

The State-Subsidized Agricultural Insurance Program in Georgia: Results and Future Prospects

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ABSTRACT

Agriculture in Georgia represents one of the most risk-sensitive economic sectors, as its development is highly dependent on natural and climatic conditions. In the context of climate change and the increasing frequency of natural disasters, the role of agricultural insurance as an important instrument for managing agricultural risks and ensuring farmers' financial stability has become increasingly significant. This paper examines the current state of the agricultural insurance system in Georgia, its development dynamics, major challenges, and future prospects.

The study analyzes the significance of the state-subsidized agricultural insurance program introduced in 2014, its impact on increasing farmers' participation, and the changes implemented throughout the development of the system. Particular attention is paid to the challenges of low insurance coverage, the uneven geographical distribution of insured agricultural land, the risk of adverse selection, insufficient development of meteorological infrastructure, and the necessity of implementing risk-based premium rating systems.

The findings demonstrate that despite the progress achieved through state support, the level of agricultural insurance penetration in Georgia remains limited. The share of insured agricultural land constitutes only a small proportion of the total cultivated area, which restricts risk diversification and increases challenges related to the financial sustainability of the insurance system. Furthermore, the high concentration of insured plots in high-risk regions indicates the presence of adverse selection, as insurance participation is primarily driven by farmers facing a higher probability of losses.

The paper emphasizes that the further development of agricultural insurance in Georgia should be based on data-driven approaches, the expansion of meteorological observation networks, the application of econometric and actuarial models, the improvement of risk-based pricing systems, and the integration of modern digital technologies. These measures will contribute to a more balanced insurance portfolio, strengthen farmers' protection mechanisms, and ensure the long-term financial sustainability of the agricultural insurance system.

Keywords: Agricultural Insurance; Agricultural Risks; State-Subsidized Insurance Program; Climate Risks; Adverse Selection; Insurance Coverage; Meteorological Infrastructure; Risk-Based Pricing; Financial Sustainability.

Main Body

Agriculture is widely recognized as one of the most risk-prone economic sectors, as its performance largely depends on natural and climatic conditions. Despite technological advances and the modernization of agricultural production, farmers continue to face a wide range of risks, including losses caused by natural hazards. Hail, strong winds, excessive rainfall, drought, and other climate-related events can significantly affect both agricultural productivity and the stability of farmers' incomes. Under these circumstances, agricultural insurance plays a crucial role as a financial risk management instrument by enhancing the resilience of agricultural production and mitigating unexpected financial losses.

The development of agricultural insurance in Georgia gained significant momentum with the introduction of the state-subsidized agricultural insurance program in 2014, which is based on a public-private partnership model.

The primary objective of the program is to strengthen farmers' financial protection, reduce risks associated with agricultural production, and promote the sustainable development of the agricultural sector.

Georgia's geographical location and diverse natural conditions contribute to the frequent occurrence of various hydrometeorological hazards. Among these, hail represents one of the most significant threats to agricultural production, particularly in the Kakheti region, where it remains one of the leading causes of crop damage. Hailstorms in Kakheti frequently inflict severe losses on vineyards and other agricultural crops, resulting in annual economic damages amounting to millions of Georgian lari. Consequently, hail constitutes one of the principal risks covered under the agricultural insurance program.

A substantial proportion of the agricultural land insured under the program is concentrated in the Kakheti region. According to 2024 data, approximately 79% of all insured plots are located in Kakheti, while vineyards account for a considerable share of the insured area. These figures highlight both the elevated agricultural risk in the region and the critical importance of agricultural insurance for the viticulture sector.

The state-subsidized program provides coverage against major natural hazards, including hail, windstorms, and excessive rainfall, while protection against autumn frost is available exclusively for citrus crops. Based on practical experience gained throughout the implementation of the program, several improvements have been introduced over the years. These include the refinement of claim assessment standards, clarification of deductible provisions, improvement of reporting procedures, revision of premium rates and normative yields, and the introduction of multi-year insurance policies for perennial crops. In addition, the mechanisms for monitoring and verifying loss assessments have been strengthened, contributing to greater transparency and consistency in the claims settlement process.

Despite the progress achieved, Georgia's agricultural insurance system remains at a developmental stage and continues to face several important challenges. One of the most significant issues is the relatively low level of insurance coverage. Although the share of agricultural insurance within the overall insurance market has gradually increased, it remains limited, accounting for only ****1.57%**** of Georgia's total insurance market in 2024.

The low level of insurance penetration constrains the effectiveness of the agricultural insurance system, as limited participation restricts adequate risk diversification and the formation of a financially sustainable insurance portfolio.

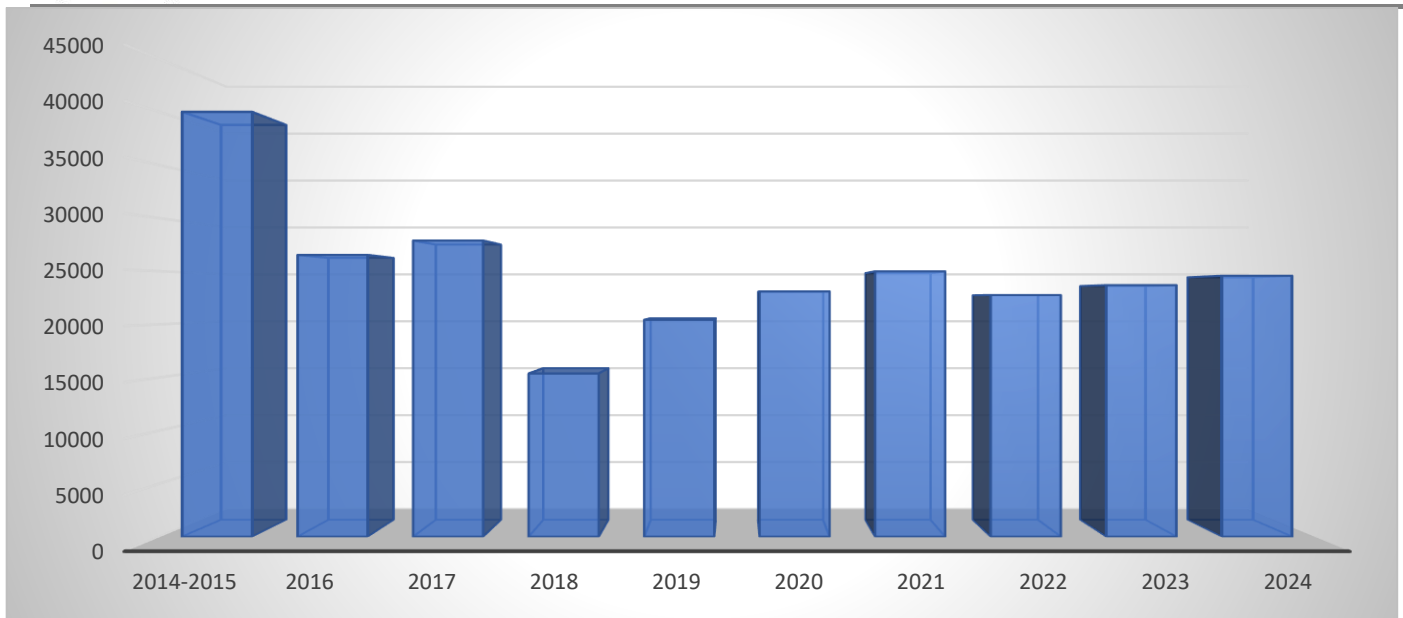
The relatively small proportion of insured agricultural land reflects not only insufficient awareness among farmers but also limited demand for agricultural insurance products. Furthermore, the low participation rate is associated with several factors, including an underdeveloped insurance culture, financial constraints, and inadequacies in the infrastructure required for effective risk assessment.

Another major obstacle to the development of agricultural insurance in Georgia is the insufficient development of meteorological infrastructure. The limited number of meteorological stations and the lack of detailed climate data reduce the accuracy of natural risk assessments and complicate the objective evaluation of agricultural losses.

Since insurance underwriting and pricing decisions rely heavily on reliable climatic information, the availability of comprehensive meteorological data is essential for establishing actuarially sound insurance premiums and improving the accuracy of claims assessment.

The distribution of insured agricultural plots under the state-subsidized agricultural insurance program during the period 2014–2024 is presented in Figure 1.

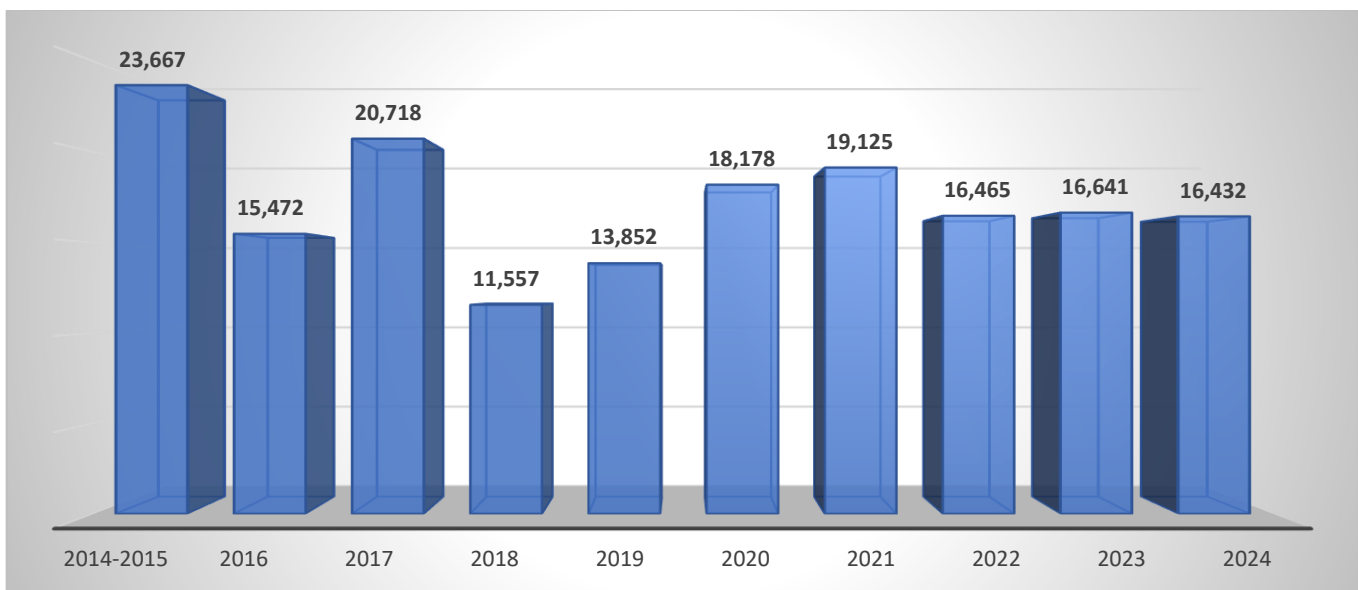
Number of Agricultural Plots Insured under the State-Subsidized Agricultural Insurance Program (2014–2024)



Source: Georgian Insurance Association (GIA).

A significant policy change introduced in 2018, under which only agricultural land plots registered with the National Agency of Public Registry of Georgia became eligible for coverage under the state-subsidized agricultural insurance program, had a substantial impact on both program participation and the overall level of insurance coverage. This requirement limited the participation of farmers whose agricultural land had not been officially registered, resulting in an approximately 45% decline in the number of insured agricultural plots compared with the previous period. This finding suggests that administrative requirements can significantly influence the accessibility of agricultural insurance and may constrain the geographical expansion of insurance coverage.

Figure 2. Insured Agricultural Area under the State-Subsidized Agricultural Insurance Program in Georgia, 2014–2024 (ha)



Source: Georgian Insurance Association (GIA).

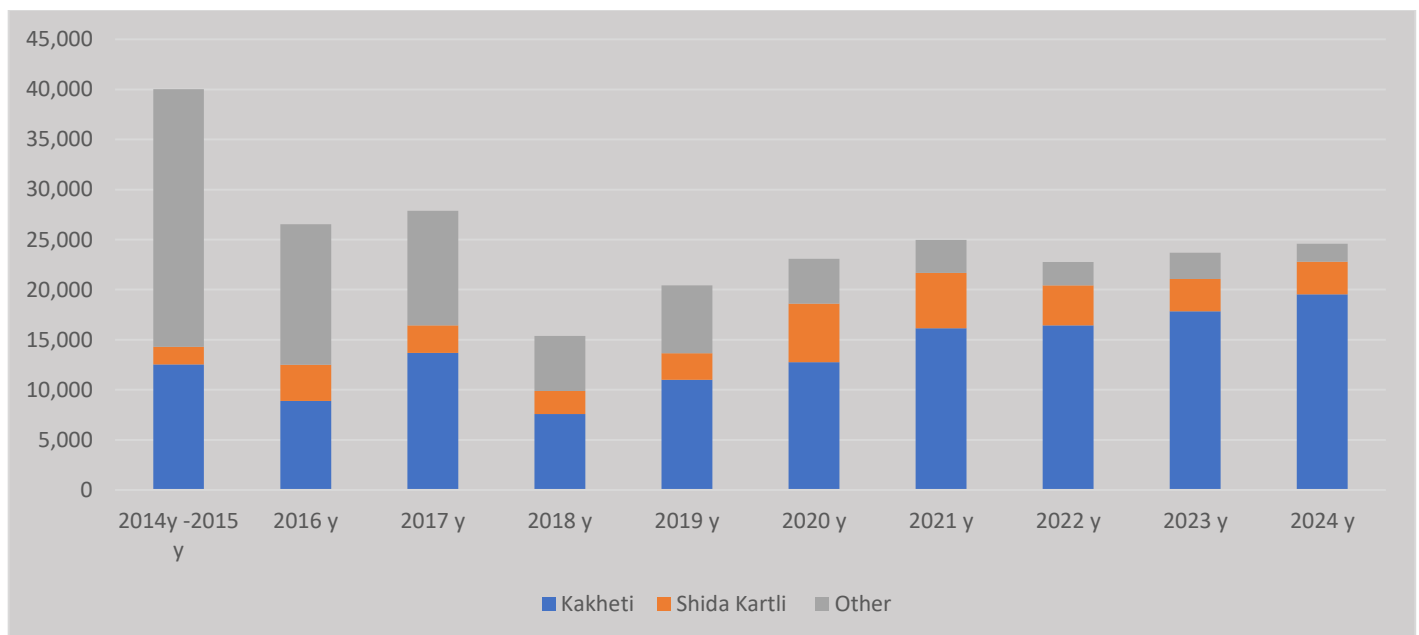
One of the major challenges facing Georgia's agricultural insurance system remains the problem of adverse selection, whereby participation in the insurance program is dominated by farmers exposed to higher levels of risk, while producers operating in relatively low-risk areas remain underrepresented. A clear manifestation of

adverse selection in Georgia is the uneven geographical distribution of agricultural plots insured under the state-subsidized agricultural insurance program.

Available data indicate that a substantial proportion of insured agricultural plots is concentrated primarily in two regions—Kakheti and Shida Kartli—whereas insurance activity remains comparatively limited in the rest of the country. This pattern suggests that demand for agricultural insurance is highest in areas where exposure to natural hazards, particularly hail, strong winds, and excessive rainfall, is more frequent and the probability of crop losses is considerably greater.

The higher participation of farmers in high-risk regions is understandable, as agricultural insurance provides an important mechanism for protecting them against potentially substantial financial losses. In contrast, in relatively low-risk regions, such as Imereti, where the frequency and severity of weather-related crop damage are lower, demand for agricultural insurance remains considerably weaker. Consequently, the insurance portfolio becomes increasingly concentrated in high-risk exposures, limiting opportunities for effective risk diversification and potentially undermining the long-term financial sustainability of the agricultural insurance program.

Figure 3. Regional Distribution of Insured Agricultural Plots under the State-Subsidized Agricultural Insurance Program in Georgia



Source: Georgian Insurance Association

One of the major challenges facing Georgia's agricultural insurance system is adverse selection, whereby participation in the insurance program is concentrated primarily among high-risk farmers, while producers operating in relatively low-risk areas remain underrepresented. In Georgia, one of the clearest manifestations of adverse selection is the uneven geographical distribution of insured agricultural plots within the state-supported agricultural insurance program.

Available data indicate that a substantial proportion of insured agricultural plots is concentrated in only two regions—Kakheti and Shida Kartli—whereas insurance activity remains considerably lower in other parts of the country. This pattern suggests that demand for agricultural insurance is strongest in areas exposed to a higher probability of natural hazards, particularly hail, strong winds, and excessive precipitation, where the likelihood of crop damage is significantly greater.

The stronger demand observed in high-risk regions is understandable, as agricultural insurance provides farmers with an important mechanism for protecting themselves against potentially severe financial losses. In contrast, farmers operating in relatively low-risk regions, such as Imereti and other areas where the frequency of weather-related losses is comparatively low, demonstrate substantially less interest in purchasing insurance coverage. As

a consequence, the insurance portfolio becomes increasingly concentrated in high-risk exposures, reducing opportunities for effective risk diversification and potentially undermining the financial sustainability of the agricultural insurance system.

The existence of adverse selection highlights the need to introduce mechanisms that encourage broader participation by farmers from regions with different levels of risk. In this regard, it is essential to diversify insurance products and tailor them to regional characteristics, while strengthening cooperation between the public and private sectors to increase farmers' incentives to participate in the insurance program, particularly in lower-risk regions. Such measures would contribute to a more balanced insurance portfolio, improve risk diversification, and enhance the long-term sustainability of the agricultural insurance system.

The problem of adverse selection is closely associated with the low level of insurance penetration. When participation in the agricultural insurance program is dominated by farmers who already anticipate a relatively high probability of incurring losses, while participation by lower-risk producers remains limited, the insurance portfolio becomes disproportionately concentrated in high-risk policies. Consequently, the current pattern of insurance demand indicates that purchasing decisions are often driven not only by precautionary risk management but also by the expectation of substantial financial losses under already existing high-risk conditions.

An important indicator of this trend is the overall low insurance coverage observed in Georgia. According to the 2014 Agricultural Census conducted by the National Statistics Office of Georgia (Geostat), agricultural production occupies approximately 110 thousand hectares of perennial crops and 265 thousand hectares of cultivated agricultural land. Compared with these figures, the area insured under the state-supported agricultural insurance program accounts for, on average, only about 5% of the country's total productive agricultural land.

These statistics indicate that, despite the existence of the state-supported agricultural insurance program, insurance penetration remains relatively limited, with only a small proportion of agricultural producers participating in the system. Moreover, the regional distribution of insured plots is highly uneven, being concentrated primarily in high-risk regions, particularly Kakheti and Shida Kartli, while participation in other regions remains considerably lower.

Low insurance penetration represents not merely a statistical indicator but also a systemic challenge affecting the financial sustainability of the agricultural insurance system. A relatively small insurance portfolio limits both geographical and sectoral risk diversification, resulting in a greater concentration of catastrophic losses among a limited number of insured producers. Consequently, the volatility of insurance losses increases, diversification opportunities decline, and the effects of adverse selection become even more pronounced.

The future development of agricultural insurance in Georgia largely depends on overcoming these structural challenges and establishing a system based on objective risk assessment, reliable data, and modern insurance practices. Although the state-subsidized agricultural insurance program has substantially improved access to insurance, achieving long-term sustainability requires the transition to a new stage of sectoral development.

One of the key priorities is to expand insurance coverage and increase farmers' participation. This requires the development of mechanisms that encourage producers operating in lower-risk regions to participate in the program. Such objectives can be achieved through greater diversification of insurance products, stronger adaptation to regional characteristics, and improved awareness among farmers regarding the benefits of agricultural insurance.

Another essential direction for future development is the refinement of the risk-based premium rating system. Uniform premiums or those based solely on historical averages cannot adequately reflect the actual level of risk associated with individual municipalities or agricultural production areas. Therefore, wider application of econometric and actuarial models is necessary to provide more accurate premium differentiation according to municipalities, crop types, and natural hazards.

Particular attention should also be given to the development of meteorological infrastructure. The insufficient number of meteorological stations and the limited availability of high-quality climatic data remain among the principal constraints on accurate risk assessment in Georgia. Expanding the network of automatic weather stations, improving data quality, and integrating meteorological information into agricultural insurance systems would substantially enhance risk assessment, loss forecasting, premium calculation, and claims evaluation.

The long-term development of agricultural insurance also requires an appropriate balance between government support and market-based mechanisms. While public subsidies will continue to play an important role in maintaining the affordability of agricultural insurance, insurance decisions should increasingly rely on objective risk assessment, data-driven analysis, and sound principles of financial sustainability.

Overall, the future development of agricultural insurance in Georgia depends on the establishment of a data-driven, technologically advanced, and risk-oriented insurance system. Such an approach would not only strengthen farmers' financial protection but also improve the resilience of insurance companies and contribute to the long-term sustainable development of Georgia's agricultural sector.

CONCLUSION

The agricultural insurance system in Georgia has achieved considerable progress over the past decade, particularly following the introduction of the state-subsidized agricultural insurance program in 2014. The program has strengthened farmers' financial protection, contributed to agricultural risk management, and increased the role of agricultural insurance within the country's agricultural policy. Nevertheless, the findings of this study indicate that the system remains at a developmental stage and continues to face several significant structural challenges.

The study identifies low insurance penetration as one of the principal obstacles to the sustainable development of agricultural insurance in Georgia. Despite government support, the proportion of insured agricultural land remains relatively small compared with the country's total productive agricultural area, limiting portfolio diversification and reducing the financial resilience of the insurance system. Low insurance penetration also indicates that participation is concentrated primarily among high-risk farmers, thereby intensifying the problem of adverse selection.

The research further demonstrates that the regional distribution of insured agricultural land is highly uneven, with insurance activity concentrated mainly in areas exposed to elevated natural hazards, particularly hail and other hydrometeorological events. These findings emphasize the necessity of incorporating spatial risk differentiation into agricultural insurance pricing, as uniform approaches cannot adequately reflect the substantial variation in regional risk levels.

The study also highlights the critical importance of strengthening meteorological infrastructure. The limited number of weather stations and the insufficient availability of reliable climatic data reduce the accuracy of risk assessment, hinder fair premium determination, and complicate objective claims evaluation. Consequently, improving the collection, quality, and integration of meteorological information should become a strategic priority for the further development of agricultural insurance.

Finally, the study concludes that the future development of agricultural insurance in Georgia depends on the implementation of risk-based premium rating, broader application of econometric and actuarial models, expansion of insurance coverage, modernization of meteorological infrastructure, and effective integration of government support with market-oriented insurance mechanisms. Together, these measures will contribute to a more balanced insurance portfolio, stronger financial sustainability of insurance providers, enhanced protection for farmers, and the long-term resilience of Georgia's agricultural sector.

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