## CHAPTER -IV

## COMPARISION OF WBCIS WITH NAIS & MNAIS

The Government of India is currently implementing four schemes, i.e. NAIS, MNAIS, WBCIS, and another pilot Coconut Palm Insurance Scheme (CPIS). Only NAIS is being implemented as a full-fledged scheme and the other three are being implemented on pilot basis. The pilot programme needs to be evaluated for future revisions/modifications to evolve. This will require critical analysis of progress so far.

**4.1 National Agricultural Insurance Scheme (NAIS):** In 1999 -2000 with Rabi crop a broad based Insurance scheme was introduced to meet the demands of States and farming communities to improve the scope and content of CCIS. NAIS was conceptualized as an comprehensive tool to cover yield losses due to natural non-preventable risks like flood, inundation, landslide, drought, pest & diseases, natural fire, lightening, storm, hailstorm, cyclone etc and provided for greater coverage of farmers (loanee and non-loanee), crops (all food & oilseed crops and annual horticultural/commercial crops) and risk commitment (upto 150% of threshold yield). The premium structure was also rationalized (actuarial premium rate of annual horticultural/commercial crops) and scheme was required to operate at smaller unit area of insurance.

At present the scheme is being implemented in 23 States and UTs for 35 different crops under kharif and 30 different crops under Rabi season.

However, the scheme could not provide desirable results due to some constraints, mostly operational, faced in implementation of schemes like inadequate infra-structure at field to conduct requisite number of crop cutting experiments (CCEs),

delay in settlement of admissible claims on account of late submission of yield data by the State, delay in release of State share towards its committed financial liabilities, phasing out of premium subsidy (to S/M farmers), larger unit areas of insurance (high basis risk), little interest shown by the financial institutions (insurance under-wiring point), lower level of indemnity, inadequate Guaranteed yield to compensate adequately, non-coverage of perennial horticultural/ commercial crops, risks of prevented sowing & post harvest losses etc. The Scheme could not translate into an actuarial regime as conceptualized. Government has also faced difficulties in their budgeting due to open ended financial liabilities on account of premium subsidy, claims, administrative expenses, bank service charges, publicity expenses etc.

The cumulative loss cost under the scheme upto 2011-2012 were about 9.41 % while the ratio of premium to claims works out to 1: 3.16. (Refer Table 4.1). The maximum amount of indemnity claims have gone to Andhra Pradesh followed by Gujarat.

**4.2 Modified Agricultural Insurance Scheme (MNAIS)**: Based on the recommendations of the Joint Group and views/comments of various stake-holders, Government approved Modified National Agricultural Insurance Scheme (MNAIS) for implementation on pilot basis in 50 districts from Rabi 2010-11 season. The salient features of MNAIS are:

(i) actuarial premium with subsidy in premium up to 75% to the farmers.

(ii) only upfront premium subsidy is shared by the Central and State Governments on 50 : 50 basis and all claims liability would be on the insurance companies.

(iii) unit area of insurance reduced to village/village panchayat level for major crops.

(iv) indemnity for prevented sowing/planting risk & for post harvest losses due to cyclone.

(v) on account payment up to 25% of likely claims as immediate relief.

(vi) more proficient basis for calculation of threshold yield.

(vii) minimum indemnity level of 70% instead of 60%.

(viii) scheme is available to all the farmers – loanee and non-loanee - irrespective of their size of holding.

(ix) loanee farmers are covered on compulsory basis in a notified area for notified crops whereas for non-loanee farmers the scheme is voluntary as in NAIS.

(x) uniform seasonality disciplines both for loanee & non-loanee farmers.

(xi) participation of private sector insurers for creation of competitive environment for crop insurance.

The scheme quite likely will replace the existing NAIS. This new version largely takes care of the lacunae faced by NAIS-

(a) Premium is based on actuarial premium rates. Premium subsidy ranges between 25% to 75% equally shared by Centre and States.

(b) Insurance unit has been lowered to village/village Panchayat level but this also simultaneously increases the workload at State level and States are requesting Government to share the cost burden of implementation.

(c) Coverage has increased to include prevented sowing/planting risk & for post harvest losses due to cyclone and Higher Indemnity level of 70%.

**4.3 Weather based Crop Insurance Scheme (WBCIS)**: In 2010, WBCIS was evaluated by AFC to suggest modifications in the scheme. The study was conducted in 2 Districts each of 4 States (2 States each from Kharif and Rabi) where the Pilot Weather Based Crop Insurance Scheme (WBCIS) was implemented. Another 2 States (1 State each from Kharif and Rabi) were selected where the Pilot WBCIS was not implemented. A sample of 1000 farmers who availed Weather Insurance in the implementing states constituted the beneficiary group for the field survey. Further, 200 non-beneficiary farmers were chosen/drawn from various socioeconomic categories SC/ST/OBC/Women/ General, Small Farmer/Marginal Farmer/Large Farmer etc.

The multi-pronged and detailed field research for evaluation of WBCIS has shown that both the supply and demand sides for this product are evolving with the supply side currently being at a higher level of understanding and sophistication compared to the demand side. The sixteen parameters surveyed among four categories – Overall, Small & Marginal, Non-Loanee, Graduate farmers were-

Quantum of Sum Assured

- Types of Risks Covered
- Period of Risk Coverage
- Explanation on Policy
- Resolution of Queries
- Convenience in Enrollment
- Weather as Basis for Insurance
- Location of Weather Station

- Design of WBCIS Policy
- Responsiveness of Intermediary
- Mechanisms for Grievance Redress
- Reliability of Weather Data
- Time Delay in Claim Settlement
- Usefulness as Alternative to NAIS
- Effectiveness against Political Risk
- Protection Tool against Crop Losses

The Survey revealed the responses across the four categories as follows:

The values in parentheses denote the percentage of "not satisfied' respondents -

a) Location of Weather Station (80.8)

b) Mechanisms for Grievance Redress (56.5)

c) Convenience in Enrollment (56.5)

d) Resolution of Queries (53.3)

e) Responsiveness of Intermediary (45.3)

Considering the above five aspects with the highest level of "not satisfied' respondents, it can be easily seen that the first aspect deals with basis risk while the remaining four aspects deal with service delivery and convenience which needs to be addressed in future.

Further the suggestions for future road map that received the highest aggregate percentage of responses among the top 3 ranks were as following:

a) Greater Awareness & Understanding of Crop Insurance Working (55%)

b) Better Location of Weather Station (46%)

c) Better Design of WBCIS Products (45%)

### 4.4 Comparison of WBCIS with NAIS:

Though WBCIS and NAIS are not by definition mutually exclusive schemes however former is being used as an alternative to NAIS. Hence the effectiveness of both as a tool for risk mitigation becomes important. They can be compared from the following perspective- (i) How does the benefit compare across states and crops? (ii) Does WBCIS improve the viability and fiscal sustainability of the programme in comparison with NAIS? (iii) Does WBCIS lead to a more equitable distribution of benefits as compared to NAIS in terms of per farmer claim ratio and proportion of farmers benefitted? (iv) How does it address the high basis risk?

It is seen that indemnity payout is much more proportionate to coverage under WBCIS than under NAIS. However there are important differences in coverage parameters under two schemes:

(a) NAIS is based on loan disbursed while WBCIS on loan sanctioned.

(b) Sum insured limits, based on input costs, for both loanee and non loanee farmers are same under WBCIS but under NAIS they are different. For loanee farmers sum insured is loan availed while for non loanee farmer there are two limits one based on guaranteed yield on which flat premium rate is applicable and the other with 150% of average yield value on which actuarial premium rates apply beyond first limit. Hence under WBCIS farmers do not have flexibility for seeking higher or lower coverage as is limited by sum insured on which premium is based. If the farmer borrows less still the entire premium is charged and if the farmer borrows more then there is no cover on the balance amount.

(c) Premium paid under Annual commercial and Horticulture crops (ACH) is capped under WBCIS unlike NAIS which gives it an edge over NAIS.

(d) Under WBCIS any loss over 5% of sum insured is compensated. But in case of NAIS indemnity is limited to 60%, 80% or 90% depending on high, medium or low risk crop. The farmers also do not have the option of choosing higher indemnity even by paying higher premium.

(e) For an insurance programme to be financially sustainable the premium collected should be more than the indemnity paid plus administrative cost. The data reveals that the NAIS scheme has been consistently incurring losses with the state continuously bearing losses as the subsidized premium rates are not commensurate with actuarial premium rate leading to substantial fiscal support by both national and state government. Premiums for most important crops are fixed at all-India level irrespective of risk and Central and State governments pay for the entire excess of claims over premium received. Moreover, being compulsory for all borrowers from banks in States where it is in force, and with relatively few non-loanee farmers involved, it mainly insures banks against default following poor harvest. The premium received on the average is one third of the pay out with average loss cost at 10%. Hence the product being financially unviable the insurance company would operate only with Government support. WBCIS on the other hand works on actuarial principles with upfront premium subsidy from the Government. Hence it is advantageous to both farmers and insurers. For the farmer the aggregate payout is higher than the premium paid as premium is at par with the NAIS. Also for the insurer the subsidy on premium makes it profitable. Of the total premium the indemnity is 70%. Hence WBCIS

provides for more viable claims experience with the average loss ratio being directly reflective of the premium rate.

Presently under NAIS, almost 95% of the Government's support is coming in the form of claims' financing (ex-post). Many States are satisfied with the arrangement because, firstly they are not required to pay the money until the payouts are decided, and secondly, it gives them the satisfaction that when it has paid the money it is going directly to farmers instead of being kept by the insurer. However, in the case of government-supported weather insurance, financial support is provided as an ex-ante subsidy for premium, while the payouts are the responsibility of the insurer. The arrangement, though, helps the government in fiscal management by tying the amount of financial support, some States, however, are not pleased since during normal (good) years, the premium, including the subsidy, is retained by the insurer.

(f) Claim ratio is higher in case of NAIS than WBCIS in majority of seasons and also higher per farmer. However the difference lies in the proportion of farmers benefitted under the scheme. Under WBCIS 50.90% of farmers benefitted in rabi and 51.99% in Kharif season in 2011-12 as compared to 0.27% in rabi and 15.38% in kharif season in 2011-12 under NAIS. Claim per farmer is Rs.8587.36 under NAIS and only Rs. 1599.57 under WBCIS in 2011-12 (Derived from Annexure iii & v). Hence although he quantum of claims under the NAIS is higher the benefits are concentrated to smaller proportion of farmers. Thus payment of indemnity to smaller proportion of beneficiaries and higher per farmer claims under NAIS compared to WBCIS implies skewed distribution of benefits.

(g) High basis risk is one of the biggest drawbacks of the NAIS scheme as farm yields are not perfectly correlated with area average yields. Hence a farmer may not receive indemnity despite losses or may receive payout triggered by shortfall in the unit area average yield although he has not suffered individual losses. WBCIS model was supposed to bring considerable improvement over this as basis risk for rainfall was supposed to be high but moderate for other weather parameters. However experience in implementation has brought about various potential sources of basis risk- weather station being far, losses caused by factors other than weather, different management technique by individual farmers than assumed in crop growth model, poor design of model for crop growth and productivity and weather variables.[15]

(h) Weather insurance seems to score better when it comes to data accuracy, transparency and quick settlement of payouts. On the other hand, area-yield insurance seems to perform better in terms of scope of insurance (comprehensive insurance), product design and, to some extent, lower basis risk. There are still many weather events, such as hailstorm, thunderstorm, and floods that are difficult to cover under weather insurance. Moreover, pests and diseases, largely the inter-play of weather parameters, are also very challenging to cover under this modality. Implementation on smaller unit insurance areas to reduce the basis risk can be thought of.

---

[15] Nair, Reshmy (2010). "Weather-based Crop Insurance in India: Towards a Sustainable Crop insurance regime?"Economic And Political Weekly, Vol. XLV, No. 34, August21, (73-81).

Despite the best efforts by the insurance companies in the past 5 years weather insurance product has not penetrated beyond the traditionally rain-fed agriculture areas. Even within that area it has been difficult to maintain the momentum in the absence of payouts in the initial years as penetration of insurance schemes is low i.e. only about 20% farm household annually. A proper geographical spread can not only bring down the cost of insurance but can also help in the scaling up.

**4.5 A comparison of Important Indices** between NAIS, MNAIS & WBCIS reveals that proportion of loss cost (claims to sum insured) is considerably less in WBCIS and MNAIS compared to NAIS. Also ratios of premium to claims have reversed where claim paid is much less than the premium collected. Since premium is subsidized therefore the benefit goes to primarily AIC and private players (Table 4.1).

**Table 4.1:Comparison of Important Indices between NAIS, MNAIS & WBCIS**

**Cumulative figures upto end 2011-2012:**

| | The loss cost (claims to sum insured) | ratio between premium to claims |
|---|---|---|
| NAIS | 9.41 % | 1: 3.16 . |
| MNAIS | 2.68% | 1:0.32 |
| WBCIS | 0.48% | 1:0.55 |

Source: Own calculation based on data collected from Ministry of Agriculture (Annexure ii,iv & vi).

**4.6 At a glance picture** of the three schemes as discussed in the chapter has been brought out in the Table 4.2.

**Table 4.2: Comparison between three existing schemes**

| | NAIS | WBCIS | MNAIS |
|---|---|---|---|
| | | Weather based | Yield based |
| Loss cover | Yield based | Actuarial premium | Actuarial premium |
| Insurance Unit | No uniformity in defined area, could vary from Gram Panchayat, Mandal, Hobli | Reference Unit Area (RUA) | Village Panchayat for major crops |
| Premium Subsidy | Subsidized Only for small & marginal farmers | Shared 50:50 between state & central government | Shared 50:50 between state & central government |
| Claims | Beyond 95% shared 50:50 by the state & central government for food crops & oilseeds | Insurance company responsible for all claims | Insurance company responsible for all claims |
| Settlement basis | Crop cutting Experiments (CCE) | Weather data | Crop cutting Experiments (CCE) |
| Duration of claim settlement | 6-24 months | 45 days from data release | On account settlement of 25% of likely claims |
| Cost involved in claim settlement | High As considerable investments in man-power & infra-structure required for CCEs | Low As Weather station installation Costs and data procurement costs borne by insurer | High As considerable investments in Man-power & infra-structure required for CCEs |
| Government liability | Unlimited: due to unpredictable Nature of claims | Limited To premium subsidy | Limited To premium subsidy |

- Source: Centre for Insurance and Risk Management, Seminar Aug. 2012.