

THE PADDY CROP INSURANCE IN SRI LANKA - AN OVERVIEW

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Introduction

Agriculture plays a vital role in the overall economy of Sri Lanka contributing 25 percent of Gross Project (GDP), employing 45 percent of the economically active population and providing about 43 percent of the total export earnings (Dept. of Census and Statistics, 1987). It has continued to generate about 15 percent of government revenue and had significant impact on the development of other sectors of the economy. Thus Sri Lanka is dependent on agricultural production for sustained and higher levels of economic growth and development.

Uncertainties in Agricultural Production

But agriculture is subject to risks and uncertainties in production and income levels. Agriculture is especially susceptible to the physical uncertainties of nature, since it requires extensive direct continuous contact with the forces of nature. It is subjected to the vagaries of weather like floods, drought, storms, tornadoes, low temperature, which causes uncertainties in farm production and income. Also, due to the occurrence of pests and diseases which cause severe and extensive losses; farm production and income is subject to fluctuations.

Ahsan, S.M. (1982) states that a majority of farmers are seldom able to bear such risks, especially when very large losses occur, resulting in a serious decline in farm income and the consequent decline in the demand for non-farm products, by farmers.

Crop Insurance

The Sri Lankan peasant farmer with low savings and a high level of indebtedness not only suffers adversely at times of such calamities, but is also confronted with the problem of financing his next cultivation. Therefore, it becomes essential for the state to provide some kind of relief assistance to ensure that they remain on their land.

Crop Insurance gives farmers a minimum protection against the risk of crop failure in return for the payment of a stipulated premium. At times of crop

failure the insured farmer can claim compensation as a right and not as a privilege. The indemnities/compensation paid helps in reducing the financial loss incurred during crop failure.

Crop Insurance is a collective system for reducing economic uncertainties due to crop failure. It accomplishes this through the basic technique of risk pooling. (UNCTAD, 1981)

"Moral hazard" and "adverse selection" seem to have a significant effect on the success of a crop insurance scheme. Thus commonly in reducing crop production risk, peasant farmers normally practice "adverse selection".

The most important motivation of crop insurance is to stabilise the farmers income. The premiums paid by the farmers becomes a running cost of production. Further, crop insurance increases the volume of production, as well as productivity, by increased input use and better utilization of fixed costs. (S ven Holmstrom, 1981).

It has been reported that the 'Green Revolution' has succeeded only among better-off farmers. (Frankel, 1971). This clearly indicates that the spread of high yielding varieties among peasant farmers would be low due to their inability to encounter the high risk involved in cultivating them.

Sri Lanka's Crop Insurance Scheme

Sri Lanka's Agricultural Insurance Scheme was initiated in the 1958 (Maha) season it was focussed only on the major crop, paddy on a pilot projects basis, on approximately 26,000 acres in 5 districts. By 1974, approximately 16 percent of the total area cultivated with paddy was covered by insurance in both seasons. (Sanderatne, N: 1974). Later by 1985, this was expanded to other crops like green gram, cowpea, chillies, soya bean, and even livestock,

FIGURE-1 (a)

PADDY CROP INSURANCE (1975-86)
Extent Insured - Yala Seasons

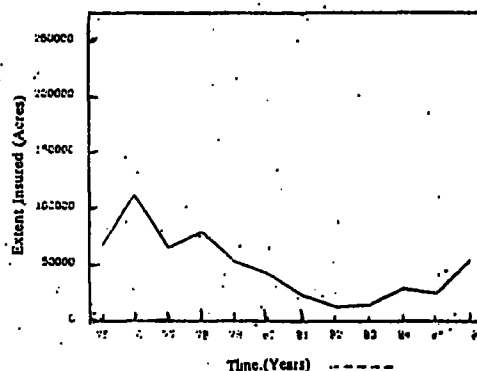
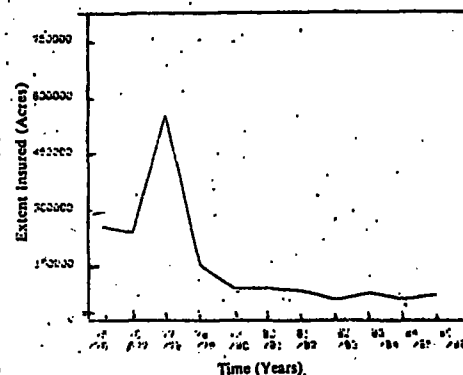


FIGURE-1(b)

PADDY CROP INSURANCE (1975-85)
Extent Insured - Maha Seasons



ck, especially cattle and poultry.

The Crop Insurance Scheme (1958) of Sri Lanka was of the "all-risk" type. The scheme initially operated on a uniform premium rate, but later the premia was altered to a certain percent of indemnity coverage. The administrative cost is subsidised by the State.

At the initial stages of the Crop Insurance Scheme, premiums could be paid after harvesting, and they could be paid in kind or by sales of produce to Multi-purpose Co-operative Societies, Cultivation Committees etc. But later these methods of premium collection were not kept in operation due to poor collection.

1. "Moral Hazard" - The tendencies of the insured farmer to take less care in preventing loss because of insurance coverage.
2. "Adverse selection" - The tendency for more risky agents to purchase insurance.
3. "all-risk" insurance - Insurance coverage for damages caused by floods, drought, shortage of water, excess of water pests, diseases, wild animals and birds.

Sri Lanka was the first developing country in Asia to have launched an 'all-risk' insurance of paddy crop, on a limited experimental scale with F.A.O. assistance. (Ray, K. 1981). In order to make the operation of the scheme a success, legislation was passed in Parliament, mainly the Crop Insurance Act (No. 13 of 1961) and the Agricultural Insurance Law (No. 27 of 1973).

The Agricultural Insurance Law (1973) helped in extending the experimental scheme to the national level, making it compulsory in declared areas. This legislation paved the way for setting up of a statutory body; namely, the Agricultural Insurance Board, for the implementation and management of the Agricultural Insurance Scheme in Sri Lanka.

Table 1, below gives in outline the implementation of the Paddy Crop Insurance Scheme in Sri Lanka since 1958 till now, with regards to administration, areas covered, premium rates, indemnities paid etc.

Figures 1 (a) and (b) show the level of paddy crop insurance in Sri Lanka during the 1975 Yala to 1986 Yala; indicating that, there had been a declining trend in the extent of paddy lands insured in both Yala and Maha seasons.

From quite a significant level of about 40 percent of cultivated lands being insured during the 1977/78 Maha season, it drastically declined to a very low level of 2 percent by Yala 1982 and

later recorded a slight increase to about 7 percent in Yala 1986, as shown in Figures 2 (a) and (b).

Various reasons have been given to explain this declining trend in farmer participation in the crop insurance scheme, viz, lack of awareness and interest among farmers, cumbersome procedures involved, inadequate and late compensation (indemnities) paid, etc.

Although the financial viability of the Paddy Crop Insurance Scheme in Sri Lanka was unfavourable during the first 15 year period (1958 to 1973), with a loss of 247 percent; the situation had improved by the Yala of 1986 with a loss percent of 126. (See Table 2). This was mainly due to the impact of the legislation passed (Agricultural Insurance - Law No. 27 of 1973).

Ahsan, S.M. (1979) is of the view that the loss ratios could be used in formalizing the financial soundness of a crop insurance scheme. The above observation indicates that the Paddy Crop Insurance Scheme in Sri Lanka is nearing financial soundness.

Paddy Crop Insurance Experience in Sri Lanka

Observation shows that the amount of indemnities paid to farmers relative to the premiums due has declined over the years. This clearly indicates that a surplus of funds could have been obtained

FIGURE 2 (a)
PERCENTAGE OF PADDY LANDS INSURED (1975-86)
Yala Seasons

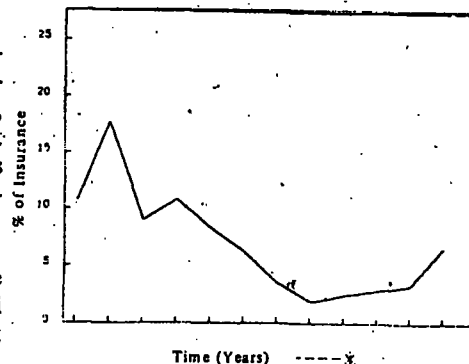


FIGURE 2 (b)
PERCENTAGE OF PADDY LANDS INSURED (1975-86)
Maha Seasons

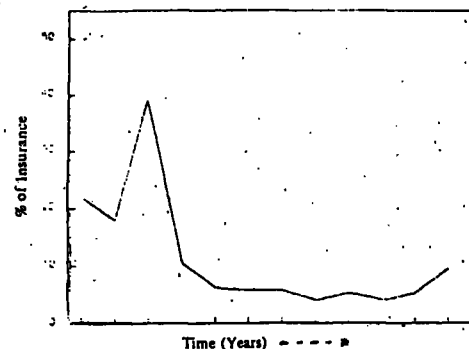


TABLE 1 PADDY CROP INSURANCE SCHEME OF SRI LANKA.

Period	Administration	Crop Insurance Coverage areas	Premium rates	Indemnity Coverage	Minimum loss 1% for
1958 to 74	Dept. of Agrarian Services	Selected Districts	Rs.6/-acre flat rate	Rs.100/-to Rs.180/- per acre	30%
Yala 1975 to Yala 1983	Agricultural Insurance Board	All Island gazetted	Rs.3/- to 30/-acre	Rs.300/-to Rs.500/- per acre	30%
1984	A.I.B.	-do-	Rs.36/-to 114/-acre	Rs.600/-to Rs.2200/- per acre	20%

TABLE 2 PADDY CROP INSURANCE - LOSSES INCURRED

Period	Premia collected (Rs.'000) (a)	Indemnities paid (Rs.'000) (b)	% Loss = (b)/(a) x 100
1958/59 to 1973	6,447	15,903	246.7
1975 Yala to 1986 Yala	80,217	101,293	126.3

Source: Agricultural Insurance Board; Dept. of Census & Statistics. 1986.

with a higher rate of premium collections, as shown in Table 3 below.

The ratio of indemnities paid to premiums due during the first 15 years of experimentation was 0.94, and this figure declined to 0.14 for the period of 1975 to 1981/82. As indicated in Table 3, the amount of premiums actually collected was only 38 percent of the aggregate premia due during the 1958 - 1973 period, and it further worsened to 11.3 percent for the 1975 - 1981/82 period. During the 1978/79 Maha and 1979 Yala seasons the Agricultural Insurance Board had to pay about three times the premia collected as indemnity payments. This implies the need for heavy state subsidization of shortfalls in premia collected and indemnity payments or for the setting up of a reserve fund to combat unexpected crop loss claims (Indemnities).

Premium Collections

Collection of premiums has shown a drastic decline from 38 percent to 11.3 percent (See Table 3), which indicates the need for more stringent measures to

**TABLE 3 PREMIA COLLECTION AND INDEMNITY PAYMENTS
- PADDY CROP INSURANCE**

Period	Premium due (Rs.'000)	Premium collected (Rs.'000)	Premium Collected as % of prem.due	Indemnities paid (Rs.'000)	Ratio of indemnities paid to due
1958 to 1973	16,937	6,447	38.0	15,903	0.94
1975 to 1982	377,392	42,693	11.3	51,104	0.14

Source: *Agricultural Insurance Board, 1981; Dept. of Census & Statistics 1986*

collect premia due in future.

The inability to collect premiums due has been one of the most serious setbacks/deficiency of the paddy crop insurance scheme being implemented in Sri Lanka. The methods of premium collection employed are as follows:

- 1) Voluntary payments through Agrarian Services Centres/Cultivation Committee etc.
- 2) Deductions from Guaranteed Price Scheme Payments.
- 3) Deduction from Bank Loans (Credit).
- 4) Deduction from indemnity payments (Sanderatne, N.; 1974).

The rate of collection was high, mainly due to increased compulsory collection from indemnity payments during the 1965 to 1973 period as seen in Table 4 below.

The collection of premiums through voluntary payments and bank loan deductions which is being practiced now, will help to reduce the amount of state subsidization on the paddy crop insurance scheme and also lower the degree of "adverse selection" practiced.

Farmer Participation

Sri Lanka's Paddy Crop Insurance Scheme has been directly linked with farmers possibilities to get Bank Loans for cultivation purposes. Many paddy farmers in Sri Lanka have declared that the necessity to take crop insurance for getting loans is the strongest motivation for their participation in the scheme. (Seven Holmstrom et al, 1981).

Figure 3 depicts the level of farmer participation in the paddy crop insurance scheme from Yala 1986, which had a peak level of 183,924 farmers participating during the 1977/78 Maha Season and later a decline to about 27,000. This indirectly indicates that the scheme

itself is not keeping up with its major objective of insuring paddy lands against crop failures among Sri Lankan farmers. The declining level of farmer participation can be attributed to three causes, chiefly;

- i) Premium rates being high or not attractive.
- ii) Indemnity payments being late or insufficient.
- iii) Practice of 'adverse selection' by farmers.

It is evident that such a low participation will increase the administrative cost per farmer. Low participation will also increase the cost of premium collections and loss assessment per farmer.

Seven Holmstrom et al, (1981); have reported that low participation and the lack of motivation to join the Crop Insurance Scheme is attributed mainly to the existence of different categories of farmers, namely,

- i) Affluent farmers with own capital, able to face crop failures, and live in low risk areas
- ii) Part-time farmers (Wet Zone mainly) having other sources of income;
- iii) Subsistence farmers with small plots, unable to pay the insurance premiums.

Although different strategies can be employed to attract the above types of farmers into the scheme, its success depends totally on the propaganda work undertaken and the concessions given.

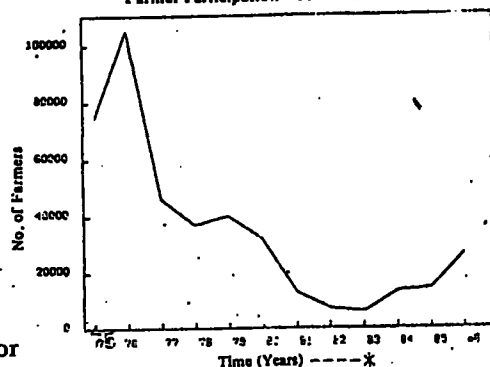
Since 1984 Yala, farmers in low risk

TABLE 4 METHODS OF PREMIUM COLLECTION - SRI LANKA (1965-73)

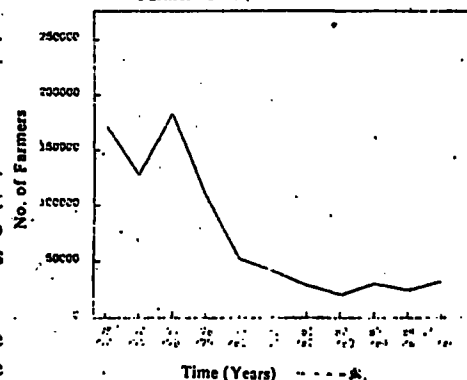
Methods of Collection	% of all premiums collected
Deduction from indemnity payments	90.4
Deduction from Guaranteed Price Scheme payments	09.1
Voluntary payments through A.S.C. or Cultivation	0.5

Source: *Sanderatne, N.; 1974.*

**FIGURE 3 (a)
PADDY CROP INSURANCE (1975-86)
Farmer Participation - Yala Seasons**



**FIGURE 3 (b)
PADDY CROP INSURANCE (1975-86)
Farmer Participation - Maha Seasons**



areas (where the level of crop losses are low) who have insured their paddy lands for five consecutive cultivation seasons, and have not claimed any indemnity payments, were given a concession of free insurance for the 6th cultivation season. This was mainly aimed at sustaining farmer participation in the insurance scheme, but its impact has not been significant, as seen from the data in Table 5.

Various reasons have been identified and reported for a low farmer participation in the paddy crop insurance scheme which can be summarized as follows:

- 1) High premium rates.

- 2) Late or delayed indemnity payments.
- 3) Indemnities paid not sufficient.
- 4) Inadequate communication and cumbersome application procedures involved.
- 5) Loss assessment not being reasonable or fair (under estimation or crop loss).

Special attention has to be given to the subsistence farmers cultivating small pieces of land (less than 2 acres) who constitute about 67 percent of paddy cultivators in Sri Lanka. (Dept. of Census and Statistics, 1986).

Reporting Crop Failures

If any damage occurs to insured paddy crop the farmer should report such damage within 7 days of its occurrence to the Agrarian Service Centre (A.S.C.). An entry should be made in the loss Notification Register at the A.S.C. Since 1984 the farmer personally need not come to the A.S.C. to report crop losses, if he resides far away; but to send a letter describing nature of damage, date of occurrence etc. within 7 days of the incident using the prescribed standard forms.

Loss Assessment

A loss assessment on the damage reported on the paddy field is made 2 weeks before harvesting the crop by the Loss Assessment Team consisting of the Cultivation Officer, Agricultural Extension Officer, and the Loss Assessment Officer (A.I.B.).

The assessment of damage is made as an eye estimation. Indemnities are determined on the basis of the percentage loss. If an indemnity claim is being rejected, it shall be informed in writing to the insured farmer. In such a case the insured farmer, if he wishes can appeal to the A.I.B. within 30 days for rescrutiny.

Indemnification of Insured Farmers

These data indicate that there has been a rise in the percentage of farmers indemnified for both Yala and Maha seasons. The percentage of farmers being indemnified seasonally has been quite high, averaging nearly 47 percent. More disconcerting is the observation that the amount of indemnities paid has been around double the premiums collected for the Maha 85/86 and Yala 86 seasons which implies the need for heavy state

subsidy. (See Table 5).

Prompt inspection of crop losses and payments of indemnities without delay are basically essential for an efficient agricultural insurance programme. The ready availability of personnel to inspect and assess crop failures, is essential to build confidence among farmers, in the insurance scheme.

The underestimation of crop losses too, could cause dissatisfaction among farmers, especially in Sri Lanka, where the eye estimation method of loss assessment is employed, which could result in lower farmer participation in consecutive cultivation seasons.

TABLE 5 PADDY CROP INSURANCE (YALA 1984 TO YALA 1986)

Season	No. of farmers insured	Premia collected	Indemnity paid (Rs.)	No. of farmers indemnified	% of farmers indemnified
Yala 1984	14,186	2,618,825	4,565,389	6,032	42.5
Maha 84/85	25,345	6,321,268	7,206,504	8,947	35.3
Yala 1985	14,508	2,802,918	4,693,224	6,857	47.3
Maha 85/86	35,361	7,673,423	16,146,136	17,441	50.74
Yala 1986	26,849	6,630,135	13,194,910	15,069	56.12

Source: Director, (Actuarial & Research) A.I.B. Colombo, 1987

Hence, there is a need for well trained personnel in the estimation of crop losses and prompt payment of indemnities.

In the wake of the Farmer Pension Scheme, coming into operation since 1987, which is administered by the Agricultural Insurance Board along with crop insurance, the question arises whether the A.I.B.'s propaganda work on the Pension Scheme will have an effect on the level of farmer participation in the crop insurance programme, or whether the A.I.B. can cope with both the tasks.

Hence some care has to be taken in popularising the Farmer Pension Scheme. Crop Insurance should be viewed as an integral part of a comprehensive, co-ordinated and mutually reinforcing set of activities aimed at development of the country's agricultural sector. (UNCTAD, 1981).

CONCLUSION

In present agriculture, where risks and

In present agriculture, where risks and uncertainties in production are high, agricultural insurance could contribute significantly to increased productivity,

by helping farmers undertake risky investments in agriculture.

It could help farmers bear risks due to natural calamities; reduce serious declines in farm incomes, act as a collateral for credit and also help to maintain the demand for non-farm products by farmers.

Although Sri Lanka's Agricultural Insurance Scheme initially saw an increase in farmer participation, with about 40 percent of paddy lands being insured in the 1977/78 Maha season, it showed a drastic decline later, reaching about 10 percent by 1986/87 Maha; and seems to have stabilized at this level. The amount

of indemnities paid seems to be insufficient, in comparison to cost of production and hence could be one of the causes for the drastic decline in farmer participation. Reviewing this aspect is urgent, specially at times of increasing cost of production, and to have a realistic method of assessing crop losses so that farmers will have more confidence in the scheme.

"Adverse Selection", although being practiced by most subsistence farmers, can even be done by other farmers. Rather than compelling farmers to insure their lands through Bank Loan deductions, popularizing the benefit of crop insurance could raise farmer participation, which might reduce "Adverse Selection".

The Financial Soundness of the insurance scheme has shown improvements with time and could show a surplus, if better and efficient methods of premium collection were employed.

The rise in the percentage of insured farmers indemnified reached about 56 by the 1986 Yala, indicating the need for a Research Fund, since the premia collections are still insufficient to meet the indemnification requirements. But