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Fiscal Issues and Implications of Climate Insurance

- With a Focus on Fiscal Sustainability and Support for Climate-Vulnerable Groups

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Background of the Analysis

▪ **Climate insurance is growing in importance as climate change brings more frequent, large-scale disasters such as heatwaves and torrential rain.**

- In summer 2025, the average temperature was 25.7°C, the highest since 1973; heat-related illnesses rose 20.4% year on year to 4,460 cases; and torrential rain of at least 100 mm per hour occurred 13 times.[1)]
- Recovery costs[2)] from the July 2025 torrential rains alone reached KRW 2.7235 trillion[3)]. With major disasters now frequent, damage and recovery costs are trending upward.

[Table 1] **Natural Disaster Damage and Recovery Costs, Past 10 Years**

(Unit: KRW 100 million, current prices)

Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Damage	319	2,884	1,873	1,413	2,162	13,182	661	5,927	9,582	9,107
Recovery costs	381	5,906	4,997	4,433	13,488	41,615	2,973	16,648	20,650	12,379

Source: Ministry of the Interior and Safety, 2024 Disaster Yearbook

▪ **Climate insurance compensates for economic losses caused by climate change[4)], and recent discussions focus on extending coverage to health and income losses from events such as heatwaves.**

- In Korea, storm and flood insurance and agricultural and fishery disaster insurance have mainly covered property and crop damage, while local governments now also cover health and income losses from heatwaves and similar events.
- Climate insurance abroad varies with each country's climate, as do the division of roles between state and private sector, financing methods, and fiscal support.

▪ **Ahead of the September 23, 2027 entry into force of the Act on Adaptation to the Climate Crisis and Strengthening Resilience, which provides the legal basis for climate insurance, this report reviews how climate insurance operates in Korea and abroad and examines its characteristics, fiscal issues, and implications.**

1) Korea Meteorological Administration, Climate Characteristics of Summer 2025 (Sept. 4, 2025); Korea Disease Control and Prevention Agency, 2025 Results of the Emergency Department Surveillance System for Heat-Related Illnesses (Oct. 17, 2025)

2) Costs of recovering from natural disaster damage, including central and local government funds.

3) Ministry of the Interior and Safety, Press Release: Recovery from July Torrential Rain Damage Gets Underway, with a Focus on Restoring Affected Areas and Strengthening Disaster Prevention Capacity (Aug. 17, 2025)

4) In this report, climate insurance broadly includes storm and flood insurance and agricultural and fishery disaster insurance (property damage) and local government climate insurance (health and income losses).

Climate Insurance in Korea

- **Policy insurance for climate disasters currently includes storm and flood insurance and agricultural and fishery disaster insurance[5], which mainly cover property and crop damage.**
  - **(Storm and Flood Insurance)** Run by the Ministry of the Interior and Safety; covers natural disaster damage to homes, greenhouses, shops, and factories. Central and local governments subsidize 55–100% of premiums (KRW 48.6 billion in 2025 final accounts).
  - **(Agricultural and Fishery Disaster Insurance)** Run by the Ministry of Agriculture, Food and Rural Affairs and the Ministry of Oceans and Fisheries; covers crops, livestock, aquaculture products, and more. The central government funds part of premiums and operating costs (KRW 842.6 billion in 2025 final accounts).
    - Government support for premiums rose from KRW 503.8 billion in 2021 to KRW 842.6 billion in 2025 (final accounts).

[Table 2] **Premium Subsidies for Agricultural and Fishery Disaster Insurance**

(Unit: KRW 100 million)

Category	2021	2022	2023	2024	2025
Premium subsidies (final accounts)	5,038	5,777	7,494	7,360	8,426

Source: Ministry of Agriculture, Food and Rural Affairs; Ministry of Oceans and Fisheries

- **Local governments have recently broadened coverage to health and income losses: Gyeonggi Province insures all residents, and Jeju Province insures day laborers at construction sites.[6]**
  - **(Gyeonggi)** All residents are automatically enrolled and receive fixed payments for diagnoses of heat- or cold-related illness, among other benefits; climate-vulnerable groups get added support for inpatient and outpatient costs. The province pays the full premium.
  - **(Jeju)** Day laborers at public construction sites receive 80% of wages, with no proof of loss, if they stop work due to a heatwave warning. Funding comes from the insurance industry's mutual growth fund and the provincial budget.

[Table 3] **Local Government Climate Insurance Overview**

Category	Gyeonggi Climate Insurance	Jeju Construction Site Climate Insurance
Launch	April 2025	July 2026
Persons covered	About 14.4 million residents auto-enrolled (about 220,000 climate-vulnerable residents get extra coverage)	About 5,000 day laborers in the retirement mutual aid scheme at public construction sites worth KRW 100 million or more
Benefits	Fixed payments, e.g., KRW 150,000 for a heat- or cold-related illness diagnosis and KRW 300,000 for a climate disaster accident	Lost income paid (up to KRW 69,000 per day) if work stops due to a heatwave warning
Funding and support	Province pays full premium (KRW 2.66 billion in 2025; KRW 3.23 billion in 2026)	KRW 900 million from insurance industry mutual growth fund; KRW 100 million from provincial budget (KRW 1 billion over three years)
Program results	KRW 1.28 billion paid across 51,733 cases	No payments as of early September 2026

Note: Gyeonggi results cover April 11, 2025 to October 16, 2026.
Source: Compiled by NABO from materials submitted by Gyeonggi Province and Jeju Special Self-Governing Province

- **Under the Act on Adaptation to the Climate Crisis and Strengthening Resilience, the central government is running a climate insurance pilot for groups vulnerable to the climate crisis.**
  - With the Act providing a legal basis for climate insurance and support for vulnerable groups, the Ministry of Climate, Energy and Environment plans to design coverage and support for a pilot covering about 13,000 public-sector outdoor workers, drawing on a study due in the first half of 2027.

5) Seven private non-life insurers, including NH NongHyup Property & Casualty Insurance, sell storm and flood insurance and pay claims. For agricultural and fishery disaster insurance, these roles are handled by providers including NH NongHyup Property & Casualty Insurance (crops, livestock) and the National Federation of Fisheries Cooperatives (aquaculture products).

6) Five non-life insurers, including Meritz Fire & Marine Insurance, handle claims for Gyeonggi Climate Insurance, and five, including Samsung Fire & Marine Insurance, for Jeju Climate Insurance.

International Examples and Fiscal Issues

- **Climate disaster insurance abroad varies with national circumstances. Differences in enrollment and government financing offer implications for Korea.**
  - Unlike Korea's storm and flood insurance, which relies on voluntary enrollment and premium subsidies, the U.S. runs its program directly, France combines private insurance with a public guarantee, and Switzerland pairs mandatory enrollment with prevention programs.

- **(U.S. NFIP) The Federal Emergency Management Agency is the direct insurer for flood insurance, and the federal government bears both operations and fiscal risk.**
  - **(Coverage)** Covers flood damage to owners and renters of homes and other buildings in over 22,000 participating communities (about 4.7 million policies). Residential coverage reaches USD 250,000 for the building and USD 100,000 for contents.[7)]
  - **(Fiscal Support)** Claims are paid from premiums, with Treasury borrowing when funds fall short. Buildings constructed before flood hazard maps existed get discounted premiums below their actual risk, regardless of owner income.
  - **(Fiscal Issues)** The program can reliably provide coverage that private insurers do not offer, but the gap between discounted premiums and actual risk can add to the government's fiscal burden.
    - The U.S. Government Accountability Office (GAO) reported that revenue lost to premium discounts was not separately budgeted and that spending, including claim shortfalls, was covered by Treasury borrowing (USD 22.5 billion outstanding in March 2026). It recommended budgeting premium assistance for low-income households.[8)]

- **(France's CatNat) Private insurers must include natural disaster coverage in property policies. The state-owned public reinsurer (Caisse Centrale de Réassurance, CCR)[9)] reinsures part of insurers' losses, and the state guarantees CCR.**
  - **(Coverage)** Holders of property insurance for homes or businesses and motor insurance are compensated for flood, drought, landslide, and similar damage the government recognizes as disasters, up to their private policy limits.
  - **(Fiscal Support)** Private insurers charge a 20% surcharge on property damage premiums for natural disaster coverage[10)] and cede half of the surcharge revenue and half of the claims liability to CCR through reinsurance. The state provides an unlimited guarantee if CCR's losses exceed its reserves.
  - **(Fiscal Issues)** Drought losses nearly exhausted CCR's reserves, so the surcharge rose from 12% to 20% in 2025. The French Senate recommended measures such as automatic premium increases.

- **(Switzerland's GVZ) The Canton of Zurich's public insurer runs fire and natural disaster insurance with mandatory enrollment for all buildings in the canton, and uses part of premium revenue for prevention programs.**
  - **(Coverage)** All buildings in the canton (about 300,000, insured value CHF 642.5 billion) are covered against fire, natural disasters, and earthquakes up to insured value (earthquakes capped at CHF 1 billion a year).
  - **(Fiscal Support)** Funded by premiums and returns on reserves, with no cantonal funding or guarantee.
  - **(Fiscal Issues)** With no government guarantee, financial stability rests on the broad pool created by mandatory enrollment and on premium-funded prevention investment.
    - Of the CHF 0.29 premium per CHF 1,000 of insured value, CHF 0.08 is collected as a fire prevention levy (CHF 51.1 million in 2025) to fund firefighting, fire prevention, and natural disaster prevention programs.[11)]

7) CRS, "A Brief Introduction to the National Flood Insurance Program", IF10988, (Apr. 22, 2025)

8) GAO, "Flood Insurance: FEMA's New Rate-Setting Methodology Improves Actuarial Soundness but Highlights Need for Broader Program Reform", GAO-23-105977, (Jul. 2023).; CRS, "National Flood Insurance Program Borrowing Authority", (Mar. 10, 2026)

9) CCR is a wholly state-owned public reinsurer that reinsures part of private insurers' natural disaster losses and handles about 95% of the natural disaster reinsurance market.

10) The state receives 12% of the surcharge for the Disaster Prevention Fund (Fonds Barnier). Since 2021, this revenue has been part of the general budget, and the government sets the fund's size separately.

11) GVZ, "Zahlen und Fakten" (2025); materials from the Parliament and Government of the Canton of Zurich

▪ **(Other Examples) In the U.K. and India, climate insurance is led by the insurance industry and private organizations without government funding.**

- **(U.K. Flood Re)** A reinsurance body funded by an industry levy (GBP 180 million a year) that helps households in high flood-risk homes obtain flood insurance.
- **(India's SEWA)** A women's trade union runs heatwave income insurance with private partners. About 50,000 informal women workers are enrolled, and a fixed amount is paid, with no proof of loss, when temperatures exceed the local threshold two days in a row.

[Table 4] **Operations and Fiscal Structure of Major Overseas Climate Insurance Programs**

Category	U.S. NFIP	France's CatNat	Switzerland's GVZ (Canton of Zurich)
Operations	Operated directly by federal government (FEMA)	Private insurance + public guarantee	Mandatory insurance run by cantonal public insurer
Coverage	Homes and other buildings in participating communities (flood damage)	Property insurance policyholders (government-recognized natural disasters)	All buildings in the canton (fire, natural disasters, earthquakes)
Fiscal support	Premium revenue, with government borrowing if funds fall short	20% surcharge on property damage premiums, unlimited state guarantee for CCR's losses	Premiums and investment returns (no public funding or guarantee)
Fiscal issues	Discounted premiums increase the fiscal burden	Rising losses deplete reserves, prompting higher surcharges	Maintains own reserves and invests in prevention

Source: Compiled by NABO from materials of FEMA, GAO, the French Senate, and the Parliament of the Canton of Zurich, among others

Implications

▪ **As climate insurance expands in coverage and scope, the following points merit consideration in designing and operating programs, drawing on international experience.**

▪ **For fiscal sustainability, insurance should be linked to disaster prevention to reduce damage, and potential fiscal burdens from major disasters should be managed in advance.**

- **(Linking Insurance to Prevention)** Prevention reduces damage and thus claims and recovery spending, so insurance and prevention should be designed together, for example by directing part of premium revenue to prevention as Switzerland's GVZ does.
- **(Managing Potential Fiscal Risks)** To ease the potential fiscal burden of major climate disasters, reinsurance or similar arrangements should let private insurers and the public sector share risk in layers according to loss size.
  - Korea's crop disaster insurance is a useful precedent, using reinsurance that shares gains and losses with insurers by loss-ratio band.[12)]

▪ **Enrollment should be expanded among climate-vulnerable groups, who are prone to gaps in coverage, and a risk assessment system should be established to set appropriate premiums.**

- **(Expanding Enrollment among Vulnerable Groups)** Groups with limited ability to pay have low enrollment and are prone to coverage gaps, so coverage should be widened through premium subsidies or group enrollment.
  - Closing the protection gap is also a challenge abroad: insurance covered only about 49% of the USD 220 billion in global natural disaster losses in 2025.[13)]
- **(Separating Premium Setting from Subsidies)** Premiums should reflect risk levels based on detailed risk assessment, with premium support for vulnerable groups financed separately.

12) Hong-Gi Chae et al., "Analysis of the Government Reinsurance Return Sharing of Crop Insurance," Journal of Rural Development, Vol. 46, No. 1, 2023.

13) Swiss Re Institute, "Natural catastrophes in 2025"(sigma), (Mar. 19, 2026)

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