

TURKISH EXPERIENCE IN PUBLIC PRIVATE PARTNERSHIP IN RISK MANAGEMENT

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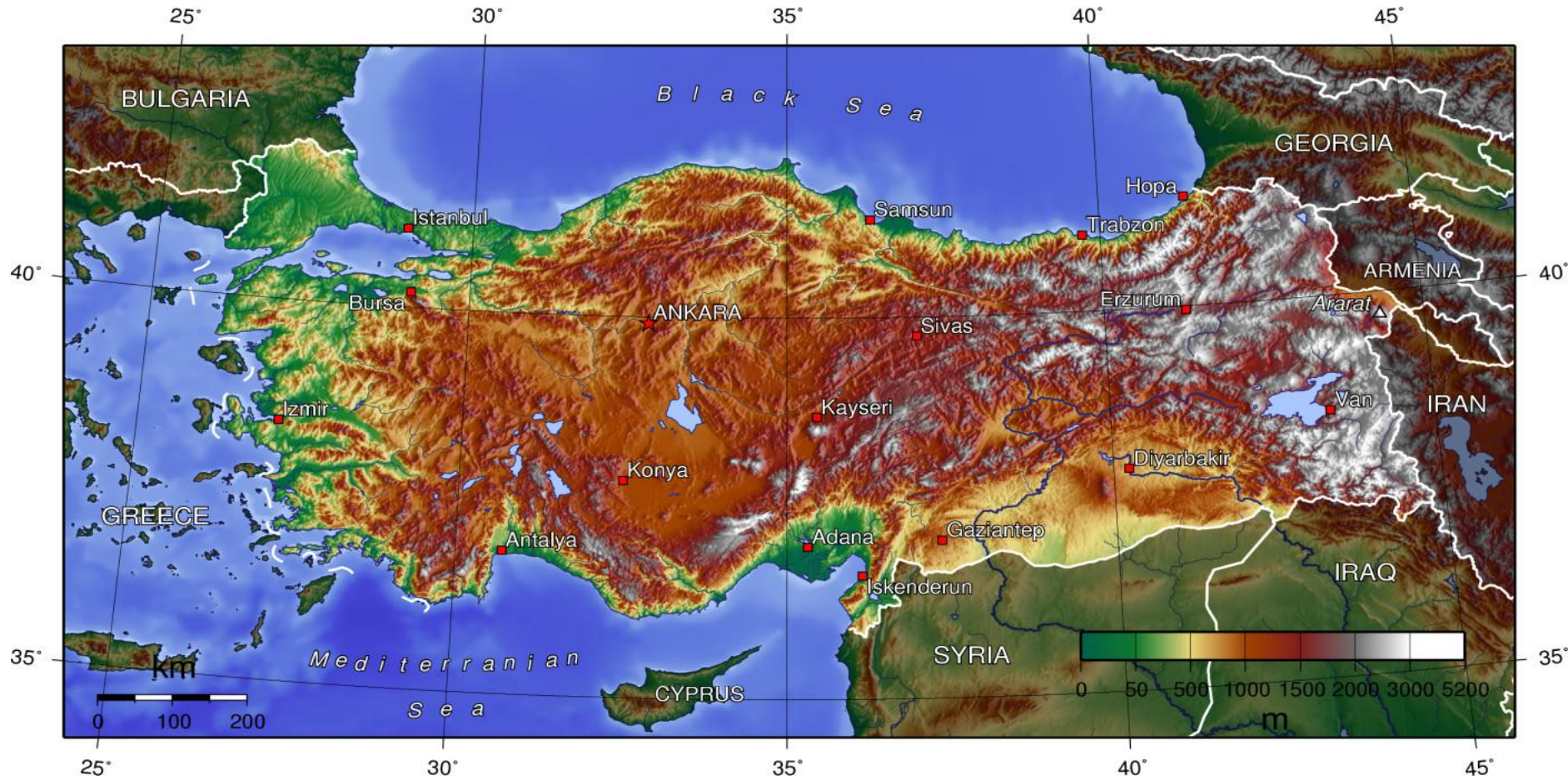
OVERVIEW OF TURKISH AGRICULTURE

AGRICULTURE IN TURKEY

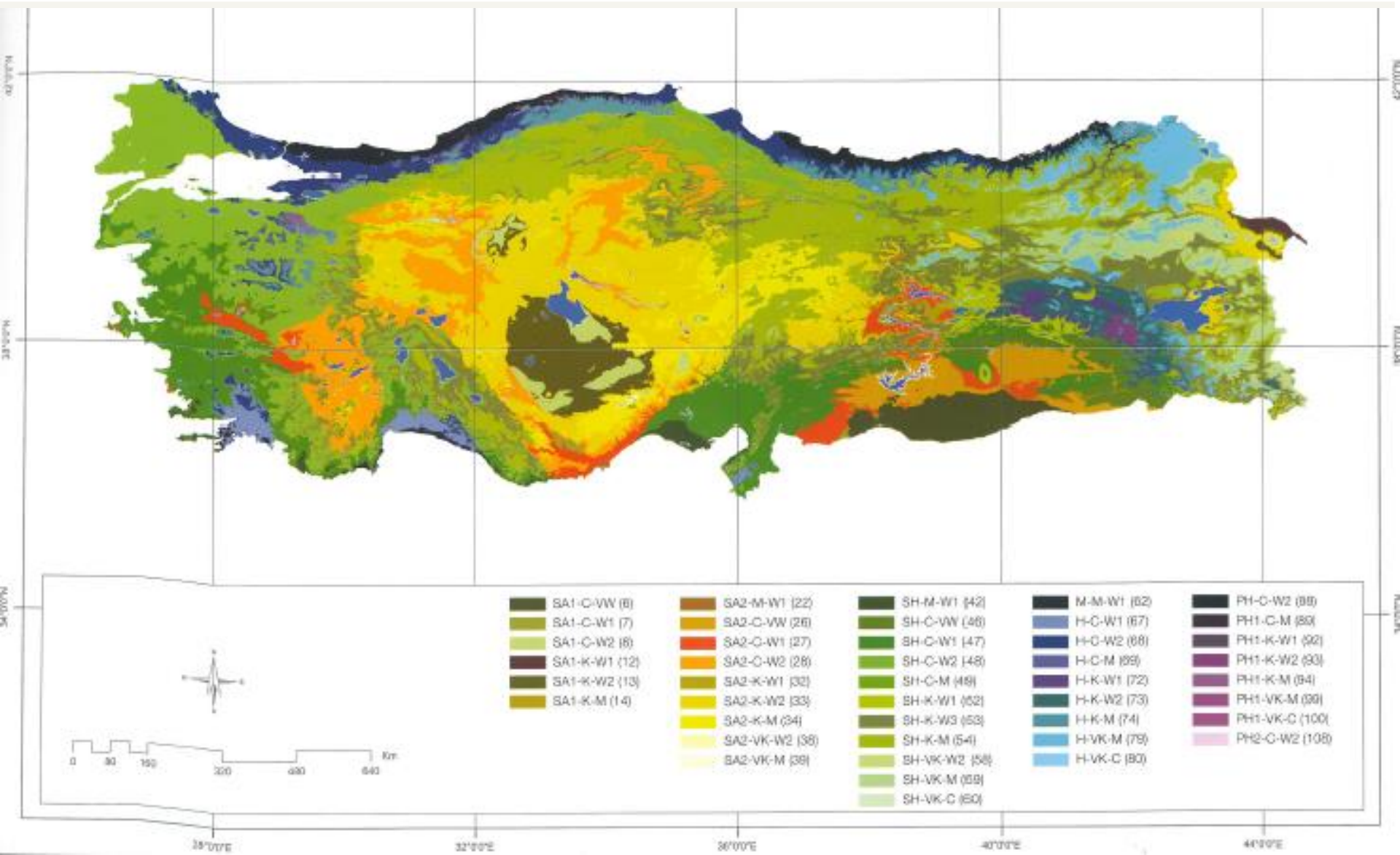
Rural Population:	22,7 %
Number of Farmers:	2,5 Million
GDP of Agriculture:	7,9 % (62,5 Billion \$)
Agricultural Export:	16 Billion \$
Total Agricultural Area:	23,8 Million ha
Avg. Size of Farm:	6 ha

In terms of agricultural economy, TURKEY ranks **1st** in **Europe**, and **7th** in the **World**.

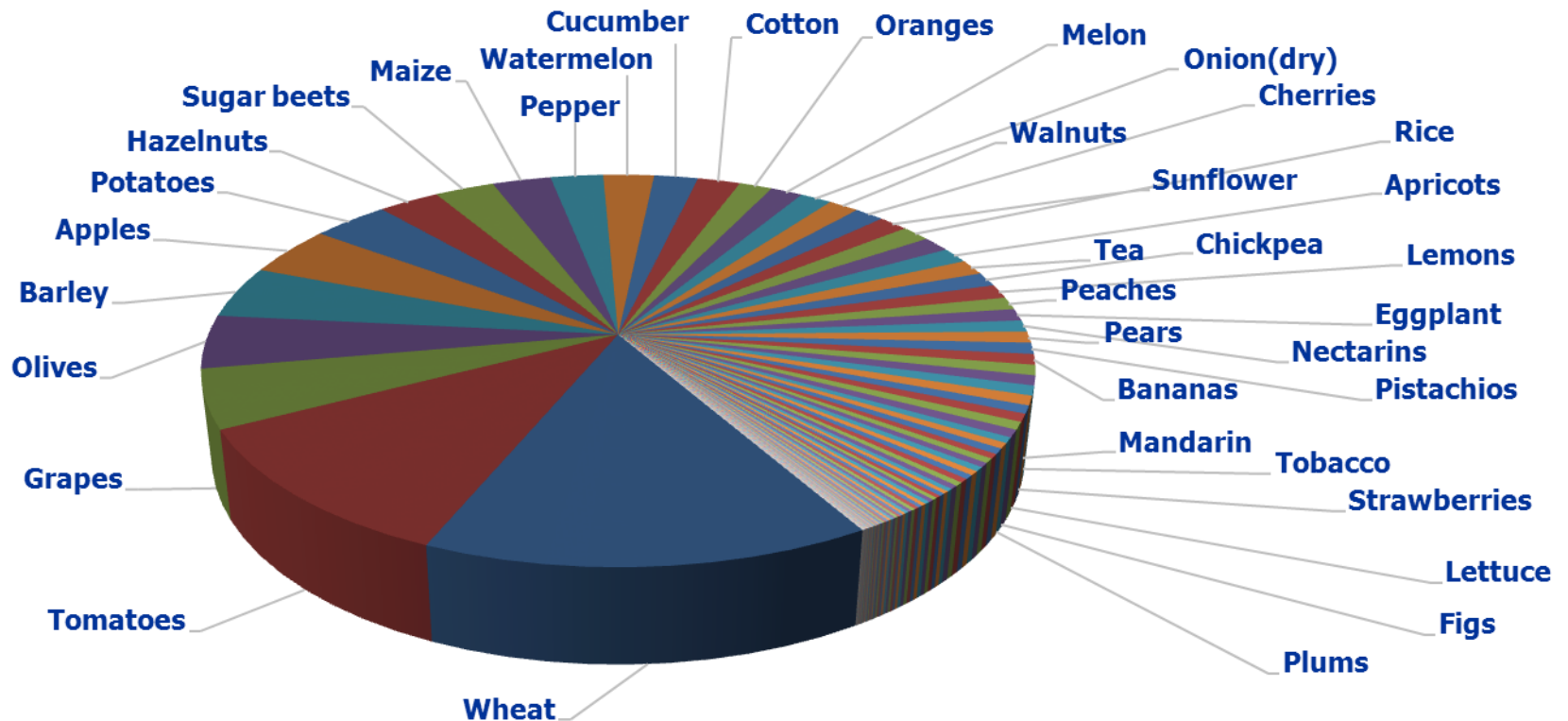
TURKEY



AGRO-ECOLOGIC ZONES -TURKEY



THE DISTRIBUTION OF MAIN CROP TYPES IN VALUE



THE RANK OF SOME CROPS IN THE WORLD

Quince
Apricot
Raisin
Figs
Hazelnuts
Cherries

1



Leeks
Watermelon
Melon
Cucumber

2



Strawberries
Pistachios
Apples
Chickpeas
Pepper

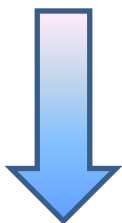
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RISK MANAGEMENT AND AGRICULTURAL INSURANCE IN TURKEY

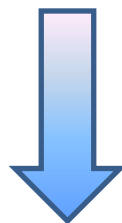
NATURAL RISKS IN THE AGRICULTURE

**Catastrophic
Risks**



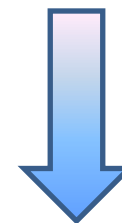
❖ **Drought**

**Hard
Managing
Risks**



- ❖ **Flood**
- ❖ **Frost**
- ❖ **Hail**
- ❖ **Storm**
- ❖ **Tornado**

**Controllable
Risks**



❖ **Diseases and Pests**

METEOROLOGICAL RISKS IN AGRICULTURE



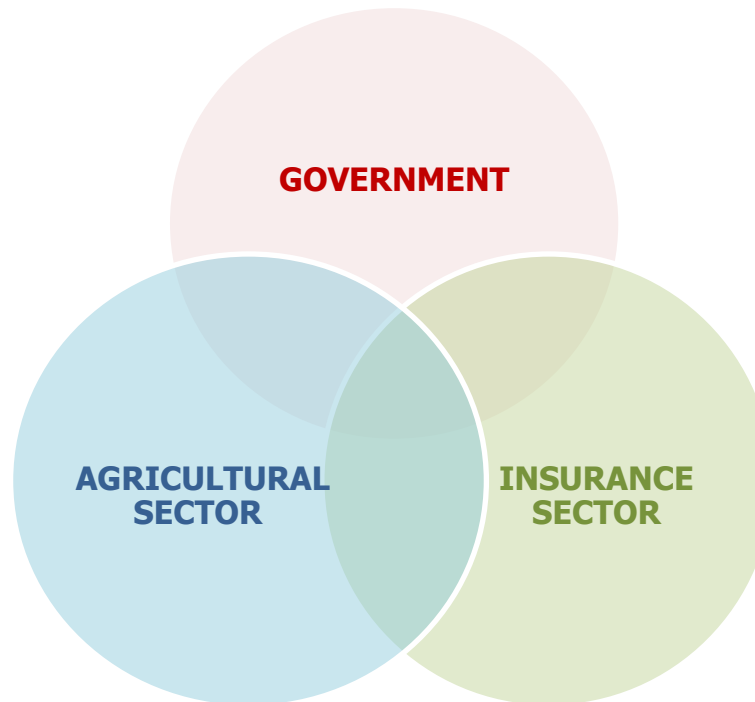
RISK MANAGEMENT AND AGRICULTURAL INSURANCE

Agricultural Insurance

(The Most Effective Risk Management Tool in Agriculture)



AGRICULTURAL INSURANCE SYSTEM - TARSIM (PPP)



LEGAL FRAMEWORK

2005: Agricultural Insurance Law No: 5363

2006: Agricultural Pool Regulation for Operating Procedures and Principles

2006: The Regulation of an Agricultural Insurance Implementation

AIM OF THE STATE SUPPORTED AGRICULTURAL INSURANCE SYSTEM

- ❖ To manage natural disasters effectively with insurance tool
- ❖ To encourage farmers for insurance with government subsidies
- ❖ To stabilize income and improve welfare in rural areas
- ❖ To provide budget stability of the Government by removing ad-hoc payments

THE MAIN FEATURES OF THE AGRICULTURAL INSURANCE SYSTEM

- ❖ **Agricultural Insurance Pool**
- ❖ **Cooperation with the All Relevant Parties**
- ❖ Premium Subsidy
- ❖ Voluntary Basis
- ❖ Farmer Registration System
- ❖ Risks to be Covered
- ❖ Supervision

WHY A POOL SYSTEM ?

- ❖ **HOLISTIC STRUCTURE**

Business managed as a unique organization

- ❖ **STANDARDISATION**

Transparent and uniform terms and conditions

- ❖ **PRODUCTIVITY AND ECONOMIES OF SCALE**

Possibility to buy insurance with lower premium rates

- ❖ **HIGH ASSURANCE**

Farmers insurance needs are highly met by extending the coverage

- ❖ **SUSTAINABILITY**

CORPORATE STRUCTURE OF THE POOL

GOVERNMENT

Ministry of
Food, Agriculture and
Livestock (2)

Undersecretariat
of the Treasury (2)

AGRICULTURAL INSURANCE POOL

NGO

Union of
Turkish Agricultural
Chambers (1)

Insurance Association
of Turkey (1)

PRIVATE SECTOR

Agricultural Insurance Pool
Management Company (1)



HOW THE POOL SYSTEM WORKS ?



**PREMIUM PAID BY
FARMER**



**GOVERNMENT
PREMIUM SUBSIDY**



INDEMNITY



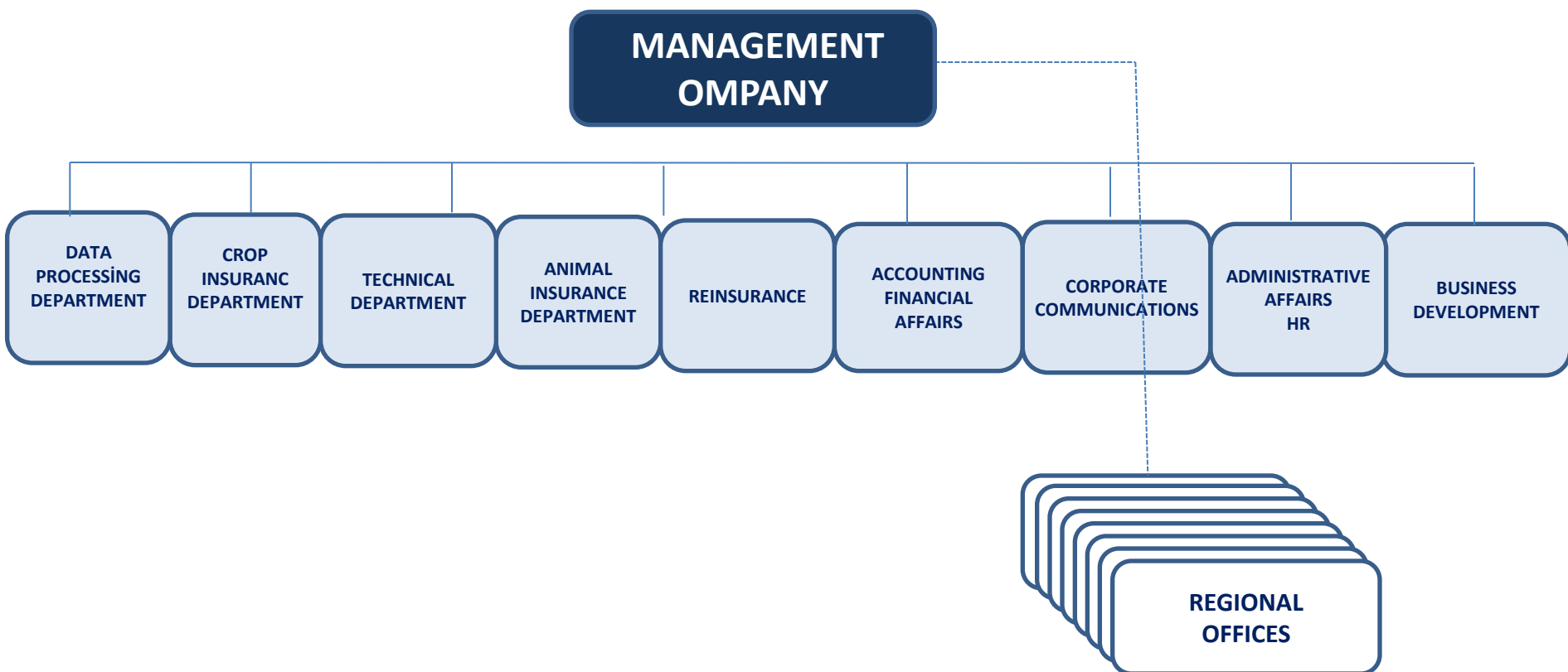
REINSURANCE



**GOVERNMENT
SUPPORT**



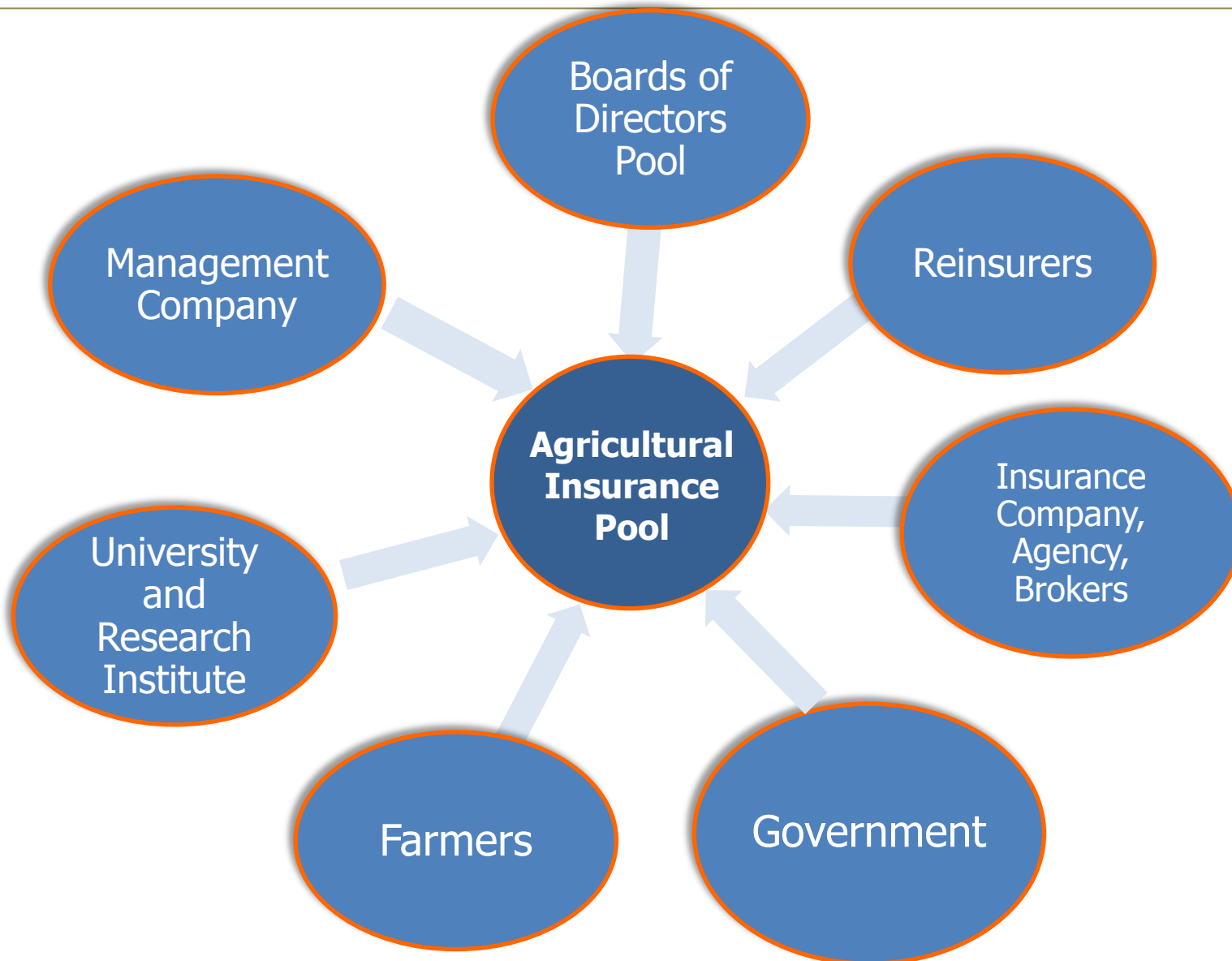
THE ORGANIZATION STRUCTURE OF THE AGRICULTURAL INSURANCE POOL MANAGEMENT COMPANY



DUTIES OF MANAGEMENT COMPANY

- ❖ **Implement the decisions taken by the Board of the Pool**
- ❖ **Collect premiums and pay indemnities**
- ❖ **Manage resources of the Pool for investment**
- ❖ **Carry out all kinds of works and organizations**
 - Development of insurance product
 - Underwriting procedures and principles
 - Actuarial studies
 - Risk inspections
 - Loss handling
 - Training of loss adjusters and sales channels
 - Geographical Information Sysem (GIS)
 - Research & Development
 - Data management
 - Public relations and publicity campaigns

STAKEHOLDERS OF THE SYSTEM



THE MAIN FEATURES OF THE AGRICULTURAL INSURANCE SYSTEM

- ❖ Agricultural Insurance Pool
- ❖ Cooperation with the All Relevant Parties
- ❖ **Premium Subsidy**
- ❖ **Voluntary Basis**
- ❖ **Farmer Registration System**
- ❖ **Risks to be Covered**
- ❖ **Supervision**

INSURANCE LINES



Crop Insurance



Greenhouse Insurance



Cattle Insurance



Sheep and Goats Insurance



Poultry Insurance

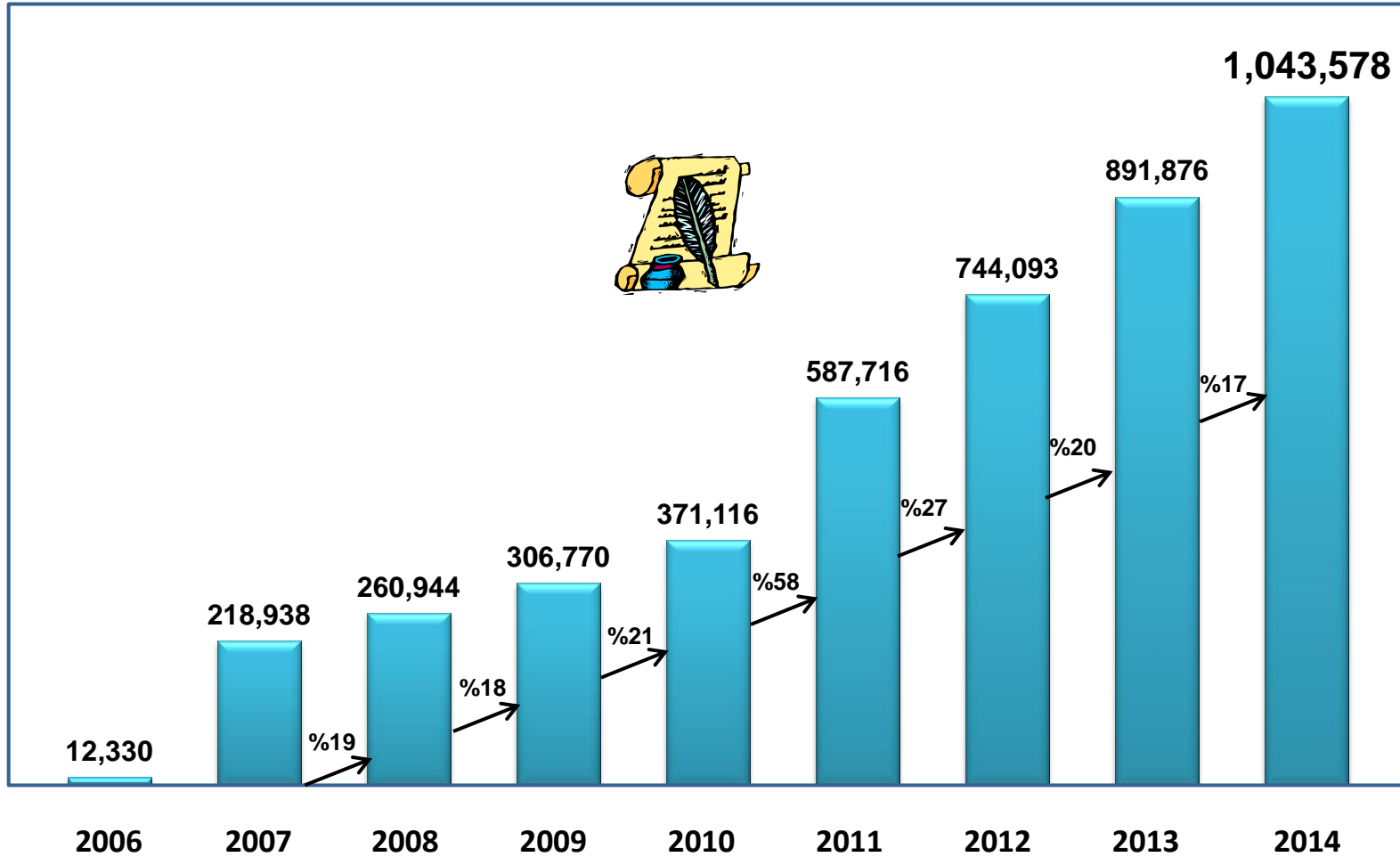


Aquaculture Insurance

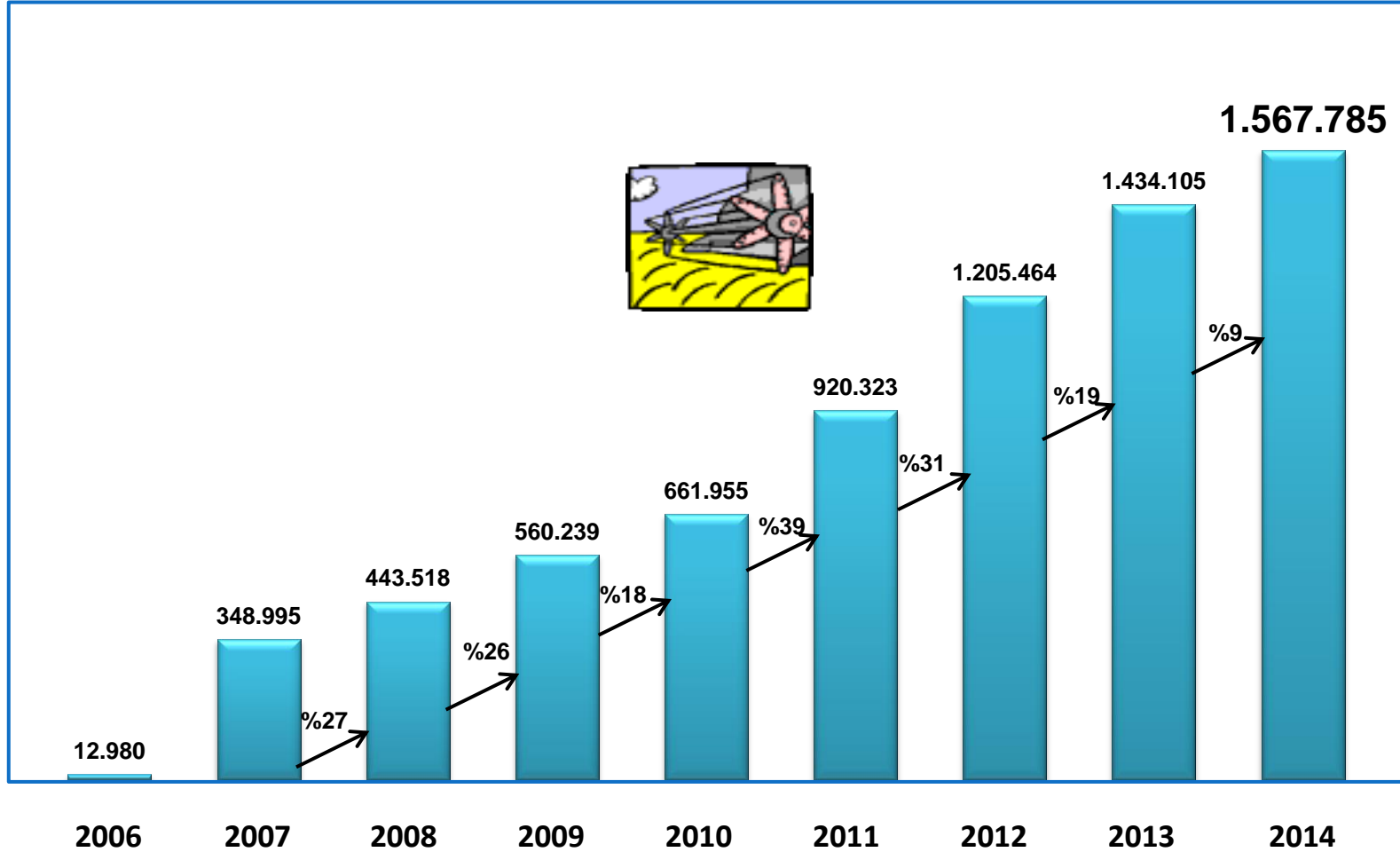


Beehives Insurance

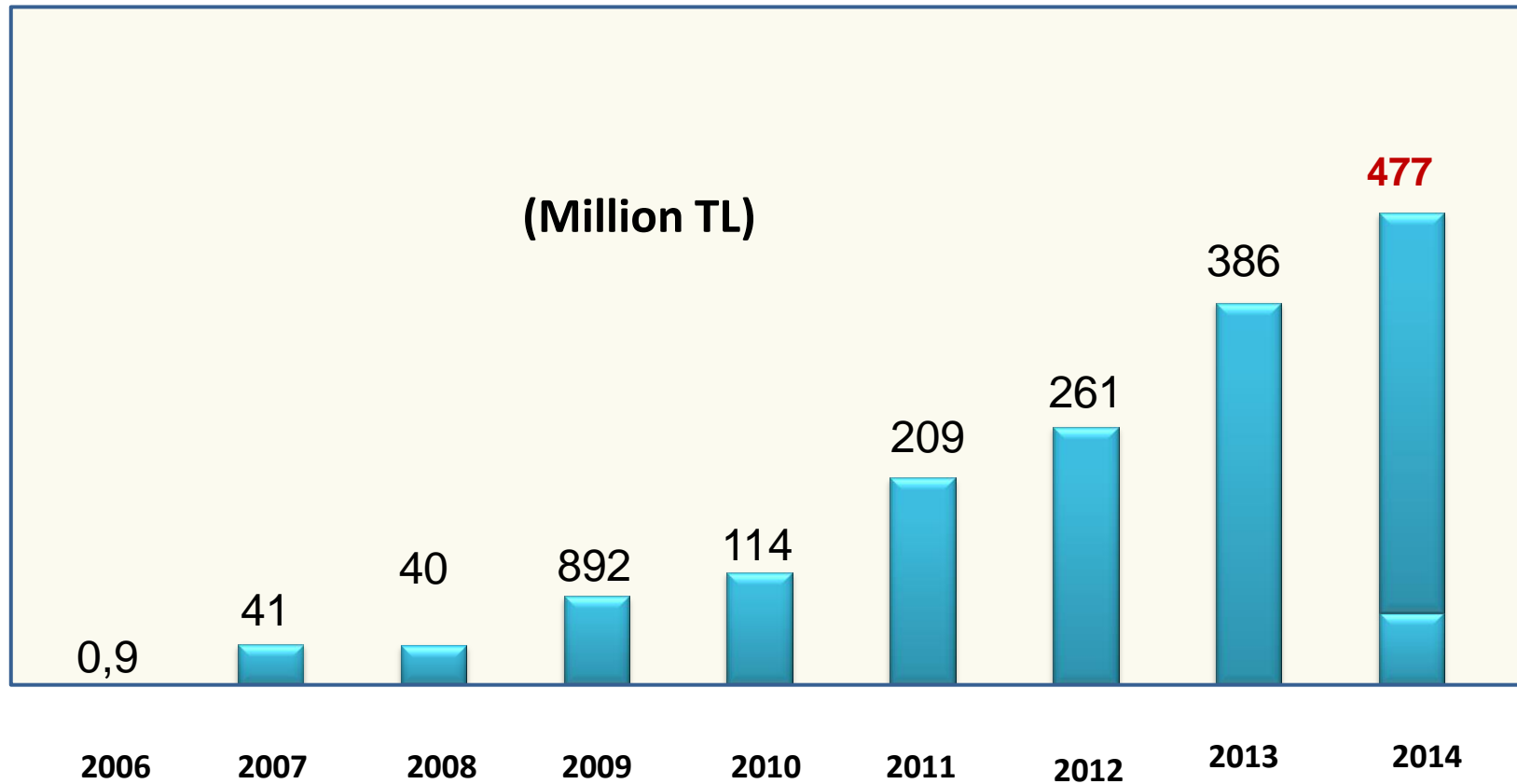
NUMBER OF POLICY



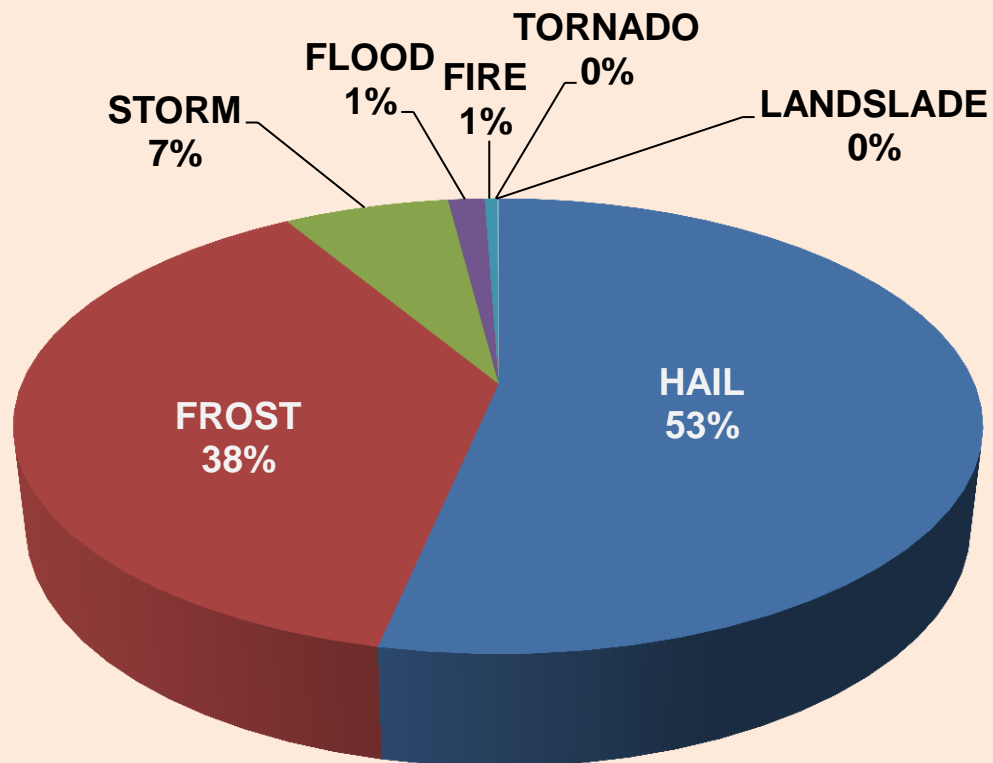
INSURED AREA (Ha.)



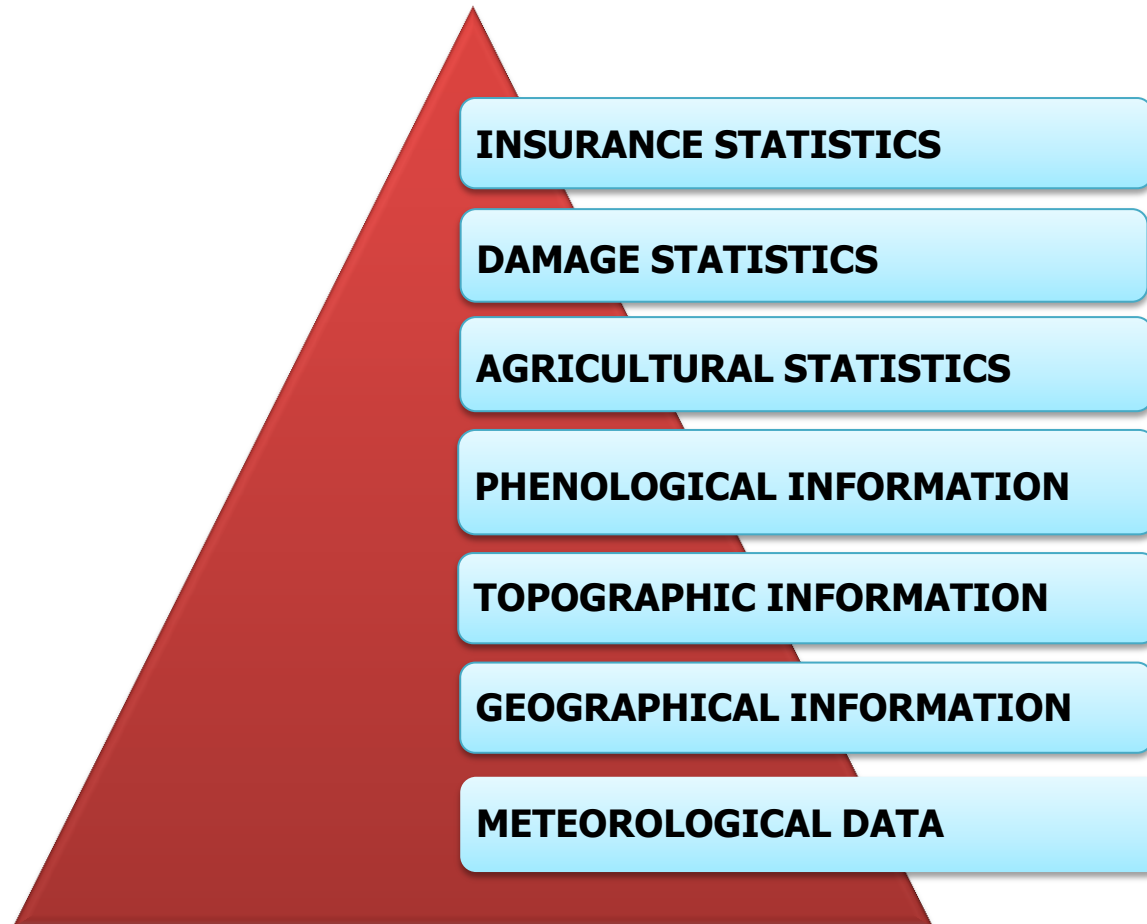
INDEMNITY PAID (2006-2014)



DISTRIBUTION OF INDEMNITY BY REASON OF CAUSES (2007-2014)



BASIC DATA USED IN AGRICULTURAL INSURANCE



USE OF THE METEOROLOGICAL DATA IN AGRICULTURAL INSURANCE

USE OF THE METEOROLOGICAL DATA IN AGRICULTURAL INSURANCE

Aim: To establish fair, balanced and affordable premium rates for farmers.

Rate making in crop insurance; depends on availability of statistically meaningful data

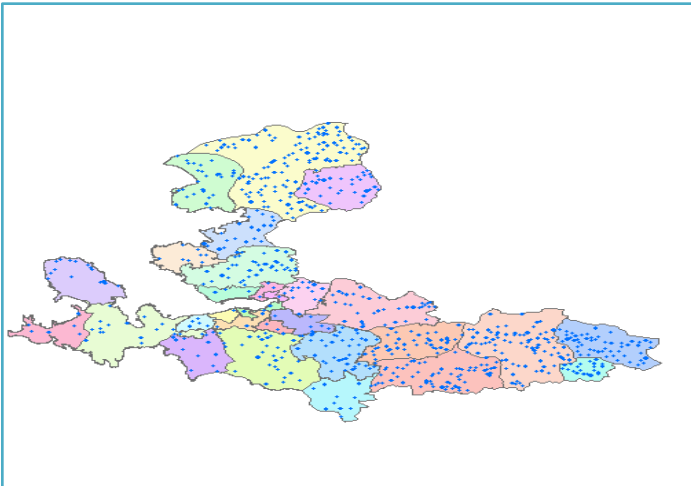
- quality
- size
- length

MAIN FACTORS AFFECTING PREMIUM RATES IN CROP INSURANCE

- 1. Frequency of risk**
- 2. Severity of risk**
- 3. Location**
- 4. Type of Crop**

MAIN COMPONENTS OF PREMIUM RATES IN CROP INSURANCE

1. Location



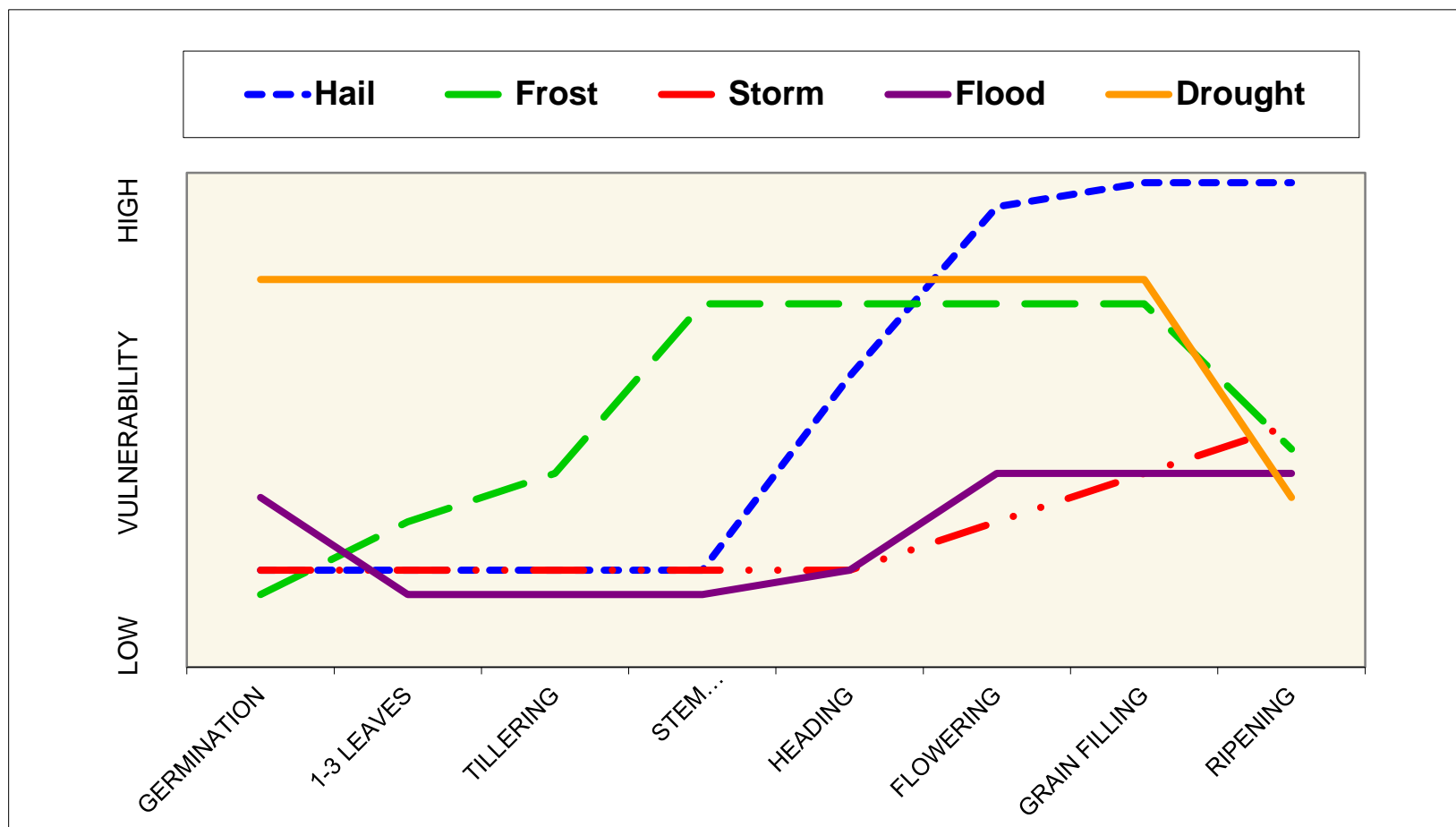
2. Type of Crop



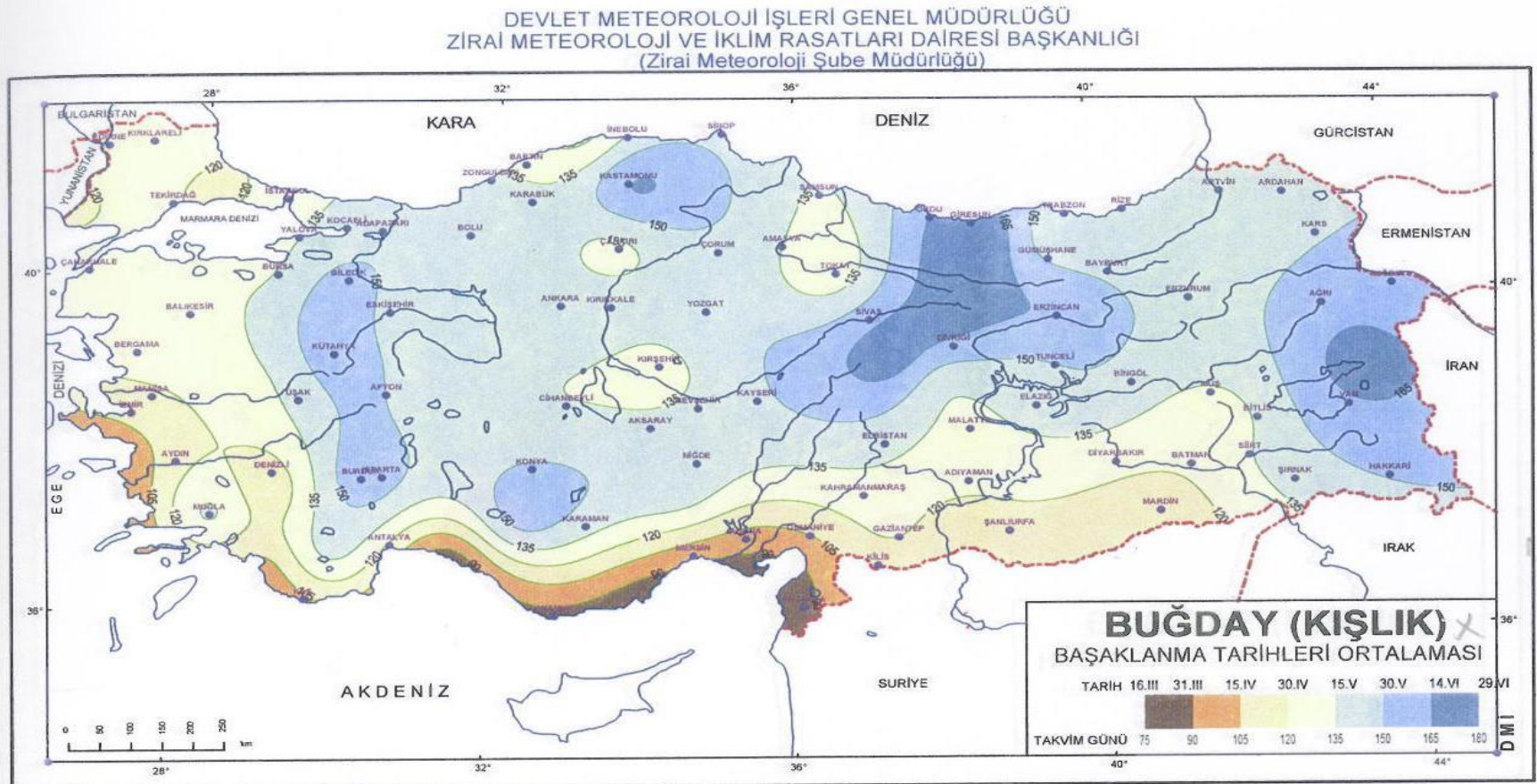
RISK MAPS AND PREMIUM RATES

- It is not possible to prepare appropriate premium rates without long term meteorological data. Providing the long-term meteorological data is crucial for the development of agricultural insurance.
- There are meteorological data for long term but these are generally on province and partly district level.
- We need data on village level.
- Therefore it is important to increase the number of meteorological station to measure the exposure of various meteorological risks.

EFFECT OF METEOROLOGICAL RISKS ON DIFFERENT GROWTH STAGES OF WHEAT



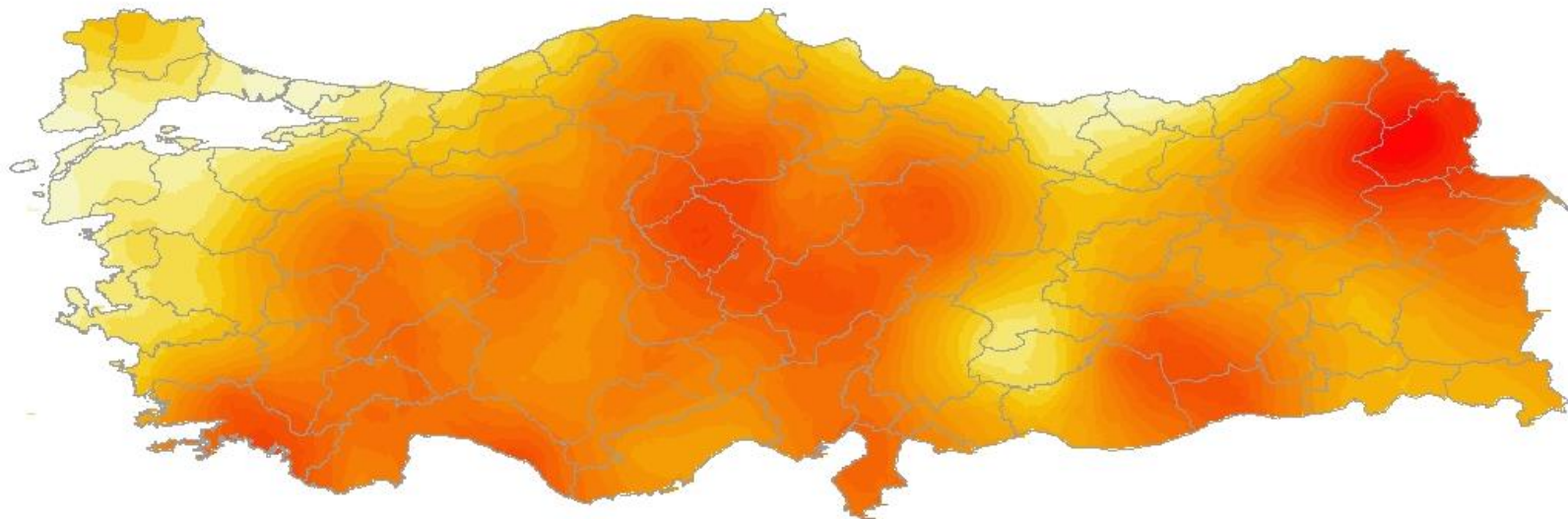
PHENOLOGICAL STAGES OF WHEAT



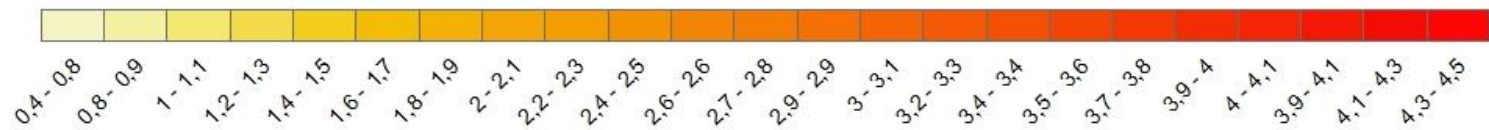
RATE MAKING IN CROP-HAIL INSURANCE WITHOUT INSURANCE DATA

Meteorological Station	Observation Duration (Year)	Vegetation Period of Wheat Exposed and Monthly Average Hail Days							Average Hail Days of Vegetation Period
		Febr	Mar	Apr	May	June	July	Agu	
Adana	30	0,48	0,75	0,78	0,75				2,76
Diyarbakır	30		0,97	1,22	0,97	0,22			3,38
Aydın	30		0,32	0,78	0,65	0,22			1,97
Edirne	30			0,44	0,54	0,78	0,11		1,87
Konya	30			0,67	0,86	0,44	0,11		2,08
Samsun	30			0,11	0,43	0,11	0		0,65
Erzurum	30				1,94	1,22	0,65	0,22	4,03

HAIL RISK MAP PREPARED FOR CROP INSURANCE BY USING METEOROLOGICAL DATA AND GIS



Hail Risk



CLASSIFICATION OF METEOROLOGICAL RISKS ON VILLAGE BASIS

PROVINCE	DISTRICT	SUB	VILLAGE	HAIL RISK ZONES	FROST RISK ZONES	STORM RISK ZONES	FLOOD RISK ZONES
ADANA	CEYHAN	SAĞKAYA	AĞAÇLI	K	G	D	I
ADANA	CEYHAN	SAĞKAYA	AKDAM	J	G	C	I
ADANA	CEYHAN	SAĞKAYA	BAŞÖREN	G	G	B	I
ADANA	CEYHAN	SAĞKAYA	CAMUZAĞILI	J	G	B	K
ADANA	CEYHAN	SAĞKAYA	ÇATALHÜYÜK	L	G	B	C
ADANA	CEYHAN	SAĞKAYA	GÜMÜRDÜLÜ	K	G	B	I
ADANA	CEYHAN	SAĞKAYA	ISIRGANLI	J	G	B	C
ADANA	CEYHAN	SAĞKAYA	İNCEYER	M	G	B	I
ADANA	CEYHAN	SAĞKAYA	KIVRIKLI	K	G	B	C
ADANA	CEYHAN	SAĞKAYA	MERKEZ	J	G	B	I
ADANA	CEYHAN	SAĞKAYA	SARIBAHÇE	K	G	B	I
ADANA	CEYHAN	SAĞKAYA	SOYSALI	F	G	B	J
ADANA	CEYHAN	SAĞKAYA	TATLIKUYU	J	G	B	C
ADANA	CEYHAN	SAĞKAYA	TUMLU	J	G	B	J
ADANA	CEYHAN	SAĞKAYA	ÜÇDUTYEŞİLOVA	J	G	B	I
ADANA	CEYHAN	SAĞKAYA	YEŞİLBHÇE	L	G	B	J
ADANA	CEYHAN	SAĞKAYA	YEŞİLDAM	L	G	B	J
ADANA	ÇUKUROVA	MERKEZ	KAŞOBA	I	I	B	C
ADANA	ÇUKUROVA	MERKEZ	MEMİŞLİ	H	I	B	C
ADANA	ÇUKUROVA	MERKEZ	PİRİLİ	H	I	B	E

BASIC METEOROLOGICAL DATA USED IN AGRICULTURAL INSURANCE

- ❖ Daily Precipitation Data
- ❖ Daily Min. and Max. Temperatures
- ❖ Daily max. Wind Speed
- ❖ Monthly Hail Days
- ❖ Monthly Frost Days



Thank you for your attention.

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