Funded by
European Union
Civil Protection
and Humanitarian Aid

Mongolia Household Economy Assessment (HEA) Baseline Profiles for Sukhbaatar Steppe and Arkhangai High Mountain Livestock Livelihood Zones and Mongolia Scenario Analysis for 2017-18 and 2018-19

Ulaanbaatar, 2018

Funded by
European Union
Civil Protection
and Humanitarian Aid

Mongolia Household Economy Assessment (HEA) Baseline Profiles for Sukhbaatar Steppe and Arkhangai High Mountain Livestock Livelihood Zones and Mongolia Scenario Analysis for 2017-18 and 2018-19

Ulaanbaatar, 2018

This research was funded by the European Union Civil Protection and Humanitarian Aid (ECHO) under the "Leveraging Technology and Tradition for Resilience in Rural Mongolia" (LTT4R) project. The project is led by the INGO People in Need in consortium with the INGO Mercy Corps.

The research in this study was commissioned by People in Need.

This report was prepared by Alexandra King of the Food Economy Group (FEG). The research and analysis presented in this study were led by the FEG and conducted by Alexandra King and Ria Lewis who are also the authors of the information presented. Alexandra King also facilitated the Outcome Analysis.

Special thanks to the field teams who conducted this research. The teams included the following members:

Ganchimeg Baasanjav (People in Need)
Erdenebileg Ulgiit (Mercy Corps)
Tumenbayar Purev
Delgermaa Gendendorj
Bolormaa Odonchimeg

In addition to the research team above, Bilguun Batsukh (Mercy Corps) was present for the Outcome Analysis.

Thanks are also due to Marc Tasse, Country Director of People in Need who organized the research in country. All photographs in this report are credited to Laurel Hanson, Ganchimeg Baasanjav, Orgil Munkhbayar (People in Need) and Règis Defurnaux a documentary photographer working on rural transition in Mongolia. The photos taken by Règis are part of a project called "like butterflies in winter". Final edits were compiled by Ganchimeg Baasanjav and Laurel Hanson (People in Need).

This publication is funded by the European Commission Humanitarian Aid and Civil Protection department (ECHO). The views expressed in this document do not reflect in any way the official opinion of the European Commission and of the European Union, and they are not responsible for any use that may be made of the information it contains.

Funded by
European Union
Civil Protection
and Humanitarian Aid

Table of Contents

Lists of Tables and Figures

List of Tables

List of Figures

Summary

This report presents the results of HEA (household economy analysis) baselines conducted in October-November 2017 and an HEA outcome analysis (OA) desk-based exercise conducted in January 2018 for two livelihood zones in two provinces of Mongolia. This work was carried out for People in Need (PIN) in order to gain up-to-date and in depth understanding of the livelihoods and means of survival for different wealth groups in the communitieswhere PIN and Mercy Corps work and the seasonality of livelihoods strategies.

This report contains three sections. The first two sections contain the HEA baseline results for two livelihood zones. These two tables provide a summary of the information in the HEA baselines:

<table>
<tr><th colspan="3">Zone 01: Arkhangai High Mountain Livestock Livelihood Zone</th></tr>
<tr><td>Livestock</td><td>Yaks
Horses
Goats
Sheep
Cashmere
Wool
Yak milk
Meat from own livestock
Gifts of meat
Livestock-related casual labour</td><td rowspan="2">The Arkhangai High Mountain Livestock Livelihood Zone is found in the western part of Arkhangai Province. It is a sub-Arctic climatic zone that falls along the Khangai mountain range in western Mongolia. It is a semi-arid steppe-forest area covered by hills and undulating plains.

The local economy in this livelihood zone revolves around livestock and livestock production. Yaks, horses, goats, and sheep are the primary livestock. Live animal sales and their products – including milk, curd, ghee, yoghurt, airag (fermented mare's milk), cashmere and wool – form the backbone of the local economy. Yaks and horses are the most valuable livestock types in terms of live animal sales and cashmere from goats is the most valuable livestock product. Herders receive a subsidy from the government for sheep wool production, which encourages them to produce what is otherwise not a particularly remunerative product.

All wealth groups are dependent on livestock and livestock product sales for at least one third of their total income. Poorer groups supplement their livestock-based income with casual labour from herding and shearing, selling wild foods, and charcoal production.</td></tr>
<tr><td>Other income sources</td><td>Government social support
Loans</td></tr>
</table>

Table 1: Zone 01 HEA Baseline Information Summary

<table>
<tr><th colspan="3">Zone 02: Sukhbaatar Steppe Livestock Livelihood Zone</th></tr>
<tr><td>Livestock</td><td>Cattle
Horses
Goats
Sheep
Cashmere
Wool
Cattle milk
Meat from own livestock
Livestock-related casual labour</td><td rowspan="2">The Sukhbaatar Steppe Livestock Livelihood Zone is found in rural areas of Sukhbaatar Province in the eastern plains of Mongolia. It is a semi-arid zone with a dry climate and extensive flat, open grasslands.The population of the livelihood zone is made up of nomadic herders.

Livelihoods are based around livestock and the herders in this zone keep sheep, goats, cattle, horses and a small number of camels. The zone is known for horse rearing and racing and people from all over Mongolia purchase horses from Sukhbaatar. Livestock free graze or browse on communally-held land throughout the year.

All livestock types are sold. The main livestock product sold is high quality cashmere from Bayan-delger red breed goats. Wool from sheep and hide sales are secondary livestock products. Milk and milk products from cattle are consumed within the households, but are not sold. Other livestock types are typically not milked.

Livestock are mainly sold in summer and autumn when body condition is at its best, demand is high, and herders need cash for major annual expenditures. Cashmere is harvested and sold in March-April and wool in July-August. There is little income from livestock during the winter months. Poorer households supplement their income from livestock with income from labour, mainly herding and shearing for better off households.</td></tr>
<tr><td>Other income sources</td><td>Government social support
Loans</td></tr>
</table>

Table 2: Zone 02 HEA Baseline Information Summary

The third section of this report contains the results of the outcome analysis. The OA scenarios were produced as part of an OA training, which included training and analysis sessions. The main objective was to use HEA outcome analysis to project the household economy situation during the 2017-18 and 2018-19 years in two livelihood zones and to provide evidence to inform policy and programming in response to immediate needs and the longer-term development of sustainable livelihoods.

The period or consumption year covered by the current analysis is June 2017 to May 2018 (the current year) and June 2018 to May 2019 (next year). Official monitoring data on livestock production and prices was available and used for the definition of the current year problem. Each element of the scenarios analysed is clearly outlined in the report below and can be monitored and revised in future as additional information becomes available.

The main factor affecting the current consumption year is a *dzud,* which is a slow-onset natural event characterized by summer drought, then bitter cold, deep snow and arctic wind during the winter, resulting in livestock deaths. In Sukhbaatar, this is combined with an outbreak of foot-and-mouth disease, which has resulted in quarantine and restricted livestock sales in 2017.

Two years have been analysed separately: 1) the current year (June 2017 to May 2018), during which the summer drought and severe winter have occurred; and 2) next year (June 2018 to May 2019), during which the main effects of livestock losses will be experienced.

Based on the assumptions made for the current year, which are outlined in the report, households in Zone 01 in Arkhangai Province are unlikely to face livelihood protection or survival deficits in 2017-18. Very poor households in Zone 02 in Sukhbaatar Province are on the borderline of a livelihoods protection deficit (and in fact are just below the threshold). This result is very sensitive to the level of livestock sales decrease (due to quarantine in 2017) and the projected price for cashmere in 2018. In light of this, the safest response may be to provide some assistance to households in this wealth group in Sukhbaatar Province before May 2018.

Households in both livelihood zones are unlikely to face livelihood protection or survival deficits in 2018-19, based on the assumptions made in this analysis. However, as for 2017-18, the result is very sensitive to the level of livestock sales decrease (due to quarantine) and the projected price for cashmere. Very poor households in both livelihood zones end up very close to the livelihood protection threshold under the assumptions made for 2018-19 and the situation should be very closely monitored. Any of the assumptions made in this analysis can be revised as additional information becomes available.

Introduction

This report presents the results of HEA (household economy analysis) baselines conducted in October-November 2017 and an HEA outcome analysis (OA) desk-based exercise conducted in January 2018 for two livelihood zones in two provinces of Mongolia. The main purpose of the baseline work was to gain up-to-date and in depth understanding of the livelihoods and means of survival for different wealth groups in the communities where PIN and Mercy Corps work and the seasonality of livelihoods strategies. The main objective of the outcome analysis was to project the household economy situation during the 2017-18 and 2018-19 years in the two livelihood zones. Ultimately, the information will be used to design appropriate food security / livelihoods interventions to improve the conditions of poorer families and communities affected by *dzud*s in Sukhbaatar and Arkhangai Provinces.

This report contains three sections. The first two sections contain the HEA baseline results for two livelihood zones. The third section of this report contains the results of the outcome analysis.

This research advances People in Need's continuous work to understand vulnerability amongst herding households in Mongolia and the Household Economy of herders in Mongolia. This includes the study "Indebtness and its Link to Vulnerability During Dzud Episode Amongst Vulnerable Households" published in 2017 and financed by AsiaOnlus[1] and the work done in the "Basic Findings from Post-Distribution Monitoring" for the *dzud* emergency response of People in Need in 2016-17, which includes a section on Household Economy.[2]

1 Available from: https://www.clovekvtisni.cz/media/publications/720/file/1485342111-indebtedness-dzud.pdf

2 Available from: https://reliefweb.int/sites/reliefweb.int/files/resources/People%20in%20Need%20basic%20Findings%20from%20Post-Distribution%20Monitoring_Dzud%20Emergency%20Response%202017.pdf

1. HEA Baseline Profile: Arkhangai High Mountain Livestock Livelihood Zone

December 2017

Livelihood Zone Description

The *Arkhangai High Mountain Livestock Livelihood Zone*[3] is found in the western part of Arkhangai Province. It is a sub-Arctic climatic zone that falls along the Khangai mountain range in western Mongolia. It is a semi-arid steppe-forest area covered by hills and undulating plains. There are few water resources, with the principal rivers – Chuluut, Khanui, and Tamir – transecting the district north-to-south. Temperatures fluctuate from a maximum of +38C in the summer to a minimum of -40C in the winter. Population density in the province is low, at 1.6 persons per square kilometre. The capital of Arkhangai Province is Tsetserleg, which is some 460 kilometres from Ulaanbaatar. Overall, transport links are typical of remote, rural areas of Mongolia. There is a main asphalted road that runs from the capital, Ulaanbaatar, westwards towards and across the border with China.

The population of the livelihood zone is made up of nomadic herders. Urban dwellers, full-time soum (village) residents are not covered by this baseline. Formal livelihood zoning has not been carried out in Mongolia. The *High Mountain Livelihood Zone* is one of at least two rural livelihood zones in Arkhangai Province and may extend beyond the province borders. Fieldwork for this profile was conducted within Arkhangai Aimag (province) in Ikhtamir, Chuluut, Tariat, Khangai, Tsakhir, Undur-Ulaan, Bulgan and Tsenkher soums.

The local economy in this livelihood zone revolves around livestock and livestock production. Yaks, horses, goats, and sheep are the primary livestock. Live animal sales and their products – including milk, curd, ghee, yoghurt, *airag* (fermented mare's milk), cashmere and wool – form the backbone of the local economy. Yaks and horses are the most valuable livestock types in terms of live animal sales and cashmere from goats is the most valuable livestock product, valued at approximately 55,000 MNT (approximately $28[4]) per kilogram in the reference year. Herders receive a subsidy from the government for sheep wool production, which encourages them to produce what is otherwise not a particularly remunerative product. All wealth groups are dependent on these sources of income for at least one third of their total income. Poorer groups supplement their livestock-based income with herding and shearing labour, selling wild foods, and charcoal production (for the poor).

The principal natural resources in the livelihood zone are livestock, however there are some wild foods such as berries, nuts and wild onions as well as game (which is illegal to hunt and kill). With the exception of Ondor-Ulaan soum (village), most herders collected wild foods and sold small amounts for their income generation. Some people migrate in from neighbouring provinces to collect wild foods during the autumn. During winter, there is in-migration of people to Arkhangai from the Gobi Desert and neighbouring provinces with their herds to find better pasture.

3 Fieldwork for the current profile was undertaken in November 2017. The information presented in this profile refers to the reference year, which was the consumption year that covered the period June 2015 to May 2016. Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately five to ten years (i.e. until 2022-2027). All prices referred to in the document are for the reference year.

4 The exchange rate was approximately USD $1 = 2,000 MNT in the reference year.

Markets and Market Access

Market access in the *Arkhangai High Mountain Livestock Livelihood Zone* is typical of remote, rural areas of Mongolia. The tarmac roads are generally in good condition. Dirt roads lead off the main tarmac road that runs through the middle of Arkhangai Province. They are poor quality and can be difficult to access when it is raining or snowing. Most households get to the market via either motorcycle or car. Households tend to do their food shopping on a monthly basis at the soum (village) markets. When it rains, rivers flood and market access can be difficult. Better off and middle households typically have cars, and therefore have easier access to markets. Poor and very poor households – who rely on motorcycles – can carry only limited amounts of purchases at a time. If the roads are flooded during the rainy season (June to September) or blocked by snow in winter (December to February), access for these households is very difficult. Some households stock up on staple food and key non-food items at the beginning of the winter (in November-December).

Livestock are the main and most valuable commodity sold by households, and all livestock types bred in the zone are sold. This includes yaks, horses, goats and sheep. Trade routes vary depending on the type of product being sold (i.e. live animals or animal products). Much trade is done through middlemen who normally travel directly to the herders. The trade route for live animals is from the herder themselves to the soum and then on to the aimag (provincial-level) broker (middleman). The final destination for all livestock and livestock products is the market in Ulaanbaatar, where demand determines the price for live animals in the provinces. Wool and cashmere products are sheared locally by the herders and are sold to the soum broker, from which point they go to the aimag broker, and then onto Ulaanbaatar. In some cases, the products go directly from the soum broker to the Ulaanbaatar market. This depends on the financial capital of the soum brokers. Yak wool in Arkhangai Province is sometimes sold from herders to the herder cooperative, from which point it is transported to the processing plant, and then on to the export market.

Crop production in the livelihood zone is marginal. The cold climate means it is difficult to cultivate even vegetables. Potatoes are the most commonly cultivated tuber, and they are also commonly purchased by households. Many of the vegetables consumed in the zone are imported, and those in the aimag centre are often imported from either China or Russia.

The vast majority (90%) of casual labour is undertaken within the rural areas of the livelihood zone. The main casual labour types for which better off and middle households pay are herding and shearing (cashmere and wool). Poorer herders in some cases live with wealthier herders as 'assistant herders' for which they are paid in cash or in kind (with animals or animal products).

Seasonality, Timeline and Hazards

The baseline assessment refers to a very specific time period called the reference year. In the *Arkhangai High Mountain Livestock Livelihood Zone* the reference year covered the consumption year from June 2015-May 2016. During community leader interviews, informants were asked to rank the last five years in terms of seasonal performance with '1' indicating a poor season and '5' an excellent season. In most parts of the zone, the reference year was average (i.e. ranked 3). In some soums, however, a *dzud* (severe winter) occurred during the winter of 2015-16, meaning that livestock production and income from livestock decreased in the following year. *Dzuds* are now – according to key informants – occurring more frequently than before. The years preceding the reference year were either average or above average.

The main hazards listed by the inhabitants of the livelihood zone, in descending order, are *dzuds*, droughts and pasture degradation. Forest fires are also a problem for herder households. There are many livestock diseases and parasites affecting herds in the livelihood zone, including septicemia, anthrax, selenium deficit, and helminths. Yaks, sheep and goats are the animals primarily affected by these types of illnesses.

Vaccination and de-worming are the most common treatments, and vaccinations for anthrax and septicemia are available for free from the government. Livestock diseases do not appear to have a particularly seasonality during the year, but are a chronic problem for herders.

In this livelihood zone, livestock births and production do not naturally depend on the rainy season. However, conceptions are generally controlled so that births occur during the spring months, following the severe winter. Milk production peaks during the summer months, which coincides with the rainy season, when pasture is readily available.

There are two main income-generating periods of the year for herders. The first is in the spring and summer (April to August), when income from cashmere, wool, and milk products peaks. The second is around October-November (autumn), when households de-stock before the winter. Livestock sales are also high in August and September, before the start of the school year[5] when households need cash for education-related expenditure.

Milking is not generally an activity that is remunerated in terms of labour payments. Milking is done by women and girls, and women are largely responsible for selling milk products to the market. Women are also the main sellers of hide products. Men are mainly responsible for herding for both large and small livestock, and they are also responsible for selling meat and live animals to the market or to brokers. The peak time for milking yaks is during summer and autumn (June-November). Some herders milk shoats in summer (June and July), but there is no winter milking season for small animals. Yak's milk is mixed with shoat milk to produce curd, yoghurt, and butter.

5 The school year runs from early September to mid-June.

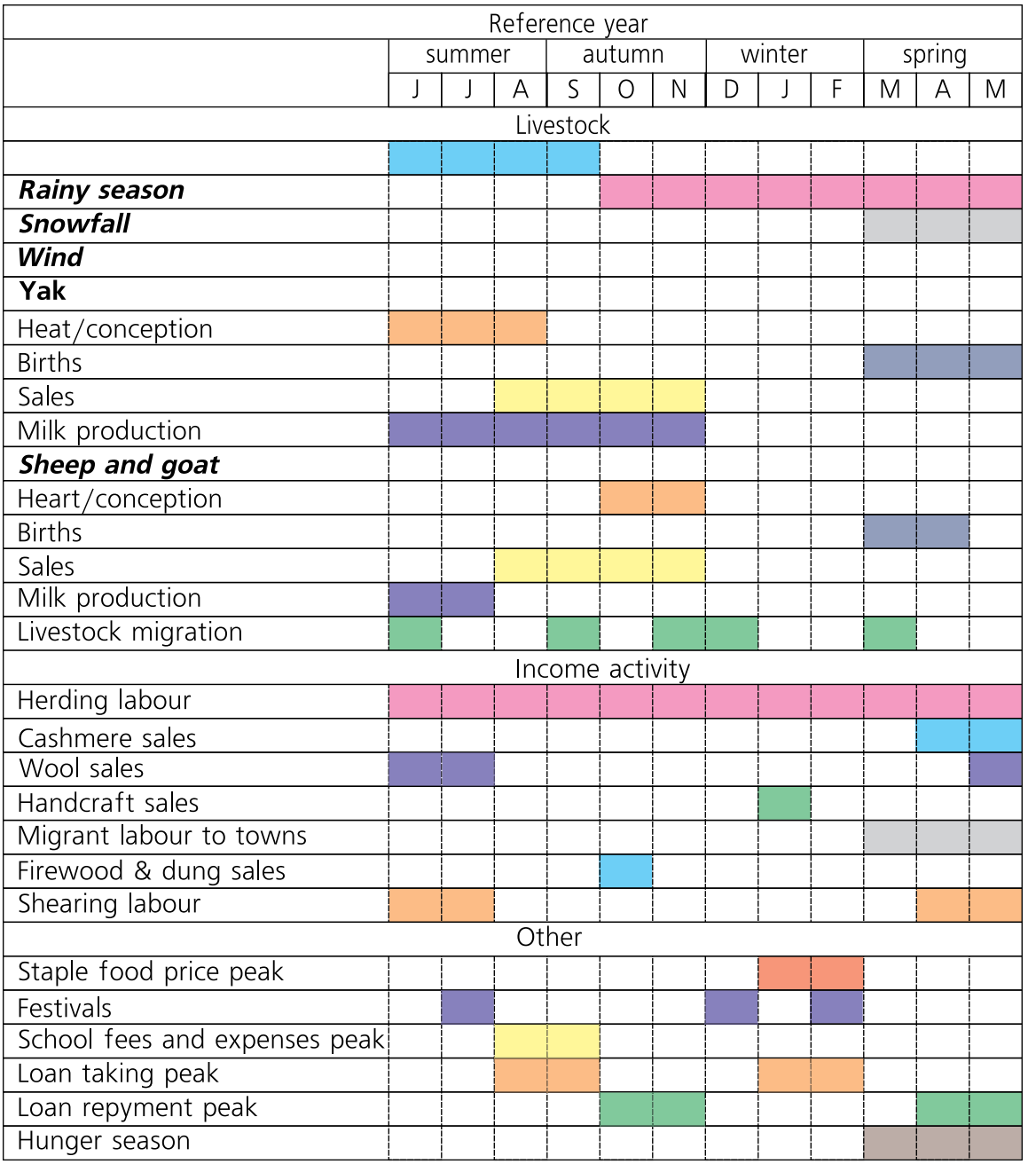


Figure 1: Zone 01 Seasonal Calendar

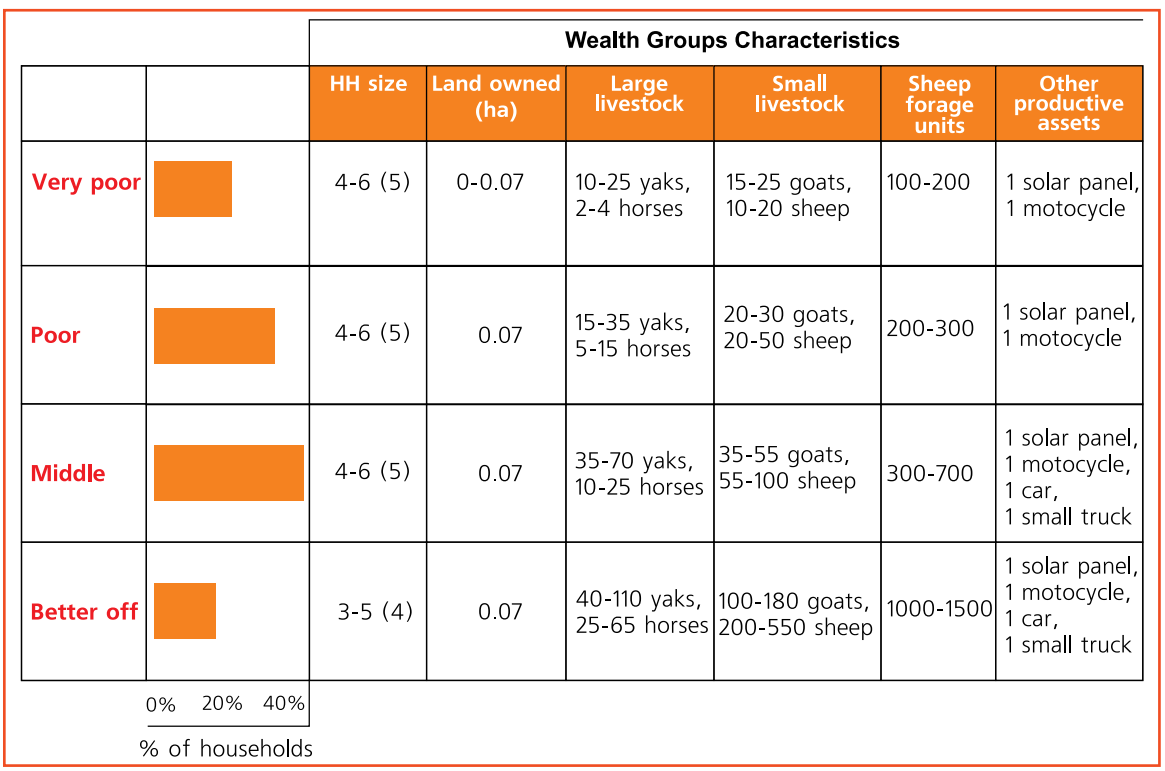
Livestock migration happens approximately four times a year to summer, autumn, winter, and spring pastures. These are generally all within Arkhangai Province, and are generally no more than 30 kilometres apart. In the summer, herders move with their herds to lower areas to be closer to water sources. In the winter, they migrate to the 'high mountain' areas where shelter against wind and snow is better. In particularly bad winters, men migrate long distances with dry yak herds while women remain in the autumn camps to care for pregnant and female animals.

Very poor and poor households buy fodder for their livestock, usually from local business people who are based in the soum markets and product hay. Better off and middle households are generally able to collect hay freely, which is sometimes done through cooperatives, because they own trucks or tractors for transport. The main water source for livestock in the summer and spring is from rivers. Some household water comes from wells, and in the winter snow and ice are used by animals. Animals and people normally share water sources.

Overall, herders have two main periods of the year in which they earn income (April to August and October to November, as noted above). In between these periods they must make their income last. All wealth groups except for the very poor take out bank loans, particularly in February (for the Tsagaan Sar, the Mongolia lunar new year festival) and in August (for school expenses[6]). A significant proportion of the earnings from each season is dedicated towards repaying loans. Festivals are important periods of high expenditure for households. Although most very poor households do not take formal bank loans, they rely heavily on borrowing during periods of peak expenditure, usually from shops, by taking items on credit. Interest is not charged on this type of borrowing, but the level of credit is limited.

The hunger season in this livelihood zone is in March-May when milk production from the birthing animals has only just begun and is being left for the offspring. Firewood and charcoal collection and sales – which requires a special license – occurs in October. This activity is done by men.

Wealth Breakdown and Productive Assets



		Wealth Groups Characteristics					
		HH size	Land owned (ha)	Large livestock	Small livestock	Sheep forage units	Other productive assets
Very poor		4-6 (5)	0-0.07	10-25 yaks, 2-4 horses	15-25 goats, 10-20 sheep	100-200	1 solar panel, 1 motocycle
Poor		4-6 (5)	0.07	15-35 yaks, 5-15 horses	20-30 goats, 20-50 sheep	200-300	1 solar panel, 1 motocycle
Middle		4-6 (5)	0.07	35-70 yaks, 10-25 horses	35-55 goats, 55-100 sheep	300-700	1 solar panel, 1 motocycle, 1 car, 1 small truck
Better off		3-5 (4)	0.07	40-110 yaks, 25-65 horses	100-180 goats, 200-550 sheep	1000-1500	1 solar panel, 1 motocycle, 1 car, 1 small truck

Table 3: Zone 01 Wealth Groups Characteristics[7]

6 The school year runs from early September to mid-June
7 One yak is equal to six sheeps, one horse is equal to seven sheep, one goat is equal to 0.9 sheeps

The table above summarises the types and numbers of productive assets that typical households within each wealth group own. The graph inside the table shows the percent of households within the zone that falls into each wealth group. The very poor (15-25%) and the better off (10-20%) are the smallest wealth groups.

Livestock are the basis of the local economy in this livelihood zone and herd sizes are the principal determinant of wealth. Over the past few years, herd sizes have decreased due to frequent *dzud*s and harsh winter conditions. Better off households own more than double the number of livestock owned by the next wealth group (the middle). Their herd size was around 1000-1500 sheep equivalents in the reference year, whereas middle, poor, and very poor household herd sizes in sheep equivalents were 300-700, 200-300, and 100-200, respectively. Poorer households sometimes become 'assistant herders' to better off households. For this they receive monthly payments, and they migrate with the households whose herds they are caring for. Some receive cash payments, and some are paid in kind.

Greater ownership of livestock allows households to devote more time to their own animal husbandry, and therefore depend less on casual labour such as shearing and herding, which poorer herders must engage in to supplement their twice-annual earnings from their own livestock. Smaller herd sizes mean that it is difficult for poorer households to increase their herd sizes quickly. They lack money to pay for inputs, may not have skills or knowledge about risk reduction for their herds, and have to devote time to casual labour. As a result, they lose more animals than households with larger herd sizes.

Yaks are prized highly for their meat and their wool, each yak selling for approximately 500,000 MNT on the market in the reference year. Goats are valued primarily for their cashmere as well as their meat. Sheep wool is less valuable and all herder households receive a wool subsidy from the government for every kilogram they produce.

Better off households have on average slightly smaller household sizes than the other three wealth groups. All wealth groups can educate their children up to secondary school level at the very least, and better off households are often able to send their children for vocational training. Nonetheless, the emphasis on retaining herding as a heritage and as a lifestyle is strong, even among the youth.

Land 'ownership' of 0.07 hectares is possible for all households if they register with the government for multi-year contracts in return for rent. Very poor households are reportedly less likely to have done this.

In terms of water access, sanitation, and hygiene, there is little to no difference between wealthier and poorer households. All people share the same water sources as their livestock during the summer and the winter (rivers, lake, ponds, and ice/snow). Both better off and poorer households use outdoor pit latrines and both burn their garbage. Those households living in the soum centre can pay for garbage disposal. Healthcare for all wealth groups is similar, and apart from using medicinal herbs, they are able to access the baag(sub-village) doctor, the soum health centre, and the provincial hospital in Tsetserleg.

The principal difference in access to resources – apart from livestock – is in transport methods. Middle and better off households can afford cars and trucks, which are more likely to be able to cross the snowy passes that lead from the livelihood zone to Tsetserleg during the winter. Poorer households tend to own motorcycles. All households use motorcycles for herding their livestock.

Sources of Food

The graph below presents the sources of food for households in different wealth groups in the livelihood zone for the period June 2015 to May 2016. June represents the start of the consumption year because it is when the main milking period begins, thereby marking the end of the lean season. Food is presented as a percentage of 2100 kcal per person per day for the 12-month period. This was considered an average year. All figures represent the mid-point of a range.

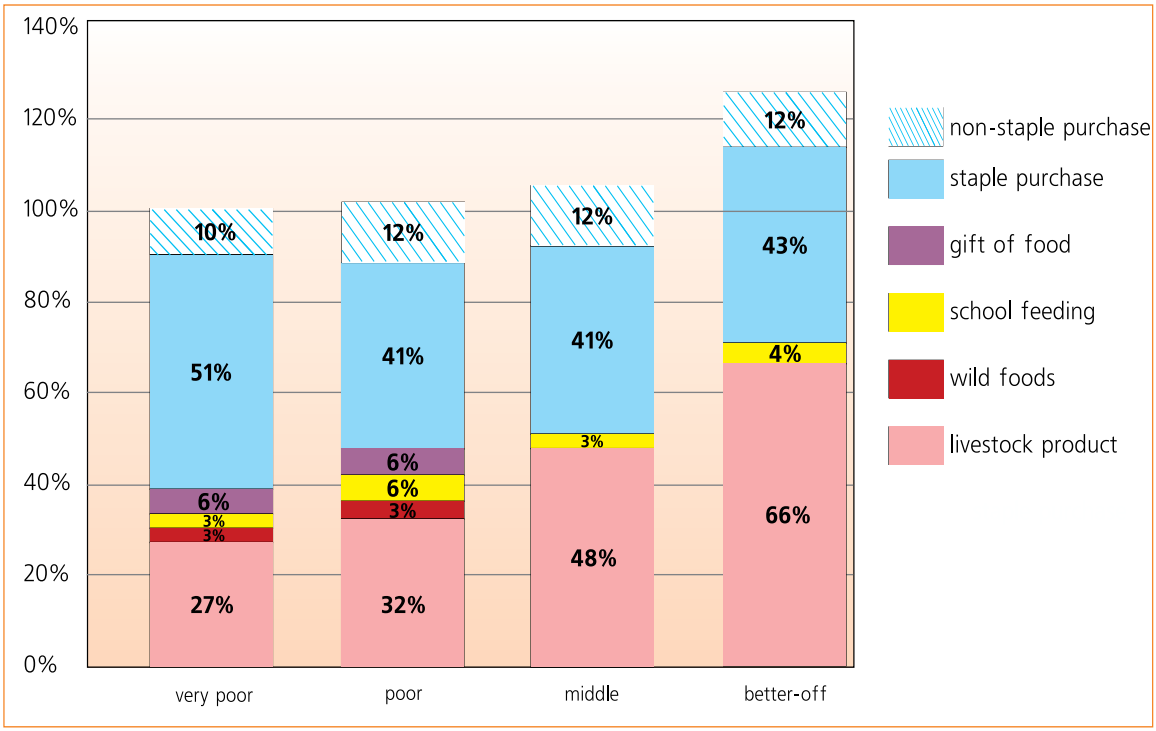


Figure 2: Zone 01 Sources of Food

For the majority of households – with the exception of the very poor – kilocalories from animal products (such as milk, cheese, curd, ghee, yoghurt, and meat) are similar to kilocalories from staple purchase. The main staple foods purchased are wheat flour and rice. Of the total staple food consumption pictured above, nearly 90% for all wealth groups comes from wheat flour which, during the reference year, cost approximately 1,120 MNT per kilogram. Households purchase their food shopping on a monthly basis, when they travel to the soum centre and stock up on goods. In some cases, households stock up in bulk prior to the deep winter. Households across the wealth spectrum purchase the same staple and non-staple foods and in much the same amounts, given the

similarity of household sizes across the board. Oil, sugar, vegetables, potatoes and pasta are the main foods purchased apart from wheat flour and rice. The very poor consume the most kilocalories from purchase (60-65%).

Kilocalories from livestock product consumption come primarily from meat (yaks, sheep, and goats) which is dried during the summer, and frozen (left outside of the geror traditional house) in the winter. In the case of better off households, as much as 40% of their kilocalorie needs are met from their own meat. The second most important source of kilocalories from dairy products comes from butter and curd. Milk is produced primarily in the summer, when the level of milk production (1-2 litres per cow per day in the case of yaks) is twice that of the later production. Households do not generally consume milk, and instead prefer to convert it into more easily merchandisable items such as ghee, curd, yoghurt, and butter. Sheep and goats are not milked in the winter, and their milk in summer is mixed with yak's milk to produce the aforementioned dairy products. These are sold at the soum centre, by women. Overall the better off meet over 60% of their kilocalorie needs from their own livestock products. Very poor, poor, and middle households meet 25-30%, 30-35%, and 40-55% of their kilocalorie needs from their livestock products respectively.

Very poor and poor households receive approximately 6% of their annual kilocalorie needs from gifts of milk, meat, and dairy from better off and some middle households. Additionally, they obtain some kilocalories from the wild foods they collect. All households obtain kilocalories from school feeding – which is only done at primary school level. Poorer households have a higher proportion of children in primary school compared to other wealth groups and for this reason the proportion of their kilocalorie needs coming from school feeding is greater. A small number of very poor households receive monthly food coupons from the government to the value of 6,500 MNT per child and 13,000 MNT per adult.

Assistant herders sometimes receive payment in live animals. In the summer time, some better off households pay assistant herders in dairy products. For example, an assistant herder can milk 20 yaks per day, and they will receive 5 yaks' worth of milk with which they can produce dairy products for their own household.

Households obtain most of their remaining food needs from the market. The main item purchased in large quantities is wheat flour. Other items include rice, sugar, vegetable oil, pasta, potatoes and vegetables (onion, cabbage, turnip, carrots). All households obtain a small contribution of kilocalories from school feeding, which is provided for children at primary school level. A small number of very poor households receive monthly food coupons from the government to the value of 6,500 MNT per child and 13,000 MNT per adult.

Sources of Cash Income

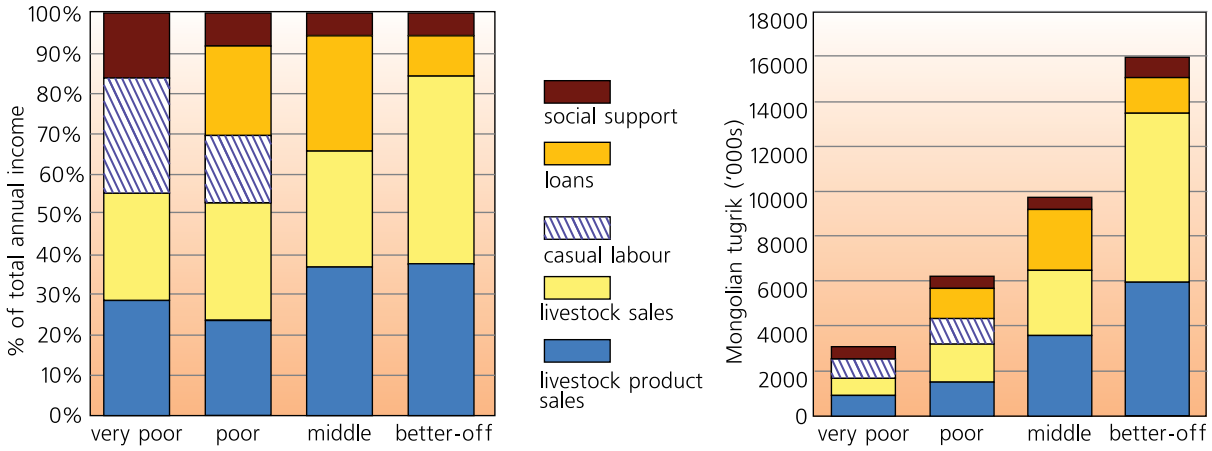


Figure 3: Zone 01 Sources of Cash Income

INCOME PER HOUSEHOLD (MNT)				
Wealth group	**Very poor**	**Poor**	**Middle**	**Better off**
Annual income per household	2,000,000-4,000,000	5,000,000-7,000,000	8,000,000-12,000,000	12,000,000-20,000,000

Table 4: Zone 01 Income Per Household

The graph above provides a breakdown of total annual cash income as a percent of annual cash income. The table to the right provides a breakdown of total annual cash income in Mongolian Tugrik by income source. For all households, their annual income comes in two large tranches: cashmere, wool, and dairy product sales during the spring and summer, and meat and hide sales during the autumn and early winter. For the most part, households must stretch their income earned from meat and hide sales until the spring time, and their annual lean season occurs in March to May, when resources are running low, and they must repay their debts.

All wealth groups earned at least 50% of their total annual income from their livestock and livestock products during the reference year. Households received similar prices for their goods in the reference year, regardless of wealth status. Middle and better off households earned 40-50% of their reference year income from livestock product sales, and very poor and poor earned 20-30%.

Better off households have larger herd sizes and can indeed depend almost exclusively on their herds for their income. However, they also take out loans, and they receive some social support from the government. Government social support is provided to households in all wealth groups through two main mechanisms. There is a children's allowance of 20,000 MNT per child per month for all children under 18 years. In addition, a sheep's wool allowance or subsidy is paid at a rate of 1,000 MNT per kilogram in an effort to promote wool production and support the national wool factory. Middle and better off households have similar income sources.

Very poor households earn more than poor households from casual labour (shearing and herding). Very poor households earn 25-30% of their annual income from casual labour, whereas poor households earn 15-20% from this source. Better off households pay labourers to shear their goats for them. Members of poorer households do this activity during April-May. One person can shear 6-10 goats per day, and they received 2,500 MNT per goat in the reference year. Wool shearing is done for 1 to 2 months of the year, during early summer. One person can shear up to 20 sheep per day. They received 500 MNT per sheep sheared in the reference year.

There is some lending between wealth groups, however, better off herders generally do not want to lend to poorer herders because they do not see them as creditworthy. The majority of borrowing is from banks, where herders can receive specific Herder Loans that have been developed for herders by the Khan Bank. The interest rate is high (generally 21% or 2.5% per month), and households must repay one loan before taking out a new one. They repay twice during the year, based on the availability of either cashmere or animal slaughter and sale.

Poor households have the most diversified sources of income, as they also obtain a small amount from firewood sales. This activity requires a license, which is unaffordable for very poor households.

The graphs below present the same information as the graphs on the left page except that they exclude cash income from bank loans. These can be compared with the second expenditure graphic in the section below that include net loan repayments (rather than the full repayment).

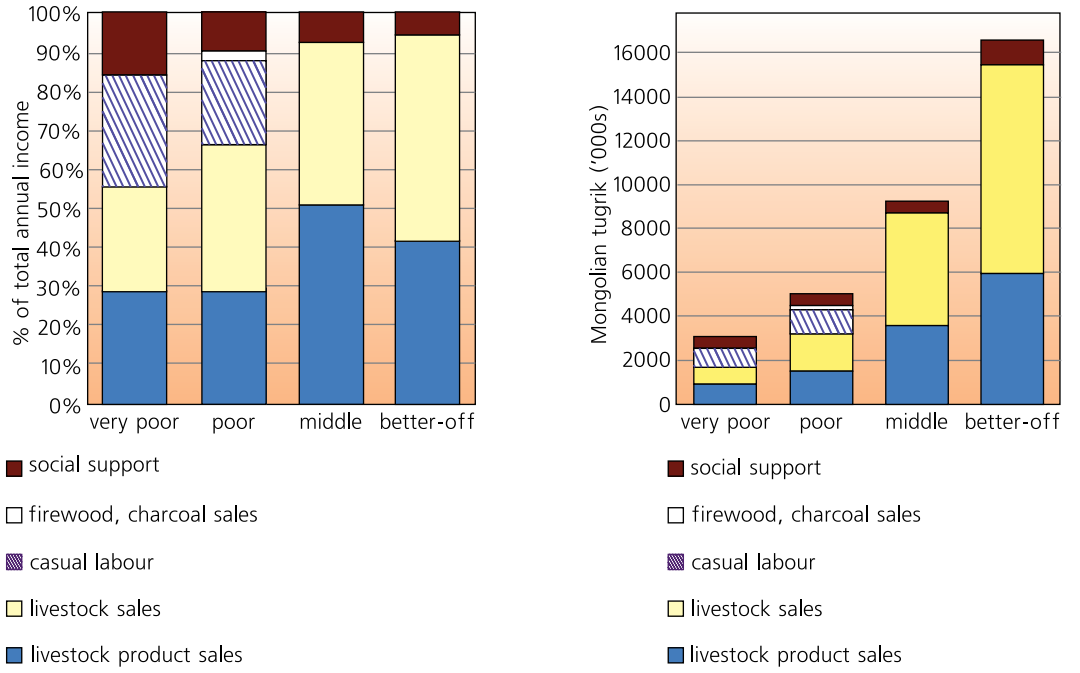


Figure 4: Zone 01 Sources of Income Excluding Bank Loans

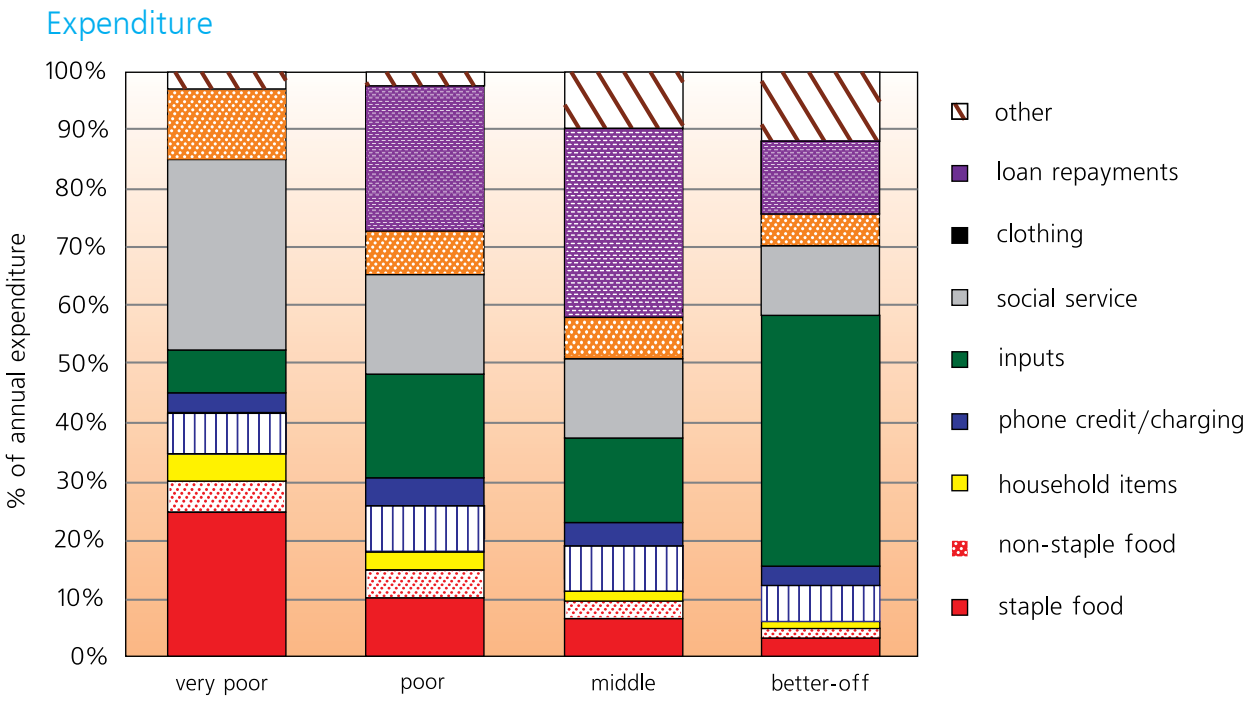


Figure 5: Zone 01 Expenditure Patterns

The graph above presents expenditure patterns for the reference year June 2015-May 2016. While absolute expenditure increases with wealth in line with total cash income, the expenditure breakdown by percent in this graph shows the relative amount of income spent on different categories.

The total proportion of household income spent on food as well as key non-food household items decreases with wealth. Very poor households spend about a quarter of their income on staple food, whereas for the other wealth groups, this amount is at or below 10%.

The social services category includes expenditure on school and medicine/healthcare. The very poor spend a larger proportion of their income on these sources than the other wealth groups. Once critical expenditures such as food, household items, medicine, transport, education, and inputs are paid for, very poor households have approximately one third of their income left to spend on clothing, inputs, and 'other' items including alcohol, cosmetics and cigarettes. Very poor households spend approximately 6% of their income on festivals – approximately the same amount as they spend on transport (which is included in the inputs category). Festivals are an important part of the herders' social calendar and households pay large amounts of money for new clothes. 'Other' expenditure for the poor, middle, and better off also includes savings.

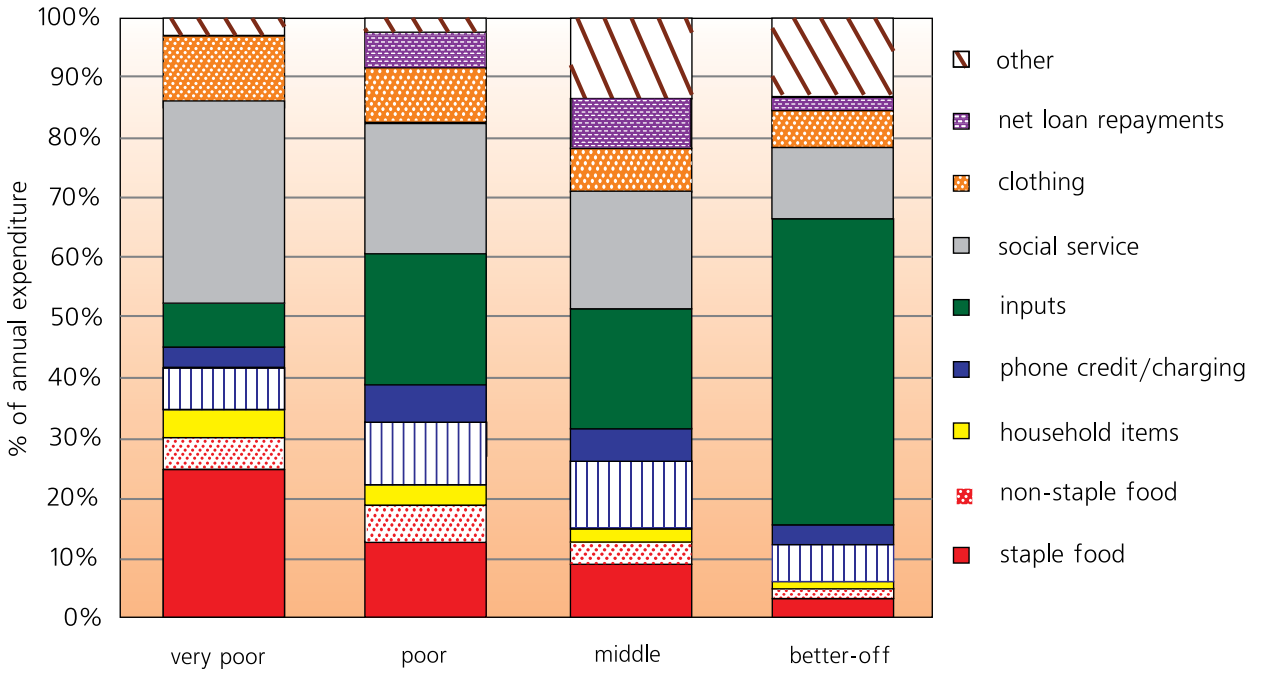


Figure 6: Zone 01 Expenditure Patterns with Net Repayment

Better off households spend approximately half of their income on inputs, which primarily includes animal drugs, salt for animals, labour, fodder and shelter for their herds. Poor and middle households' largest expenditure category is loan repayments in the graph above, on which they spend a quarter and one-third of their cash income respectively.

The graph above presents expenditure patterns without the principal part of the loan repayment (just net repayments).

Livestock Migration

In the *Arkhangai High Mountain Livestock Livelihood Zone*, livestock migration occurs at least four times per year. During the reference year, the whole herd migrated for most wealth groups. This includes pack animals, females, lactating females, and calves. For most animals, approximately one third of the herd size are mature females – across all wealth groups.

Most migrations are within 15-30 kilometres of each other. Herders do not generally migrate outside of the livelihood zone, or out of Arkhangai Province unless the winter is very severe. The summer camp is by the river basin, on the lowland, nearby to the rivers and water sources. Normally households move to their autumn camp in August-September, 15-30 kilometres from their summer camp. The autumn camp is around a middle altitude. Households move to their winter camp in the mountainous area in late November or early December to benefit from the wind protection afforded by the mountains. Households build their animal shelters facing southeast to protect their livestock from the

wind that blows from the northwest. The winter camp is approximately 15-20 km from the autumn camp. Spring camps are about 15 kilometres from the winter camp, by the lake, and are sometimes the same as the summer camp. In some cases, herders plant in their winter pastures and move elsewhere during the winter so that they can grow fodder during the winter. During normal times, the whole household moves with the whole herd during all seasons.

During bad years, or years when there has been a *dzud*, men migrate to the mountainous area with the dry yak herd and women remain in the lowland areas with the lactating herd. The only change in migratory pattern during a bad year is to a more distant winter area, where there is more pasture, which may be outside the province (up to 300 kilometres away).

The level of births, sales, and deaths of all livestock types in the zone during the reference year – and the migration patterns – were considered normal.

Response strategies

- **Poorer** households **prepare and purchase fodder** and hay for harsh winters – often following advice they receive on the radio. They also **prepare and eat the entrails** of slaughtered small ruminants and mix the cud with wheat bran and minerals for feed for their other livestock.
- **Poorer** households also **become assistant herders** in the households of wealthier herders, and some – who have lost all or most of their livestock – migrate to urban areas for work.
- **Better off households sell both large and small animals** as a coping strategy, and they use their savings to buy extra fodder for their animals from local business people who produce hay or from traders who transport wheat bran and concentrated feed from Ulaanbaatar.
- Households also **migrate to better pastures** with their herds.

Key Parameters

The key parameters listed in the table below are food and income sources that make a substantial contribution to the household economy in the *Arkhangai High Mountain Livestock Livelihood Zone.* These should be monitored to indicate potential losses or gains to local household economies, either through on-going monitoring systems or through periodic assessments.

Item	**Key Parameter – Quantity**	**Key Parameter – Price**
Livestock production	• Yak's milk (amount) (both winter and summer) • Meat from animals • Gifts of meat (amount) • Horse sales • Yak sales • Goat sales • Sheep sales • Cashmere and wool shearing • Herding • Cashmere sales • Wool sales	• Yak's milk and butter/ghee sales (both winter and summer) • Horse sales • Yak sales • Goat sales • Sheep sales • Cashmere and wool shearing • Herding • Cashmere sales • Wool sales
Other food and cash income	• Social support • Loans	• Social support • Loans

Table 5: Zone 01 Key Parameters

Programme Implications

The longer-term programme implications suggested below include those that were highlighted by the wealth group interviewees themselves and those made by the assessment team following detailed discussions and observations in the field. All of these suggestions require further detailed feasibility studies.

- Support local entrepreneurs to increase the number of jobs available in soum and aimag centres. There are a limited number of jobs available here and when households migrate they cannot find work.
- Create a tax to use pasture land according to herd size in order to avoid excessive degradation of pasture.
- Improve herders' linkages to markets for livestock and livestock product sales. Households that can afford to travel to the aimag centre or even to Ulaanbaatar to sell their products directly can obtain a higher price and there may be an opportunity to improve market systems in this regard.
- Improve hygiene and sanitation conditions for herder households.
- Improve knowledge of food storage and preparation methods and dietary diversification, particularly in relation to vegetables.
- Teach young herders traditional herding methods.
- Improve education opportunities for young herders.

2. HEA Baseline Profile: Sukhbaatar Steppe Livestock Livelihood Zone

January 2018

Livelihood Zone Description

The Sukhbaatar Steppe Livestock Livelihood Zone[8] is found in rural areas of Sukhbaatar Province in the eastern plains of Mongolia. It is a semi-arid zone with a dry climate and extensive flat, open grasslands. The province sits in southeast Mongolia and has borders with China to the south and with Dornogobi, Khentii and Dornod Provinces within Mongolia to the west, north and northeast. There are mountains and hills, including extinct volcanoes, in the northern and southern parts of the province, with vast areas of steppe plains in between. The province has very limited surface water, with no permanent rivers, although there are small lakes and springs. The average altitude is 1100 metres above sea level. Temperatures fluctuate from a maximum of +40C in the summer to a minimum of -40C in the winter. The capital of Sukhbaatar Province is Baruun-Urt, which is some 565 kilometres from Ulaanbaatar. Population density in the province is very low, at less than 1 person per square kilometre. Overall, transport links are typical of remote, rural areas of Mongolia. There is a main tarmac road that runs from Ulaanbaatar eastwards to Baruun-Urt. Roads within the province are unpaved.

The population of the livelihood zone is made up of nomadic herders. Urban dwellers, full-time soum (village) residents and the population engaged in mining are not covered by this baseline. Formal livelihood zoning has not been carried out in Mongolia, so the Steppe Livestock Livelihood Zone may extend beyond Sukhbaatar Province's borders. Fieldwork for this profile was conducted within Sukhbaatar Aimag (province) in Khalzan, Dariganga, Ongon soum, Bayandelger, Uulbayan, Asgat, Munkhkhaan and Tumentsogt-soums.

Livelihoods are based around livestock and the herders in this zone keep sheep, goats, cattle, horses and a small number of camels. The zone is known for horse rearing and racing and people from all over Mongolia purchase horses from Sukhbaatar. Livestock free graze or browse on communally-held land throughout the year. Fodder is provided only to weak or lactating animals in spring (March-May), before pastures have regenerated after the long winter. Salt and hay for livestock are generally purchased or collected by households themselves, although there are free distributions by NGOs or subsidised sales by the government in bad years. Water for livestock comes from wells, small streams, springs and snow. All livestock types are sold. The main livestock product sold is high quality cashmere from Bayandelger red breed goats. Wool from sheep and hide sales are secondary livestock products. Milk and milk products from cattle are consumed within the households, but are not sold. Other livestock types are typically not milked. Breeding females are replaced from within the herd and livestock purchases by herders are not common. Livestock are mainly sold in summer and autumn when body condition is at its best, demand is high, and herders need cash for major annual expenditures.

8 Fieldwork for the current profile was undertaken in November 2017. The information presented in this profile refers to the reference year, which was the consumption year that covered the period June 2016 to May 2017. Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately five to ten years (i.e. until 2022-2027). All prices referred to in the document are for the reference year.

Cashmere is harvested and sold in March-April and wool in July-August. There is little income from livestock during the winter months. Poorer households supplement their income from livestock with income from labour, mainly herding and shearing for better off households.

Households migrate with their livestock four times per year to summer, autumn, winter and spring camps, which are generally within 20-30 kilometres of each other. When they migrate, households obtain permission from the local government for the right to use the land. Migration to more distant areas – up to 150 kilometres away – in search of pasture occurs during severe winters (*dzud*) and is mainly done by men, with the remainder of the household remaining at the winter camp with weaker animals (including any that are sick, pregnant, very young or old). Livestock production in this zone suffers from repeated drought, *dzuds*, and epidemic livestock diseases. Sukhbaatar is known to be chronically affected by foot-and-mouth disease and sheep pox.

Water for human consumption comes from the same sources as water for livestock and is free. Households use pit latrines and most garbage is burnt. Healthcare is provided in baag (sub-village), soum (village) and aimag (provincial) health centres for those who can afford health insurance. Most households have solar panels for lighting and the main fuel for cooking is animal dung. Primary and secondary education is free and provided in soum centres. Households that migrate arrange for their children to be present in school. Older children stay in dormitories or with relatives, while families with younger children split, with part of the family living in the soum centre for the school year, which starts in early September and runs to mid-June. Bank loans are available to households with at least 100 livestock, while other households take goods on credit from shops. Most households own at least one mobile phone, although communication can be difficult in the most remote areas.

Men are mainly responsible for selling live animals and livestock products (cashmere and wool); shearing livestock; herding, watering and constructing shelters for livestock; training racehorses; collecting fuel, hay and water for livestock and for domestic use; and ger (home) building. Women are mainly responsible for milking livestock, producing milk products, cooking meals, caring for children, and making felt and traditional clothing, although they also help with spring and summer herding of livestock, shearing cashmere, and caring for sick animals.

Markets and Market Access

Market access and transport links in the *Sukhbaatar Steppe Livestock Livelihood Zone* are typical of remote, rural areas of Mongolia. The main tarmac road from Ulaanbaatar is in good condition. Roads within the province are unpaved but their condition is good and there are no high mountains to navigate. However, transportation and market access become difficult when snow is very deep in winter. Most households get to the market by motorcycle or truck or tractor. Some households stock up on staple food and key non-food items at the beginning of the winter. This is easier for middle and better off households than for the very poor and poor.

The main trade route for the sale of live cattle, goats, sheep, cashmere, wool and hides is from soum markets to aimag markets to Ulaanbaatar through traders. The final destination for cashmere is mainly China. Most wool ends up in the Ulaanbaatar carpet and felt industry. Most hides end up in the Ulaanbaatar leather industry, although some hides are also exported. It is illegal for individuals to sell livestock across the border in China; only registered companies are allowed to do this. Horses are sold directly to herders from other provinces.

Most casual labour undertaken by very poor and poor households is within the livelihood zone. The main casual labour types for which better off households pay are herding and manual shearing (of cashmere and wool). Poorer herders in some cases live with wealthier herders as 'assistant herders' for which they are paid in cash or in kind (with animals or animal products).

In terms of expenditure, in most years, wheat originates in Selenge, Tuv, Khentii and Dornod Provinces and is converted to flour in factories in Ulaanbaatar before being transported to aimag centres and then soum centres, where it is purchased by herder households from local traders who are based in these centres. In years of drought, local production is supplemented by imports from Russia. Rice, sugar, and vegetable oil are imported from abroad to Ulaanbaatar and then follow the same trade route to the aimag and soum markets.

Hay is collected freely on the steppe by some households, while others purchase it from local business people who produce hay. Wheat bran and concentrated feed for livestock are purchased in Ulaanbaatar by traders and sold in Sukhbaatar markets to herders.

Seasonality, Timeline and Hazards

The baseline assessment refers to a very specific time period called the reference year. In the *Sukhbaatar Steppe Livestock Livelihood Zone* the reference year covered the consumption year from June 2016-May 2017. During community leader interviews[9], informants were asked to rank the last five years in terms of seasonal performance with '1' indicating a poor season and '5' an excellent season. In most parts of the zone, the reference year was average (i.e. ranked 3), meaning that there were normal rain and pasture conditions, no unusual outbreaks of disease or livestock deaths, and no *dzud*.

The main periodic hazards listed by key informants are *dzud*s (1 year in 5), drought (1 year in 5), steppe fires (1 year in 3) and epidemic livestock diseases (particularly foot-and-mouth disease and sheep pox). Wind and dust storms occur every year.

Although the livelihood zone is known to be dry, the rainy season from June to September is an important time in the seasonal calendar for replenishing pasture and ensuring water availability for the year ahead. Snow can fall from October to March, but the peak period for snowfall is November to January. Late spring sees extreme winds, from which herders and their livestock must shelter, determining the location of their spring camps.

9 The participants in community-level key informant interviews included baag leaders, heads of soum offices, heads of livestock departments, specialists from livestock departments, deputy governors, heads of herder groups.

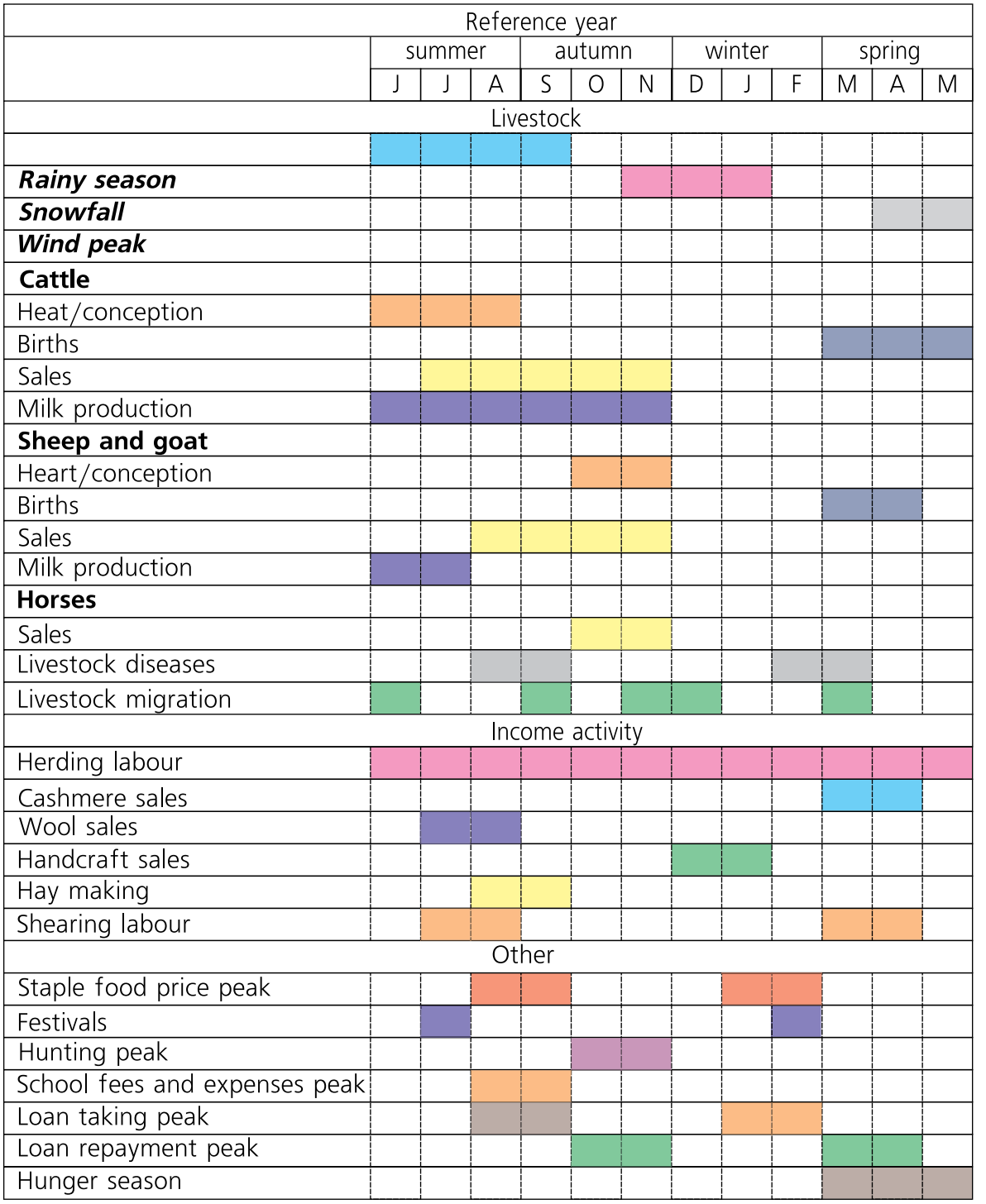


Figure 7: Zone 02 Seasonal Calendar

Livestock breeding is controlled to ensure that births occur in spring. Although pasture remains limited at this time, the harshness of the winter is over and lactating animals are provided with fodder for a couple of months until pastures regenerate. Milk production increases when pasture becomes more available from June and, for cattle, continues through October. This is the period when cows are milked. The livestock types kept in this livelihood zone (cattle, horses, sheep, and goats) typically give birth every 12 months. Livestock diseases peak before and after the coldest months of the year.

Livestock sales occur from July to November when animals are healthy and have recovered from the weight loss they experience annually during winter. Households need income throughout this period for regular expenditure and also for particular expenses: in July for the Naadam festival, in August-September for school expenses at the start of the academic year, and in October-November for winter preparations. Another expensive time of year falls in late January or February for the TsagaanSar (Lunar New Year) festival. There are few income sources available to households in this livelihood zone in winter, so many take loans at this time of year. Loans are repaid during the peak income-earning periods for livestock and livestock product sales and help to smooth consumption.

The main livestock products sold in this livelihood zone are cashmere and wool. Cashmere is collected and sold in March and April. Wool – a much less valuable commodity – is collected and sold a couple of months later, in July and August. Milk and milk product sales are not common in this livelihood zone, unlike in some other parts of the country, and are mainly used for own consumption. Cattle are the only livestock type that are usually milked.

Livestock migration occurs at least four times per year and this is described in more detail in the 'livestock migration' section below. Movements tend to occur in March to the spring camp, June to the summer camp, September to the autumn camp and late November or early December to the winter camp.

Key informants were reluctant to discuss hunting because it is illegal, but it is well known that gazelles and marmots are hunted in this livelihood zone. The peak period for hunting is October-November, before the start of winter.

The lean season in this livelihood zone falls in spring, in the months before milk production resumes after the long winter.

Wealth Breakdown and Productive Assets

		Wealth Groups Characteristics					
		HH size	Land owned (ha)	Large livestock	Small livestock	Sheep forage units	Other productive assets
Very poor		4-6 (5)	0-0.07	5-10 cattle, 3-7 horses	20-30 goats, 15-25 sheep	70-150	1 solar panel, 1 motocycle
Poor		4-6 (5)	0.07	6-14 cattle, 5-10 horses	45-60 goats, 40-60 sheep	150-250	1 solar panel, 1 motocycle
Middle		4-6 (5)	0.07	10-20 cattle, 10-25 horses	65-125 goats, 70-140 sheep	250-500	1 solar panel, 1 motocycle, 1 car, 1 small truck, traktor
Better off		3-5 (4)	0.07	35-70 cattle, 30-90 horses, 0-5 camel	180-270 goats, 250-500 sheep	1000-1500	1 solar panel, 1 motocycle, 1 car, 1 small truck, traktor

Table 6: Zone 02 Wealth Groups Characteristics

The table above summarises the types and numbers of productive assets that typical households within each wealth group own. The graph inside the table shows the percent of households within the zone that falls into each wealth group. Middle households are by far the largest wealth group.

Livestock are the basis of the local economy and herd sizes are the principal determinant of wealth. Converted into sheep equivalents[10], better off households own 1000-1500, middle households 250-500, poor households 150-250, and very poor households 70-150 livestock. In terms of absolute numbers, sheep are the dominant livestock type, followed by goats, horses, and cattle. The main constraints to increased livestock ownership are the rangeland carrying capacity, the reported increased frequency of *dzud*s, and livestock disease. A minimum of 100 head of livestock is required to be able to access formal loans from banks. Poorer households sometimes become 'assistant herders' to better off households. For this they receive monthly payments, and they migrate with the employing household.

Land 'ownership' of 0.07 hectares is possible for all households if they register with the government for multi-year contracts in return for rent. Very poor households are reportedly less likely to have done this. All households own at least 1 solar panel and 1 motorcycle. Some middle and most better off households also own a small truck or tractor, which facilitates transport over longer distances to larger markets.

10 One cow is 5 sheep equivalents (or sheep forage units), one horse is 7, one camel is 6, and one goat is 0.9.

Household sizes are small (generally 3-5 people), but slightly larger for very poor households (4-6 people). Primary and secondary education is free and all wealth groups educate their children up to secondary school level. Some better off households also send their children for vocational training or higher education. Access to water and sanitation facilities is similar across all wealth groups and free. Poorer households cannot afford health insurance.

Sources of Food

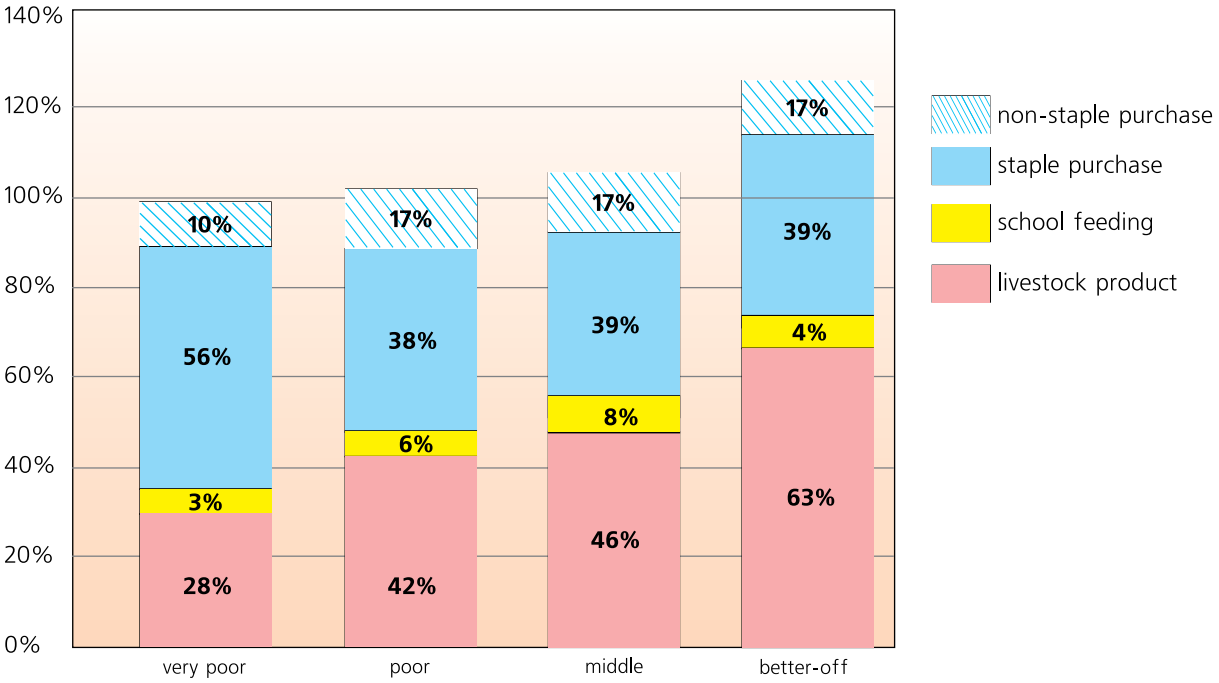


Figure 8: Zone 02 Sources of Food

The graph above presents the sources of food for households in different wealth groups in the livelihood zone for the period June 2016 to May 2017. June represents the start of the consumption year because it is when the main milking period begins, thereby marking the end of the lean season. Food is presented as a percentage of 2100 kcal per person per day for the 12-month period. This was considered an average year. All figures represent the mid-point of a range.

Access to own livestock products (milk, milk products, and meat) increases with livestock ownership (and therefore with wealth). The contribution of livestock products to annual food needs ranges from 25-30% for very poor households to over 60% for better off households. Milk is most available during the summer and autumn months, but is processed and preserved to ensure access throughout the year. Meat from slaughtered livestock is eaten fresh or dried or frozen and is also available throughout the year.

Households obtain most of their remaining food needs from the market. The main item purchased in large quantities is wheat flour. Other items include rice, sugar, vegetable oil, pasta, potatoes, and vegetables (onion, cabbage, turnip, carrots). All households obtain a small contribution of kilocalories from school feeding, which is provided for children at primary school level. A small number of very poor households receive monthly food coupons from the government to the value of 6,500 MNT per child and 13,000 MNT per adult.

Sources of Cash Income

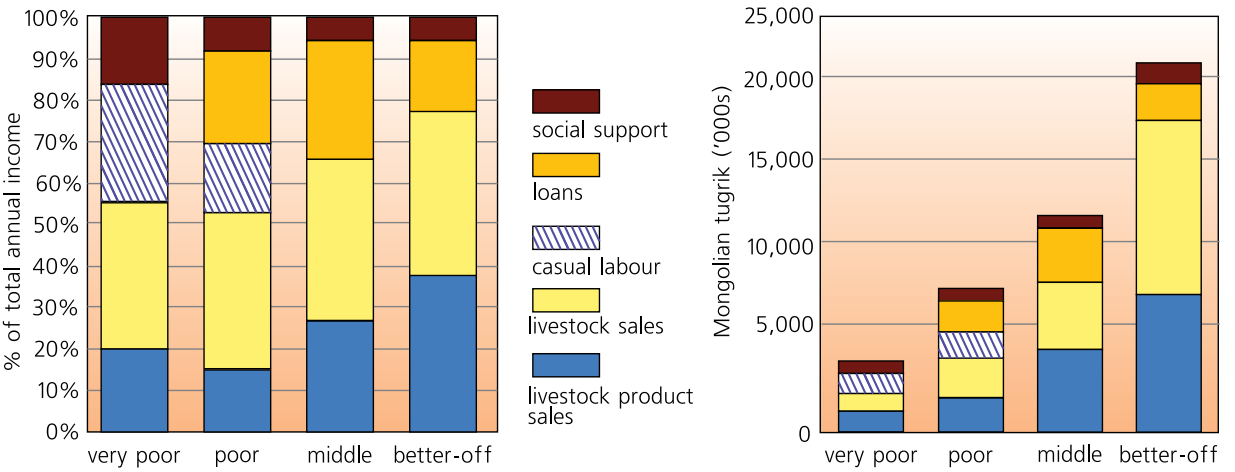


Figure 9: Zone 02 Sources of Cash Income

The graph above provides a breakdown of total annual cash income as a percent of annual cash income.The table to the right provides a breakdown of total annual cash income in Mongolian Tugrik by income source for the consumption year June 2016 to May 2017. The graphs below present the same information as the graphs above, except that they exclude cash income from bank loans. These can be compared with the second expenditure graphic in the section below that includes net loan repayments (rather than the full repayment). Better off households generated more than four times more cash income than very poor households in the reference year.

INCOME PER HOUSEHOLD (MNT)				
Wealth group	**Very poor**	**Poor**	**Middle**	**Better off**
Annual income per household	3,000,000-4,000,000	6,000,000-8,000,000	8,000,000-14,000,000	15,000,000-25,000,000

Table 7: Zone 02 Income per Household

The contribution of livestock and livestock product sales ranges from 40-50% of total income for very poor households to over 90% for better off households (excluding loans). Cattle sales make the largest contribution to livestock sales across all wealth groups, but substantial amounts are also obtained from sheep, goat and horse sales. Cashmere sales are by far the main source of income from livestock products.

Very poor and poor households cannot live from their livestock income alone. They supplement this income with casual labour, which includes year-round herding plus seasonal shearing of goats for cashmere (in March-April) and sheep for wool (in July-August). This work is done locally for better off households.

Income from livestock is very seasonal and households with adequate numbers of livestock (from the poor, middle and better off wealth groups) take formal bank loans during periods of peak expenditure. Only one loan can be taken at a time and loans are usually repaid with a year. The annual interest rate is 21%. Although most very poor households do not take formal bank loans, they rely heavily on borrowing during periods of peak expenditure, usually from shops, by taking items on credit. Interest is not charged on this type of borrowing, but the level of credit is limited.

Government social support is provided to households in all wealth groups through two main mechanisms. There is a children's allowance of 20,000 MNT per child per month for all children under 18 years. This was provided to all households prior to January 2018, but is going to be means tested from this date. In addition, a sheep's wool allowance or subsidy is paid at a rate of 1,000 MNT per kilogram in an effort to promote wool production and support the national wool factory.

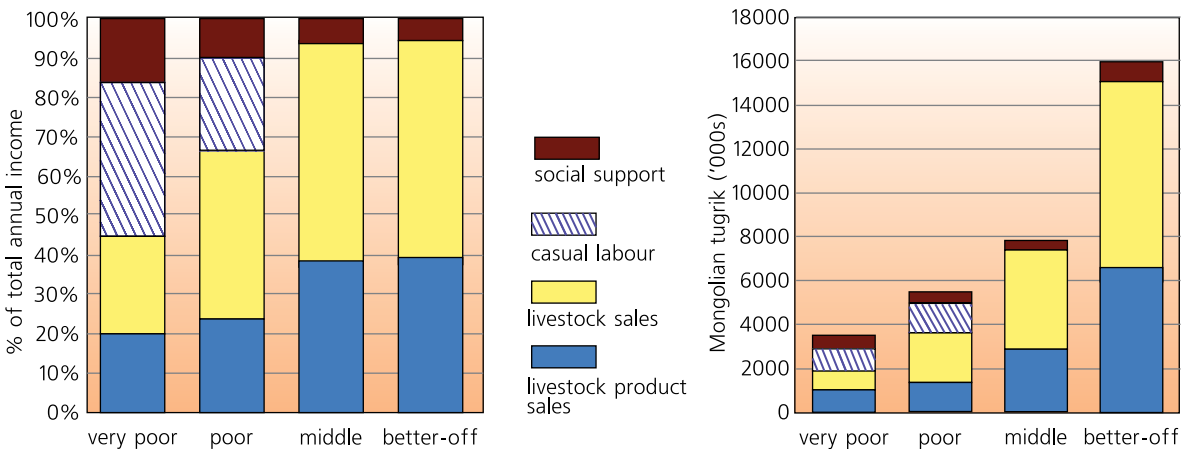


Figure 10: Zone 02 Source of Cash Income Excluding Income from Bank Loan Repayments

Expenditure

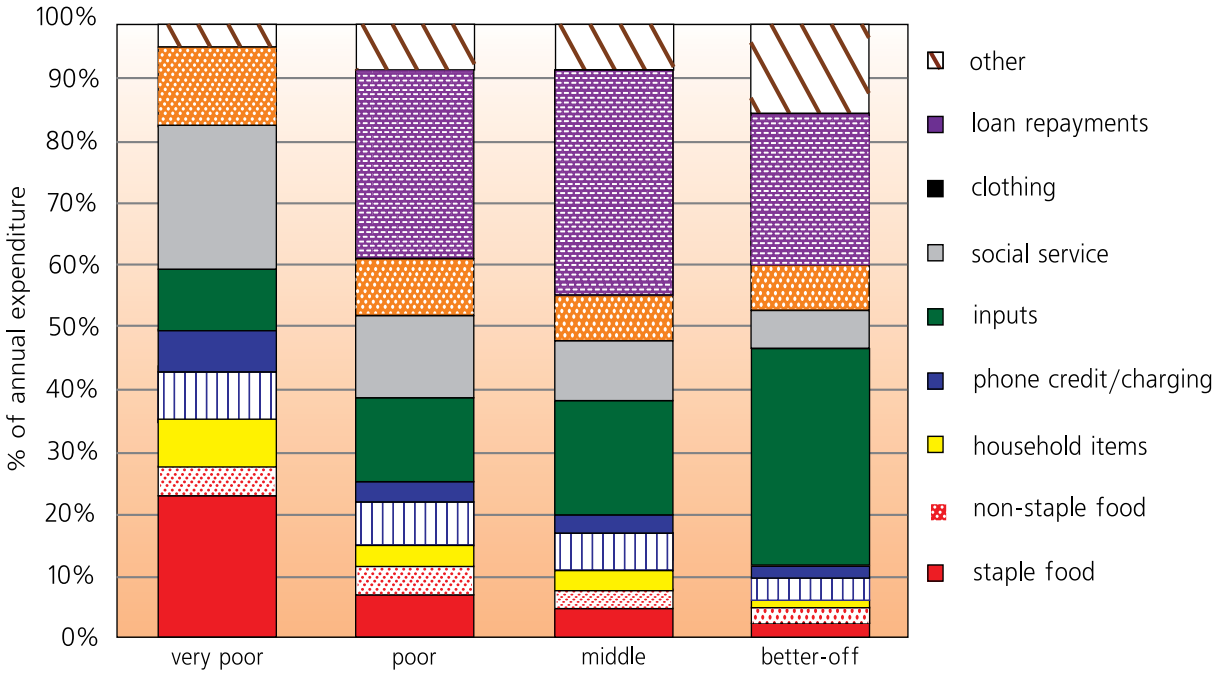


Figure 11: Zone 02 Expenditure Patterns

The graph above presents expenditure patterns for the reference year June 2016-May 2017. While absolute expenditure increases with wealth in line with total cash income, the expenditure breakdown by percent in this graph shows the relative amount of income spent on different categories.

Loan repayments are included in full in the graph to the left and as net repayments in the graph below.

The foods that households purchase include wheat flour, rice, sugar, vegetable oil, pasta, vegetables, and potatoes. The proportion of expenditure on food decreases from nearly 30% for very poor households to less than 5% for better off households. The category 'household items' includes tea, salt, soap, cooking fuel, and utensils. While absolute amounts spent on household items, phone costs, clothing, and social services increase with wealth, the proportion of overall expenditure spent on these items decreases with wealth. 'Social services' includes expenditure on education and health.

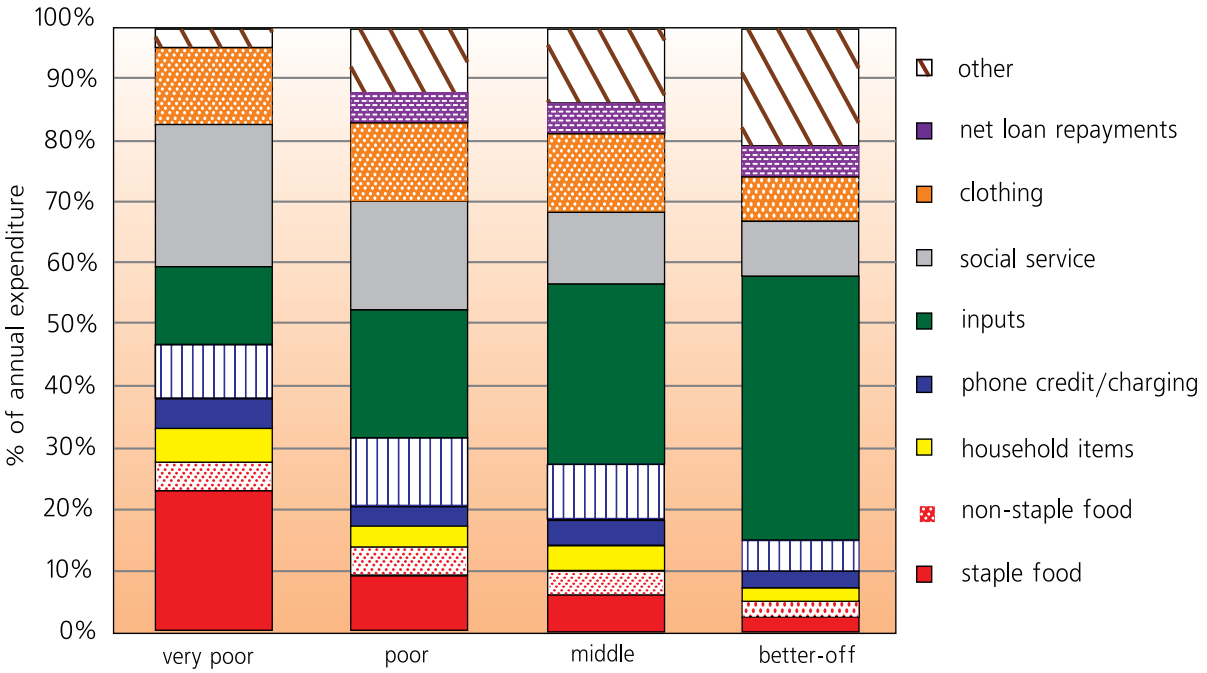


Figure 12: Zone 02 Expenditure Patterns with Net Loan Repayments

Inputs are a major category of expenditure and the proportion of money spent on these costs increases with wealth, unlike most other categories. It includes expenditure on livestock drugs, salt, labour for herding, fodder, shelter, and transport.

The 'other' category includes expenditure on alcohol, and cosmetics, and savings. This leftover money increases with wealth.

Livestock Migration

In the *Sukhbaatar Steppe Livestock Livelihood Zone*, households migrate with their livestock four times per year to summer, autumn, winter, and spring camps, which are generally within 20-30 kilometres of each other. During the reference year, the whole herd migrated for most wealth groups. This includes pack animals, females, lactating females, and calves. For most animals, approximately one third of the herd size are mature females, across all wealth groups. The level of births, sales, and deaths of all livestock types in the zone during the reference year – and the migration patterns – were considered normal.

The summer camp is usually near the soum centre on open land in the steppe and near a water source. The winter camp is next to hills or mountains for protection from wind and is relatively far from the soum centre. The spring and autumn camps are in between. Spring tends to be windy so some protection from wind is still required at this time because animals are weak after the long winter. The requirement for shelter and protection from wind is less important during autumn.

Movements tend to occur in March to the spring camp, June to the summer camp, September to the autumn camp, and late November or early December to the winter camp. Camps are generally made up of one or two isolated households; otherwise there are too many livestock in one place. Households with children in primary school sometimes split up, with mothers and children resident in the soum centre during the academic year – or at least during weekdays – and the remainder of the household with the livestock in the camps.

Migration to more distant areas – up to 150 kilometres away – in search of pasture occurs during severe winters (*dzud*) and is mainly done by men, with the remainder of the household remaining at the winter camp with weaker animals (including any that are sick, pregnant, very young, or old).

Response Strategies

In response to hazards and years with poor production, households attempt to meet their minimum food needs and cash requirements through a number of strategies. These strategies include:

- All households try to **reduce expenditure** on non-essential or more expensive items first, buying less rice, for instance, and using that money to buy the cheaper staple – wheat flour – instead; or cutting down on festivals, alcohol, or clothing purchases.
- Very poor and poor households try to increase cash income from **livestock-related labour**, by assisting and migrating with better off herders. However, in bad years local work can be hard to find and some people are forced to migrate to towns.
- Households from all wealth groups try to increase their **livestock sales**, both to increase cash available to the household and to destock in preparation for an upcoming *dzud*. However, the value of livestock tends to drop in bad years, putting a cap on the effectiveness of this strategy.
- In preparation for an upcoming *dzud*, households **purchase additional hay and fodder**, **improve shelters** and, if necessary, **migrate longer distances** in search of areas with less snowfall.

Key Parameters

The key parameters listed in the table below are food and income sources that make a substantial contribution to the household economy in the *Sukhbaatar Steppe Livestock Livelihood Zone*. These should be monitored to indicate potential losses or gains to local household economies, either through on-going monitoring systems or through periodic assessments.

Item	**Key Parameter – Quantity**	**Key Parameter – Price**
Livestock production	• Cattle herd size • Horse herd size • Goat herd size • Sheep herd size • Cattle milk (birth rates and daily milk yields) • Meat from animals • Cashmere production • Wool production • Herding labour availability	• Cattle price • Horse price • Goat price • Sheep price • Cashmere price • Wool price • Herding labour wage rate • Hides price
Other food and cash income	• Government social support availability • Loans availability	• Government social support amount • Loans cost

Table 8: Zone 02 Key Parameters

Programme Implications

The longer-term programme implications suggested below include those that were highlighted by key informants themselves and those made by the assessment team following detailed discussions and observations in the field. All of these suggestions require further detailed feasibility studies.

- Pasture degradation is an increasing problem and solutions should be explored, such as a tax to use pasture land according to herd size. Prior to 1990, there was a tax to use pasture land and this reduced overgrazing.
- Livestock diseases such as foot-and-mouth and sheep pox are a regular problem in this livelihood zone, killing livestock and limiting livestock sales. This suggests a need for improved veterinary services.
- Cattle are the only livestock type regularly milked in this livelihood zone. There is an opportunity to milk other livestock types and to prepare and sell livestock products. Milk products are currently imported from other parts of Mongolia for the local urban market.
- Methods to improve livestock shelters to prevent livestock losses should be explored.
- Improving herder linkages to markets may result in improved income levels and could be explored alongside market-led efforts to add value to livestock products.
- When the livelihood zone is threatened by a *dzud*, an early action could be to assist poorer households to stock up on staple food and key non-food items at the beginning of winter.

3. Mongolia Scenario Analysis for 2017-18 and 2018-19: Two Rural Livelihood Zones in Two Provinces

January 2018

This section presents the results of an HEA (household economy analysis) outcome analysis (OA) desk-based exercise conducted in January 2018 for two livelihood zones in two provinces of Mongolia. This was carried out for People in Need, as part of an OA training. The exercise included training and analysis sessions. The main objective was to use HEA outcome analysis to project the household economy situation during the 2017-18 and 2018-19 years in two livelihood zones. Ultimately, the information will be used to design appropriate food security / livelihoods interventions to improve the conditions of poorer families and communities affected by *dzud*s in Sukhbaatar and Arkhangai Provinces.

The HEA Methodology and The Mongolia Livelihoods Baselines

The method used to determine which areas may face deficits in the coming months and the magnitude and timing of these deficits is known as Household Economy Analysis (HEA). This is described briefly in this section[11].

An HEA-based current year assessment involves putting together two types of information:		
Livelihoods Baseline Data + *(the context)*	Monitoring/Seasonal Assessment Data → *(the changes)*	Analysis of Projected Situation and Intervention Needs *(the outcome)*

Figure 13: HEA Methodology

The Livelihoods Baselines (The Context)

HEA baseline information is disaggregated by geography (into common livelihood zones) as well as wealth (into common wealth groups). This is because people's access to food and cash income, and their expenditure requirements, depend both on where they live and what their wealth status is.

Normally, the first step in preparing an HEA livelihoods baseline is the preparation of a livelihood zone map. This step has been skipped in Mongolia, in the sense that a national livelihood zone map was not prepared. Detailed discussions on livelihood zones in the two provinces of interest (Sukhbaatar and Arkhangai) identified two livelihood zones for fieldwork: the *High Mountain Livestock Livelihood Zone* in Arkhangai and the *Steppe Livestock Livelihood Zone* in Sukhbaatar. The latter is the main livelihood zone in rural Sukhbaatar Province and most likely extends beyond the borders of the province. The former is one of at least two rural livelihood zones in Arkhangai and may also extend beyond the province borders. Baseline fieldwork was carried out within the two provinces.[12]

11 A more detailed description of HEA is available in this document: http://foodeconomy.com/wp-content/uploads/2015/09/HEA-Guide-for-Programme-Policy-Makers.pdf.

12 Fieldwork was carried out in Ikhtamir, Chuluut, Tariat, Khangai, Tsakhir, Undur-Ulaan, Bulgan and Tsenkher soums in the High Mountain Livestock Livelihood Zone in Arkhangai Province and in Khalzan, Dariganga, Ongon, Bayandelger, Uulbayan, Asgat, Munkhkhaan and Tumentsogt soums in the Steppe Livestock Livelihood Zone in Sukhbaatar Province.

The second step in an HEA baseline assessment is the preparation of a wealth breakdown, by livelihood zone. Wealth breakdowns group people together using local definitions of wealth and quantify their livelihood assets (including land and livestock holdings, household size and composition, skills, etc.). In both livelihood zones in Mongolia, wealth is primarily determined by livestock holdings.

The third step in an HEA baseline assessment is the quantification of all sources of food, income, and expenditure – for each wealth group in each livelihood zone – for a defined 'reference' year. The reference year differs by livelihood zone and is a recent consumption year, starting with the month when own household production starts, usually marking the end of the main hunger season. In both livelihood zones, the reference year chosen was an average year.

The following tables provide a brief summary of the characteristics of the two livelihood zones that have been included in the January 2018 outcome analysis.

<table>
<tr><th colspan="3">Zone 01: Arkhangai High Mountain Livestock Livelihood Zone</th></tr>
<tr><td>Livestock production</td><td>Yaks
Horses
Goats
Sheep
Cashmere
Wool
Yak milk
Meat from own livestock
Gifts of meat
Livestock-related casual labour</td><td rowspan="2">The Arkhangai High Mountain Livestock Livelihood Zone is found in the western part of Arkhangai Province. It is a sub-Arctic climatic zone that falls along the Khangai mountain range in western Mongolia. It is a semi-arid steppe-forest area covered by hills and undulating plains.

The local economy in this livelihood zone revolves around livestock and livestock production. Yaks, horses, goats, and sheep are the primary livestock. Live animal sales and their products – including milk, curd, ghee, yoghurt, airag (fermented mare's milk), cashmere and wool – form the backbone of the local economy. Yaks and horses are the most valuable livestock types in terms of live animal sales and cashmere from goats is the most valuable livestock product. Herders receive a subsidy from the government for sheep wool production, which encourages them to produce what is otherwise not a particularly remunerative product.

All wealth groups are dependent on livestock and livestock product sales for at least one third of their total income. Poorer groups supplement their livestock-based income with casual labour from herding and shearing, selling wild foods, and charcoal production.</td></tr>
<tr><td>Other income sources</td><td>Government social support
Loans</td></tr>
</table>

Table 9: Zone 01 HEA Baseline Information Summary

Zone 02: Sukhbaatar Steppe Livestock Livelihood Zone		
Livestock	Cattle Horses Goats Sheep Cashmere Wool Cattle milk Meat from own livestock Livestock-related casual labour	The *Sukhbaatar Steppe Livestock Livelihood Zone* is found in rural areas of Sukhbaatar Province in the eastern plains of Mongolia. It is a semi-arid zone with a dry climate and extensive flat, open grasslands.The population of the livelihood zone is made up of nomadic herders. Livelihoods are based around livestock and the herders in this zone keep sheep, goats, cattle, horses and a small number of camels. The zone is known for horse rearing and racing and people from all over Mongolia purchase horses from Sukhbaatar. Livestock free graze or browse on communally-held land throughout the year. All livestock types are sold. The main livestock product sold is high quality cashmere from *Bayandelger* red breed goats. Wool from sheep and hide sales are secondary livestock products. Milk and milk products from cattle are consumed within the households, but are not sold. Other livestock types are typically not milked. Livestock are mainly sold in summer and autumn when body condition is at its best, demand is high, and herders need cash for major annual expenditures. Cashmere is harvested and sold in March-April and wool in July-August. There is little income from livestock during the winter months. Poorer households supplement their income from livestock with income from labour, mainly herding and shearing for better off households.
Other income sources	Government social support Loans	

Table 10: Zone 02 HEA Baseline Information Summary

The HEA baselines form a key input into the current outcome analysis, providing the context against which to evaluate the effects of changes in production and prices.

Developing Problem Specifications from Monitoring Data (the Changes)

Problem specifications are the translation of a shock or other change into economic consequences at household level. They allow one to mathematically link the change (positive or negative) to each relevant livelihood strategy. The process of developing problem specifications is one of critically examining the effects of each type of change on each source of food, income and expenditure. There can be quite a large number of these sources, not all of which are equally important, and it is therefore useful to identify the key sources for each wealth group and each livelihood zone. A key source (or key parameter) is here defined as one that contributes significantly to total food or cash income[13], so that a reduction in access to that one source may have a significant effect on total access. Table 2 summarises the key parameters for the two livelihood zones in Mongolia, based on their food sources, income sources and expenditure patterns in the reference year.

Table 11: Key parameters

	Zone 01: Arkhangai	Zone 02: Sukhbaatar
Quantity related to income sources:	Yaks Horses Goats Sheep Yak milk Cashmere Yak wool Sheep wool Own meat Gifts of meat Livestock-related labour Government social support	Cattle Horses Goats Sheep Cattle milk Cashmere Sheep wool Own meat Hides Livestock-related labour Government social support
Prices related to income sources:	Yaks Horses Goats Sheep Yak milk products Cashmere Yak wool Sheep wool Livestock-related labour Government social support	Cattle Horses Goats Sheep Cashmere Sheep wool Hides Livestock-related labour Government social support
Prices related to expenditure:	Wheat flour Livestock drugs Livestock salt Transport Livestock fodder/shelter Labour (for livestock) Loan repayments Education Health Phone credit/charging	Wheat flour Livestock drugs Livestock salt Transport Livestock fodder/shelter Labour (for livestock) Loan repayments Education Health Phone credit/charging

Table 11: Key Parameters for Zones 01 and 02

In Mongolia, most of the key parameters are being monitored regularly and problem specifications can easily be developed.

13 A key parameter is defined as a source of food or income that contributes at least 10% of one wealth group's total food or income or at least 5% for each of two wealth groups' total food or income.

Analysis of Projected Situation (The Outcome Analysis)

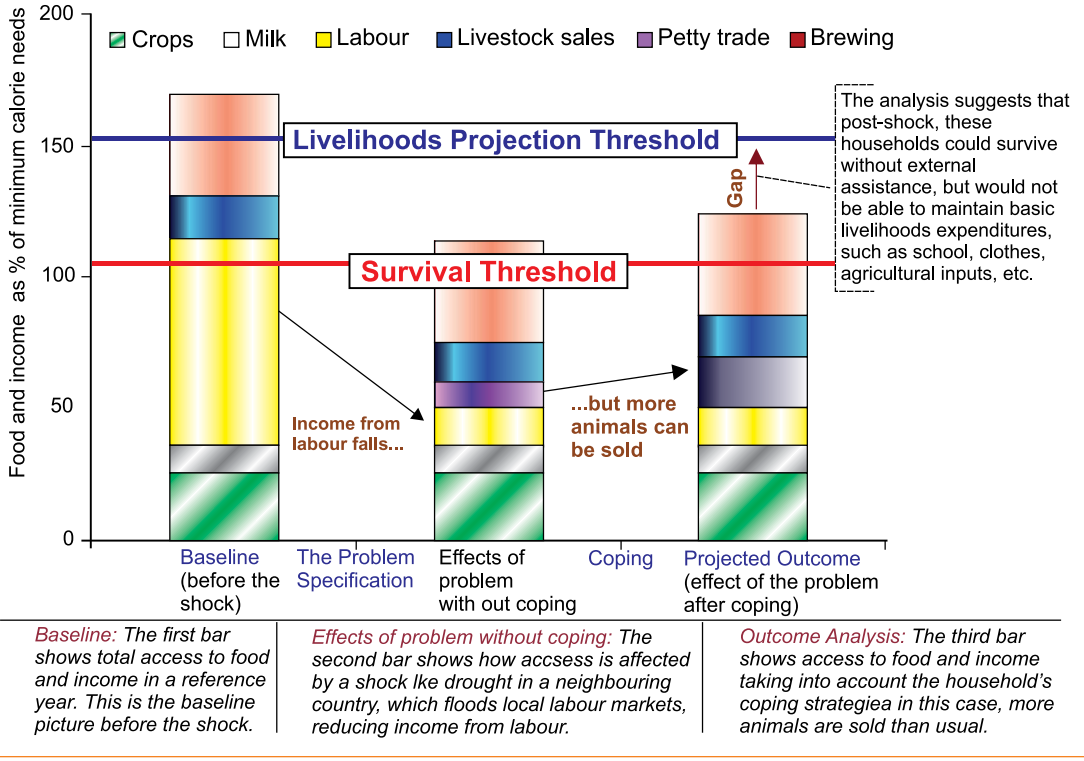
Outcome analysis is the term used to describe the process of taking information on the current situation (the monitoring data) and combining it with information on the reference year (the baseline) to project total income for the current year. Three types of data are combined: data on baseline access, data on hazard (i.e. factors affecting access to food and cash this year, such as livestock production or market prices) and data on coping strategies (i.e. the sources of food and income that people turn to when exposed to a hazard)[14]. The approach can be summarised as follows: ***Baseline + Hazard + Coping = Outcome.***

In this context, the purpose of the analysis is to utilise available information on current hazards and their likely effects on baseline sources of food and cash income. The output from an outcome analysis is an estimate of total food and cash income for the current year, once the effects of current hazards and income generated from coping strategies have been taken into account. No negative or damaging coping strategies (such as unsustainable levels of livestock sales) are included in the analysis.

The next step is to compare projected total income against two clearly defined thresholds to determine whether an intervention of some kind is required. This is explained further in the example figure below. Total food income in the reference year is shown in the left-hand bar, while total food income in the analysis year after the inclusion of coping strategies is shown in the right-hand bar. This is then compared against two thresholds.

14 Information on possible coping strategies is collected as part of the baseline assessment.

Figure 14: The Household Economy Analytical framework: a simplified illustration



The Survival Threshold: The income required to cover 100% of minimum food needs plus survival non-food.[15]
The Livelihoods Protection Threshold: The income required to cover additional expenditure on health, education, inputs, etc.[16]

Figure 14: The Household Economy Analytical framework – a simplified illustration

Where total income falls below the livelihoods protection threshold an emergency intervention is required to sustain livelihoods in the short and medium terms (so that people can continue to pay for health, education, productive inputs, etc). Where total income falls below the survival threshold, intervention is required to maintain food intake at a minimum acceptable level (2100 kcals per person per day) in addition to sustaining livelihoods. Given the current emphasis on preserving livelihoods in addition to saving lives, deficits – and therefore intervention needs – are usually calculated in relation to the livelihoods protection threshold, not the survival threshold.

15 The survival threshold is set at slightly above 100% of minimum food needs to allow for expenditure on survival non-food items. These are items associated with food preparation (e.g. salt, soap, cooking fuel) and water for human consumption, where this was paid for in the reference year. Expenditure on shelter and clothes has been included in the survival threshold in Mongolia, unlike in other countries, because of the extreme cold to which households are exposed.

16 The 'livelihood protection basket' includes 100% of expenditure by each wealth group on productive inputs for livestock production, health and education costs. Other items (related to standard of living) have been included at 25-100% of the level of poor household expenditure (e.g. non-staple food items, basic non-food items etc).

SCENARIOS

Official monitoring data on livestock production and on prices is largely available for the definition of the current year problem. Each element of the scenarios analysed is outlined in the report below and can be monitored and revised in future as additional information becomes available.

The main factor affecting the current consumption year is a *dzud*, which is a slow-onset natural event characterized by summer drought, then bitter cold, deep snow and arctic wind during the winter, resulting in livestock deaths. In Sukhbaatar, this is combined with an outbreak of foot-and-mouth disease, which has resulted in quarantine and restricted livestock sales in 2017.

Two years have been analysed separately: 1) the current year (June 2017 to May 2018), during which the summer drought and severe winter have occurred; and 2) next year (June 2018 to May 2019), during which the main effects of livestock losses will be experienced.

Table 12: Current years

Livelihood zone	Reference year	Current year	Next year
MG_1	June 2015 to May 2016	June 2017 to May 2018	June 2018 to May 2019
MG_2	June 2016 to May 2017	June 2017 to May 2018	June 2018 to May 2019

Table 12: HEA Years of Analysis

It is important to understand when the analysis contained in this report was conducted in relation to the current year (2017-18) and next year (2018-19), which is illustrated in the graphic below for Zone 02 (see row called 'timing of analysis')[17]. January 2018 is more than half-way through the current year. Milk production and livestock sales in 2017 have already occurred and were affected by drought (but not by livestock losses expected during the winter of 2017-18). The main event that remains in the future in the current consumption year is cashmere sales, for which prices must be estimated.

17 A larger version of this graphic is contained in Annex 1 at the end of this report.

Consumption Year	Reference year Zone 02=2016-17												Current year=2017-18												Next year=2018-19h											
Month	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Calendar Year	16	16	16	16	16	16	16	17	17	17	17	17	17	17	17	17	17	17	17	18	18	18	18	18	18	18	18	18	18	18	18	19	19	19	19	19
Rains	x	x	x	x									x	x	x	x									x	x	x	x								
Livestock births										x	x											x	x											x	x	
Milk production	x	x	x	x	x								x	x	x	x	x								x	x	x	x	x	x	x	x	x	x	x	x
Cashmere sales										x	x											x	x											x	x	
Livestock sales		x	x	x	x	x								x	x	x	x	x								x	x	x	x	x						
Lean Season										x	x	x										x	x	x	x									x	x	x
Timing of analysis																				x																

Table 13: Seasonal Calendar for Years of Study (Also Available in Annex 01)

For next year (2018-19), milk production and livestock sales will be affected by any livestock losses during the 2017-18 winter *dzud*. As part of the scenario for 2018-19, it has been assumed that the future 2018 rainy season will be average and the 2018-19 winter will not experience another *dzud*.

Scenario for 2017-18

In the absence of a reliable means of projecting prices forward, the same months from the current year and reference year are compared in the following scenarios for each zone (Table 4). The change in price is indicated (e.g. +15% indicates a 15% increase in price in the current year compared to the reference year). Items in blue are best estimates based on team knowledge. Items in black are calculated from existing official monitoring data.

Table 14: Price scenario and Inflation[18]

Zone: Province →	Zone 01: Arkhangai	Zone 02: Sukhbaatar
INCOME		
Yaks	-17%	-
Cattle	-	-3%
Horses	-18%	+/- 0%
Goats	-12%	+5%
Sheep	-16%	+5%
Milk / products	+18%	-
Cashmere	+/- 0%	-30%
Wool	Inflation	Inflation
Hide sales	Inflation	Inflation
Livestock-related labour	+/- 0%	+/- 0%
Government support	+/- 0%	+/- 0%
EXPENDITURE		
Wheat flour	+16%	+4%
Rice	+16%	+8%
Vegetable oil	+6%	Inflation
Sugar	+15%	+13%
Livestock drugs	Inflation	Inflation
Transport for livestock	+29% = inflation +20% to account for extra expenses during *dzud* winter	+28% = inflation +20% to account for extra expenses during *dzud* winter

18 An empty box indicates that the item is not a key parameter in the livelihood zone.

Zone: Province →	Zone 01: Arkhangai	Zone 02: Sukhbaatar
Livestock fodder/shelter	+125% = 50% increase in costs plus 50% increase in quantity purchased	+125% = 50% increase in costs plus 50% increase in quantity purchased
Labour (for livestock)	+/- 0%	+/- 0%
Loan repayments	+/- 0%	+/- 0%
Education & Health	Inflation	Inflation
Phone costs	Inflation	Inflation
Salt for livestock	Inflation	Inflation
Inflation	+8%	+6%

Table 14: Price scenario and Inflation

Inflation has been calculated using the official national inflation rate (compounded for the number of years since the reference year) and is used to represent the price change for some non-food items in the survival and livelihood protection expenditure baskets.

Official monitoring data on herd size changes is available. The following table summarises the problem specifications for livestock production that have been used in the analysis. Any of these assumptions can be changed if better information becomes available or if decision makers would like to see the results of a different scenario. Items in black are calculated from existing monitoring data. Items in blue are best estimates based on team knowledge. There is no monitoring data on daily milk production per animal, but the participants estimated a 25% decrease in 2017 because of drought. A 25% decrease in livestock sales was also estimated for Sukhbaatar Province because of market restrictions due to quarantine.

Table 15: Livestock Production Scenario		
Zone: Province →	**Zone 01: Arkhangai**	**Zone 02: Sukhbaatar**
Cattle/yak herd size[19]	+14%	+13%
Goat herd size	+14%	+17%
Sheep herd size	+14%	+17%
Horse herd size	+22%	+15%
Birth rates for cattle/yaks	+/- 0%	+/- 0%
Daily milk production for cattle/yaks	-25%	-25%
Market access for livestock sales	+/- 0%	-25%
Cashmere sales[20]	-2%	+4%
Yak wool sales	+14%	
Sheep wool sales	+19%	+18%
Hide sales	+/- 0%	+/- 0%
Own meat consumption/ gifts of meat	+/- 0%	+/- 0%
Livestock-related labour	+/- 0%	+/- 0%

Table 15: Livestock Production Scenario

For other elements of the scenario related to casual labour and other income sources, the following problem specifications were used. It has been assumed that wild foods availability was affected by the drought in the summer of 2017.

19 The problem specifications for herd size are the change in herd size at the start of the current year in relation to herd size at the start of the reference year, calculated from official monitoring data by province.

20 This is the change in herd size for goats with a 10% reduction because of the current year *dzud*.

Table 16: Scenario for other sources of food and income (quantity problem)		
Zone: Province →	**Zone 01: Arkhangai**	**Zone 02: Sukhbaatar**
Loans	+/- 0%	+/- 0%
Government subsidies	+/- 0%	+/- 0%
School feeding	+/- 0%	+/- 0%
Wild foods	-50%	-

Table 16: Scenario for other sources of food and income (quantity problem)

Scenario for 2018–19

Most of the scenario for June 2018 to May 2019 is similar to the scenario for 2017-18, with the following changes:

- Livestock herd sizes have been decreased by 18% for cattle and yaks, 15% for sheep and goats, and 5% for horses compared to the levels in 2017-18. These are estimated death rates during the 2017-18 winter *dzud*.
- The birth rate for cattle and yaks is projected to be 11% lower than in 2017-18, again because of the *dzud*.
- The daily milk yields are projected to be the same as in the reference year (i.e. no drought in the summer of 2018).
- The livestock sales restriction that was applied to Zone 02 in Sukhbaatar for 2017-18 (a 25% decrease compared to the reference year) has now been applied to both livelihood zones for 2018-19 (due to expected livestock disease outbreaks and quarantines).
- The additional expenditure on livestock fodder and transport that was applied to the winter of 2017-18 has been removed for 2018-19 (i.e. no *dzud*).

Projected Food Security Prospects

The results of the outcome analyses are presented in this section. These illustrate how the changes outlined in section 4 are expected to impact upon total income for households in different wealth groups in the two livelihood zones.

Outcome for 2017–18

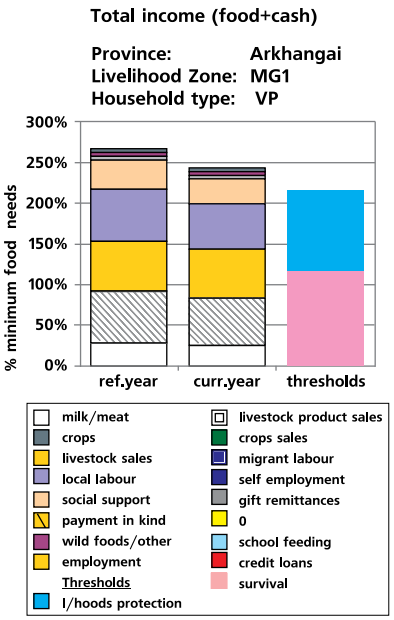
The following figures present the results of the outlined scenario for very poor and better off households in each livelihood zone/province combination. Graphs for poor and middle households are also available.

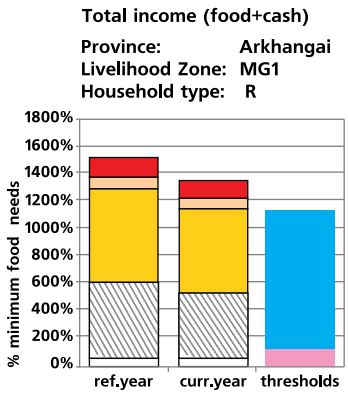
ARKHANGAI PROVINCE ZONE 01: 2017–2018

Main components of problem spec for current year (Jun17-May18) compared to reference year (15-16):

* Livestock prices lower
* Herd size higher but milk production lower (because of 2017 drought)
* Increased livestock-related expenditure because of current year dzud (fodder and transport)

- Livestock and livestock product sales provided the majority of very poor households.
- With small losses in milk production, and the increase in staple food prices, total income is the current year.
- All wealth groups are unlikely to face deficits.





Notes:
1. VP = very poor
2. R = better off
3. Mg1 = Arkhangai High Moutan Livestock Livelihood Zone
4. 100% of minimum food needs = 2100 kcals per person per day

Notes: The charts show estimates of total income (food plus cash) for the current and reference years. These should be compared with the intervention thresholds (in the right-hand bar) to determine whether there is a deficit this year. The pink section represents the survival threshold, while the pale blue section represents the livelihoods protection threshold. The scale is different in the two charts.

Figure 15: Zone 01 Outcome Analysis for 2018–2019

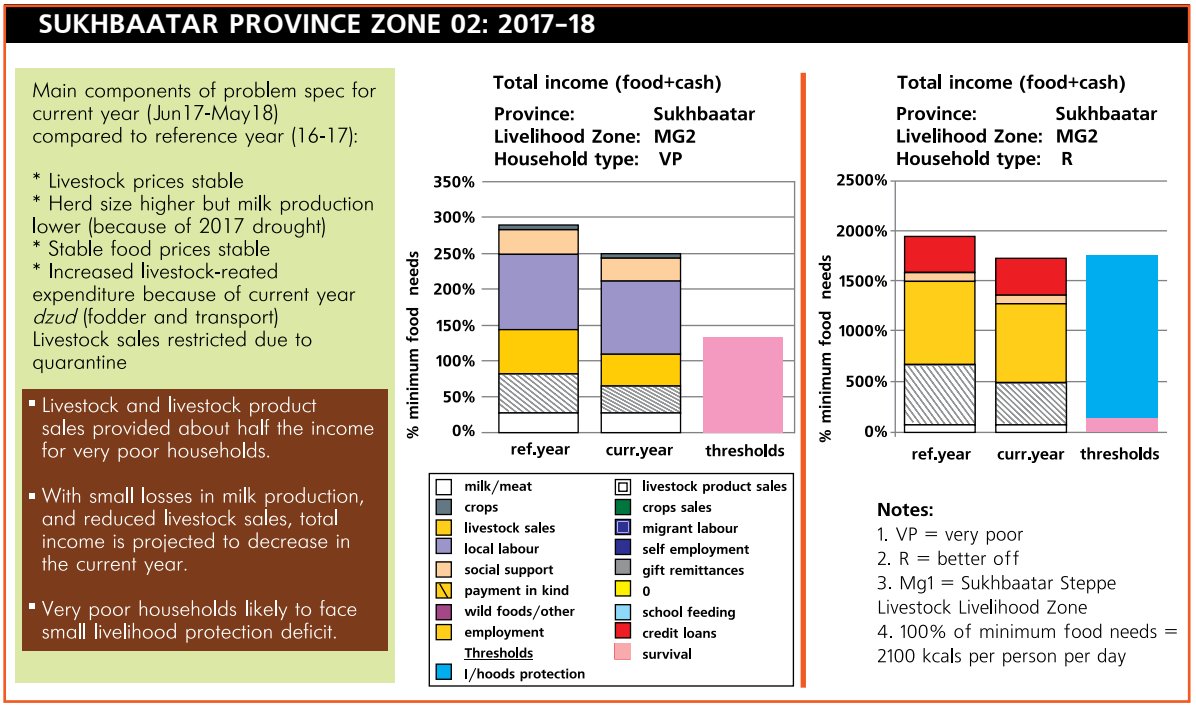


Figure 16: Zone 02 Outcome Analysis for 2017–18

In sum, households in Zone 01 in Arkhangai Province are unlikely to face livelihood protection or survival deficits in 2017-18, based on the assumptions presented above. Very poor households in Zone 02 in Sukhbaatar Province are on the borderline of a livelihoods protection deficit (and in fact are just below the threshold). This result is very sensitive to the level of livestock sales decrease (due to quarantine in 2017) and the projected price for cashmere in 2018. In light of this, the safest response may be to provide some assistance to households in this wealth group in Sukhbaatar Province.

As a reminder, a livelihood protection deficit represents an emergency situation whereby households cannot afford many basic things that they spent money on in the reference year, including inputs, education, health, some clothes, shelter, and non-staple foods. Faced with this situation, they may make a choice to purchase some items in the livelihood protection basket in preference to staple food, thus also going hungry.

Outcome for 2018–19

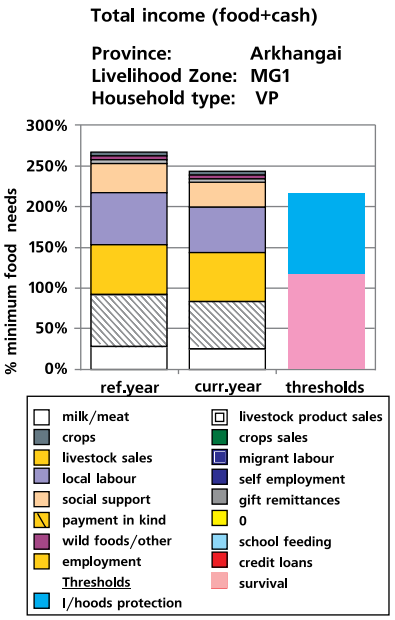
The changes specified above for 2018-19 are less severe than for 2017-18, despite some livestock losses expected during the 2017-18 winter.

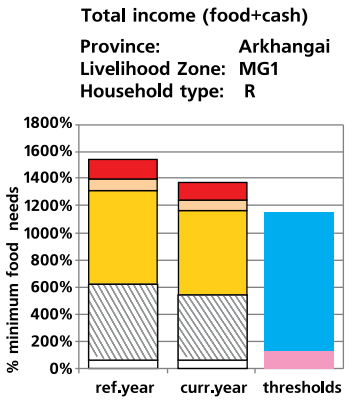
The following figures present the results of the outlined scenario for very poor and better off households in each livelihood zone/province combination. Graphs for poor and middle households are also available.

ARKHANGAI PROVINCE ZONE 01: 2018–19

Main components of problem spec for current year (Jun18-May19) compared to reference year (17-18):
* Prices similar
* Herd size lower due to *dzud* deaths
* Birth rate lower due to *dzud*-caused livestock abortions
* Disease outbreak causes quarantine and restrictions on livestock sales
* Additional expenditure on fodder and transport removed

- Livestock and livestock product sales provided the majority of very poor households.
- With small losses in milk production, and reduced livestock sales, total income is projected to decrease next year.
- All wealth groups unlikely to face but close to LP threshold.





Notes:
1. VP = very poor
2. R = better off
3. Mg1 = Arkhangai High Moutan Livestock Livelihood Zone
4. 100% of minimum food needs = 2100 kcals per person per day

Figure 17: Zone 01 Outcome Analysis for 2018–19

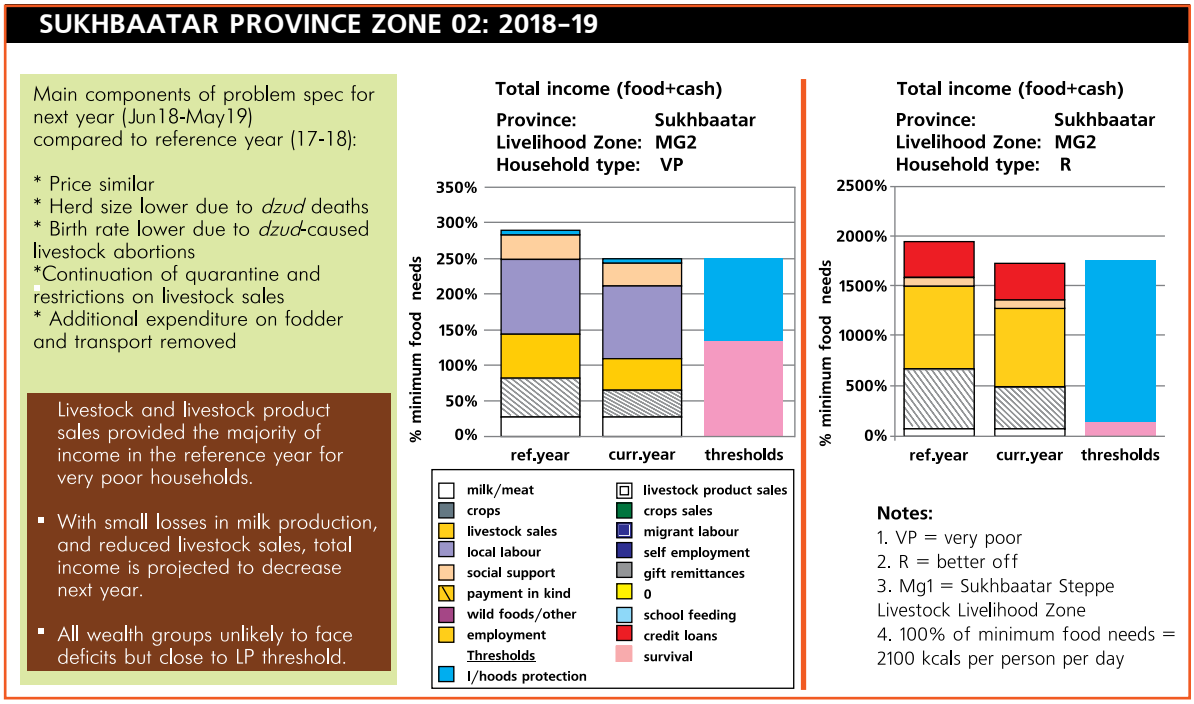


Figure 18: Zone 02 Outcome Analysis for 2018–19

In sum, households in both livelihood zones are unlikely to face livelihood protection or survival deficits in 2018-19, based on the assumptions presented above. However, as for 2017-18, the result is very sensitive to the level of livestock sales decrease (due to quarantine) and the projected price for cashmere. Very poor households in both livelihood zones end up very close to the livelihood protection threshold under the assumptions made for 2018-19 and the situation should be very closely monitored. Any of the assumptions made in this analysis can be revised as additional information becomes available.

Annex 1: Seasonal Calendar

Consumption Year	Reference year Zone 02=2016-17												Current year=2017-18												Next year=2018-19											
Month	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Calendar Year	16	16	16	16	16	16	16	17	17	17	17	17	17	17	17	17	17	17	17	18	18	18	18	18	18	18	18	18	18	18	18	19	19	19	19	19
Rains	x	x	x	x									x	x	x	x									x	x	x	x								
Livestock births										x	x											x	x											x	x	
Milk production	x	x	x	x	x								x	x	x	x	x								x	x	x	x	x	x	x	x	x	x	x	x
Cashmere sales										x	x											x	x											x	x	
Livestock sales		x	x	x	x	x								x	x	x	x	x								x	x	x	x	x						
Lean Season										x	x	x										x	x	x	x									x	x	x
Timing of analysis																				x																


ТАНХИМ