INSURANCE EXAM · IC-71

IC-71 Agricultural Insurance

Revision book

15	2	162
chapters	master tables	numbered sections

FREE SAMPLE: Chapter 1 of 15

CHAPTER 1

Glossary Of Terms For Agricultural Insurance

1.1 Risk words
1.2 Insurance, claim, scheme
1.3 Types of cover
1.4 Approaches, units, yields
1.5 Weather perils
1.6 Money terms
1.7 Rates and loss measures

MUST KNOW

1. Agricultural insurance = crop, livestock, aquaculture, forestry and more.
2. **Area approach:** homogeneous area is one unit; same yield loss for all; area yield found by sample survey (crop cutting).
3. **Franchise:** below it the insured bears all; once reached the insurer pays in full. Excess/deductible: insured always bears the first part.
4. Adverse selection = bad risks buy cover; moral hazard = insured's behaviour changes the loss.
5. Loss cost = indemnities paid / total sum insured. Premium rate = premium / amount of insurance x 100.
6. **Hurricane:** 74 mph (64 knots) or more. PML = Probable Maximum Loss. CCE = crop cutting experiments.
7. Basis risk grows as the index area grows.

1.1 Risk words

- **Act of God:** natural cause, no human action, not preventable by reasonable care (flood, earthquake, windstorm).
- **Accumulation:** similar risks in one area; one event, several losses at once.
- **Catastrophe:** severe, sudden, unexpected disaster with heavy losses.
- **Adverse selection (anti-selection):** poorer-than-average risks buy and keep cover; or farmers insure only high-risk crops or plots.
- **Moral hazard:** insured's behaviour changes the loss (CCE plot choice, owner behaviour, CCE reports altered).
- **Development risks:** new product, cannot be foreseen; e.g. new crop type with no local experience.
- **Actuary:** maths and statistics person (rating, premium, reserves). Actuarial: his calculations; need data over a long period.

TRAP

Adverse selection is about who buys. Moral hazard is about behaviour after buying.

1.2 Insurance, claim, scheme

- **Insurance:** pools uncertainties; each insured pays premium to a fund run by the insurer; losses paid from it.
- **Claim:** application for indemnity after an insured event; also notice that a loss may be covered.
- **Compulsory insurance:** required by law or government order.
- **Voluntary scheme:** farmers choose; usually government-sponsored crop schemes.
- **Waiting period:** loss in this time is not recoverable.

TODAY'S RULE

NAIS was compulsory for loanee farmers. PMFBY (with mNAIS) replaced it from Kharif **2016**. From Kharif **2020** PMFBY is voluntary for all farmers; a loanee farmer opts out in writing at least **7 days** before the cut-off, else he is covered.

1.3 Types of cover

- **Crop insurance:** growing crops, specified or multiple perils (hail, windstorm, fire, flood).
- **Loss measured by:** yield; production cost; agreed value; rehabilitation cost; proxy of adverse weather deviation.
- **Livestock insurance:** mortality from named diseases and accidental injury; normally adult animals; individual or herd; dairy cattle, sheep, goats, pigs, camels.
- **Forestry insurance:** standing timber; fire, catastrophic windstorm, snow, flood, earthquake; escalating valuation (volume rises with age).
- **All risk:** any fortuitous cause (act of God, accident, disease, fire, theft, pilferage); excludes named perils, wear and tear, depreciation.
- **Index insurance:** pays on an index that proxies loss, not individual loss.
- **Weather insurance:** pays on objective weather parameter (rainfall, temperature, humidity) correlated with yield.

TRAP

Index and weather cover can leave a farmer unpaid despite loss: basis risk.

1.4 Approaches, units, yields

Point	Area approach	Individual approach
Unit	Homogeneous area (several blocks)	Single plot or plots of one crop
Loss test	Area average yield vs guaranteed yield	Own loss
Same loss for all	Yes	No

- Spread of risk improves as insured area grows.
- **Guaranteed yield:** threshold yield in policy; average or a percentage of average over some years.
- **Normal yield:** expected in normal years; in practice the modal yield (most common).
- **Basis of sum insured:** often production cost of growing the crop.
- **Basis risk:** index may not match individual loss; rises as index area rises.

1.5 Weather perils

Peril	Key point
Drought	Acute rainfall shortage; progressive (soil moisture stress)
Excess rain	High intensity, short time; lodging, shedding; chlorosis and necrosis later
Excessive heat	Harms crops; stops seed set at pollination
Flood	Overflow of water over land; heavy rain, snow melt, breach of canals and ponds
Inundation	Water rises and overflows onto dry land
Frost	Solid deposition of water vapor from saturated air; surface below dew point; winter
Hail	Ice granules; damages crops and livestock
Hurricane	Cyclone, constant wind 74 mph (64 knots) or more

1.6 Money terms

- **Deductible:** insured bears it before insurer pays; higher deductible lowers premium rate.
- **Excess:** first part of claim borne by insured; percentage of claim or money amount.
- **Voluntary excess:** accepted for a lower premium.
- **Franchise:** threshold to reach; then full payment.

FORMULA AND WORKED SUM

- **Crop Rs 1,000, franchise Rs 100:** claim Rs 99 is borne by the farmer; claim Rs 101 is paid in full (Rs 101).

1.7 Rates and loss measures

FORMULA AND WORKED SUM

- Loss cost = indemnities paid / total sum insured (percentage). Groundnut 2009: 12.5 percent.
- Premium rate = premium (gross) / amount of insurance x 100.

- **Pure premium:** needed to pay losses, before general expenses.
- **Loss frequency:** number of incidents in a period; helps rating and judging loss prevention.
- **Rate-on-line:** reinsurance premium rate; annual premium enough for expected losses over some years.
- **Return period:** time between occurrences of the peril (hurricane once in **10 years**); from past data.
- **PML (Probable Maximum Loss):** largest loss likely from one event; remote coincidences ignored.