value, provided their expected values are the same. Similarly alternative enterprises with lowest variance should be selected.

MEASURES TO MANAGE FARM RISK

1. Diversification

Selection of suitable crop and livestock enterprises is the first step in diversification. Through diversification process, the farm entrepreneur produces several products rather than single product with the hope that when the returns from one enterprise is low, it is compensated by the higher returns from the other enterprise. Through diversification process we see that idle resources are put to use and income variability of the enterprises is reduced. This means the farmer should select enterprises in the cropping scheme with less income variability. Income variability for the enterprises would be lessened through diversification, if the following relationships among prices and yields of products were established. If the prices and/or incomes of the enterprises have correlation nearer to + 1, then such enterprises should not be included in the

...ersification process. If the correlation coefficient is negatively significant, then the ...o enterprises must be selected as the most suitable one to reduce the variability. ...e enterprises with zero correlation coefficient are the most suitable enterprises, for ...p diversification. If their income variability and ranges are less such enterprises ...e selected in the cropping scheme.

Risk programming models and game theory models should be used to formulate ...hole farm plans under different risky situations. If enterprises are selected based on ...et returns over time in risky environment, the decision rule is to select the enterprises ...ith their highest expected income. When the probabilities for the enterprises are not ...asily estimated, then assume equal probability for all the outcomes and the enterprise ...ith highest expected income is selected. When the farming is subjected to high risky ...nditions, survival strategy should be adopted under such condition to select the ...terprises with minimum net returns. Stable enterprises should be preferred rather ...an risky enterprises particularly in situation of farm risks.

. Insurance

We have many types of insurances in farming to reduce production risk and ...ancial risk. Crop insurance scheme reduces production risk. Livestock insurance ...ovides safety against the fatal diseases of cattle. Farm assets are insured against ...eft, burglary, fire or any other damage. The decision whether to go for insurance ...r not is judged by the following equation.

$$\pi = F(0 - r) - P$$

Where,

π = Profit obtained by going for insurance.

F = Financial reserve required.

0 = Opportunity cost for financial resource in terms of %.

r = Interest earned on financial reserves.

P = Insurance premium paid by the farmer.

If $\pi > 0$, it is desirable for the farm to go for insurance *i.e.*, the returns from the ...surance policy are more than the cost and similarly, if $\pi < 0$, it is worthless to do ...surance.

3. Agronomic Practices

To reduce production risk, crop rotations, suitable varieties, deep tillage, mulching, etc., should be adopted.

4. Market Risk Management

If commodity prices are changing to a greater degree, then the price risk arising from market is more. Following are the methods proposed to reduce the marketing risk.

(i) *Selling the Farm Products at Different Points of Time:* Due to financial obligations, farmers sell their produce immediately after the harvest. During the harvesting periods generally prices will be low for commodities in the market due to large arrivals. Such sales at harvest period are said to be distress sales. If the farmers avoid such selling practices, they can get remunerative prices for their products. The knowledge regarding supply and demand for the farm products and prices

prevailing in different markets and other market information is essen
perishable commodities, storage facilities, freezing facilities, processing f
etc., are required to get remunerative prices. Hedging is another measure
by the farmers and the traders to safeguard against price-risk. Hedging pr
devised and followed by studying the future markets.

(ii) *Government Price Polices and Programmes:* Minimum support price, procur
price, levy price, issue price, *etc.*, are set for various agricultural commodi
the Government every year to bring about price stabilization. Support pri
vides protection for the farmers against fall in the prices of farm produc

5. Financial Risk Management

For reducing the financial risk we require many strategies, which are ai
liquidity and solvency of the farm business. Solvency by definition refers to bu
ability to meet the long-term financial requirements of the farm. Liquidity str
should aim at as to how to build up the farm business to meet the short-term
requirements. At macro level fiscal policies formulated by RBI are aimed at
vide different measures to safeguard against the financial risk.