DETERMINING THE VALUE OF CASH TRANSFERS AND THE TARGET RECIPIENTS OF HUMANITARIAN SUPPORT IN TIMES OF DZUD CRISIS

"CASHEVAL" PROJECT

ULAANBAATAR
2023

People in Need (PIN) is a non-governmental, non-profit organization committed to helping people combat poverty, overcome disaster, and support them to recover. Its values are founded on humanism, freedom, equality, and solidarity.

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List of acronyms and abbreviations

AHA	Anticipatory Humanitarian Action
CRED	Centre for Research on the Epidemiology of Disasters
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross domestic product
ICRC	International Committee of the Red Cross
IFRC	International Federation of Red Cross and Red Crescent Societies
IMF	International Monetary Fund
INGO	International non-governmental organization
MRCS	Mongolian Red Cross Society
NEMA	National Emergency Management Agency Mongolia
NSO	National Statistics Office of Mongolia
PIK	Potsdam Institute for Climate Impact Research
PIN	People in Need
SFU	Sheep forage unit
TTV	Targeting and transfer value
UNICEF	United Nations Children's Fund
UNDRR	UN Office for Disaster Risk Reduction (formerly UNISDR)

Introduction

Rural Mongolia has traditionally been marked by pastoralist livelihoods, where livestock herding is the principal means of sustenance. However, this pastoralist way of life has become increasingly threatened in recent decades. Successions of dry summers and devastating winters, known as *dzud*, have led to heightened livestock mortality, threatening the economic stability of rural families. *Dzuds* are likely to occur more frequently with greater intensity due to climate change, leading to increasing challenges. When extreme weather conditions meet vulnerable households, they can cause humanitarian disasters.

Anticipatory humanitarian action is one novel concept in humanitarian disaster assistance to address these challenges. This approach involves using meteorological data to predict the risk of weather disasters. When these predictions indicate a significant risk, funds are automatically allocated for swift measures to protect vulnerable households. The early distribution is intended to make anticipatory humanitarian action aid effective and cost-efficient, as recipient households take (preventive) measures before a disaster intensifies. Ultimately, such proactive programs aim to minimize physical damages and the economic strains disasters can bring.

Between 2021 and 2023, PIK and PIN implemented a new research project to understand how pastoralist households can be best supported to cope with *dzud* winters. The project (hereinafter referred to as the *CashEval* project) was generously funded by the German Federal Foreign Office and implemented with the support of the NSO Mongolia. Specifically, the CashEval project aims to generate new knowledge about the potential of anticipatory cash transfers as a humanitarian aid tool to mitigate the risk that pastoralist households encounter due to extreme weather conditions.

Anchoring this project's mission, PIK conducted a rigorous impact evaluation of a cash transfer distribution implemented by PIN in March 2021. Furthermore, the CashEval project seeks to generate positive external effects by leveraging the insights from the evaluation study to issue clear, concise, and applicable guidance for organizations providing cash aid in extreme weather events.

For this purpose, the CashEval project created a tool explicitly designed to identify recipients of humanitarian cash assistance and determine the appropriate aid amounts. This targeting and transfer value (TTV) seeks to determine for which group of households anticipatory cash assistance is most effective in reducing property damage caused by *dzud* events. Furthermore, it addresses additional goals of cash transfers, such as their effectiveness in enabling households to maintain an appropriate level of food consumption and safeguard the health of household members.

The TTV tool presented in this report draws on the results of the scientific impact evaluation study conducted as part of the CashEval project. The findings of this evaluation study were then verified by triangulating data from key informant interviews and discussions with specialists and experts from foreign and domestic organizations operating in Mongolia in the field of humanitarian aid.

The report's first chapter provides background information on the climate conditions in Mongolia, its rural populations, and their livestock. Chapter two provides an overview of previous research on the subject matter. The third chapter presents the results of our empirical research in addition to our conclusions and recommends criteria that can be used to identify vulnerable households.

1. CLIMATE CONDITIONS IN MONGOLIA AND THE CIRCUMSTANCES PERTINENT TO THE RURAL POPULATION AND ANIMAL HUSBANDRY

1.1. Climate conditions in Mongolia

Since the outset of the twentieth century, the world's average temperature has witnessed a significant rise, which further increased in the past 30-40 years at a rate unprecedented in the last twenty thousand years (Acevedo et al. 2020). The threats from global disasters due to climate change and losses increase yearly, adversely affecting the social and economic development of countries and the livelihood of their populations.

In Mongolia, the mean air temperature has risen by 2.25 degrees over the last eight decades, a rate of 2-3 times the global average (Ministry of Environment and Tourism 2017). Mongolia is one of the high-risk countries that are susceptible to the effects of climate change and that have a fragile socio-ecological system. Reasons for this include Mongolia's geographic location, vulnerable ecosystem, the lifestyle of its populations, and its economic system. Being one of the 25 countries that are most exposed to global warming and climate change due to its geographical location and continental polar climate, Mongolia faces high levels of aridity, drought, and desertification, resulting from substantial decreases in precipitation during warm seasons (Eckstein et al. 2021).

The frequency and intensity of droughts and dzud, as well as evaporation from surfaces, the number of hot days, and dryness, increase due to climate change, combined with a tendency of desertification and deterioration of the grassland ecosystem (Ministry of Environment and Tourism 2020). These, in turn, lead to higher livestock losses, the deteriorated livelihood of pastoralists, rural poverty, and rising urban migration (Myagmarsuren and Galtbayar 2021; Roeckert and Kraehnert 2022).

To combat the challenges, the "Mid-Term Strategy to Implement the Sendai Framework for Action on Disaster Risk Reduction in Mongolia" was approved in 2017.[1] The strategy aims for disaster resilience by reducing vulnerabilities and enhancing recovery mechanisms. Other disaster mitigation plans have been instituted in the capital city, aimags (provinces), and soums (districts) in conformity with the Disaster Protection Act.

1.2. Rural population

Figure 1 shows historical population dynamics in Mongolia starting with the year 1966. In 1966, Mongolia's total population reached 1.1 million, an increase of 30.6% compared to 1956. By 2021, the country's population reached 3.4 million, a 9.3% growth compared to 2016. Although the total population increased from 1966 to 2021, the aggregate population growth percentage declined in each but one decade.

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[1] Mid-Term Strategy to Implement the Sendai Framework for Action on Disaster Risk Reduction in Mongolia. Government Resolution No. 355 dated 2017, Ulaanbaatar.

Figure 1. Total population and the ratio of people living in urban and rural areas
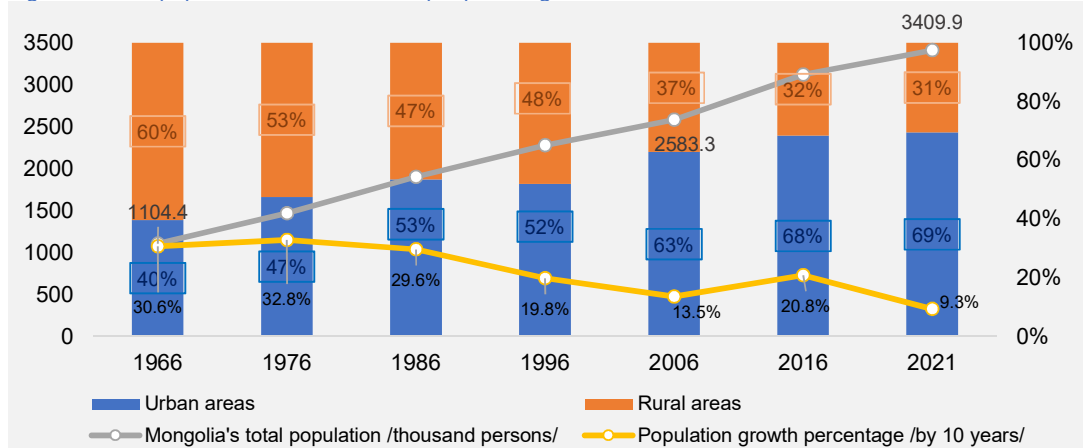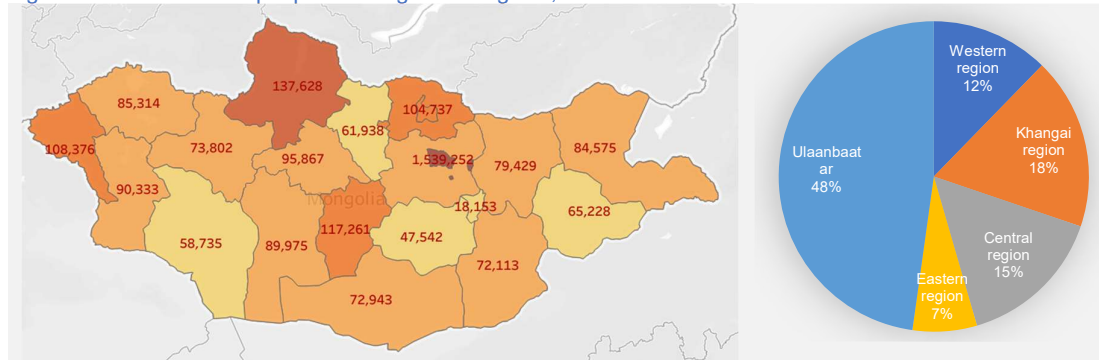
Source: NSO

In 1966, 60% of the total population resided in rural areas and 40% in urban areas. By 1996, this ratio had nearly reversed. As of 2021, about 1.1 million out of the total population of 3.4 million reside in rural areas, and the remaining 2.3 million live in urban areas. Urbanization led to positive effects such as an extended labor pool, heightened productivity, capital concentration, lower production costs, and knowledge spillovers. However, it also created new social, economic, and environmental challenges, including traffic jams, insufficient access to schools and kindergartens, unemployment, poverty, inequality, and environmental pollution. Consequently, the Government of Mongolia promotes several long- and medium-term decentralization policies, supporting rural development and encouraging the return and migration to rural areas, incorporating such policies in its action plans and implementing them accordingly.

Figure 2 displays the number of people residing in the rural regions and their share of the total population. As of 2021, 48% of the total population lives in Ulaanbaatar, 18% in the Khangai region, 15% in the Central region, 12% in the Western region, and the remaining 7% live in the Eastern region. The most populated provinces are Ulaanbaatar, followed by Khuvsgul, Uvurkhangai, Selenge, Darkhan-Uul, and Orkhon. Bayankhongor, Dundgobi, Bulgan, and Sukhbaatar provinces have a relatively small population.

Figure 2. The number of people residing in the regions, 2021

Source: NSO

According to the results of a study conducted by the Ministry of Education and Science and the United Nations Children's Fund in 2019, decisions to migrate are influenced by multiple factors (Ministry of Education and Science & UNICEF 2019). However, one of the predominant reasons that can be identified is that animal husbandry does not guarantee sufficient income. Particularly, there is a rising shortage of fodder, pasture, and water for livestock due to excessive heat in the summer caused by climate change and severe weather conditions in the winter. These result in decreased yields in the agricultural sector and reduced income of individuals working in that sector, adversely impacting health, education, and the larger economy.

1.3.   Animal husbandry

Being dependent on climate conditions for one's livelihood can lead to a high risk of exposure to potential consequences of natural disasters (Pörtner et al. 2022). In Mongolia, the increased frequencies of *dzud* and droughts pose a significant challenge for those working in the agricultural sector, especially the rural people, of which more than 30 percent are poor (Gimenez et al. 2015). Due to the deterioration of pastureland, high stocking densities, and the increased number of extremely hot days, the livestock herds often cannot grow to their usual weight and strength during the summer and autumn periods, walking into the winter relatively malnourished, thereby having less ability to withstand *dzud* conditions.

Table 1 presents the livestock population dynamics in Mongolia. 2016 and 2017 saw the highest growth in livestock head counts. However, 2020 experienced a 5.5% decline due to various factors, including the late arrival of the summer, exceeded grazing capacities, and increased unemployment due to the COVID-19 global pandemic, which might have propelled some households to sell livestock to recoup lost income.

As of 2022, 71.1 million livestock were counted in Mongolia, of which 32.7 million (46%) were sheep and 27.6 million (38.8%) were goats. Sheep and goats accounted for 84.8% of the total livestock, while cows for 7.8%, horses for 6.8% and camels for 0.7%.

Table 1. Total head counts of livestock in the country /thousand/

Малын төрөл	Measurement	2016	2017	2018	2019	2020	2021	2022
Total	Number /thousand/	**61549.2**	**66219.0**	**66460.2**	**70969.3**	**67068.5**	**67343.8**	**71120.4**
	Change, %	**9.9%**	**7.6%**	**0.4%**	**6.8%**	**-5.5%**	**0.4%**	**5.6%**
Horses	Number /thousand/	3635.5	3939.8	3940.1	4214.8	4093.9	4324.4	4821.0
	Change, %	10.3%	8.4%	0.0%	7.0%	-2.9%	5.6%	11.5%
Cows	Number /thousand/	4080.9	4388.5	4380.9	4753.2	4732.0	5022.2	5512.8
	Change, %	7.9%	7.5%	-0.2%	8.5%	-0.4%	6.1%	9.8%
Camels	Number /thousand/	401.3	434.1	459.7	472.4	472.9	454.0	470.5
	Change, %	9.0%	8.2%	5.9%	2.8%	0.1%	-4.0%	3.6%
Sheep	Number /thousand/	27856.6	30109.9	30554.8	32267.3	30049.4	31087.0	32747.2
	Change, %	11.7%	8.1%	1.5%	5.6%	-6.9%	3.5%	5.3%
Goats	Number /thousand/	25574.9	27346.7	27124.7	29261.7	27720.3	26456.1	27569.0
	Change, %	8.4%	6.9%	-0.8%	7.9%	-5.3%	-4.6%	4.2%

Source: NSO

2. REVIEW OF LITERATURE

2.1. The effect of weather shocks in Mongolia

The livestock industry is significant in Mongolia, contributing to approximately 90% of agricultural production. It engages one in every four Mongolians, effectively ensuring that most livelihoods in Mongolia's rural community are, to a certain degree, dependent on shared weather shocks (IMF 2019).

From 2000-2019, Mongolia ranked among the top five nations most affected by disasters on a per capita basis (CRED & UNDRR 2020) and ranked second among countries incurring the highest economic losses due to a single type of disaster, with 31.8% of its GDP at risk between 1995-2015 (CRED & UNDRR 2015).

The socioeconomic impact of extreme winter events on communities is profound and far-reaching. Recent studies have illuminated the diverse challenges these events present. According to Groppo & Kraehnert (2016), exposure to *dzud* winters has a direct negative effect on child health. Moreover, such extreme winters have been identified as barriers to educational progression, as highlighted by Groppo & Kraehnert (2017). On a broader scale, individuals' overall life satisfaction levels diminish following these events (Fluhrer & Kraehnert 2022). Furthermore, these climatic shocks are triggering a notable shift in livelihoods, with many individuals abandoning pastoralism and resorting to distress out-migration from affected areas, as documented by Roeckert & Kraehnert (2022).

2.2. Anticipatory Humanitarian Assistance to help pastoralist households

Anticipatory Humanitarian Action (AHA) is a novel instrument in humanitarian assistance that utilizes meteorological forecasts to anticipate weather-related disasters. Financial resources are promptly allocated upon reaching a specified risk threshold, activating predetermined responses to support vulnerable households. This proactive approach aims to enhance the efficiency and cost-effectiveness of humanitarian interventions compared to traditional disaster relief. Recipient households are empowered to undertake adaptive measures before an impending disaster's full impact.

In 2022, there were 70 anticipatory humanitarian assistance programs spanning 35 countries. These programs reached over 7.6 million individuals and had a predetermined financial commitment of 138 million USD, as reported by the Anticipation Hub (2022). However, despite the growing interest from the humanitarian community, existing research provides limited empirical evidence on the actual benefits these AHA programs deliver to the households they serve (Weingärtner & Wilkinson 2019).

In 2015, the Mongolian Government established an early warning system by defining region-specific thresholds to determine when local winter should be classified as extreme. Drawing on these definitions, NEMA provides a district-level risk classification at the start of each winter, informing aid allocation by the Government and international humanitarian aid organizations (Mogge et al. 2023). In the 2017/18 extreme winter, risk projections triggered anticipatory humanitarian assistance in Mongolia, making the country one of the global pioneers in anticipatory humanitarian assistance (IFRC 2020). Since then, several international humanitarian aid organizations have implemented anticipatory assistance projects to support

the pastoralist households affected by the *dzud* (e.g., MRCS, FAO, Save the Children, World Vision, and the Start Network). Each of those projects strives to reach and target the most vulnerable households with limited funding and project scopes. During the intervening period, national and international humanitarian actors use targeting criteria based on the organizations' program scope, objectives, and funding limitations. The selection criteria employed by these organizations can differ, often revolving around general factors like household demographics and the number of livestock owned.

There is a pressing need for more precise and evidence-backed tools for establishing criteria to determine which pastoralist households need assistance during *dzud*. The majority of impact assessments for AHA have been undertaken by the entities that implemented them, such as FAO (2018), Gros et al. (2019, 2022), Jjemba et al. (2018), Start Network (2020), and Tanner et al. (2019). Three evaluations, namely those by Gros et al. (2019) and Pople et al. (2021), focusing on Bangladesh, and Gros et al. (2022), centered on Mongolia, have employed quasi-experimental techniques to analyze the efficacy of anticipatory humanitarian assistance programs.

The study on Mongolia by Gros et al. (2022) observes that an anticipatory humanitarian assistance intervention in Mongolia increased the offspring survival rates of sheep and goats and lowered the mortality rates of horses. The studied intervention (implemented by MRCS during the 2017–18 *dzud*) was strategically directed at the most susceptible pastoralist households across 40 districts that presented the highest anticipated risk. Control households were drawn from identical districts but demonstrated lesser vulnerability before the intervention. Analytically, such a disparity between the control and treatment groups raises potential concerns regarding potential biases stemming from differing household vulnerabilities.

The empirical study conducted as part of the CashEval project overcomes this problem by building on a larger sample and adopting a randomization approach across a representative population instead of pre-selecting households based on vulnerability characteristics.

3. FINDINGS OF THE EMPIRICAL RESEARCH

3.1. Scope and purpose of the research

The transfer and targeting tool presented in this report aims (i) to support the identification of target recipients, i.e., households in need of humanitarian assistance in times of potential *dzud* risk, and (ii) to develop methods and tools for determining the amount of cash assistance to be provided. The starting point in developing this tool was the formulation of the following three key questions:

1. Which households are most at risk during *dzud*, and what socioeconomic characteristics make them more susceptible?
2. Can cash assistance enhance households' resilience to risks posed by *dzud*?
3. What is the requisite minimum cash assistance that can measurably mitigate risks attributed to *dzud*?

Our approach integrates a review of the rigorous impact evaluation of the CashEval project with insights from expert interviews with pivotal informants pertinent to the execution and efficacy of humanitarian interventions in Mongolia. From these inputs, and by juxtaposing qualitative and quantitative data, we discerned the minimal cash aid required to counteract *dzud*-related risks significantly.

3.2.   Results from the rigorous evaluation study

In the winter of 2020/21, severe winter conditions were projected across Mongolia with the potential to severely impact pastoralist households' livelihoods (see Figure 3). The CashEval project conducted a study to assess whether unconditional anticipatory cash transfers, administered by PIN before the winter, could mitigate the socioeconomic damages these households might suffer.[2]

Figure 3. Risk map for the 2020/21 winter, published January 10, 2021. The survey area of the Coping with Shocks in Mongolia Household Panel Survey is bold-rimmed
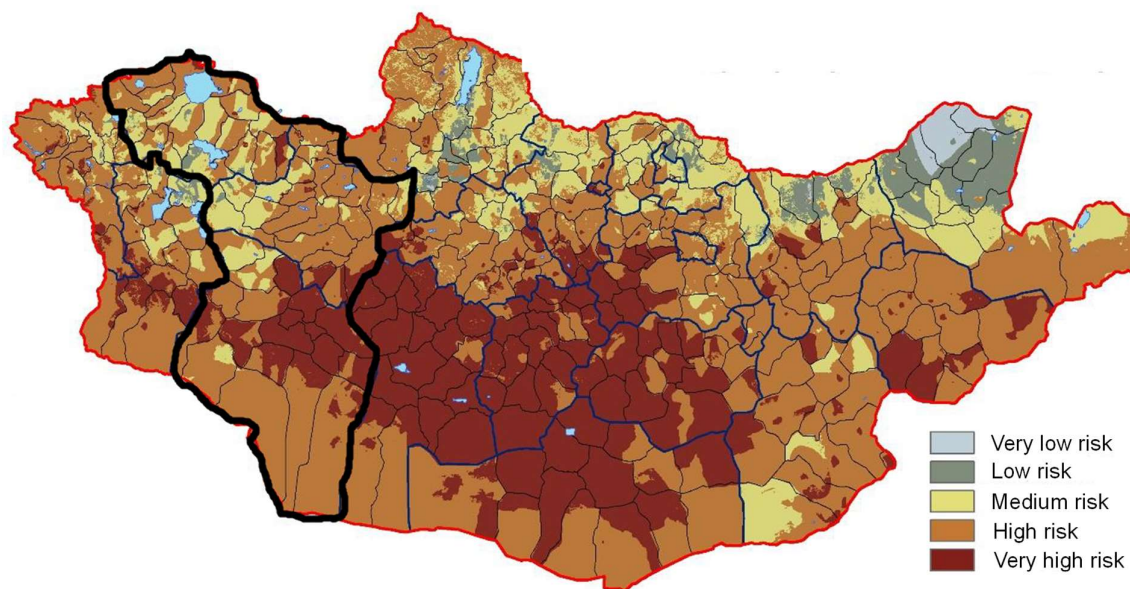
Source: NEMA.

To understand the effects of such interventions, we worked with a sample of households in western Mongolia participating in the long-running "Coping with Shocks in Mongolia Household Panel Survey." The panel survey, which has been ongoing since 2012, is a collaborative effort of the NSO, the German Institute for Economic Research, and the PIK (Kraehnert et al. 2022).

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[2] Cash-based interventions are widely acknowledged as a solution to rising natural calamities. Providing cash aids individuals in protecting their means of livelihood, allowing them to refrain from adopting destructive coping mechanisms (ICRC & IFRC 2007).

The sample is representative of the urban and rural population in each of the three survey provinces as of 2010.

Criteria for households to be selected for the study included:

1. Participation in the "Coping with Shocks in Mongolia" survey.
2. Residency in areas with a heightened risk of severe winter, as indicated by the January 10, 2021, risk map.
3. Livestock ownership, as these households are primarily affected by winter disasters.

Of 925 households that fulfilled these three criteria, 421 were (randomly) selected to receive an unconditional cash grant. In March 2021, PIN and the NSO conducted a short survey among the selected households. 381 of the 421 selected households were located by NSO enumerators and asked to participate in the project. The interviewed households provided information on their bank details, contact numbers, and proximity to the local bank branch. Specifically, data points captured included whether households possess a bank account (which all surveyed households did), the ease with which households could access their local bank branch for withdrawing the transferred funds, potential barriers in reaching the bank, and if any support was needed to access the bank (none of the surveyed households indicated such a need). Through this survey, the program ensured that potential challenges faced by vulnerable groups, especially those lacking transportation means, were identified and could be addressed.

If interviewed households consented to data transfer to PIN (which all households did), they received a cash grant via bank transfer of approximately 200 EUR from PIN in March 2021. The cash assistance equated to approximately 1.7 months of the national minimum wage or four sheep during the intervention. The remaining 504 households, which fulfilled the criteria but were not selected, acted as a control group.

Households both households selected to receive the cash transfer and the control group were interviewed again between June 2021 and May 2022. Data from both groups before and after the cash transfer was compared as part of a rigorous impact evaluation study. In particular, the study conducted by PIK researchers analyzed whether cash assistance affected households' livestock assets, income, investments, and consumption.

The comprehensive analysis yielded the following key takeaways:

- **Overall Impact:** Across the general study population, the authors did not observe any significant differences in livestock assets, income, investments, or consumption between households that received assistance and those that did not.
- **Effects based on Weather Intensity and Wealth:**
  - **Weather Intensity:** The study did not find variations in outcomes based on the severity of the winter conditions.
  - **Pre-Intervention Wealth:** The intervention appeared most beneficial for households with smaller herds. These households showed an increase in herd size, investments, and consumption.

These results hold two important lessons for future targeting of cash transfers during extreme weather events. First, the rigorous evaluation study validates and reinforces the rationale of

targeting based on vulnerability. The results on the overall impact suggest that untargeted transfers have only a limited effect on the well-being of recipient households. On the other hand, the study provided positive and robust effects of cash transfers for households with smaller numbers of livestock. Second, the results thus verify wealth in livestock, which correlates with many other dimensions of household well-being, as an essential indicator for deciding which households to target.

3.3. Results from Key Informant Interviews and TTV Tool Workshop

In addition to the empirical study, 5 key informant interviews were conducted between December 19 and December 22, 2022. These interviews were crucial in gathering insights and data from individuals representing local and international organizations with prior experience in humanitarian and cash assistance programs within the context of *dzud* disaster relief. Expert interviews were conducted with:

- Mr. Kadirbyek: Senior Lecturer at the Mongolian University of Life Science (MULS) and Research team leader of the Mongolian Red Cross Society's Cash Transfer Mapping research.
- Mr. Nyamkhuu: Senior Officer, Climate Change and Disaster Management Department at Mongolian Red Cross Society (MRCS).
- Ms. Ulziimaa: Program Quality Lead (LEGS accredited trainer) at World Vision Mongolia.
- Ms. Delgerzaya: Admin & HR Manager – Interim Humanitarian Lead at Save the Children Japan, Mongolia Office.
- Ms. Jigjidpurev: Technical Advisor (Livestock expert, LEGS accredited trainer) at the UN Food and Agriculture Organization Mongolia Office.

In addition to the key informant interviews, PIN organized a workshop to present and receive feedback on the TTV tool. The workshop took place on April 6, 2023, and included participants from various organizations involved in humanitarian efforts in Mongolia. The attendees represented:

- Mongolian Red Cross Society
- Save the Children Mongolia
- World Vision Mongolia
- UN Resident Coordinator's Office
- UN Food and Agriculture Organization
- Adventist Development & Relief Agency Mongolia

Experts interviewed during December 2022 were invited to this workshop to maintain consistency and gather feedback.

During the workshop, participants discussed potential modifications to the TTV tool's first draft to align it with their organization's specific needs, operations, and missions. One topic of discussion was the adjustment of targeting criteria, particularly concerning the number of recipients and the benchmarking of the Minimum Subsistence Level of the Population (MSLP) when determining cash assistance amounts.

Overall, workshop participants expressed their appreciation for the TTV tool, recognizing its value in the context of cash transfer programs and humanitarian assistance efforts, particularly

for addressing localized crises like the *dzud* disaster. They viewed the tool as an excellent starting point for further research and development, contributing to an improved knowledge base in this specific Mongolian context.

3.4. Determining the value of cash transfers to target households

International and national humanitarian organizations, including the FAO and MRCS, calibrate the value of cash transfers to households using benchmarks like the minimum expenditure basket and the minimum living standard.

The Act on Determining the Minimum Subsistence Level of the Population stipulates that "The relevant Acts of Parliament shall govern the setting of the amount of social insurance and social welfare pensions, allowances, benefits, wages, and compensation and the government's provision of material and cash aid to citizens, applying the minimum subsistence level of the population as a benchmark" (State Great Khural, 1998) In other words, the Mongolian legislative framework acknowledges regional disparities within Mongolia, adapting the minimum subsistence level accordingly.

Furthermore, the Act describes the minimum subsistence level as "the minimum monetary expenditure of the population," where expenditure encompasses both food and non-food essentials to sustain an individual's life. The latter includes clothing for various seasons, housing, basic household and cultural goods, and vital paid services. To ensure nutritional sufficiency, the Food Science Centre under the Ministry of Health quantifies the daily caloric intake aligned with the Mongolian Constitution.

The expenditure basket and the consumer price index are used to determine the minimum subsistence level of the population. The food and non-food expenditure baskets are based on the results of the "Household Socioeconomic Survey" conducted by the NSO. The consumer price index is used after indexing the previous year's minimum subsistence level against the former. The NSO updates the minimum subsistence level every 1-2 years, considering the cost and price growth of regional and local food and non-food products.

Based on the above, using the regionally-adjusted minimum subsistence level as a benchmark is deemed appropriate when setting the amount of cash assistance to target households.

3.5. Minimum amount of cash transfers

In this section, we define the optimal amount of minimum cash transfers for households, which would help them cope with *dzud* risks. In doing so, we used the findings and data from the following analyses:

✓ Results of the analysis made in the previous section as to the impact of cash transfers on reducing livestock mortalities;
✓ The level of livelihood security of the population, which is the primary indicator used by the Government when setting the amount of social welfare, pensions, benefits and allowances granted to households and citizens;
✓ Based on the experiences of the foreign and domestic organizations operating in the humanitarian sector in Mongolia, we have determined the criteria and minimum cash amount to be transferred to households, which would enable them to overcome the risk of *dzud*.

The minimum subsistence level is a significant reference in our calculations (NSO 2021). As of 2021, according to Order No A/02 by the Head of the NSO on January 18, 2021, it stands at approximately 80 EUR or MNT 257,680[3].

Grounded in our findings, we recommend cash transfers tailored to the household size to ensure adequate support against *dzud*-related challenges. The following breaks down our suggestions:

Table 2. Minimum amount of cash transfers

Number of household members	Cash transfer amount
1-3	Minimum subsistence level applicable to the area * 3 person
4	Minimum subsistence level applicable to the area * 4 person
5	Minimum subsistence level applicable to the area * 5 person
6	Minimum subsistence level applicable to the area * 6 person
7	Minimum subsistence level applicable to the area * 7 person

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[3] The nominal exchange rate announced by the Mongolbank on 31 December 2021: 1 euro = 3,221 tugrug

CONCLUSION

The CashEval project, jointly implemented by PIK, PIN, and the NSO with the financial support of the German Federal Foreign Office aims to generate new knowledge on the effectiveness of cash transfers as a humanitarian tool during extreme weather events.

Mongolia is a high-risk, fragile country in terms of its socio-ecological system, owing to factors such as the geographic location, vulnerable ecosystem, lifestyle of its population, specifics of the nomadic-style animal husbandry, and social and economic situations. The country is observed to endure intensive climate changes and more frequent natural disasters, including *dzud* events.

In conjunction with the slow but steady growth of Mongolia's population, the ever-rising rural-to-urban migration now results in almost two-thirds of the population residing in cities and only one-third staying in rural areas. Living in rural areas is increasingly challenging due to the dependence on the environment and climate in times of increasing extreme weather events.

Several international and national humanitarian organizations are implementing projects and programs to support pastoralist households affected by the *dzud*. These organizations target households based on their varying criteria and set the value of cash transfers depending on their programs' scope, purpose, and funding constraints.

With this report, we have aimed to develop the methodology and tools to be followed when granting unconditional cash transfers to households for risk prevention. In determining the amount of cash assistance, we applied the level of livelihood security of the population, which is the basic indicator used by the Government of Mongolia when determining the amount of social welfare, pensions, benefits, and allowances granted to its citizens. Specifically, we recommend that the cash transfer amount is determined in such a way that households with 1-3 family members receive three times the minimum subsistence level prescribed for their residential area, and for households with four or more family members, it is set by multiplying the applicable minimum subsistence level by the number of family members.

PROPOSED CRITERIA AND TOOL

DZUD RISK

#	Degree of Dzud risk	Yes / No
1	Extreme	
2	High	
3	Moderate	
4	Low	
5	Least	

Data source: National Agency Meteorology and the Environmental Monitoring

HOUSEHOLD CHARACTERISTICS

#	Indicator	Value
1	Household type	
2	Household size	

> Get information on "Dzud risk mapping" from the "National Agency Meteorology and the Environmental Monitoring" and select "Yes" or "No" in the box with a gray background.

> Get relevant information from the "Household Registration Book" registered by the Bagh Governor and fill in the boxes with a grey background.

HOUSEHOLD INCOME

Poverty Line, 2020: The average income per capita, monthly, by MNT	184,747.0

Data Source: NSO

#	Indicators	Value in MNT
1	Salary or wage	
2	Interest Income	
3	Rental Income	
4	Dividend	
5	Various donations and grants	
6	Income from the sale of agricultural products	

Data source: Recipient Targeting Questionnaire

#	Indicators	Value
1	Number of income sources except for the sale of agri.products, donations, and grants*	2
2	Household total monthly income, by MNT	350,000.0
3	Average income per capita, by MNT	116,666.7

Source: Calculation from data of the recipient targeting questionnaire

Mark: * Represents the number of types of income other than social welfare pensions, benefits, various donations, aid, and income from the sale of livestock products.

> Enter the poverty line information published by NSO manually.

> Get survey/information through "Recipient targeting questionnaire" and fill in the boxes with a grey background

> The results of the research obtained from the households through the "Recipient targeting questionnaire" will be calculated in EXCEL, and the values written in orange colour will be obtained as an example.

HOUSEHOLD ASSET		
#	Asset	Own - "1", Don't own - "0".
1	Dwelling	
2	Land for livestock	
3	Farming land (planting purposes)	
4	Truck	
5	Tractor	
6	Passenger car	
7	Motorbike	
8	Trailer	
9	Electrical and communication equipment	
	Total	6

Data source: Recipient Targeting Questionnaire

CALCULATION OF ASSET INDEX	
Asset Index	0.67

Get survey/information through "Recipient targeting questionnaire" and fill in the boxes with a grey background.

The results of the research obtained from the households through the "Recipient targeting questionnaire" will be calculated in EXCEL, and the values written in orange colour will be obtained as an example.

HOUSEHOLD LIVESTOCK		
#	Livestock type	Number of heads	Sheep forage/head unit
1	Cattle		60.0
2	Horse		56.0
3	Camel		0.0
4	Sheep		30.0
5	Goat		13.5
	НИЙТ	63	159.5

Data source: Recipient Targeting Questionnaire

		Transfer coefficient for sheep forage unit:
		1 cattle - 6 sheep
		1 horse - 7 sheep
		1 camel - 5 sheep
		1 sheep - 1 sheep
		1 goat - 0.9 sheep

Source: NSO, (2021), "Instruction for completing an inventory for livestock, feed animals, animal fences, and wells"

Get survey/information through "Recipient targeting questionnaire" and fill in the boxes with a grey background.

The results of the research obtained from the households through the "Recipient targeting questionnaire" will be calculated in EXCEL, and the values written in orange colour will be obtained as an example.

The formula for the calculation contains the coefficient of transfer to the sheep head unit (SFU).

ESSENTIAL NECESSITY OF HOUSEHOLD FOOD INTAKE				
The sample mean of food expenditure per person monthly, MNT				100,000.0
Data Source: Recipient Targeting Questionnaire				
Products	Unit	Quantity per month	Unit price (MNT)	Total expenditure monthly (MNT)
Flour	kg			28,000.0
Item 2				-
Item 3				-
Item 4				-
Item 5				-
Item 6				-
Item 7				-
Item 8				-
Item 9				-
Item 10				-
Total food expenditure per month, MNT				28,000.0
Food expenditure per capita monthly, MNT				9,333.3
Data Source: Recipient Targeting Questionnaire				

Find out the average value of monthly food expenses per person of the participating households from the "Recipient Targeting Questionnaire" and enter it manually.

Get survey/information through "Recipient targeting questionnaire" and fill in the boxes with a grey background.

The results of the research obtained from the households through the "Recipient targeting questionnaire" will be calculated in EXCEL, and the values written in orange colour will be obtained as an example.

HOUSEHOLD HEALTH AND EDUCATION		
#	Indicators	Value
1	Someone of the family members could not get medical / health services when needed.	
2	The educational level of the household head/main earner	
3	A number of children aged 6–14 do not attend school	
Data source: Recipient Targeting Questionnaire		

Get survey/information through "Recipient targeting questionnaire" and fill in the boxes with a grey background.

		RECIPIENT TARGETING TOOLKIT		
#	Mandatory Criteria	Threshold	"1" if threshold met, "0" otherwise.	Data Source
M-1	Dzud Risk	Extreme or High Risk	1	National Agency Meteorology and the Enviromental Monitoring (NAMEM)
M-2	Household	Nomadic Herder	1	Bag Governer's Office
		TOTAL	2	

In EXCEL, when you fill out the sheet called "Mandatory criteria", the formula will work, and here, as an example, the values written in orange will be displayed.

#	Specific Criteria	Threshold	"1" if threshold met, "0" otherwise.	Data Source
S-1	Average income per capita	... below poverty line.	1	Recipient Targeting Questionnaire, NSO
S-2	Number of income sources	… less than two sources / only herder.	1	Recipient Targeting Questionnaire
S-3	Asset (land, farming land, car, truck, mbike, bike) ownership index	… less than 0.67 or the sample mean.	1	Recipient Targeting Questionnaire
S-4	Livestock ownership	… less than 500SFU.	1	Recipient Targeting Questionnaire
S-5	Food security	… monthly food cost per person less than the sample mean.	1	Recipient Targeting Questionnaire
S-6	Access to health center	… no household member uses the health clinic or hospital.	0	Recipient Targeting Questionnaire
S-7	Educational level of household head/main earner	… educational level of the household head is less than secondary.	1	Recipient Targeting Questionnaire
S-8	Regular school attendance by school-aged children	… a child aged 6–14 does not attend school.	0	Bag Governer's Office, or Recipient Targeting Questionnaire
		TOTAL	6	

In EXCEL, when you fill in the sheets named "Income", "Assets", "Livestock", "Food", "Health & Education", the formula will work, and here, as an example, the values written in orange will be formulated.

		RECIPIENT SELECTION		
#	Criteria	Threshold	"Yes" if threshold met, "No" otherwise.	Comments
1	The sum of "Mandatory Criteria"…	… must be exactly 2.	Yes	If both of these criteria are "YES" simultaneously, the household should be selected as a beneficiary.
2	The sum of "Specific Criteria"…	… must be more than 3.	Yes	

When the "Mandatory criteria" and "Special criteria" shown on this page are fully formulated/considered according to the calculation, the values written here as an example, in orange, will appear, and the target household will be ready to be selected.

TOOLKIT FOR CALCULATING THE VALUE OF THE TRANSFER		
MINIMUM SUBSISTENCE LEVEL OF POPULATION BY REGION		
Region, Aimag		**Per capita, by MNT, 2022-2023**
West Region	1. Bayan-Ulgii 2. Gobi-Altai 3. Zavkhan 4. Uvs 5. Khovd	238,800.00
Khangai Region	1. Arkhangai 2. Bayankhongor 3. Bulgan 4. Uvurkhangai 5. Khuvsgul 6. Orkhon	240,400.00
Central Region	1. Gobisumber 2. Dornogobi 3. Dundgobi 4. Umnugovi 5. Selenge 6. Tuv 7. Darkhan-Uul	239,200.00
East Region	1. Dornod 2. Sukhbaatar 3. Khentii	236,400.00
Ulaanbaatar	1. Ulaanbaatar	277,800.00

Data source: Order A/11 of the head of the National Statistics Office dated January 31, 2022, "On setting the minimum subsistence of living of the population in 2022, https://legalinfo.mn/mn/detail?lawId=16390266399741

> The corresponding values of the minimum subsistence of living of the population determined by the NSO, depending on the region and province, shall be manually entered in the given year.

#	Indicators	Value
1	**Name of the region where the household resides**	West Region
2	**Minimum subsistence level, per capita, by MNT, 2022-2023**	238,800.00
3	**The value of the transfer per capita, by MNT, 2022-2023**	238,800.00
4	**The value of the transfer to the household, by MNT, 2022-2023**	716,400.00
5	**Exchange rate, MNT/EURO**	3758.6
6	**The value of the transfer to the household, by EURO, 2022-2023**	190.60

> Select and enter the name of the region where the household lives.

> The results of the research obtained from the households through the "Recipient Targeting Questionnaire" will be calculated in EXCEL, and the values written in orange color will be obtained/displayed as an example.

> Manually enter the official exchange rate of the Bank of Mongolia or the project implementing organization.

> **Depending on the social and economic status of the family and the climate of the locality where they live, the minimum amount of transfer required to be given to each family will be determined.**

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ANNEX

Minimum subsistence level of the population, by region

Province, city		Income per capita, in MNT, 2022-2023
Western region	1. Bayan-Ulgii 2. Govi-Altai 3. Zavkhan 4. Uvs 5. Khovd	238,800.00
Khangai region	1. Arkhangai 2. Bayankhongor 3. Bulgan 4. Uvurkhangai 5. Khuvsgul 6. Orkhon	240,400.00
Central region	1. Govisumber 2. Dornogovi 3. Dundgovi 4. Umnugovi 5. Selenge 6. Tuv 7. Darkhan-Uul	239,200.00
Eastern region	1. Dornod 2. Sukhbaatar 3. Khentii	236,400.00
Ulaanbaatar	1. Ulaanbaatar	277,800.00

Source: Order A/11 of the Head of the National Statistics Office dated January 31, 2022, "On setting the minimum subsistence level of the population in 2022", https://legalinfo.mn/mn/detail?lawId=16390266399741