Climatic Extremes and Pastoral Vulnerability: The Impact of *Dzud* on Household Livestock in Mongolia

5 May 2026 • 10:00–11:00 a.m. Manila Time (GMT+8) • Hybrid: KHub/MS Teams

The knowledge sharing session presented the impacts of *dzud*, a type of severe winter disasters where snow, ice, and cold block livestock access to forage and water, causing mass animal deaths and major social and economic impacts. Affected DMCs include Mongolia, China's Inner Mongolia Autonomous Region and parts of Central Asia (particularly Kazakhstan and the Kyrgyz Republic). The session presented findings from a study combining high resolution climate data with nationally representative household surveys. The research examined how different types of *dzud*, such as black, white, and ice, affect livestock ownership and herd sizes, with particular attention to vulnerable groups such as female headed, low income, and small herd households. The discussion underscored that *dzud* types have distinct impacts, requiring response measures that are tailored to the specific hazard profile rather than one size fits all approaches.

> "Since *dzud* is becoming more frequent, investments in *dzud* resilience could be more economically viable."
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SPEAKERS

WELCOME REMARKS
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KEY MESSAGES

- The negative impacts of *dzud* on pastoral livelihoods in Mongolia are well documented, but **this study provides new evidence by distinguishing between specific types of *dzud* and quantifying their differentiated effects on households**. By separately identifying ice, white, and black *dzud* using high resolution climate data aligned with Mongolia's official classification system, the analysis shows that *dzud* types do not affect households uniformly. Ice *dzud* sharply reduces the probability of livestock ownership, pushing some households out of herding entirely, while white *dzud* primarily reduces herd size among those who continue to own livestock.
- The discussion underscored that ***dzud* types have distinct impacts**, requiring response measures that are tailored to the specific hazard profile rather than one size fits all approaches.
- Discussions highlighted the importance of evidence based, multi layered resilience solutions spanning household, community, and government levels, as well as the role of early warning systems, social protection, and adaptive pastoral practices. As *dzud* becomes more frequent and severe, **investments in *dzud* resilience are becoming increasingly economically viable**.
- The session underscored **how the findings can inform ADB's sector operations and investments** to strengthen climate resilience in Mongolia and other *dzud* affected regions.
- The session also emphasized **Mongolia's strategic positioning as host of COP17 of the United Nations Convention to Combat Desertification in August 2026**, coinciding with the International Year of Rangelands and Pastoralists, underscoring the global relevance of strengthening resilience in pastoral systems.

> **"A well-grounded, practice-anchored session with clear, data-driven insights. The household-level disaggregation of dzud impacts highlights often-overlooked vulnerabilities, offering valuable guidance for more targeted, evidence-based policies that could effectively strengthen resilience across diverse pastoral communities."**
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> **MARY JANE ALVAREZ**
> Climate Change Officer, CCSE, CCSD