



## PERFORMANCE OF CROP INSURANCE SCHEMES IN INDIA

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### ABSTRACT :

*India is emerging as one of the largest crop insurance globally with constant efforts from the government in offering an effective insurance cover to the farmers through improving and trying various crop insurance products since 1972. The three major insurance products available in India till 2016 were NAIS, MNAIS & WBCIS. Numerous PACs (Primary Agricultural Co-operative Societies) are associated with CCIS. They perform grassroots-level functions, such as compiling details of borrowers, loans disbursed and sums insured. In some cases, avoidable errors have been committed due to inadequate understanding of the provisions of the scheme. At other levels and in other agencies also, there was lack of information regarding operational aspects. Such problems of inadequate skill and knowledge are bound to arise when a new scheme is implemented on such a large scale and over such a large area. It brought into prominence the need for training, in order to accelerate the process of learning by doing. Some of these problems probably could and should have been foreseen when the scheme was introduced. In this paper, the performance of NAIS and CCIS schemes are discussed.*



**KEYWORDS :** *Crop Insurance, CCIS, NAIS, PACS*

### INTRODUCTION :

Basic information regarding the performance of the major schemes is summarized in the Table- 1 NAIS has covered around 22.9 crore farmers since its inception in 1999. The claim premium ratio is very high for NAIS indicating that the claims were 300 per cent more than the premium collected. On an average, Rs. 5649 was paid to a beneficiary under NAIS from a lowest average premium of Rs. 462/ farmer. Only 3.4 crore farmers are covered under WBCIS and is not popular due to lack of adequate number of weather stations and long term yield data. MNAIS has been adopted only by a few states and has covered about 11.05 crore farmers in spite of the premium rates being higher as compared to NAIS.

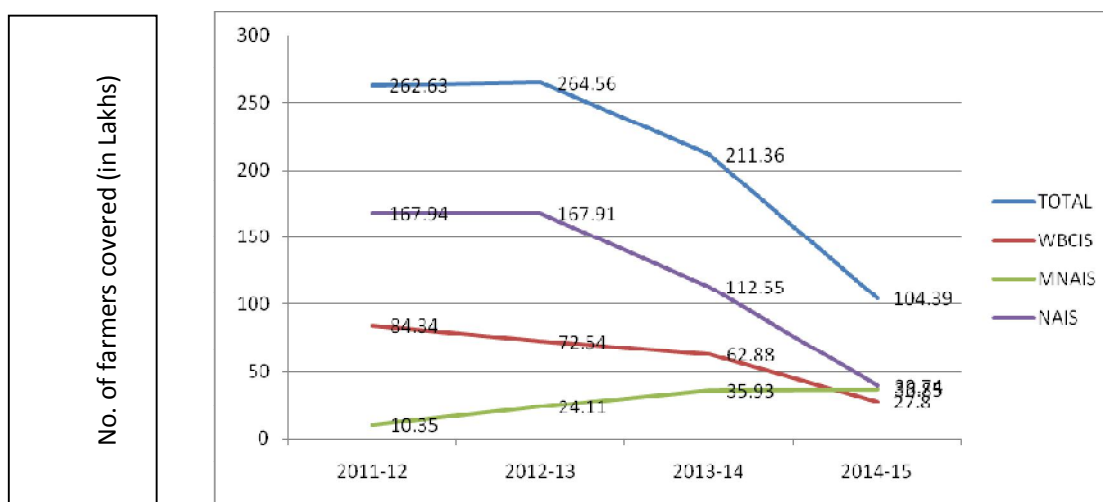
**Table 1: Comparative statistics of the major insurance schemes of India (cumulative since inception of the schemes till Kharif, 2014-15).**

Scheme	Number of farmers covered (crores)	Area Insured (crore hectares)	Over-all claim Premium Ratio	Average premium per farmer	Average Claim amount/farmers
National Agricultural Insurance Scheme (NAIS) (From 1999)	22.90	33.97	3.06	Rs. 462	Rs. 5649
Weather-Based Crop Insurance Scheme (WBCIS) (From 2007)	3.4	4.6	0.69	Rs. 1743	Rs. 2146
Modified National Agricultural Insurance Scheme (MNAIS) (From 2010-11)	11.05	1.25	0.88	Rs. 2356	Rs. 7708

Source: State of Indian Agriculture, 2015-16 Ratios computed by Researcher-www.agricoop.gov.in

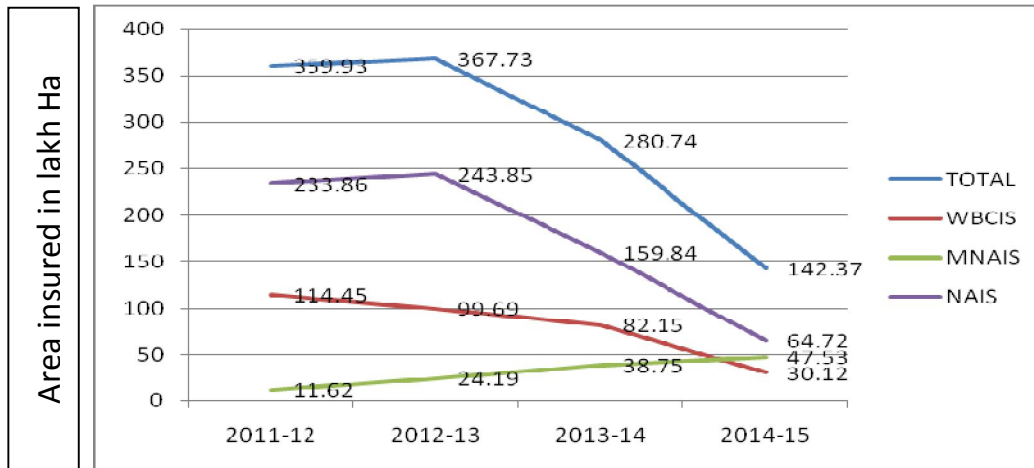
Graphs 1 & 2 show the trends in number of farmers insured and the area insured under various crop insurances in India. It is evident that as a whole, the number of farmers taking insurance is showing a steep decline after 2012-13. As of 2014-15, through all the schemes, 104 lakh farmers are covered as against the 1383.50 lakh operational holdings (Census, 2011). Hence, penetration accounts only to about 7.5 per cent in India through all the crop insurance schemes. The coverage of farmers and area insured has shown a decreasing trend under all the three insurance schemes since 2012-13.

**Graph-1: Number of farmers insured under different insurance schemes in India**  
**Number of farmers insured under different schemes in India (Lakhs)**



Source: State of Indian Agriculture, 2015-16-www.agricoop.gov.in

**Graph-2: Area Insured under major insurance schemes in India  
Area Insured under different schemes in India (Lakh hectares)**

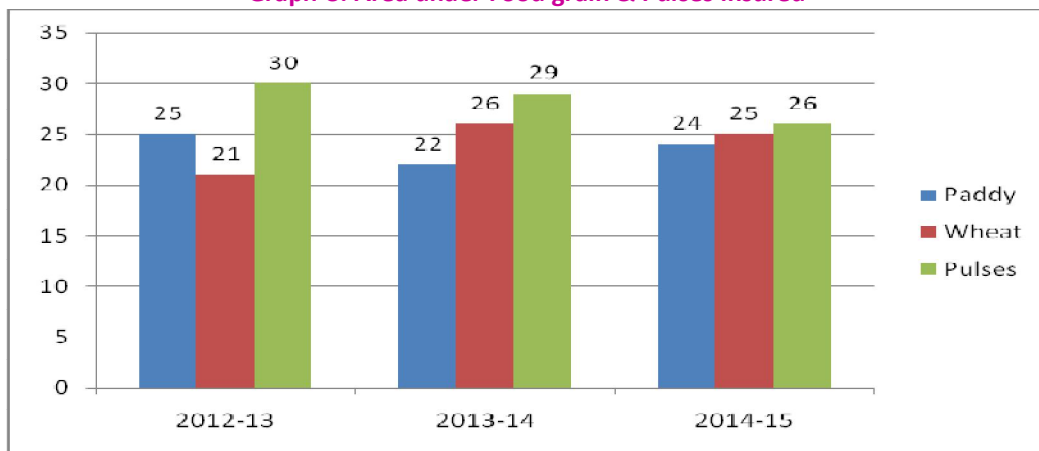


Source: Agriculture at a Glance, 2014-2015-www.agricoop.gov.in

Insurance penetration amongst India's farming community is abysmal. Out of the gross cropped area of 195.26 million hectares in the country, only 14.2 million hectares was covered under crop insurance in 2014.

The percent area insured under various crops is displayed in Graphs 3.3, 3.4 & 3.5. There is not much variation over the time period for the area under food crops, while insurance coverage of area under vegetables and fruits has increased three times in 2014-15 as compared to previous years. On an average, 25 per cent of the area under food grains and 40 per cent of area under fruits and vegetables are insured in 2014-15.

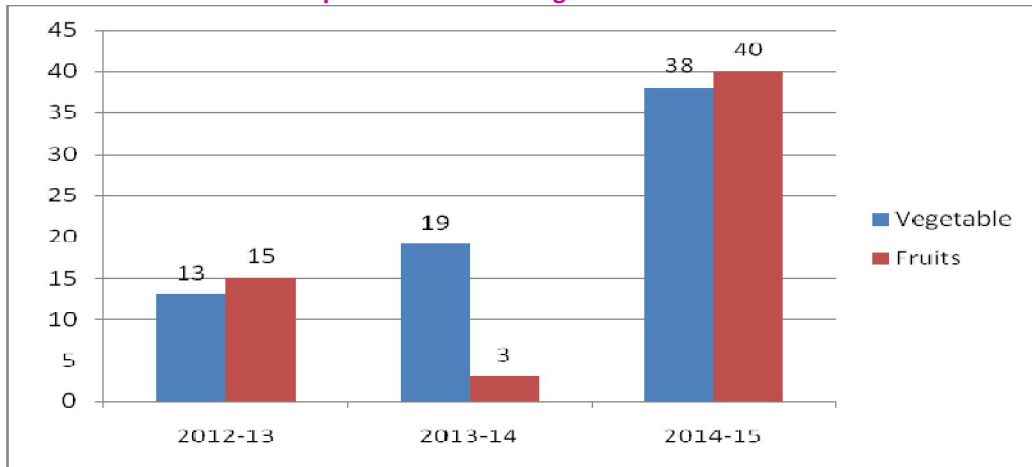
**Graph- 3 & 4: Area insured under various crops in India  
Graph-3: Area under Food grain & Pulses insured**



% age of Area Insured

Source: Agriculture at a Glance, 2014-15-www.agricoop.gov.in

**Graph-4: Area under Veg. & Fruits insured**

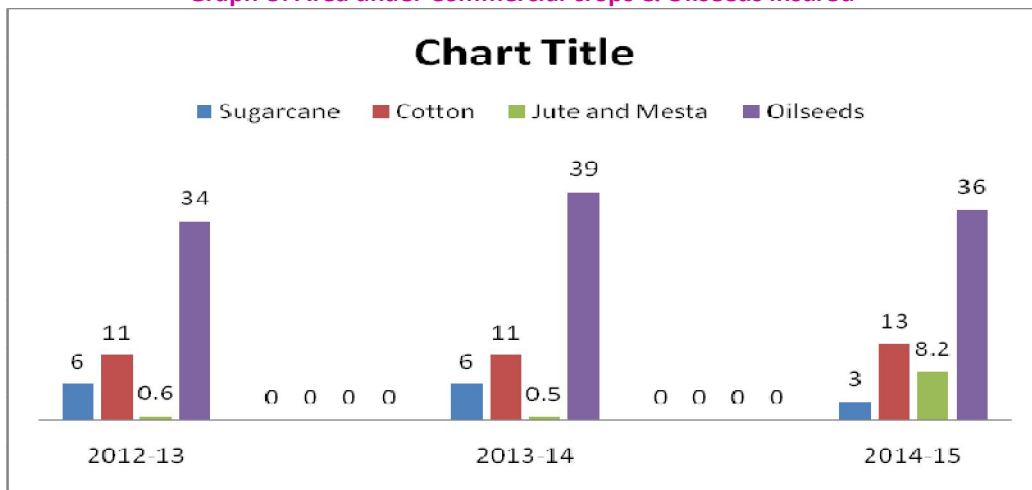


% age of Area Insured

Source: Agriculture at a Glance, 2014-15-www.agricoop.gov.in

In the case of commercial crops, area under oilseeds is insured up to 36 per cent and cotton up to 13 per cent, while it is very low for Sugarcane, Jute and Mesta (Graph-3.5).

**Graph-5: Area under Commercial crops & Oilseeds insured**



% age of Area Insured

Source: Agriculture at a Glance, 2014-15-www.agricoop.gov.in

The performance of insurance schemes in India varies widely across the states. The coverage is very good in Rajasthan, Bihar and MP with about 45-50 per cent gross cropped area insured under different schemes (Graph-3.6). Penetration of insurance schemes in terms of percentage of GCA insured is low in UP, West Bengal, Karnataka & Haryana. In few states such as MP, Odisha & Maharashtra, the coverage has increased in 2014-15, while in Gujarat, AP, and TN, the per cent area insured has gone down as compared to 2012-13.

### The Comprehensive Crop Insurance Scheme (CCIS)

The number of States and UTs that participated in the scheme increased from 13 in the first *Kharif* season to 21 during *Kharif* 1987, which was third consecutive year of drought, and one of the most severe. In a typical year, 16-17 States and UTs participated during each season.

It is interesting to note that the scheme commenced operations in a big way right from the first year, i.e., 1985-86, with a coverage of 3.85 million farmers and 7.69 million hectares of gross cropped area during both *Kharif* and *Rabi* seasons of 1985-86 (Table 1 and 2). This increased to 6.48 million farmers and 10.89 million hectares of land during the last two seasons of its operation. The gross cropped area in 1998-99 was 193 million hectares. According to the agricultural census for 1995-96, there were 115.6 million operational holdings. Thus, during 1998-99, 5.6 per cent of farmers were covered, as was 5.6 per cent of the gross cropped area.

Tables 2 and 3 also indicate the financial aspects of CCIS. The percentage of indemnity to the sum insured, known as loss cost, ranges from 3.36 to 24.32 percent during *Kharif* seasons and from 1.31 to 4.47 per cent during *Rabi* seasons. For the entire period of 14½ years--or 29 seasons (1985-83 to 1999 *Kharif*) the sum insured, premium and indemnity amounted to Rs. 24975 crore, Rs. 403.5 crore and Rs. 2319 crore, respectively. So, the loss cost and claims ratio work out to 9.29 per cent and 5.75, respectively. Thus, the indemnity paid was about six times the premium received over this period. It is worthwhile to note that the indemnity payment was more than the premium received in all the seasons except for two *Rabi* seasons. In other words, there were losses in 27 out of 29 seasons. Thus, CCIS was financially unviable.

**Table- 2**  
**CCIS: Performance during 1985-1999 *Kharif* seasons**

Kharif Season	No. of participating States/UTs	No. of Farmers Covered (m.)	Area Covered (m.Ha.)	Sum Insured (SL) (m.Rs.)	Premium (m.Rs.)	Claims (m.Rs.)	Claims Ratio (Claims/Premium)	Loss Cost (Claims as % of Sum Insured)
1985	13	2.64	5.37	5427.3	94.2	978.86	10.39	18.04
1986	18	3.96	7.74	8562	149.9	1724.23	11.5	20.14
1987	21	4.63	8.41	11406.8	191	2773.96	14.52	24.32
1988	13	2.97	5.24	5507	88.7	291.86	3.29	5.30
1989	17	4.23	6.65	8738.9	144.8	344	2.38	3.94
1990	17	1.94	3.41	5151.5	76.6	815.59	10.68	15.83
1991	17	3.76	6.86	9314.1	144.3	1952.71	13.53	20.97
1992	17	4.23	7.37	11794.7	186.1	438.27	2.36	3.72
1993	17	4.22	6.95	13093.8	206.5	1771.78	8.58	13.53
1994	17	4.34	7.14	15657.84	242.78	526.35	2.17	3.36
1995	17	4.78	7.8	17841.57	274.01	1319.76	4.82	7.40
1996	17	4.85	8.06	19734.42	304.22	1524.82	5.01	7.73
1997	17	5.13	8.35	22295.71	343	1709.12	4.98	7.67
1998	17	5.29	8.21	24441.52	382.86	1188.98	3.11	4.86
1999	17	5.58	8.97	28330.54	440.25	4616.86	10.49	16.30
<b>Total seasons</b>	<b>15 <i>Kharif</i></b>	<b>62.55</b>	<b>106.53</b>	<b>207297.70</b>	<b>3269.22</b>	<b>21977.15</b>	<b>6.72</b>	<b>10.60</b>

Source: Report of the Committee to Review the Implementation of Crop Insurance Schemes in India, May 2014, p. 24

**Table- 3**  
**CCIS: Performance during 1985-1998 Rabi seasons**

Kharif Season	No. of participating States/UTs	No. of Farmers Covered (m.)	Area Covered (m.Ha.)	Sum Insured (SL) (m.Rs.)	Premium (m.Rs.)	Claims (m.Rs.)	Claims Ratio (Claims/Premium)	Loss Cost (Claims as % of Sum Insured)
1985-86	16	1.21	2.32	2384.1	44.78	31.16	0.70	1.31
1986-87	17	1.13	2.1	2423.7	45.17	45.87	1.02	1.89
1987-88	19	2.13	3.24	4754.4	88.5	120.78	1.36	2.54
1988-89	9	0.57	1.01	1641	31.2	38.71	1.24	2.36
1989-90	17	0.66	0.96	1515.6	27.6	28.79	1.04	1.90
1990-91	16	0.79	1.07	1962.8	35	40.38	1.15	2.06
1991-92	15	0.8	1.12	2068.5	36.5	60.32	1.65	2.92
1992-93	16	0.79	1.06	2411.6	43.1	71.28	1.65	2.96
1993-94	16	0.82	1.12	2778.4	48.9	114.39	2.34	4.12
1994-95	16	0.84	1.1	3110.8	54.31	53.57	0.99	1.72
1995-96	16	0.88	1.28	3796.78	69.29	169.59	2.45	4.47
1996-97	16	0.99	1.4	4931.88	89.3	206.87	2.32	4.19
1997-98	16	0.26	1.35	4002.62	71.76	141.64	1.97	3.54
1998-99	16	0.90	1.92	4668.62	80.67	89.53	1.11	1.92
<b>Total 14 Rabi seasons</b>		<b>13.67</b>	<b>21.05</b>	<b>42450.8</b>	<b>766.08</b>	<b>1212.88</b>	<b>1.58</b>	<b>2.86</b>
<b>Total CCIS</b>		<b>76.22</b>	<b>127.58</b>	<b>149748.5</b>	<b>4035.30</b>	<b>23190.03</b>	<b>5.75</b>	<b>9.29</b>

Source: Ibid, p.25

**Table- 4**  
**CCIS: crop-wise Premium, Indemnity, Claim Ratio and Loss Cost as % of total (1985-1999)**

Crop	Premium (% of total for all Crops)	Indemnity (% of total for all Crops)	Claims Ratio (Claims/Premium)	Loss Cost (Claims as % of Sum Insured)
Paddy (rice)	57.88	31.38	3.12	6.24
Wheat	4.42	1.3	1.65	3.39
Jowar (sorghum)	8.35	4.96	3.42	6.83
Bajra (pearl millet)	4.12	5.4	7.51	15.06
Other cereals	1.39	0.66	2.65	5.38
All cereals	76.16	43.7	3.1	6.60
Groundnuts	19	52.54	16.02	16.02
Other oilseeds	3.51	1.4	2.28	2.28
All oilseeds	22.51	54.34	13.88	13.88
Pulses	1.33	1.56	8.5	8.50
<b>All crops</b>	<b>100</b>	<b>100</b>	<b>5.75</b>	<b>9.29</b>

Source: Calculated on the basis of data from the Agriculture Insurance Company of India (AIC) Ltd.

Table- 5

**CCIS: Financial aspects relating to Andhra Pradesh, Gujarat, Maharashtra and other States 1985-1999**

State	Sum Insured (m.Rs.)	Premium (m.Rs.)	Indemnity (m.Rs.)	Claims Ratio (Claims/Premium)	Loss Cost (Claims as % of Sum Insured)
Gujarat	54119.08	661.58	10978.23	16.59	20.29
Maharashtra	31988.96	519.23	2184.99	4.21	6.83
Andhra Pradesh	66315.78	1133.02	4826.05	4.26	7.28
Sub-total	152423.82	2313.83	17989.27	7.77	11.80
% of All India	(61.03)	(57.34)	(77.57)	NA	NA
Other States	97324.74	1721.75	5200.86	3.02	5.34
% of All India	(38.97)	(42.66)	(22.43)	NA	NA
All India	249748.56	4035.58	23190.13	5.75	9.29
	<b>(100.00)</b>	<b>(100.00)</b>	<b>(100.00)</b>	<b>NA</b>	<b>NA</b>

Source: Calculated on the basis of data from the Agriculture Insurance Company of India (AIC) Ltd.

An analysis of the experience with respect to different crops provides an important insight. As the available data indicators (Table-6), groundnut has the highest claims ratio of 16.02. Furthermore, groundnut accounts for 53 per cent of the total indemnity though its share in the premium is only 19 per cent.

Another aspect is the experience of different States. Three States, namely, Gujarat, Maharashtra and Andhra Pradesh, accounted for the major part of the indemnity. As Table 4 indicates, these States accounted for 61 per cent of the sum insured, 57 per cent of the premium and 78 per cent of the indemnity for the entire country.

#### OPERATIONAL ASPECTS: ISSUES AND CHALLENGES

A study of the working of CCIS brings out several operational problems which arose right at the beginning of the schemes operation. There were many problems relating to CCEs. In some cases, the numbers of CCEs actually conducted were much less than that was planned, resulting in delay and sometimes non-payment of indemnity. It took some time to consider combining two or three defined areas for the purpose of assessing indemnity. Some States made an attempt to reduce the area unit to gram panchayat level, which resulted in sharp increase in the number of CCEs. For example, in Odisha, the number of CCEs increased from 314 in 1986 to 4700 in 1987 for insured crops. West Bengal also tried to operate the scheme at the gram panchayat level. Both these States faced acute problems of administering such high numbers of CCEs, and could not cope with the task at that time.

The following extracts from the 1996 book mentioned above bring out interesting aspects of the operational problems in the context of the CCIS:

Numerous PACs (Primary Agricultural Co-operative Societies) are associated with CCIS. They perform grassroots-level functions, such as compiling details of borrowers, loans disbursed and sums insured. In some cases, avoidable errors have been committed due to inadequate understanding of the provisions of the scheme. At other levels and in other agencies also, there was lack of information regarding operational aspects. Such problems of inadequate skill and knowledge are bound to arise when a new scheme is implemented on such a large scale and over such a large area. It brought into prominence the need for training, in order to accelerate the process of learning by doing. Some of these problems probably could and should have been foreseen when the scheme was introduced.

CCIS is basically a yield guarantee scheme, but its linkage to crop loans created the impression in some quarters that it was a crop loan insurance scheme. This led to some serious anomalies. As a farmer-borrower is automatically insured and as the scheme is an area yield guarantee scheme, there was,

especially in the early years, no explicit stipulation to verify whether the insured crop was actually sown. The problem arose in Gujarat in 1987.

In some areas of Gujarat there was, during the operation of CCIS, a sharp increase in the total amount of crop loans, especially in respect of insured crops. In some villages and even defined areas (area units) the loan amount increased by 100 per cent or more in a year. For some areas the increase in loans in respect of insured crops was much larger than in the case of other crops.

It was reported from some areas that there was local pressure on village-level officials (of the Agriculture Department) who conduct CCEs to underestimate the yield so that farmers in the area could get the indemnity. Thus, there could be a problem of under serving claims even in an area approach, though not as severe as in the individual approach. This brought out the need for strengthening and more effectively supervising the administrative machinery in charge of CCEs. GIC sought the assistance of autonomous organizations like the National Sample Survey Organization and NABARD in order to monitor CCEs.

In some cases, data on CCEs and yield data for previous years were not furnished expeditiously by State government departments to GIC. On the other hand, at times, different types of verification undertaken by GIC and the Government of India led to delay in the payment of indemnity. For example, payments of 1990 Kharif claims for Gujarat were, as described below, settled only in 1992. The State government held that the delay was on the part of GIC and GOI, while the latter felt that State governments were not furnishing the required information in time. In other words, at times there was a problem of inter-agency co-ordination.

In April 1994, the Government of India set up a committee to look into the admissibility of the 1993 Kharif claims of Gujarat, particularly of the five Saurashtra districts. The committee held a number of meetings during the latter part of 1994 and early 1995. It came to the conclusion that there was an over estimation of crop loans and cropped area relating to the groundnut crop, because crop loans disbursed for a number of crops-including uninsured crops-were shown as for groundnut. In view of this, the committee laid down certain principles for deciding on the admissibility of claims; among them: (a) for the purpose of indemnity, loans disbursed to insured farmers are to be apportioned among crops (insured and uninsured) in the same ratio as they were sought for various crops; (b) the sum insured is to be based on the crop loans net of deductions towards share capital contributions and over-dues, (c) the insured area in a taluka is to be the total area shown in the declaration submitted by the credit agencies, or the total area sown (as furnished by the State government) multiplied by the average proportion of area sown by loanee farmers in the taluka, whichever is the less. Finally an amount of Rs. 1616 m. was paid as indemnity in mid-1995.

### **The Working National Agriculture Insurance Scheme (NAIS)**

NAIS is the major crop insurance scheme introduced in the country after several experiments and pillars. NAIS was the culmination of years of thinking, experiments and experiences. It was introduced in Rabi 1999-2000 and continued until Kharif 2013. Thus, it was implemented for fourteen years. In the following paragraphs, we analyse the performance of NAIS, based on data up to 2011-12, i.e., for 13 years.

### **Coverage of farmers and area, and financial aspects**

During the 13 Kharif seasons up to Kharif 2012, 15.27 crore (153 million) farmers and 23.12 crore (231 million) hectares of land were insured. For the 13 Rabi seasons up to 2011-12, the corresponding figures were 5.11 crore (51.1 million) farmers and 7.64 crore (76.4 million hectares of land. In other words, on an average, 1.57 crore (15.7 million) farmers and 2.37 crore (23.7 million) hectares of land were covered by NAIS each year. Thus, it was operated in a significantly larger scale than the CCIS (Tables 6 and 7).

Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Uttar Pradesh and West Bengal accounted for the major part of the coverage in terms of number of farmers insured. In other words, the coverage was more widely spread compared to the CCIS. The States showing higher than average loss costs are: Bihar (19.37 per cent), Gujarat (18.24 per cent), Jharkhand (16.21 per cent), Karnataka (12.21 per cent), Maharashtra (11.54 per cent), Manipur (12.90 per cent), Mizoram (48.34



per cent), Rajasthan (16.18 per cent) and Tamil Nadu (12.04 per cent).

Overall, the loss ratio was 3.31 and loss cost 9.86 per cent as compared to 5.75 and 9.29 per cent, respectively, in case of the CCIS. Thus the loss cost is marginally higher for NAIS, but the claims ratio is much lower. This is because of higher premium rates under NAIS. The average premium in case of NAIS was 2.98 per cent, compared to 1.62 per cent under CCIS. During this period 11 States- Andhra Pradesh, Bihar, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal-accounted for 95 per cent of the premium and 96 per cent of the claims.

As regards different crops, oilseeds accounted for 31.40 per cent of premium and 32.72 per cent of indemnity. Groundnut contributed 17.67 per cent of premium and accounted for 25.28 per cent of indemnity. Cereals contributed 41.24 per cent of premium and accounted for 48.57 per cent of indemnity. Among the cereals, wheat accounted for 6.47 per cent of the indemnity, though it contributed 3.94 per cent to the overall premium. It can be seen that the share of different crops in the indemnity was broadly similar to their contribution to the premium though wheat has a higher claims ratio of 6.47. Potato has a claims ratio of 7.39. There is greater balance among crops, unlike in CCIS, where groundnut had a share of 53 per cent in the indemnity against its contribution of 19 per cent to the premium. All the oilseeds taken together also had a more than proportionate share in the indemnity in case of CCIS.

### PERFORMANCE OF NAIS

The largest insurance scheme in India is NAIS which has covered about 24.02 crore farmers from 1999 till 2014-15 insured about 35.76 crore hectare area. However, it has shown a skewed performance across the states in terms of number of farmers covered and area insured. The majority of the farmers insured under NAIS belong to 3 states namely Maharashtra, Madhya Pradesh and Andhra Pradesh contributing to more than 35 per cent of the total farmers covered in India. Uttar Pradesh, Odisha, Gujarat, Rajasthan, West Bengal and Karnataka contributes 5-10 per cent each in the total number of farmers insured under NAIS in India, while the coverage is very low in all the other states.

As far as area insured is concerned, Madhya Pradesh occupies the major share followed by Andhra Pradesh and Maharashtra. Uttar Pradesh, Odisha, Gujarat, Rajasthan, Karnataka and Chhattisgarh contribute to 6-8 per cent share each in the total area insured under NAIS in India. The performance in terms of number of cases insured and area insured under NAIS is very insignificant in the states such as Bihar, Tamil Nadu, Jharkhand and others.

Sustainability and profitability of an insurance scheme can be assessed by its claim/premium ratio. Higher the ratio, higher will be the losses incurred by the insurance agencies and the government. In table-5, claim/premium ratio is calculated based on the claims paid and premiums collected under NAIS since the inception of the scheme in 1999 till 2015. For India as a whole, the claim/premium ratio is 3.06, which shows that the amount of claims was three times higher than the premium amount collected. This indicates the loss in the operation of the scheme, even without including the administrative and operational expenses.

Claim/premium ratio is between 4 to 6 in the states or Rajasthan, Gujarat, Bihar, Tamil Nadu and Jharkhand. The claim payment ratio under NAIS for the states of Madhya Pradesh and Maharashtra which have contributed to a major share of area insured is 2.5 and 2.9 respectively, indicating that the claims amounts were more than the premium collected by 2.5 and 2.9 times. The percentage of farmers who claimed as against the number of farmers covered was also high (34-39 per cent) for Gujarat, Rajasthan, Bihar, Tamil Nadu and Karnataka as against the country average of 25.6 per cent.

The average amount of claim settled per farmer is very high (Rs. 15,039) for Gujarat as against the country average of Rs. 5934. The average amount of claim settled per farmer is on the higher side for Bihar and Tamil Nadu. In Madhya Pradesh, on an average Rs. 6983 is paid to a farmer in the form of claims. The average area insured/farmers is above 2 ha in the states of MP, Gujarat and Rajasthan. Statewise analysis of the performance of the NAIS scheme indicates the skewed benefits attained by states such as Gujarat, Rajasthan, Tamil Nadu and Bihar while the performance in terms of number of farmers covered and area insured is better in Madhya Pradesh and Maharashtra.

### OPERATIONAL ASPECTS: ISSUES AND CHALLENGES

As mentioned earlier, NAIS was introduced in *Rabi* 1999-2000. During its implementation, the Government of India felt that there were some shortcomings in NAIS and other crop insurance schemes being implemented at that time. Consequently in August 2004, it constituted a Joint Group-under the chairmanship of Additional Secretary, Ministry of Agriculture-to review the status of existing crop insurance schemes and suggest improvements, if any. The Joint Group submitted its report in December 2004, after interactions with stakeholders and consultations with experts. The report of the Group contains a long list of issues raised during its meetings by the participants. We reproduce below the list of issues contained in the report, because it is interesting to see how similar issues were raised, a decade later, during our interactions with stakeholders. An extract from the report is given below:

Despite high claim ratio and low premium rates, farmers are not coming forward to avail crop insurance in a big way. It is a pointer that the scheme is falling short of expectations of farmers. NAIS was discussed at different levels both formally and informally to understand the reasons for low acceptability. The suggestions and views expressed for improving acceptability of NAIS are listed below:

#### Coverage Related:

- Package policy covering crop and other assets of the farmers to be made available through single window.
- Inclusion of perennial horticulture crops.
- Inclusion of vegetable crops.
- Pre-sowing risks should be covered in instances where sowing is prevented.
- Post-harvest losses should be covered.
- The maximum coverage to be restricted to 100 per cent of the threshold yield.
- Irrigated and unirrigated areas within a crop should be notified separately.
- The scheme should be restricted to loanee farmers only.
- Specific measures such as improved marketing facilities for inclusion of large number of non-loanee farmers under the scheme.
- The seasonality discipline should be uniform for both loanee and non-loanee farmers.

#### Premium Related:

- Actual premium rates in case of Annual Commercial and Horticulture crops should be capped at 3 per cent. Alternatively, the scheme should be made voluntary for these crops.
- Restoring premium subsidy in case of small and marginal farmers.
- All small and marginal farmers in rain-fed areas to be given 100 per cent subsidy in premium.
- Regional premium rating to be adopted instead of uniform State Level Rates.
- Farming community feels that premium rates are already high, while implementers/administrators feel it is low.

#### Indemnity Related:

- Claims to be paid immediately after loss.
- Ad-hoc/on-account settlement of claims.
- Individual assessment of claims.
- Objective loss assessment procedures.
- Guaranteed yield to be based on 3-5 best years out of past 10 years.
- Indemnity limit should be at least 80 per cent.
- No-claim bonus to be allowed.
- Single series of CCEs should not be insisted upon.
- Individual assessment in case of localized calamities should be implemented all area.

- Area where stipulated number of CCEs is not completed should be considered for claims by using appropriate method such as clubbing with neighboring area, etc.
- Insurance unit size should be small so that losses reflected are closer to reality.
- Surplus premium over and above claims in normal/good years should be carried forward.
- Risk sharing between Government of India and the State Government should be 4:1 or at least 2:1.
- State share of claims may be met out of Calamity Relief Fund of the Government of India.

#### Administration Related:

- Sample size of CCEs should be reduced.
- Time schedule should be prescribed for various activities under the scheme, particularly settlement of claims.
- Delay in receipt of yield data and/or funds from rates leading to longer settlement periods for claims should be avoided.
- Implementing agency should strengthen its infrastructure and manpower, including network at district level to have a good reach to the farmers.
- Central government should take steps to create awareness and bear the publicity expenditure.
- The entire expenditure on additional CCEs required for lowering the insurance writ to village panchayat should be borne by Government of India.
- Banks should streamline their functioning and stop perceiving the administrative work involved as additional burden.
- The service charges payable to banks under the scheme are not commensurate with job involved, and needs to be enhanced.
- Lack of adequately trained staff with banks to interact with the farmers regarding the scheme provisions.
- Legal cases should not be filed against compulsory provisions of scheme.

#### Insurance Principles Related:

- Adverse selection problems (choosing to participate in the scheme selectively even after being certain of crop loss) particularly of non-loanee farmers.
- Inflated claims resulting from false coverage or tampered yield data or both.
- Lack of spread in risk due to non-participation of important states.

Considering the experience of other countries in using remote sensing applications in crop insurance, and the fairly developed technology available in the country, the joint Group recommends that a pilot project on using remote sensing technology in crop insurance should be taken up by AIC from Kharif 2005 season onwards. The areas for pilot project may include:

- Average estimation.
- Crop health reports.
- Yield modeling
- Reduction of sample size of CCEs.
- Yield models based on combination of agro-meteorological data and spectral data.
- RS data as proxy indicators for finalizing quantum of on-account indemnity.
- Deciding eligibility of claims for prevented sowing together with weather data.

Having identified the above aspects, out of the numerous issues raised during consultation meetings, the Joint Group made some recommendations for modifications in NAIS. GoI accepted a number of the Joint Group suggestions, and introduced modifications to the NAIS, leading to the setting up of the Modified National Agricultural Insurance Scheme or MNAIS. The Group also recommended the discontinuance of the scheme relating to farm income insurance.

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**CONCLUSION**

Despite of the launch of various crop insurance schemes, it seems very limited purpose has been served. The coverage in terms of area, number of farmers and value of agricultural output is very small, payment of indemnity based on area approach miss affected farmers outside the compensated area, and schemes are not financially sustainable. Some micro-finance institutes (MFI) offer micro-insurance to protect life, health and assets of low-income households in urban areas, but not in rural areas. Though micro-insurance has the potential to lift poor out of poverty and improve quality of human life it has yet to make a determined penetration in rural areas on the expected scale on par with microcredit, MFIs valuable experience should help understand the ground realities and resign farmer-friendly products in respect of agricultural insurance rather than confining to crop insurance only.

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