.00	85.35	0.74	86.09
19	UK	44628	42206	6633.57	18293	4957.00	1676.57	23913	134.48		1800.95	1935.43
20	Vijayapura	15258	2225	191.18	884	167.35	23.83	1341	0.75	22.54		23.29
	Total	566521	345468	49305.05	241309	36852.04	12453.01	104159	267.05	8366.03	4004.44	12637.52

Table 2.5: Enrollment Details during 2017-18

Sl. No.	District	Name of the executing agency	No. of farmers Enrolled			Insured area (in hectares)	Sum insured (in lakhs)	Premium (in lakhs)			
			Loanee Farmers	Non-Loanee Farmers	Total			Farmers Share	Grant by State	Grant by centre	Total premium
1	Bagalkot	USG	25496	7950	33446	52370.6	19484.6	453.7	1435.9	1435.9	33254.9
2	Ballari	BAG	14678	7413	22091	39844.2	20927.8	656.1	1172.4	1172.4	30008.4
3	Belagavi	USG	4113	25563	29676	49757.3	20562.1	511.2	1254.7	1254.7	30206.0
4	Bengaluru Rural	USG	564	6296	6860	5432.6	2324.7	47.7	74.8	74.8	1973.5
5	Bengaluru Urban	AIC	73	544	617	441.4	179.9	4.1	8.1	8.1	202.2
6	Bidar	USG	151929	25624	177553	206281.3	71546.4	1430.9	8629.5	8629.5	186900.1
7	ChamarajNagar	USG	2021	35454	37475	37001.1	13379.8	330.2	775.1	775.1	18804.5
8	Chikkaballapur	USG	1417	24352	25769	26032.8	12682.5	270.3	768.6	768.6	18075.4
9	Chikkamagaluru	BAG	2040	3928	5968	5957.3	2901.2	89.0	81.4	81.4	2518.2
10	Chitradurga	USG	14353	63183	77536	121291.8	56093.4	1320.0	4917.4	4917.4	111548.4
11	DakshinaKannada	USG	267	0	267	176.8	57.2	1.1	0.8	0.8	28.4
12	Davangere	USG	17799	60581	78380	112067.7	54139.0	1168.8	2922.0	2922.0	70128.2
13	Dharwad	AIC	27400	68664	96064	166895.5	87992.6	3104.4	9065.1	9065.1	212346.3
14	Gadag	USG	22188	52207	74395	138738.1	58226.2	1724.6	6115.1	6115.1	139547.8
15	Hasan	USG	4691	40727	45418	33165.1	15303.2	427.3	1180.3	1180.3	27878.6
16	Haveri	USG	46830	93674	140504	190045.5	102410.7	2725.9	13346.0	13346.0	294179.1
17	Kalaburgi	USG	79873	1368	81241	104178.4	43757.2	878.8	3156.6	3156.6	71919.7
18	Kodagu	AIC	2574	21	2595	2214.8	820.5	16.4	2.1	2.1	205.3
19	Kolar	USG	1675	21425	23100	20293.9	8368.7	200.1	654.1	654.1	15083.4
20	Koppal	USG	17117	54648	71765	111680.5	48610.8	1025.0	4816.0	4816.0	106568.8
21	Mandya	UIC	388	21510	21898	15408.4	5834.7	119.6	360.8	360.8	8412.5
22	Mysuru	AIC	1091	2252	3343	3095.2	1636.3	46.6	84.5	84.5	2155.9
23	Raichur	AIC	15464	664	16128	33010.9	23519.5	581.2	607.7	607.7	17966.8
24	Ramanagara	USG	1103	13015	14118	11299.7	4282.2	85.7	136.5	136.5	3586.6
25	Shivamogga	UIC	18695	7834	26529	27260.7	20322.6	406.5	817.8	817.8	20420.8
26	Tumakuru	AIC	22759	59001	81760	83485.6	33154.3	671.7	3219.8	3219.8	71112.5
27	Udupi	USG	1410	0	1410	1001.8	262.4	5.2	0.5	0.5	61.9
28	UttarKannada	BAG	47573	1170	48743	39578.0	21483.0	429.7	2990.3	2990.3	64102.7
29	Vijayapura	UIC	5814	60515	66329	129888.7	54253.9	1123.9	5922.6	5922.6	129690.4
30	Yadgiri	USG	20746	1429	22175	33984.0	17648.9	447.3	778.2	778.2	20037.2
	Total:		572141	761012	1333153	1801879.6	822166.6	20303.1	75294.7	75294.7	1708924.4

USG: Universal Sompo GIC Ltd; AIC: Agriculture Insurance Co. of India Ltd.; BAG: Bharthi AXA GIC Ltd.;UIC: United India Insurance Co. Ltd.

2.3 Sampling Methodology

Three different districts were selected to represent three different groups of districts where the level of enrollment is high, medium and low. Bidar, Kalaburagi and Hassan districts were selected to represent high, medium and low levels of enrollment. Both primary and secondary

data was collected for study purpose. Closed and open-ended schedules were to collect primary data. Brief description of sample districts is given below.

Bidar District: Situated in the northern part of Karnataka at an average altitude is 660 meters has a population of 1,703,300. With a total geographical area of 5,451 sq kms, majority of which consists of mostly lateritic rocks, red and loamy soil. However, small portion in the northern part of the district is characterized by undulating black soil and ballistic rocks. With a moderate climate, the district average rainfall of 823.34 mm and rainy days are around 49. The principal crops of the district are Jowar, Black gram, Green gram, Tur, Bajra, Sunflower, Sesamum, Niger, Paddy, Minor Millets, and Sugarcane in *Kharif* season. In *Rabi* season Bengal gram, Jowar, Wheat, Sunflower, Safflower, Linseed and Groundnut. In summer season Sunflower as major crop is grown.

Kalaburagi district with a population of 25, 64,892 in an area of 16,174 Sq. Kms, Kalaburagi is adjacent district of Bidar in northern Karnataka. Coming under North Eastern Dry Agro climatic zone, it is characterized by black cotton soil, expanses of flat treeless surface. Average rainfall is 777 mm, but it is uncertain with about 46 rainy days in a year. Principal crops of the district are Toor/pigeon pea, Sunflower, Ground nut, Bajra, Green gram, Black gram, Sesamum, Jowar, Cotton, and Sugarcane in *Kharif* season. In *Rabi* season Jowar, Bengal gram, Sunflower, Wheat, Safflower, Linseed and Ground nut. In summer Sunflower, Paddy, Jowar crops were grown.

Hassan district Situated in South Western part of Karnataka state this district comes under Central Dry Agro-climatic zone. With a geographic area of 6845 Sq. Kms, population of the district is 1,776,421 and the Sq km. The principal crops of the districts are Ragi, Paddy, Maize, Jowar, Toor/pigeon pea, Horse gram, Cowpea, Castor, Niger, Sunflower, Sesamum, Groundnut, Cotton, Tobacco, and Sugarcane in *Kharif* season. In *Rabi* season Finger Millets, Horse Gram, Paddy, Sunflower, Bengal gram and Paddy, Groundnut in summer.

Sample Size: From each district a sample of 50 farmers were representing three categories were interviewed, to represent three categories of farmers, viz., Loanee Farmer, Non-Loanee and Uninsured Farmer. 30, 10 and 10 farmers were selected to represent Loanee, Non-loanee and Uninsured farmers.

CHAPTER III: UPTAKE ANALYSIS OF PMFBY

3.1: SOCIO-ECONOMIC CHARACTERISTICS

Socio-economic details of respondents from all three districts were given in Table 3.1 and it show that most of the respondents belong to age group of 16-59 years and this followed by the age group of above 60 years. In Bidar and Kalaburagi districts, there were some farmers falling in the age group of less than 16 years. Regarding educational qualifications, Hassan district has lower per cent of illiteracy (35%) compared to Bidar (43%) and Kalaburagi (52%) districts. In each district, Un-insured farmers has lowest per cent of illiterates, in Bidar has 20 per cent while loanee and non-loanee farmers were about 53 and 70 per cent respectively. In Kalaburagi district, non-loanee farmers group has highest per cent of illiterates at 80 per cent and loanee farmer group 46 per cent.

Table 3.1: Socio-economic Profile of sample farmers

Particulars	Age group of family member (% to total)			Educational Status (% to total)				Caste (% to total)		
	Minor (< 16 years)	Adults (16-59)	Senior (> 60 years)	Illiterate	Primary	Secondary	Graduate and above	SC/ST	OBC	General
Bidar (50)										
Loanee insured farmers (30)	-	43.00	57.00	53.00	13.00	23.00	10.00	33.00	63.00	3.00
Non-loanee insured farmers (10)	30.00	20.00	50.00	70.00	10.00	10.00	10.00	10.00	80.00	10.00
Un-insured farmers (10)	-	70.00	10.00	20.00	30.00	50.00	-	60.00	40.00	-
Kalaburagi (50)										
Loanee insured farmers (30)	4.00	54.00	44.00	46.00	7.00	40.00	7.00	37.00	37.00	27.00
Non-loanee insured farmers (10)	10.00	40.00	50.00	80.00	-	20.00	-	40.00	30.00	30.00
Un-insured farmers (10)	-	60.00	40.00	30.00	30.00	10.00	20.00	-	80.00	20.00
Hassan (50)										
Loanee insured farmers (30)	-	63.00	36.00	43.00	40.00	10.00	7.00	7.00	56.00	36.00
Non-loanee insured farmers (10)	-	60.00	40.00	30.00	50.00	10.00	10.00	10.00	60.00	30.00
Un-insured farmers (10)	-	60.00	40.00	-	20.00	70.00	10.00	-	20.00	80.00
Total (150)										
Loanee insured farmers (90)	4.44	56.67	38.10	44.44	21.11	26.67	7.78	25.67	52.00	22.33
Non-loanee insured farmers (30)	10.00	40.00	50.00	60.00	20.00	13.33	7.67	20.00	56.67	23.33
Un-insured farmers (30)	-	73.33	26.67	23.33	43.33	26.67	3.33	20.00	53.33	26.67

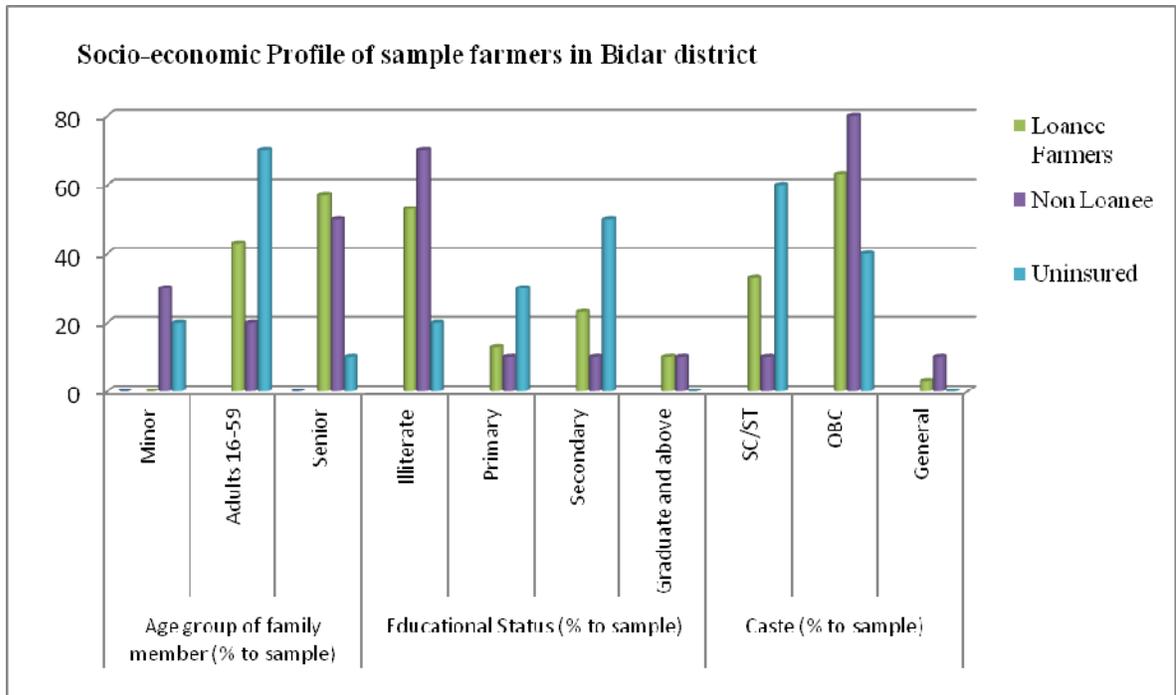


Fig. 3.1: - Socio-economic Profile of sample farmers in Bidar district

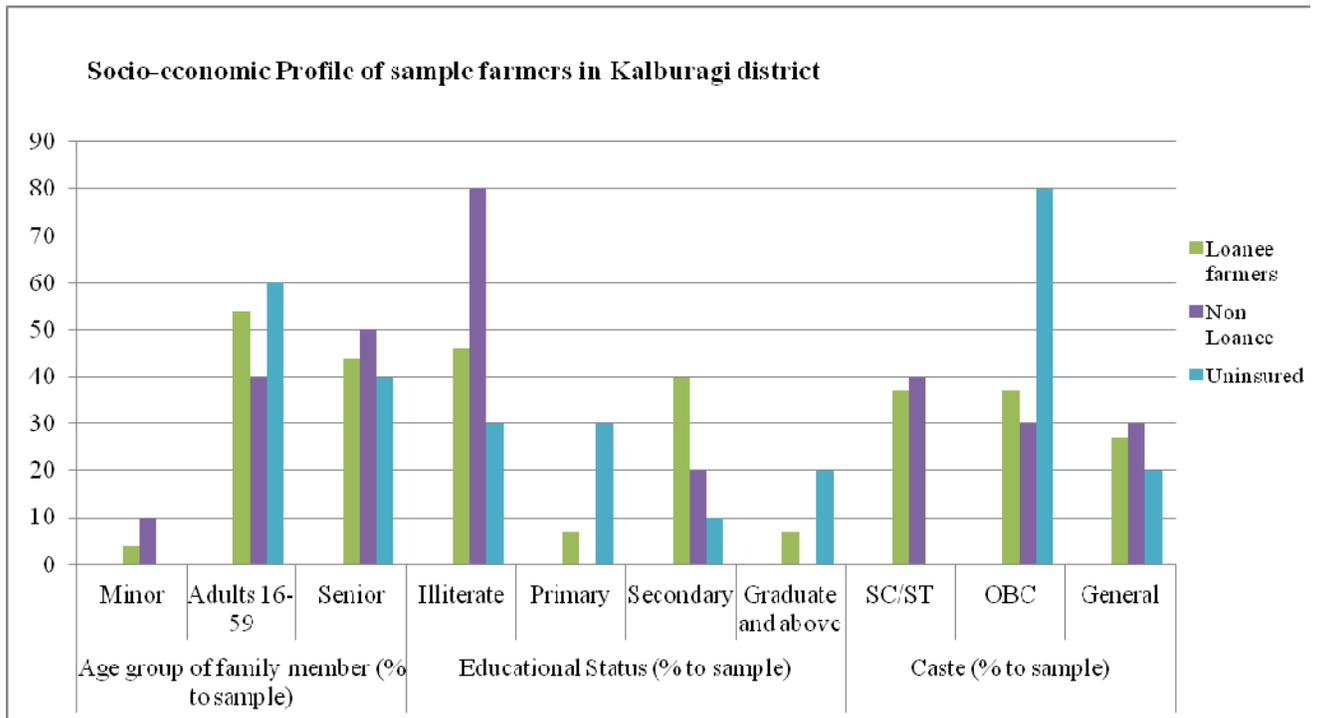


Fig. 3.2:- Socio-economic Profile of sample farmers in Kalburagi district

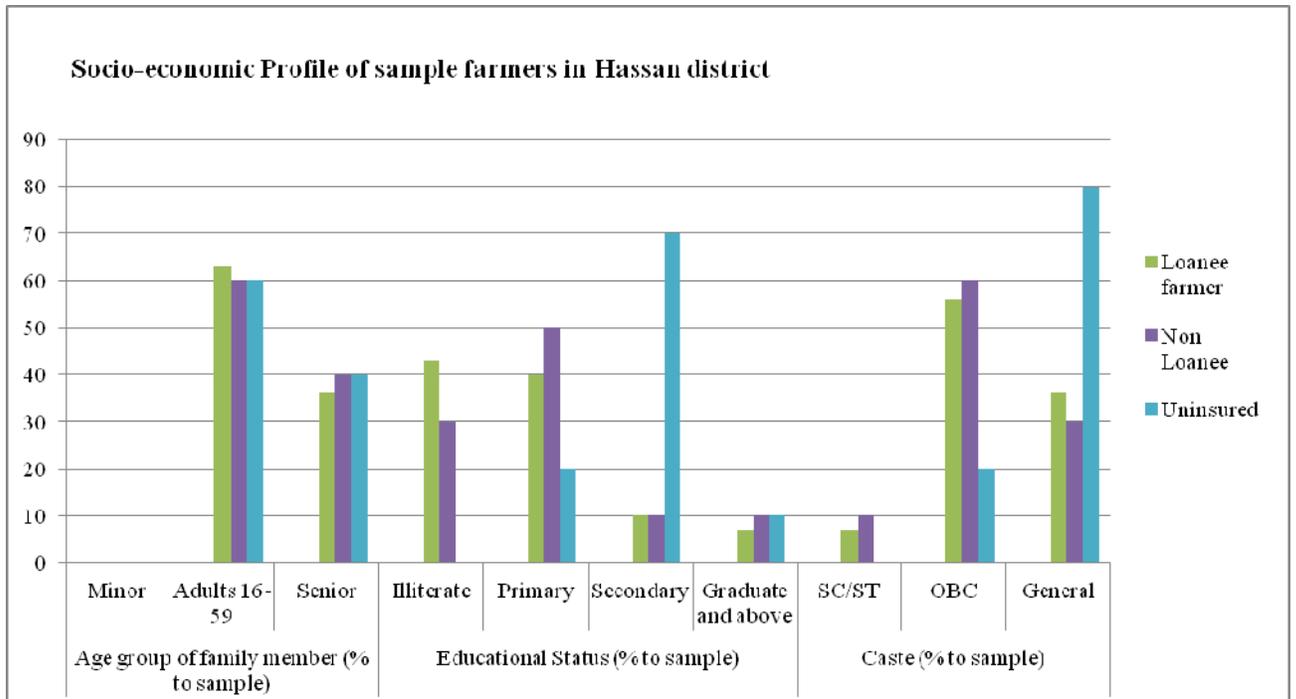


Fig.3.3:- Socio-economic Profile of sample farmers in Hassan district

Level of education was found to be higher among the un-insured farmers, followed by non-loanee farmers and was lowest in loanee farmer group. Regarding caste affiliations, in Bidar district, OBC group constituted highest, about 60 per cent, followed by SC/ST (35%), other castes constituting only meager percent (4%). Similar distribution was found in Kalaburagi district as well, OBC at about OBC (50%), SC/ST (25%) and others at (25%). But, in case of Hassan district, general caste group constituted higher percent at about 50 per cent, followed by OBC at about 45 per cent, while SC/ST members were only 5 per cent.

3.2 Occupational Details

Occupation details of respondents along with income details were given in Table 3.2. For respondents from all three districts, Agriculture was primary source of livelihood and there were no other sources of income. Number of family members involved in farming was higher in non-loanee and un-insured farmer families in Bidar and Hassan districts. The number was significantly higher at 11 members per family. In case of non-loanee farmers, members per family involved in farming were only 3 in these districts. On the other hand, Kalaburagi district has lowest number of members per family involved in farming operations.

Annual household income details present an interesting picture in Bidar district, it was loanee farmer households which recorded highest average annual income at Rs. 48,016. Instead of

having higher income, these families opted for agricultural loans. Non-loanee farmers in this district had lower annual income among three groups at Rs 28,800 annually, but still have not opted for PMFBY. Un-insured group of farmers reported an annual average income at Rs 35,700. During interaction with respondents in Bidar district, it came out that few of un-insured farmers were unable to enroll into the PMFBY due to lack of required documentation, for instance, Title Deed etc.

Table 3.2: Occupations, Members Engaged in Farming and Household Income

Type of Sample Farmers	Occupations of sample H.H. (% to total)		Average number of family members engaged in farming	Per HH annual income (in Rs.)
	Primary	Secondary		
Bidar (50)				
Loanee insured farmers (30)	100.00	16.67	3	48016
Non-loanee insured farmers (10)	100.00	30.00	2	28800
Un-insured farmers (10)	100.00	-	1	35700
Kalaburagi (50)				
Loanee insured farmers (30)	100.00	20.00	2	52500
Non-loanee insured farmers (10)	100.00	-	1	43500
Un-insured farmers (10)	100.00	20.00	1	69000
Hassan (50)				
Loanee insured farmers (30)	100.00	23.33	3	35550
Non-loanee insured farmers (10)	100.00	-	2	24500
Un-insured farmers (10)	100.00	-	1	25900
Total (150)				
Loanee insured farmers (30)	100.00	18.88	3	43250
Non-loanee insured farmers (10)	100.00	10.00	2	31400
Un-insured farmers (10)	100.00	6.67	1	31533

In case of Kalaburagi district, it was un-insured farmer group which reported highest annual average income at Rs 69,000 and was followed by the Loanee farmers at average annual income at Rs 52,500. Non-loanee farmers reported annual average income of Rs 43,500. Regarding the PMFBY, some of the farmers have availed insurance during 2015-16, but their claims were not cleared. Hence, they opted out of PMFBY.

Among all three districts, respondents from Hassan district reported lower average incomes, ranging from Rs 35,500 for Loanee farmers (highest in the district), Rs 25,900 by un-insured

farmers and Rs 24,500 by non-loanee farmers. This district represent the lowest enrollment in PMFBY and reasons vary from not so encouraging results from experiences with previous insurance claims, default bank loans, limited awareness about the scheme and ensured irrigation.

3.3 Sources of Income

Regarding income from sources other than the agriculture, farm labour was important source in all three districts and across the three groups. It was followed by welfare program – pension scheme by the Government. Dependence on Agriculture which was higher in Bidar and alternate source of income was farm labour only. In Kalaburagi district, different sources such as salary farm employment, farm labour, wage from MGNREGA scheme, pension from Government and business \ trades were also observed. Among them, farm labour constituted highest income and it was followed by pension scheme. In Hassan district, farm labour and government pension were important sources of income. Details were given in Table 3.3 and it clearly establishes that agriculture remain as a primary source of income and PMFBY could be significant measure to protect their livelihoods through transferring risk by means of insurance.

Table 3.3 established that the agriculture remained as first and foremost source of livelihood for majority of respondents. Examining the issues of asset values of respondents, they were asked about the value of their assets such as land, farm machinery, buildings, livestock etc. The results were given in Table 3.4. Most important asset, as can be seen from the table, for all respondents was land. Value of land holding was highest in the district of Bidar and lower in comparison in Hassan. In Bidar district, it was loanee farmer has highest value of land holdings, followed by the Un-insured farmers group. Non-loanee farmer lower value of land holding they had in comparison with other two groups. Regarding the farm machinery, none of the loanee or non-farmer in Bidar district has any major farm machinery and it was un-insured farmers reported farm machinery. In Kalaburagi district also, the value of land was higher than the value of other physical assets, such as farm machinery or building. The value of land holdings in both loanee farmer and un-insured farmer group was similar with average value of Rs 22 Lakhs. All the farmers owned one or other farm machinery and their value ranging from Rs 8 Lakhs to 15 Lakhs. Similarly, the value of buildings also in Kalaburagi district varied from Rs 6 to 12 Lakhs. In Hassan district, land holdings commanded maximum value and were followed by machinery and building value.

Table 3.3: Per HH annual income from non-agricultural sources (in Rs.)

Particulars	Income from non-agricultural sources						
	Salary from employment	Farm labor	MGNREGA	Pension	Business / trade	Others	Total
Bidar (50)							
Loanee insured farmers (30)	7500	2500	-	6000	-	-	8500
Non-loanee insured farmers (10)	3800	-	-	-	5000	-	8800
Un-insured farmers (10)	-	2000	-	-	-	-	2000
Kalaburagi (50)							
Loanee insured farmers (30)	3000	2500	1500	6000	2000	-	15000
Non-loanee insured farmers (10)	-	3000	-	6000	7500	-	16500
Un-insured farmers (10)	2500	4000	-	6000	-	-	12500
Hassan (50)							
Loanee insured farmers (30)	5000	1500	-	6000	-	3900	16400
Non-loanee insured farmers (10)	-	1800	-	6000	-	-	7800
Un-insured farmers (10)	-	2200	-	6000	-	-	8200
Total (150)							
Loanee insured farmers (90)	5027	2000	-	6000	2000	3900	18927
Non-loanee insured farmers (30)	3800	2400	-	6000	6250	-	18450
Un-insured farmers (30)	2500	3100	1500	6000	-	-	13100

3.4 Possession of Assets

In terms of cumulative asset value, in Bidar district, it was loanee farmer having highest value of assets at Rs 28.9 lakhs and this group was followed by the un-insured farmer with total asset value of Rs 21 lakhs. Non-loanee farmer group has an average value of Rs 17.7 lakhs. In Kalaburagi district also, it was loanee farmer having highest asset value at Rs 43 Lakhs and closely followed by un-insured farmer with Rs 42 laksh as total asset value. Non-loanee farmer with Rs 37 lakhs was relatively has lower asset value than other two groups in this district. Hassan district has presented a different picture with un-insured farming group having highest value in total assets at Rs 35.5 lakhs and was followed by loanee farmer with total asset value at Rs 33 lakhs. This group followed by loanee-insured farmer group with a total asset value of Rs 33 lakhs. Non loanee farmer group with total asset value at Rs 27.5 was relatively poorer than other two groups in this district. Results of individual assets were given in Table 3.4 and it presents following interest points as well.

- Livestock value remained insignificant in all three districts and across all respondents.
- Enrollment into PMFBY was influenced by several other factors in addition to the total assets of the farmers.
- Enrollment into PMFBY, either through loan or voluntary, is a matter of preference of individual farmer only and these preference were shaped by awareness programs, his own experiences with agricultural insurances in previous years, Peer opinion, convenience of premium payment
- Having all the required documents..

Table 3.4: Asset value of sample Farmers.

Particulars	Per HH asset type (in Rs.) lakhs			
	Value of Land owned	Value of machinery	Value of building	Total
Bidar (50)				
Loanee insured farmers (30)	2887000	-	-	2887000
Non-loanee insured farmers (10)	1770000	-	-	1770000
Un-insured farmers (10)	2100000	1400000	-	3500000
Kalaburagi (50)				
Loanee insured farmers (30)	2200000	1500000	600000	4300000
Non-loanee insured farmers (10)	1700000	1000000	1000000	3700000
Un-insured farmers (10)	2200000	800000	1200000	4200000
Hassan (50)				
Loanee insured farmers (30)	2140000	650000	506000	3296000
Non-loanee insured farmers (10)	1900000	200000	550000	2750000
Un-insured farmers (10)	2500000	266000	785000	3551000
Total (150)				
Loanee insured farmers (90)	2255000	478000	875000	3608000
Non-loanee insured farmers (30)	1815000	567000	785000	3167000
Un-insured farmers (30)	2393000	687000	1078000	4158000

3.5 Access to Credit

Of the different sources of credit facilities, viz., Cooperative bank/ Society, Commercial bank, Rural Bank, Money Lenders, Saving Group, to gain access to credit, respondent were asked about status regarding credit and also the preferred choice for seeking credit and results were given in the Table 3.5.

Table 3.5: Access to credit per HH for loanee insured farmers

Source of borrowing	Amount (Rs.)	Purpose of loan (%)		Duration				Amount paid with interest (Rs.)	Outstanding loan from 2016 - present (Rs.)
		Agri.	Non-agri.	6 month	1 year	2 years	2-5 years		
Bidar (50)									
Cooperative bank/societies (18)	93777	100	-	-	-	-	-	24413	69364
Commercial bank (20)	161500	100	-	-	1	-	-	9000	152500
Rural bank (2)	150000	100	-	-	1	-	-	17300	132700
Kalaburagi (50)									
Cooperative bank/societies ()		-	-	-	-	-	-		
Commercial bank (28)	75857	100	-	-	1	-	-	8215	67642
Rural bank (12)	73636	100	-	-	1	-	-	9067	64569
Hassan (50)									
Cooperative bank/societies (10)	89411	100	-	-	1	-	-	19611	69800
Commercial bank (17)	132000	100	-	-	1	-	-	54000	78000
Rural bank (12)	85000	100	-	-	1	-	-	18000	67000
Total (150)									
Cooperative bank/societies (35)	91657	100	-	-	1	-	-	22096	69561
Commercial bank (58)	115068	100	-	-	1	-	-	5344	109724
Rural bank (26)	85200	100	-	-	1	-	-	14639	70561

In Bidar district, credit was sought from either Rural Bank or Commercial Banks and average quantum of loan sought by each household of loanee farmer from these banks was in the tune of Rs 1.4 to 1.5 lakh and it was taken for the agricultural purposes only. During the time interview (Nov, Dec 2017 and Jan 2018), loan repayment cycle has just began and hence, most of the loan amount was outstanding. Between the rural bank and commercial bank, first preference was given to rural banks. No respondent have reported to have took loan from other possible sources such as private money lenders or from saving groups. In Kalaburagi, similar pattern was observed in preference of loanee-farmer was in rural bank or commercial bank. Rate of interest was mentioned as primary reason for opting these banks. The quantum of loan by the farmers was lower than that of in Bidar district. In Kalaburagi, it was in the tune of Rs Rs 58,750 to Rs 81,259 per household and it was taken purely for agricultural purposes only. No instances of loan from other sources were observed. In Hassan district, it was observed that in addition to the rural and commercial banks, cooperative banks were also preferred for credit by loanee farmer group. Loan amount varied between Rs 70,000 to Rs 1.4 lakhs. Some respondents have mentioned that the purpose of loan was other than agriculture

as well. In a comparison between three districts, Bidar district has highest quantum of loan, followed by the Hassan district and lowest loan quantum was taken in Kalaburagi district.

CHAPTER IV: FARM LEVEL CHARACTERISTICS

4.1 Operational Landholdings

Operational landholdings details of respondents are given in Table 4.1. In Bidar district, households of loanee insured own land upto 5.28 acres and of them 2.42 acres were irrigated. Non-loanee farmer household have 7.08 acres of land and out of which one acre is irrigated and 3.21 acres were without any irrigation sources. Un-insured farmer households reported to own about 4 acres of land out of which 0.70 acre was irrigated and other 3.30 acre was rains fed. In Kalaburagi district, loanee farmer households reported an average of 5.10 acres out of which 3.70 acres were irrigated 1.40 acres was rain fed. Non-loanee farmer households reported 5.87 acres out of which 4.37 acres under irrigated conditions and remaining 1.50 acres is rain fed land. Un-insured farmers land owning was 2.65 acres out of which 1.65 acres was under irrigated condition and remaining under rain fed land. Differing from these two districts was the land holding status in Hassan district wherein the size of land holding was almost similar. Average land holding size in non loanee farmer was 7.70 acres with 7.33 acres without irrigation and only 0.37 acre acres with irrigation. loanee farmers' family reported an average of four acres out of which of 3 acres were rain fed and an acre have irrigation. Un-insured farmers have reported an average landholding of 6.30 acres and 5.30 acres out of them were rain fed.

Table 4.1: Average size of operational land holdings per household (area in acres)

Districts	Irrigated land (acres)	Unirrigated land (acres)	Total (acres)
Bidar (50)			
Loanee insured farmers (30)	2.42	2.86	5.28
Non-loanee insured farmers (10)	3.21	3.87	7.08
Un-insured farmers (10)	0.70	3.30	4.00
Kalaburagi (50)			
Loanee insured farmers (30)	3.70	1.40	5.10
Non-loanee insured farmers (10)	4.37	1.50	5.87
Un-insured farmers (10)	1.60	1.05	2.65
Hassan (50)			
Loanee insured farmers (30)	0.00	4.00	4.00
Non-loanee insured farmers (10)	0.37	7.33	7.70
Un-insured farmers (10)	0.00	6.30	6.30
Total (150)			
Loanee insured farmers (90)	2.04	2.75	4.79
Non-loanee insured farmers (30)	2.65	4.23	6.88
Un-insured farmers (30)	0.77	3.55	4.32

One district feature of Hassan district was extent of irrigation and most of the respondents have higher per cent of their land with irrigation facilities, but with lower landholding than the Bidar and Kalaburagi district respondents.

4.2 Irrigation Infrastructure

Bidar and Kalaburagi districts, located in North Interior Karnataka, have less irrigation and rainfed irrigation was the norm. With extension of Upper Krishna Project, some parts of these districts were provided with irrigation. Other sources of irrigation such as dug well, bore well based irrigation were not developed. On the other hand, Hassan district, falling under 'malnadu (Land of Rain) has better irrigation facilities and good groundwater table enabled the farmers to develop other sources of irrigation such as borewell, dugwell etc in addition to canal irrigation under Hemavati irrigation project. Respondents asked about various sources of irrigation that they have at their command to irrigate their lands and their responses are given in Table 4.2.

As can be seen from the Table 4.2, in Bidar district, presence of Dug well, Borewell or even canal irrigation was negligible sources of irrigation. Respondents from Kalaburagi district have developed the dugwell and borewell irrigation facilities to the extent of 66.67 and 50.00 per cent respectively in loanee insured category and 60.00 and 100.00 per cent in non-loanee category. For un-insured category, dugwell and borewell provided irrigation to 80.00 and 100.00 per cent of farmers. In Hassan district, Canal was source of primary irrigation sources and borewell irrigation was also practiced by several respondents. In loanee category, canal and borewell irrigation were source of irrigation for 100.00 and 66.67 per cent of respondents respectively, in non-loanee category, it was 70.00 and 100.00 per cent respectively, while in un-insured category, it was 90.00 and 100.00 per cent respectively. Comparing the extent of irrigation facilities and enrollment into insurance schemes, it appears that later has inverse relation with former and this hypothesis holds water in these three districts.

Bidar with lowest assured irrigation has highest uptake of PMFBY, Kalaburagi with moderate irrigation facilities has moderate uptake of PMFBY while Hassan with higher irrigation infrastructure has lowest uptake of PMFBY.

Table 4.2: Sources of irrigation (% to sample)

Particulars	Sources of irrigation (% to sample)			
	Dug well	Bore well	Canal	Tank
Bidar (50)				
Loanee insured farmers (30)	10.00	6.67	6.67	0.00
Non-loanee insured farmers (10)	10.00	10.00	10.00	0.00
Un-insured farmers (10)	10.00	10.00	10.00	0.00
Kalaburagi (50)				
Loanee insured farmers (30)	66.67	50.00	10.00	0.00
Non-loanee insured farmers (10)	60.00	100.00	90.00	0.00
Un-insured farmers (10)	80.00	70.00	30.00	0.00
Hassan (50)				
Loanee insured farmers (30)	66.67	66.67	100.00	33.33
Non-loanee insured farmers (10)	70.00	100.00	70.00	30.00
Un-insured farmers (10)	0.00	80.00	90.00	0.00
Total (150)				
Loanee insured farmers (90)	47.78	41.11	38.89	0.00
Non-loanee insured farmers (30)	46.67	70.00	56.67	10.00
Un-insured farmers (30)	30.00	53.33	43.33	0.00

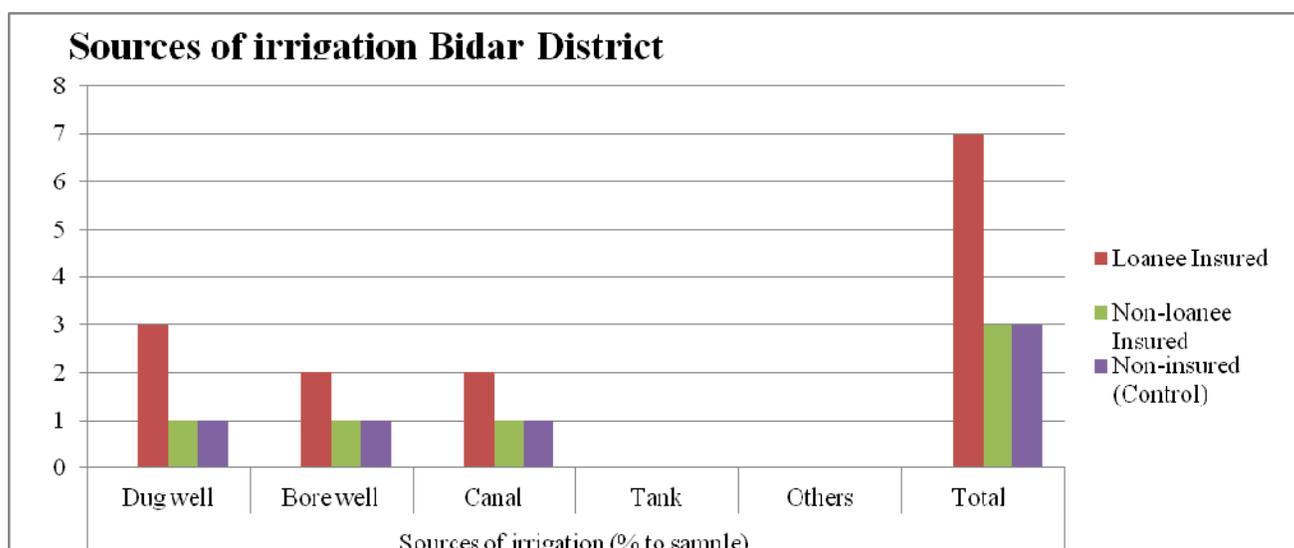


Fig.4.1:- Sources of irrigation Bidar District

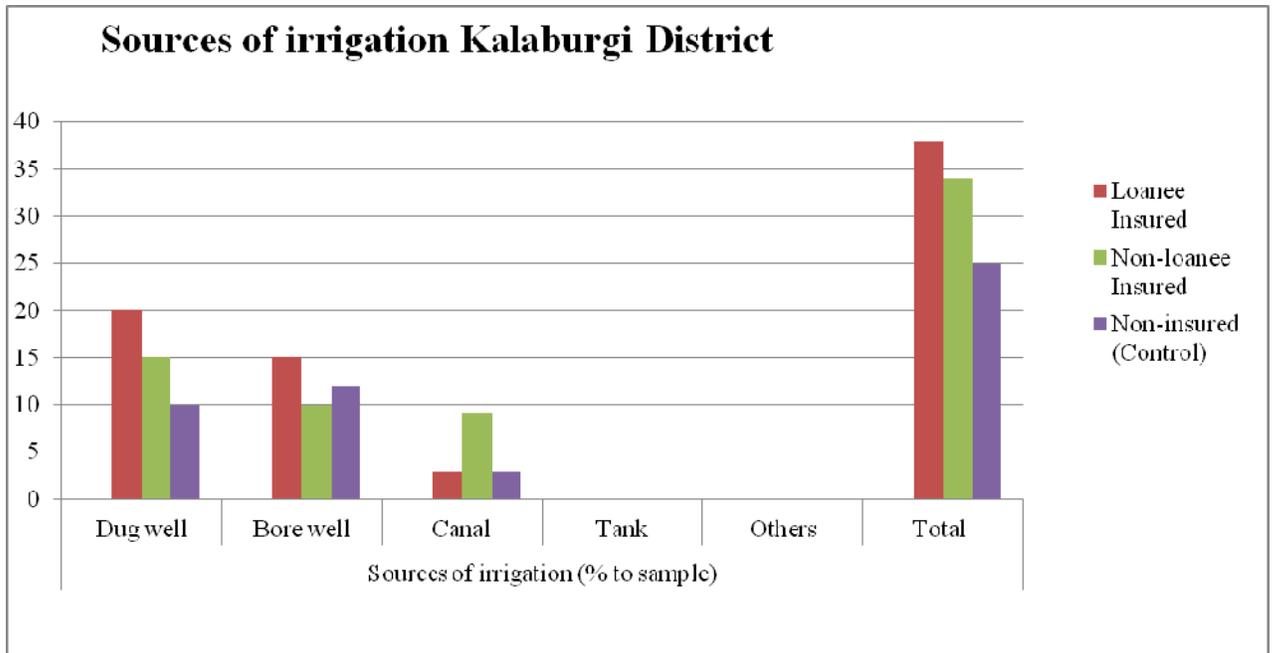


Fig. 4.2:- Sources of irrigation Kalaburgi District

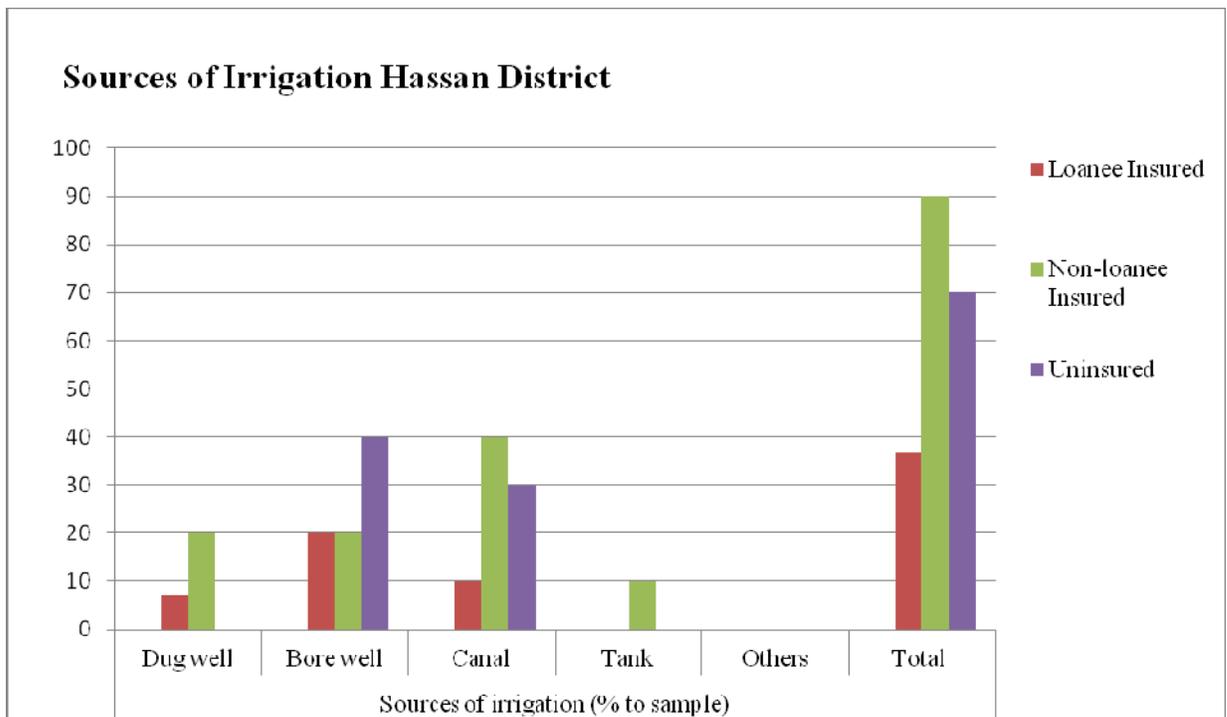


Fig. 4.3:- Sources of irrigation Hassan District

4.3 Cropping Pattern

Total acreage details of different crops cultivated by different categories of respondents was given in Table 4.3 and it can be seen that Toor Dal/pigeon pea occupies with highest acreage, followed by Soyabean, Jowar. Among the loanee farmers, similar pattern of cropping pattern with Toor Dal/pigeon pea highest, followed by sugarcane was observed. Soyabean was in third place in loanee farmers. In non loanee farmers, Toor Dal/pigeon pea is highest but second place was taken by Jowar and Soyabean in third place. In un-insured farmers, Toor Dal/pigeon pea was in first place followed by Soyabean and sugarcane in third place. Sugarcane was not covered under PMFBY and this was one of the reason that they were not enrolled into PMFBY. In Kalaburagi district also similar acreage was observed with Toor Dal cultivated in maximum area, followed by Jowar and Ground nut in third place. Sugarcane was grown by a few respondents. In loanee farmers, Toor dal was cultivated in 200 acres and soybean was cultivated in 111.5 acres. Ground nut was cultivated in 20 acres. In non-loanee farmers' also similar cropping pattern with Toor dal in 63 acres, Jowar in 32 and soybean in 30 acres was observed.

Table 4.3: Cropping Pattern in Kharif (in acres)

Perticulars	Pigeon Pea	Jowar	Soya	Sugarcane	Paddy	Others	Total
Loanee insured farmers (90)	200(38.54)	95.5(18.4)	111.5(21.48)	68.5(13.2)	2.5(0.48)	41(7.9)	519
Non-loanee insured farmers (30)	63(44.06)	32(22.38)	30(20.98)	2(1.4)	0(0)	16(11.19)	143
Un-insured farmers (30)	52(35.86)	26(17.93)	27(18.62)	16(11.03)	0(0)	24(16.55)	145
Total (150)	315(39.03)	153.5(19.02)	168.5(20.88)	86.5(10.72)	2.5(0.31)	81(10.04)	807

Un-insured farmers also reported higher acreage of pigeon pea (52 acres) followed by soy bean (in 27 acres). Hassan district presents totally different cropping pattern with paddy, finger millet being common crops along with sugarcane. In irrigated stretches, either paddy or sugarcane was cultivated and lands with no irrigation have finger millet cultivation, Jowar also cultivated. Coconut plantation is another common crop observed in the district.

In Rabi season, in Bidar district, across the three groups, viz., Loanee farmer, Non-loanee farmer, and un-insured farmer, there was only one instance of Rabi cultivation of Wheat that also at very limited scale of just 6 acres. Similar situation was found in Kalaburagi district as well with only difference being the wheat was cultivated in 10 acres. In Hassan district, in addition to wheat in 10 acres by Loanee farmer, potato was found to be cultivated both by

loanee and non-loanee farmers. The extent of farming was limited to 15 acres in loanee farmers and was just 10 acres in non-loanee farmers.

Table 4.4: Cropping Pattern in Rabi (in acres)

Perticulars	Wheat	Barley	Gram	Pea	Masoor	Mustard	Potato	Total
Loanee insured farmers (90)	6(28.57)	Nil	Nil	Nil	Nil	Nil	15(71.43)	21
Non-loanee insured farmers (30)	10(50)	Nil	Nil	Nil	Nil	Nil	10(50)	20
Un-insured farmers (30)	10(66.67)	Nil	Nil	Nil	Nil	Nil	5(33.33)	15
Total	26(46.43)	Nil	Nil	Nil	Nil	Nil	30(53.57)	56

Table 4.5: Cropping Pattern in Summer Crop (in acres)

Particulars	Urd	Moong	Bajra	Others	Total	Total GCA	Cropping Intensity
Loanee insured farmers (90)	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Non-loanee insured farmers (30)	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Un-insured farmers (30)	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total (150)	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Table 4.6: Productivity per Acre (quantity in Qtls.)

Perticulars	Pigeon pea (q)	Paddy (q)	Jowar (q)	Soyabean(q)	Sugarcane (tons)
Loanee insured farmers (90)	5.73	20.00	3.33	6.50	60.33
Non-loanee insured farmers (30)	5.10		3.17	6.75	55.00
Un-insured farmers (30)	4.15		4.00	8.50	40.00
Total	4.99	20.00	3.50	7.25	51.78

4.4 Farm Productivity

Table 4.6 represents the productivity pigeon pea is more in case of loanee insured farmers compare to non loanee insured and non-insured farmers. pigeon pea productivity of loanee insured farmers was 5.73 qtls per acre followed by non- loanee insured farmers (5.10 Q/ac) and non- insured farmers (4.15 Q/ac). The average productivity sugarcane was more in case of loanee insured farmers (60.33 tons / ac) and low in case of un-insured farmers (50 tons / ac).

CHAPTER V: INSURANCE BEHAVIOR

5.1 Uptake Behaviour

To understand the uptake behaviour in these three districts with high (Bidar), Medium (Kalaburagi) and low (Hassan) enrolment, respondents were enquired about various details such as their awareness about PMFBY, Source of information regarding PMFBY, reasons for enrollment etc. The results are given in Table 5.1.

5.2 Enrollment and Awareness

Among the respondents from Bidar district, which has highest enrollment, about 23 per cent of them were not aware of PMFBY and 21 per cent of them have not availed any other insurance scheme earlier to PMFBY. According to their own admission, 76 per cent of loanee respondents, were not insured under PMFBY and 84 per cent of loanee respondents opined that they were insured because of loan and only 16 per cent of loanee farmers felt other way, - intention to get PMFBY. These responses from loanee farmers brings following concerns;

- Awareness about PMFBY in details is yet to penetrate into farming community
- Majority of loanee farmers were not even aware that premium was deducted from their loan amount,
- Only 16 per cent of them were willingly insured.

About 50 per cent of respondents from Non loanee category expressed that they were not aware of all details of PMFBY. None of them have availed any insurance scheme previously and PMFBY was first one to be subscribed by them and that all them willingly opted for PMFBY.

Responses from respondents of Kalaburagi district, representing medium level of uptake of PMFBY were similar to that of Bidar district. About 20 per cent of Loanee farmers were not aware of PMFBY but still subscribed to it. Regarding subscription of crop insurances schemes, about 77 per cent them availed it earlier and for about 23 per cent, PMFBY was first instance of crop insurances. But, surprisingly, only 7 per cent loanee farmers knew that they were subscribed to PMFBY and 93 per cent were not aware that they paid the premium due to the agricultural loan that they have taken. Panchayath was main source of information about PMFBY.

Data collected from respondents from Hassan district, representing lowest uptake of PMFBY were given in Table 5.1 and as can be seen, 23 per cent of loanee farmers were also not aware

of PMFBY and for 30 per cent of them, PMFBY was first instance of subscription to agricultural loan and 43 per cent of them were not aware that PMFBY premium was deducted from their loan amount. Panchayath remained most important source of information regarding PMFBY.

Table 5.1: Enrollment and awareness

Particulars	Heard of PMFBY		Availed any other insurance scheme		Insured in PMFBY		Insured because you had applied for loan		Voluntary enrollment under PMFBY		How did you know about PMFBY Scheme				
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	1	2	3	4	5
Bidar															
Loanee	77	23	70		21	24	76			84		16			
Non-loanee	50	50			100	100						100		100	
Kalaburagi															
Loanee	80	20	77		23	7		93		87		13			
Non-loanee	50	50	-		-	-		-		-		-			
Hassan															
Loanee	76	23		70	30	56			43		84		16		
Non-loanee	76	16			100				100				100		
Total															
Loanee	77.67	22.00	73.5	70	24.67	29	76	93	43	85.5	84	14.5	16		
Non-loanee	58.67	38.67			100	100			100			100	100	100	

Note: Figures in brackets are percentages to sample farmers

Code: 1. Government awareness programs; 2. Insurance Company/Agent; 3. Panchayath; 4. Other Villagers; 5. Others

5.3 Implementation Aspects

Respondents were asked about details such as implementing insurance agency, premium paid towards PMFBY and losses incurred by them and compensation received by them. None of the respondents could answer these queries. However, in discussion with agricultural officers, we learnt that in Bidar district, implementing agency was GIC and Crop Cutting Experiments have shown that Soya bean crop was damaged and hence, all farmers with

PMFBY enrollment have received sum insured. There were some instances of farmers while applying for agricultural loan, have mentioned that they will grow toor dal, for higher loan amount but cultivated Soya bean. Based on the records, their claims were rejected. In Kalaburagi district also, the respondents were unable to provide the details. However, personnel from Department of Agriculture informed that insurance claims of year 2015-16 were not settled and therefore the enrollment into PMFBY was lower. In Hassan district, previous drought years have adversely affected coconut yield and though the survey was conducted to provide some relief to farmers, it was not materialized with overall negative impact on PMFBY.

Table 5.2: Experiences with PMFBY

Type of sample Farmers	Experience with PMFBY					Event of loss did you inform any authority		Whom did you inform					
	Better than earlier schemes	Worse than earlier scheme	Same any other scheme	Never insured earlier	Cannot say	Yes	No	Insurance company	Bank	Local Govt. official	Toll free number	KV K officer	Others
Bidar													
Loanee	50	-	-	14	24	-	-	-	-	-	-	-	-
Non-loanee	100	-	-	-	-	-	-	-	-	-	-	-	-
Kalaburagi													
Loanee	64	0	0	20	4	-	100	-	-	-	-	-	-
Non-loanee	-			-		-	-	-	-	-	-	-	-
Hassan													
Loanee	54	0	0	17	30	-	100	-	-	-	-	-	-
Non-loanee	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Figures in brackets are percentages to sampled farmers

5.4 Experiences with PMFBY

About 150 sample farmers of the bidar district opined that Pradhana Manthri Fasal Bhima Yojane is better than earlier schemes implemented and also from majority of the sample farmers Kalburagi (64) and Hassan (54) this is scheme far better than earlier schemes.

5.5 Level of Satisfaction

As the PMFBY scheme was introduced only from 2015-16, there could be several bottlenecks which might be hampering the uptake or enrollment under this scheme. To find out such concerns of farmers, respondents were asked to mention the problematic issues of PMFBY and their level of satisfaction about PMFBY. The results were given in Table 5.3. It can be seen in the table 5.3 that no farmer has inputs for improvising the scheme and the level of satisfaction with the project is very significant. More than 90 per cent of respondents expressed their satisfaction with the PMFBY.

Table 5.3: Implementation

Type of sample farmers	Event of loss did you inform how many days				Did anyone visit your farm during CCE		Are you aware of any yield assessment of CCE taking place in village		Role of panchayath in process of claims		What was role of panchayath	Are you satisfied with the implementation PMFBY	
	Within 48 hours	Within 15 days	Within one month	Within 3 month	Yes	No	Yes	No	Yes	No		Yes	No
Bidar Loanee	-	-	-	-	-	-	-	-	-	-	-	92	8
Kalaburagi Loanee	-	-	-	-	-	-	-	-	-	-	-	-	-
Hassan Loanee	-	-	-	-	-	-	-	-	-	-	-	90	10
Loanee	-	-	-	-	-	-	-	-	-	-	-	90	10

Note: Figures in brackets are percentages to sampled farmers

5.6 Suggestions to Improve PMFBY

Respondents were asked to give their suggestions to improve the utility of PMFBY in helping the farmers. Higher compensation and timely compensation were two prominent suggestions came from the respondents. Few respondents suggested reducing the premium rates further as well.

Table 5.4: Suggestions for further improvement of PMFBY

Particulars	Premium should be lower	Less time to finish paperwork	Higher compensation	Timely compensation
Bidar				
Loanee	15.00	-	-	50.00
Non-loanee	-	-	-	-
Kalaburagi				
Loanee	60.00	-	90.00	50.00
Non-loanee	-	-	-	-
Hassan				
Loanee	6.00		3.00	5.00
Non-loanee	-			
Total				
Loanee	26.67		31.11	35.55
Non-loanee				

Note: Figures in brackets are percentages to sampled farmers

5.7 Reasons for non-subscription

Though it is first in bringing down the premium levels, enrollment rate in PMFBY depends on awareness about the program with farmers. Government both State and Centre have used several modes to communication to farmers about this to farming community. To understand about which program was effective in reaching the farming community, respondents were asked about their awareness and also about the agency through which they got this information about PMFBY and results are given in Table 5.5.

As can be seen from Table, in Bidar, about 80 per cent of respondents were familiar with PMFBY and the information was provided to them by Panchayath. Similarly, awareness about the PMFBY is 97 per cent in Kalaburagi district but its enrollment was lower than Bidar. Pending previous claims was quoted as responsible factor for not subscribing to PMFBY. In Hassan district, the awareness was about 75 per cent and source is government agencies such as Agricultural departments. Reasons for non-subscription were pending claims of coconut plantation damage and red tapism.

Table 5.5: Awareness and non-uptake of control farmers

Particulars	Have you heard of PMFBY (Yes/No)	If Yes, who informed you (Name of the source)	Why did you not enroll for PMFBY (up to 3 reasons)
Bidar	80	Panchayath	
Kalaburagi	97	Panchayath	Pending claim settlements
Hassan	75	Government awareness	Not beneficial Pending Claim disbursal

CHAPTER VI: SUMMARY AND POLICY RECOMMENDATIONS

6.1 SUMMARY (PMFBY)

Risk transfer of farmers due to climatic variations through agricultural insurance was, in a limited manner, has been made available by government since early 70s however, these initiatives have not found favour with majority of farmers. Some of the factors were premium rate for the insurance cover, limited crops under insurance coverage etc and has reduced rate of penetration of these schemes into the farming community.

Overhauling the agricultural insurance schemes, Government of India has restructured them and reintroduced in the name of Prahana Manthri Fasal Bhima Yojana (PMFBY) from the khariff season of 2016. PMFBY has been unique to other schemes due to the following factors;

- It has fixed premium rates for different seasons, viz., for Khariff, the premium is 2 per cent and for Rabi, 1.5 per cent and for horticultural crops, it is 5 per cent of the sum insured.
- All farmers are made eligible to enroll in the scheme, viz., Agricultural Loanee Farmers, Non-loanee farmers as well. In the case of loanee farmers, it is mandatory subscription to the PMFBY and the premium will be deducted from the loan amount. For lease-holding farmers also the PMFBY option is extended if they have documentary support of farming.
- Coverage period is significantly higher than previous versions of crop insurances and in addition to area approach; provisions are made to address individual farmer's losses also.
- To prevent delay in insurance operations, geo tagged information technology is adopted.

To understand the farmers perceptions about this scheme and its function at ground level, this study was undertaken in a year after its implementation. Primary objectives of this are a) operationalization of the scheme and, to understand the uptake of the scheme in Karnataka state. Three districts were selected to represent different rates of enrollment into PMFBY, i.e., high, medium and low levels of enrollment. Bidar, Kalaburagi and Hassan districts were

selected to represent high, medium and low levels of enrollment respectively. Both primary and secondary data was collected using closed and open-ended schedules. Following are the results;

- Socio-economic profile of the samples these districts indicated that agriculture is main source of income and on an average, Bidar district has the highest land holding size in comparison with other districts. Bidar and Kalaburagi are in low rainfall regions with low groundwater table coupled with high temperature in comparison with Hassan district. Cropping pattern was different due to agroclimatic factors of these areas, with Bidar having higher Tur Dal/pigeon pea followed by sugarcane. Kalaburagi occupies the highest area of Tur Dal/Pigeon pea and in Hassan, paddy, millets followed by coconut crop dominate.
- Most of the respondents from all three districts were belonging to age group of 16-59 years and this followed by the age group of above 60 years. In Bidar and Kalaburagi districts, there were some farmers falling in the age group of less than 16 years.
- The literacy rate of un-insured farmers was 74.33 per cent and it was more compared to loanee insured farmers (56.66 %) and non-loanee insured farmers (40.00 %).
- Majority of the loanee insured sample farmers belongs to OBC category i.e., 52.00 per cent followed by SC/ST (25.67%) and general category (22.33%). Where as in case of non-loanee insured farmers and un-insured farmers majority were belongs to OBC category followed by general category and SC/ST.
- All sample farmers primary occupation is agriculture and some sample farmers also have secondary occupations like petty shops, employees of dairy cooperatives, private companies etc. 18.88 percent of loanee insured farmers were engaged in secondary occupation followed by non-loanee farmers (10.00%) and un-insured farmers(6.67%).
- The average annual income from non-agricultural sources was more in case of loanee insured farmers (Rs. 18927/-) compared to non loanee insured farmers (Rs.18450/-) and un-insured farmers (Rs. 13100/-). These non-agricultural income was generated through different sources such as Salary from employment, farm labor, MGNAREGA, Pension,and Business/trade.
- Among the sample farmers un insured farmers having more asset value compare to insured farmers. As per the results per household asset value was more in case of un-insured farmers i.e., Rs 4158000/- followed by loanee insured farmers (Rs. 3167000/-

) and non loanee insured farmers (Rs. 3608000/-). The major asset types of sample farmers were land, machinery and building.

- The commercial banks were major credit source for loanee insured farmers i.e., 64.44 per cent of the had took loan from commercial banks followed by cooperative (38.89%) and rural banks (28.89%). 100 percent of farmers had took for agriculture purpose and no one took loan for other than agriculture. The average loan amount sanctioned per farmer was more in commercial bank (Rs. 115068/-) followed by cooperative banks (Rs. 91657/-) and rural banks (Rs. 85200/-).
- The major source of irrigation among loanee insured farmers dug wells (47.48 %) followed by borewell (41.11 %) and canal irrigation (38.89%). In case of non-loanee insured farmers, majority were depend on borewell (70.00%) followed by canal (56.67%) and dugwell (46.67 %).
- The average land holdings of non-loanee insured farmers was more i.e., 6.88 acres followed by loanee insured farmers (4.79 acres) and un-insured farmers (4.32 acres).
- Awareness of additional features of PMFBY is low in all the three Districts and more so in Hassan district.
- Considering the enrollment into PMFBY, it was observed that, the enrollmet is highly influenced by the previous experiences of farmers with agricultural insurances schemes. In Hassan district, previous experiences of majority of farmers were not positive.
- It was observed that the irrigation has inverse relationship with insurance enrollment.
- Bidar district, which has highest enrollment, about 23 per cent of them were not aware of PMFBY and 21 per cent of them have not availed any other insurance scheme earlier to PMFBY. According to their own admission, 76 per cent of loanee respondents, were not insured under PMFBY and 84 per cent of loanee respondents opined that they were insured because of loan and only 16 per cent of loanee farmers felt other way, - intention to get PMFBY.

6.2 POLICY RECOMMENDATIONS

Three districts were selected to study the performance of PMFBY in Karnataka and Bidar, Gulburga and Hassan districts were selected to represent high, medium and low uptake/enrolment of PMFBY. Each district has its uniqueness in terms of its socio-economic and cropping patterns which has significant influence on the behaviour of farmer regarding their enrolment to PMFBY. In spite of the differences, there are few common concerns regarding the PMFBY across the districts that affecting the performance of PMFBY. In addition to these concerns, there are district specific concerns which need to be addressed for enhancing the PMFBY enrolment. Common Concerns across the districts

At Department Level: Through its extension centers, Department of Agriculture, in tandem with other state agencies have organized PMFBY awareness programs in villages and encouraged the farmers to subscribe to PBFY. Thus personnel of Department of Agriculture became the 'point of contact' regarding PMFBY. However, as the agricultural season proceeded these 'points of contact' were not in a position to answer the queries by the farmers as they themselves were unaware about post-enrolment aspects of PMFBY. This gap or lack of information has led to resentment at farmers end and was aggravated by a) non-payment of claim in self-perceived agricultural losses, and b) delay in payment in those cases where the claim was accepted. This issue can be resolved by providing proper information to personnel of the Department of Agriculture. It can be done by **organizing training programs for department personnel in association with Insurance Agency.**

At Farmer Level: Majority of farmer have expressed, during the survey, that the actual yield was less than anticipated yield and therefore, their claim for insurance should be honoured. But in several instances Crop Cutting Experiment results indicated that no reduction in actual yield, leading to resentment about PMFBY. This can be resolved by making public **the 'estimated yield' levels for specified crop in that district and also the making public about tentative details of Crop Cutting Experiments before hand**, so that the farmers are taken in to confidence.

At Insurance Agency (IA): Paying the prescribed premium for crop gives the Right to Farmers to demand the compensation from insurance for crop losses and farmer expects the payment sooner and also as early as possible. But, field interactions have indicated in

differently. This has to be resolved by IA without delay, additional manpower may be recruited if the need be.

District wise Suggestions

Bidar District

1. Mixed crop cropping patten is non-uncommon in Bidar district, more particularly in marginal farmers. But, mixed crops were not included in the list of notified crops and thus depriving the marginal farmers the benefit of PMFBY.
2. Practice of Share cropping is prevalent in Bidar district, but, PMFBY does not facilitate the share croppers and tenants to be enrolled under PMFBY in Kharif-2016 and Rabi-2017. Appropriate changes may be made so that they also can take benefits of PMFBY.
3. The premium for marginal farmers may be exempted as they were affected by crop failures more often.
4. The meeting of SLCCCI and DLTC should be held at stipulated time. It will create transparency at each and every step during the implementation of PMFBY
5. All efforts should be made to disburse the compensation be made within 15 days within three weeks of Crop Cutting Experiments.
6. Details regarding the CCE, time and place should be made public to ensure transparency.
7. Procedure for the individual loss claim may be simplified in the interest of farmers to get compensation easily.
8. The use of remote sensing satellite, imagery and digitalization of land record should be promoted to minimize area discrepancies.
9. Selection of CCEs should be based on consensus of all stakeholders to the extent possible and data should be made public.
10. In view of limited time window for PMFBY enrolment, all financial institutions involved should make elaborate measures to facilitate every farmer to subscribe to PMFBY. Awareness programs about documents required etc may be initiated early on so that it become to deal with rush of farmers.
11. A toll-free number should be served to the insured farmers to lodge their complaints and it should be functional as well.

Kaluburagi District

- a) Mixed crop cropping pattern is non-uncommon in Kaluburagi district, more particularly in marginal farmers. But, mixed crops were not included in the list of notified crops and thus depriving the marginal farmers the benefit of PMFBY.
- b) Practice of Share cropping is prevalent in Kaluburagi district, but, PMFBY does not facilitate the share croppers and tenants to be enrolled under PMFBY in Kharif-2016 and Rabi-2017. Appropriate changes may be made so that they also can take benefits of PMFBY.
- c) The premium for marginal farmers may be exempted as they were affected by crop failures more often.
- d) The meeting of SLCCCI and DLTC should be held at stipulated time. It will create transparency at each and every step during the implementation of PMFBY
- e) All efforts should be made to disburse the compensation be made within 15 days within three weeks of Crop Cutting Experiments.
- f) Details regarding the CCE, time and place should be made public to ensure transparency.
- g) Procedure for the individual loss claim may be simplified in the interest of farmers to get compensation easily.
- h) The use of remote sensing satellite, imagery and digitalization of land record should be promoted to minimize area discrepancies.
- i) Selection of CCEs should be based on consensus of all stakeholders to the extent possible and data should be made public.
- j) In view of limited time window for PMFBY enrolment, all financial institutions involved should make elaborate measures to facilitate every farmer to subscribe to PMFBY. Awareness programs about documents required etc may be initiated early on so that it become to deal with rush of farmers.
- k) A toll-free number should be served to the insured farmers to lodge their complaints and it should be functional as well.

Hassan District

- I. Practice of Share cropping is common in Hassan district, but, PMFBY does not facilitate the share croppers and tenants to be enrolled under PMFBY in Kharif-2016 and Rabi-2017. Appropriate changes may be made so that they also can take benefits of PMFBY.
- II. The premium for marginal farmers may be exempted as they were affected by crop failures more often.
- III. All efforts should be made to disburse the compensation be made within 15 days within three weeks of Crop Cutting Experiments.
- IV. Details regarding the CCE, time and place should be made public to ensure transparency.
- V. Procedure for the individual loss claim may be simplified in the interest of farmers to get compensation easily.
- VI. The use of remote sensing satellite, imagery and digitalization of land record should be promoted to minimize area discrepancies.
- VII. Selection of CCEs should be based on consensus of all stakeholders to the extent possible and data should be made public.
- VIII. In view of limited time window for PMFBY enrolment, all financial institutions involved should make elaborate measures to facilitate every farmer to subscribe to PMFBY. Awareness programs about documents required etc may be initiated early on so that it become to deal with rush of farmers.
- IX. A toll-free number should be served to the insured farmers to lodge their complaints and it should be functional as well.
- X. Sugarcane is dominant crop and it may also be brought under PMFBY cover

REFERENCES

Agriculture Insurance Company of India, Performance of NAIS, Country Profile

www.aicofindia.org

Government of India, Crop Insurance, www.indiaagronet.com

Government of India, Report of the Working Group on Risk Management in Agriculture for Eleventh Five Year Plan (2007-12), Planning Commission, New Delhi.

Government of India, State-wise Progress of CCIS from Kharif '85 to Kharif 1999

India Development Gateway, Varsha Bima - 2005, www.indg.in/agriculture

India Development Gateway, Weather Based Crop Insurance Scheme (WBCIS)

www.indg.in/agriculture

Insurers, Economic and Political Weekly, June 19, 2004, P 2605-2612

Raju, SS and Ramesh Chand, Agriculture Insurance in India: Problems and Prospects, NCAP Working Paper No. 8, March 2008

Sinha & Sidharath, Agriculture Insurance in India: Scope for Participation of Private

Venkatesh, G, Crop Insurance in India – A Study, Mumbai

World Bank, Piloting Weather Insurance Scheme in India, August 27, 2003, web.worldbank.org