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CROP INSURANCE PROGRAMS IN INDIA: A COMPREHENSIVE REVIEW

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ABSTRACT

The article explores India's complex agricultural insurance landscape, with a focus on the National Agricultural Insurance Scheme (NAIS) and its evolution. Agriculture's vital role, contributing 22% to GDP and engaging over half the workforce, underlines its importance. Challenges from unpredictable weather and pests are mitigated by crop insurance, shielding farmers from yield-affecting variables. From the 1970s' Individual Approach Scheme to NAIS's 1999 inception, it shifts to individual assessment with affordable premiums and tech-driven loss evaluation, covering diverse crops and non-loanee farmers. Coverage, insurable sum, premiums, subsidies, and loss evaluation are key aspects. NAIS benefits around 193 million farmers across 25 seasons, but hurdles persist. Recommendations encompass coverage, premiums, indemnity, and administration, addressing concerns such as adverse selection. Despite NAIS's favorable metrics, limited adoption calls for alignment with farmer expectations.

INTRODUCTION

Agriculture stands as a cornerstone of the Indian economy, contributing a significant 22 percent to the Gross Domestic Product (GDP), employing approximately 58 percent of the workforce, providing sustenance to about 69 percent of the population, meeting the nation's complete food and nutritional requisites, furnishing essential raw materials to pivotal industries, and accounting for approximately 14 percent of total exports. Given its intricate dependency on meteorological patterns and its protracted production cycle, agriculture emerges as an economically precarious pursuit.

The agricultural sector in India assumes a pivotal role in the national economy, not only in terms of its substantial contribution to GDP and employment generation but also in fulfilling essential food and nutritional requirements. However, this sector confronts an array of challenges, encompassing erratic weather patterns, pest infestations, and crop diseases. The resultant crop losses have profound implications for the livelihoods of millions of farmers across the nation. In order to mitigate the inherent uncertainty associated with crop production, largely influenced by uncontrollable natural factors, crop insurance has been established as a mechanism. This serves to protect farmers from the vagaries of crop production and functions as a financial safeguard by accounting for a multitude of unpredictable variables that impact crop yields. This strategy effectively distributes the burden of losses. Particularly pertinent in a country like India, where agricultural output is susceptible to the volatility of weather patterns and substantial damages arising from pest and disease outbreaks, the importance of crop insurance cannot be overstated.

The inception of the Comprehensive Crop Insurance Scheme (CCIS), encompassing major crops, dates back to 1985, coinciding with the commencement of the VII-Five Year Plan. This seminal initiative was succeeded by the introduction of the National Agricultural Insurance Scheme (NAIS), initiated from the Rabi season of 1999-00 onwards. The formulation and execution of these schemes were underpinned by extensive groundwork, meticulous studies, strategic planning, experimental phases, and pilot trials. Tracing a concise chronology leading up to the present NAIS would provide valuable insights into the developmental trajectory.

1. *Individual Approach Scheme (1972-1978):* The inaugural scheme was initiated with a focus on individual farmers, commencing with H-4 cotton in Gujarat and subsequently encompassing multiple crops and states. The scheme benefited 3,110 farmers who collectively paid a premium of Rs. 4.54 lakhs, resulting in claims disbursed amounting to Rs. 37.88 lakhs.
2. *Pilot Crop Insurance Scheme (PCIS) - (1979-1984):* Enacted based on recommendations by the late Prof. V.M. Dandekar, PCIS adopted a "Homogeneous Area" approach. It initially covered diverse crops, such as food crops, oilseeds, cotton, and potatoes, targeting loanee farmers on a voluntary basis. The program was implemented across 13 states, extending coverage to 6.27 lakh farmers. Premium payments aggregated Rs. 196.95 lakhs, while claims worth Rs. 157.05 lakhs were settled.
3. *Comprehensive Crop Insurance Scheme (CCIS) - (1985-1999):* Evolving from PCIS, CCIS became obligatory for loanee farmers. Premium rates were set at 2 percent for cereals and millets and 1 percent for pulses and oilseeds. Claims and premium contributions were shared between the Central and State governments in a 2:1 ratio. Implemented in 16 states and 2 Union Territories, CCIS extended coverage to 7.63 crore farmers. Total premium collection reached Rs. 403.56 crores, with claims disbursed amounting to Rs. 2319 crores. Gujarat accounted for 47 percent of claims, followed by Andhra Pradesh (21 percent), Maharashtra (9 percent), and Orissa (8 percent). The majority of claims (75 percent) were attributed to deficient rainfall, while cyclones and floods contributed to 20 percent. The claim ratio was 5.75, and the loss cost was 9.29 percent.
4. *Experimental Crop Insurance Scheme (ECIS) - (Rabi 1997-98):* As an experimental endeavor, ECIS aimed to extend coverage to non-loanee small and marginal farmers in 14 districts across 5 states. This

initiative provided a complete premium subsidy. The scheme benefited 4.55 lakh farmers who collectively paid a premium of Rs. 2.84 crores, resulting in claims worth Rs. 37.80 crores being settled.

NATIONAL AGRICULTURAL INSURANCE SCHEME (NAIS) ERA (LATE 1990S-2000S)

The NAIS, introduced in 1999, brought about a transformative phase in crop insurance. It shifted the approach from area-specific coverage to individual farmer-level assessment. Premium rates were made affordable, and technology-driven methods for loss assessment were implemented. NAIS aimed to cover a broader spectrum of crops and risks, along with non-loanee farmers. NAIS was introduced during Rabi 1999-00 by improving the scope and content of erstwhile CCIS.

SALIENT FEATURES OF THE SCHEME

- *States and Areas covered:* The Scheme is available to all States and Union Territories on optional basis. A State opting for the Scheme will have to continue for a minimum period of three years.
- *Farmer covered:* All farmers including sharecroppers and tenant farmers growing the notified crops in the notified areas are eligible for coverage. The scheme is compulsory for farmers availing loans and voluntary for others.
- ***Crops covered**:* The Scheme covers
- ✓ Food crops (Cereals, Millets & Pulses)
- ✓ Oilseeds
- ✓ Annual Commercial / Horticultural crops of Sugarcane, Cotton, Potato, Onion, Chilly, Turmeric, Ginger, Jute, tapioca, annual Banana & annual Pineapple
- *Sum insured:* The minimum Sum Insured (SI) in case of loanee farmer is the amount of loan availed, which can be further extended upto 150% of average yield. For non-loanee farmer, it can be upto value of 150% of average yield.
- *Premium Rates:* The premium rates are 3.5% for oilseeds & bajra and 2.5% for cereals, millets & pulses during Kharif; 1.5% for wheat & 2% for other food crops and oilseeds during Rabi. The rates for annual commercial / horticultural crops are actuarial.
- *Premium subsidy:* Small / Marginal farmers are subsidized in premium to the extent of 50 percent, to be shared equally between the Centre & States. The premium subsidy is, however, to be phased out over five years period on sunset basis. Accordingly the eligible subsidy during 2004-05 is 10 percent.
- *Scheme approach:* The scheme covers losses from sowing to harvesting, and operates on 'area approach' for widespread calamities. For this purpose a unit of insurance is defined which may be a Village Panchayat, Mandal, Hobli, Circle, Phirka, Block, Taluka etc. to be decided by the State govt. / UT.

However, each participating State govt. / UT was required to reach the level of Village Panchayat as the unit within a maximum period of three years.

The Scheme is to operate on 'individual' basis for specified localized calamities. However, individual assessment of losses is experimented only in a few areas – one block / taluka in each state.

- *Loss assessment, Levels of Indemnity & Threshold Yield:* The Threshold Yield (TY) or Guaranteed Yield for a crop in a Insurance Unit shall be the moving average yield based on past three years in case of Rice & Wheat and five years yield in case of Other crops, multiplied by the level of indemnity. Three levels of Indemnity, viz., 90%, 80% & 60% corresponding to Low Risk, Medium Risk & High Risk areas shall be available for all crops. The insured farmers of unit area may also opt for higher level of indemnity on payment of additional premium.

  If the 'Actual Yield' (AY) per hectare of the insured crop for the defined area falls short of the specified 'Threshold Yield' (TY), all the insured farmers growing that crop in the defined area are deemed to have suffered shortfall in their yield.
- *Sharing of Risk:* Until transition is made to actuarial regime, Govt. of India and States shall share claims beyond 100% of premium for food crops & oilseeds on 50:50 basis. In case of annual commercial / horticultural crops, claims beyond 150% of premium in the first 3 or 5 years and 200% thereafter are borne by Centre and State on 50:50 basis

EXTENT OF COVERAGE IN NAIS

The National Agricultural Insurance Scheme (NAIS) provides its coverage across diverse geographical territories. At present, the operationalization of the scheme is in progress within 24 states and 2 union territories. However, it is notable that there exists a group of 4 states and 5 union territories which are presently abstaining from participation in the scheme. Over the duration of the preceding twenty-five crop seasons (spanning from Rabi 1999-2000 to Rabi 2011-12), an estimated 193 million farmers have been encompassed within its protective ambit. This expansive outreach entails an agricultural expanse of approximately 291.9 million hectares. The aggregated sum of insured value accounts for approximately Rs. 2,56,065 crores, a representation of the collective protective value the scheme offers. The cumulative claims, either disbursed or pending, amount to roughly Rs. 25,001 crores, juxtaposed against a premium sum of approximately Rs. 7,565 crores. This endeavour has directly benefited an approximate tally of 5.18 million farmers, encompassing activities until the Rabi season of 2011-12.

MODIFIED NATIONAL AGRICULTURAL INSURANCE SCHEME (MNAIS)

To enhance effectiveness and user-friendliness, a Joint Group was established by the Government of India (GOI) to assess prevailing crop insurance programs. Drawing on the Joint Group's recommendations and feedback from diverse stakeholders, a proposal was formulated for the Modified Agricultural Insurance Scheme (MNAIS), subsequently approved for a pilot implementation in 50 districts for the remaining span of the 11th Plan, commencing from Rabi 2010-11. Notable enhancements introduced in MNAIS include:

1. Actuarial premium with subsidy up to 75% for all farmers.
2. Central and State Governments equally share upfront premium subsidy, while the insurance company shoulders all claims liabilities.
3. Unit area of insurance refined to the village or village panchayat level for major crops.
4. Coverage extended to prevent sowing/planting risks and post-harvest losses due to cyclones in coastal areas.
5. Immediate on-account payment of up to 25% of likely claims for prompt relief to farmers.
6. Uniform seasonality discipline for both loanee and non-loanee farmers.
7. Improved methodology for threshold yield calculation; minimum indemnity level increased to 70% from the previous 60%.
8. Compulsory for loanee farmers and voluntary for non-loanee farmers.
9. Engagement of private sector insurers to foster competition in crop insurance.
10. Establishment of a national-level catastrophic fund contributed equally by central and state governments to safeguard insurance companies in scenarios where the premium to claim ratio surpasses 1:5 nationally, or when suitable reinsurance cover cannot be secured at competitive rates.
11. Withdrawal of the National Agricultural Insurance Scheme (NAIS) from areas/crops where RAIS is implemented.

The pilot initiative was executed across all 50 districts during the Rabi 2011-12 season, followed by 44 districts in the Kharif 2012 season. Presently, it is underway in 35 districts for the Rabi 2012-13 season. Since the inception of the pilot phase, RAIS has extended coverage to 3.326 million farmers across 3.627 million hectares, with a total insured sum of Rs. 8,063.73 crore. Claims amounting to approximately Rs. 234.27 crore have become payable, derived from a premium of around Rs. 824.38 crore, ultimately benefiting approximately 229,000 farmers (up to the Kharif 2012 season).

MAIN CHALLENGES AND PERCEPTIONS

Despite offering a juxtaposition of compellingly high claim ratios and economically favorable premium rates, the broad adoption of crop insurance among the farming community remains an elusive goal. This intricate duality serves as an unmistakable indicator that the existing crop insurance scheme falls short of aligning with the aspirations and needs of farmers. The National Agricultural Insurance Scheme (NAIS), strategically formulated to provide a protective buffer against an array of agricultural uncertainties, has engendered extensive deliberations within both formal and informal discourse arenas. These deliberations are undertaken with the intent of unraveling the underlying complexities that contribute to the scheme's limited resonance and acceptance among farmers.

The discussions centered on the NAIS have engendered the emergence of a series of cogent suggestions and insightful perspectives, all aimed at elevating the scheme's appeal and relevance within the agrarian community. These recommendations span a spectrum of facets intrinsic to the insurance framework, encompassing considerations ranging from coverage enhancements to administrative refinements.

Undoubtedly, the coverage dimension, a pivotal hallmark of any insurance scheme, has garnered substantial attention. A proposition has been put forth for the introduction of an inclusive comprehensive policy, enveloping not just crop coverage but also the safeguarding of other pivotal agricultural assets. The envisioned policy could be seamlessly accessed through a consolidated interface, thus streamlining the procedural intricacies for farmers. Furthermore, a call has resonated for the incorporation of perennial horticulture and vegetable crops into the scheme's purview, thereby broadening its compass to encompass a more extensive array of agricultural undertakings. By extending its reach, the scheme could encompass the mitigation of risks spanning the pre-sowing phase to post-harvest losses. Notably, to avoid an undue concentration of risk exposure, the upper limit for coverage is suggested to be capped at 100% of the threshold yield.

Turning attention to the sphere of premium-related considerations, a proposal has been posited to institute a ceiling on the actuarial premium rates for Annual Commercial and Horticulture crops, pegged at 3%. Alternatively, introducing a voluntary enrollment structure for these specific crops is advocated. This strategic step is aimed at achieving a harmonious equilibrium between affordability for farmers and the sustainable operability of the insurance providers. In addition, a resurgence of premium subsidies for Small and Marginal farmers is proposed, with a recommendation to confer complete premium subsidies for these segments within rainfed areas. A shift towards regional premium rating is endorsed to better accommodate regional disparities in risk, supplanting the prevailing uniform state-level rates. The prevailing incongruence in premium rates between the agricultural community and administrative stakeholders necessitates a reevaluation and alignment of premium rates with the actual underlying risks.

To address concerns pertaining to indemnity, the suggestions converge on the optimization of the claims settlement process. Recommendations encompass the expeditious disbursement of claims following losses, the possibility of ad-hoc or on-account settlements, and the implementation of personalized evaluation mechanisms. It is articulated that the established guaranteed yield should be anchored on the most favorable 3 to 5 years from the preceding decade, thereby ensuring an equitable reflection of historical yield trends. Additionally, advocating for a minimum indemnity limit of 80% is championed, enhancing the protective shield offered to farmers.

In the realm of administration, the proffered recommendations are oriented towards enhancing implementation efficiency and expanding the scheme's outreach. Proposals advocate for a reduction in the sample size of Crop Cutting Experiments, stipulated timelines for scheme-related activities, and the augmentation of infrastructure and human resources within implementing bodies to better serve the agricultural community. An integrated network at the district level is envisaged to facilitate effective communication with farmers. Additionally, a clarion call is sounded for the Central Government to undertake awareness campaigns and absorb publicity expenditures to propagate the scheme's inherent benefits. Recognizing banks as pivotal actors in the scheme's execution, efforts are directed towards enhancing their efficacy and refining operational protocols.

These suggestions permeate into the realm of fundamental insurance principles. Confronting challenges such as adverse selection issues, claims inflation resulting from counterfeit coverage or manipulated yield data, and the absence of risk diffusion due to the non-participation of significant states, these recommendations collectively shape the trajectory towards the enhancement of the scheme's viability and its amplified impact.

SUMMARY

The agriculture sector in India plays a pivotal role in the economy, contributing 22% to GDP, employing 58% of the workforce, and meeting food and raw material needs. However, it faces challenges from weather fluctuations, pests, and diseases. To mitigate risks, crop insurance has been adopted. The Comprehensive Crop Insurance Scheme (CCIS) emerged in 1985, followed by the National Agricultural Insurance Scheme (NAIS) in 1999. NAIS shifted to individual-level assessment and technology-driven loss evaluation, covering diverse crops and risks, including non-loanee farmers. Over 25 crop seasons, NAIS reached 193 million farmers, covering 291.9 million hectares with an insured sum of Rs. 2,56,065 crore. Modified NAIS (MNAIS) improved upon NAIS by implementing actuarial premiums, equal sharing of subsidies, and other enhancements. Challenges persist, necessitating coverage expansion, premium subsidies, improved claims settlement, and administrative efficiency for successful crop insurance implementation.

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