



Schweizerische Eidgenossenschaft  
Confédération suisse  
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Swiss Agency for Development  
and Cooperation SDC



**“GREEN GOLD”**  
project



**Center for Policy  
Research**

# **Pastureland use agreement— path to sustainable livestock development**

***Handout for herders***

# The negative impact of common use pastureland and herd size maximization



- **Pasture degradation - the quality & condition of pasturelands deteriorate**



- **The quality & productivity of livestock decrease**



- **Income losses of herders and increased exposure to risks**

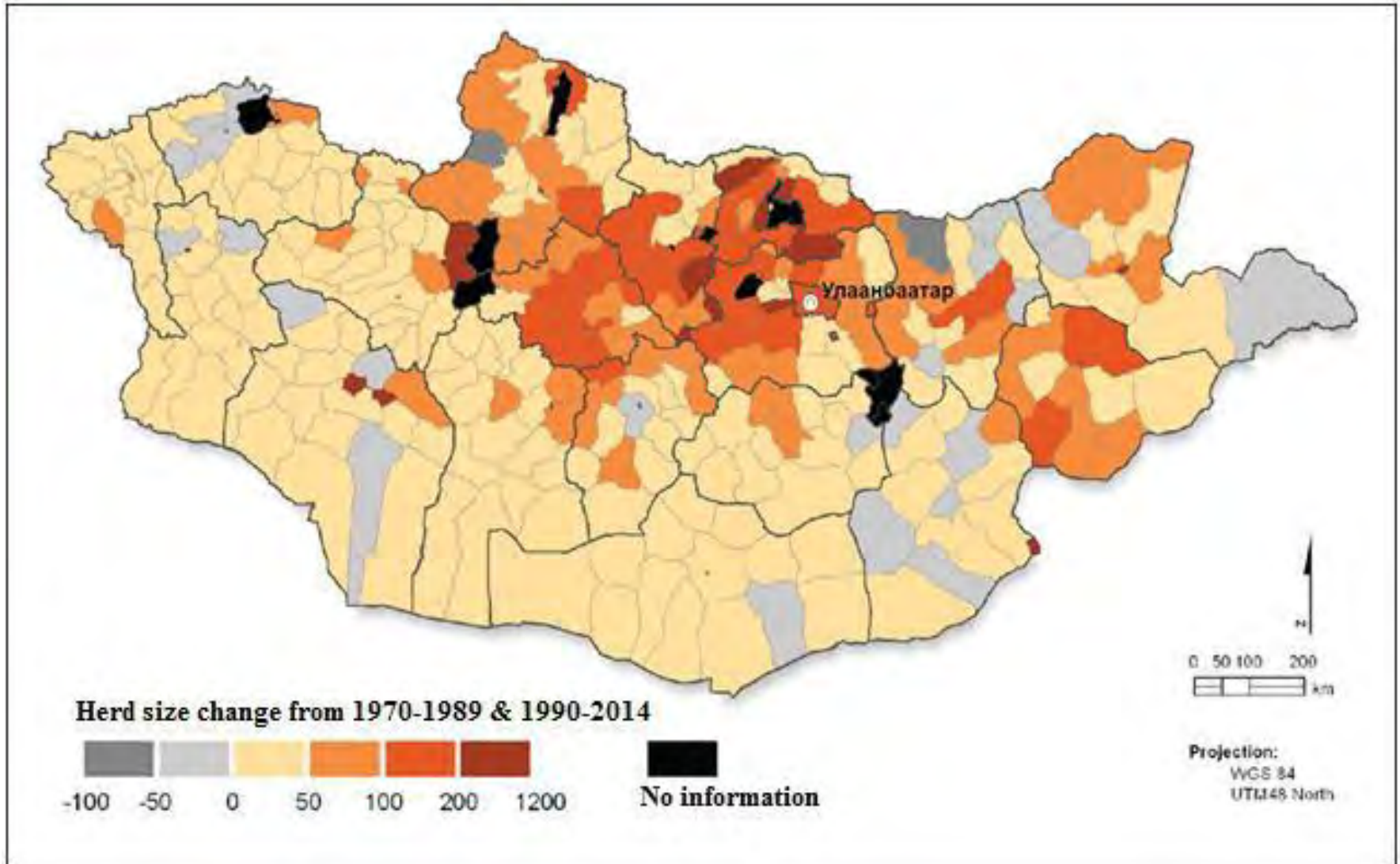


- **There is decreased availability of pasturelands as result of converting to other uses such as mining, infrastructure, tourism, homestead areas**

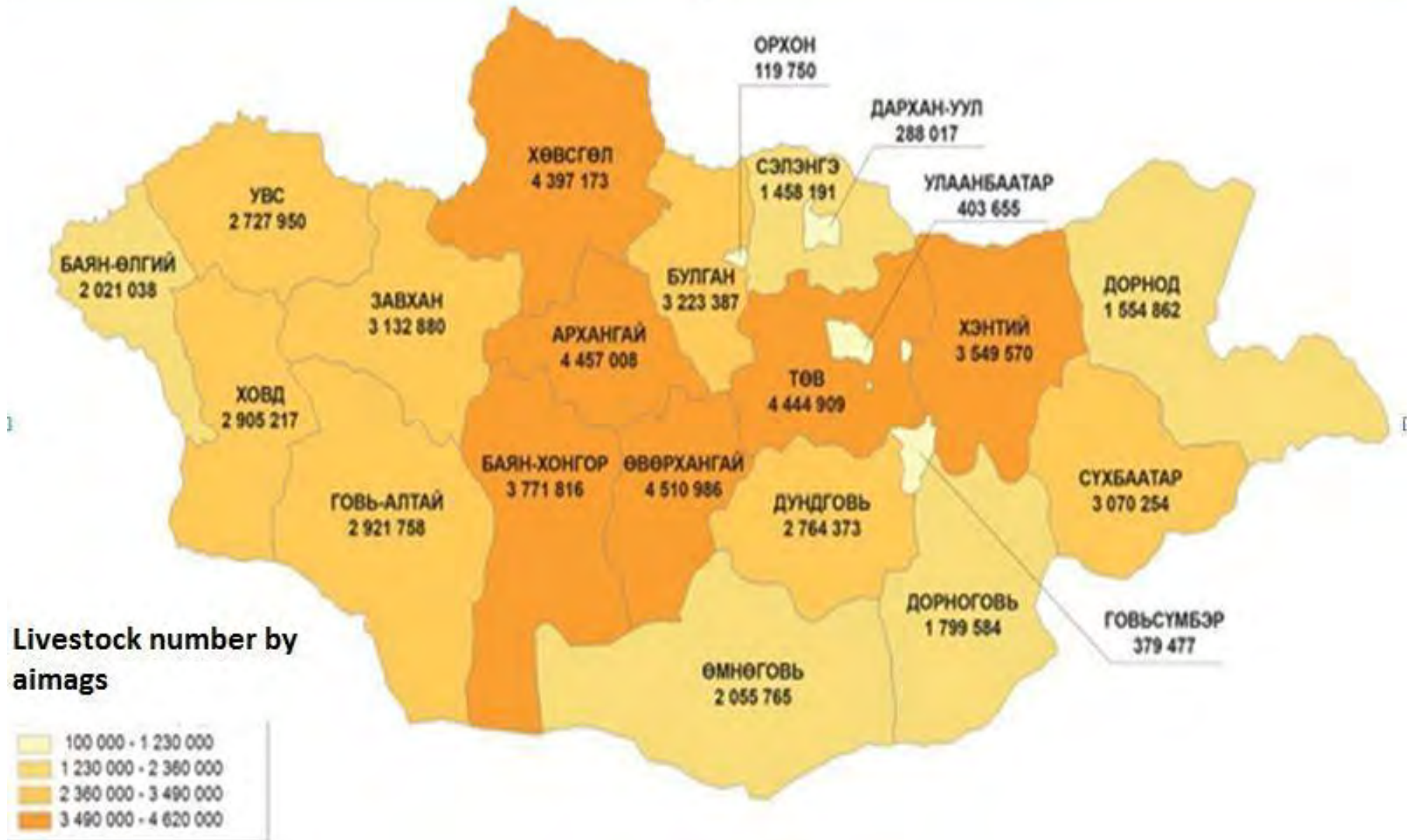
**Scientific research & evidence prove all of the above outcomes**

# Livestock population growth (in sheep units by aimag)

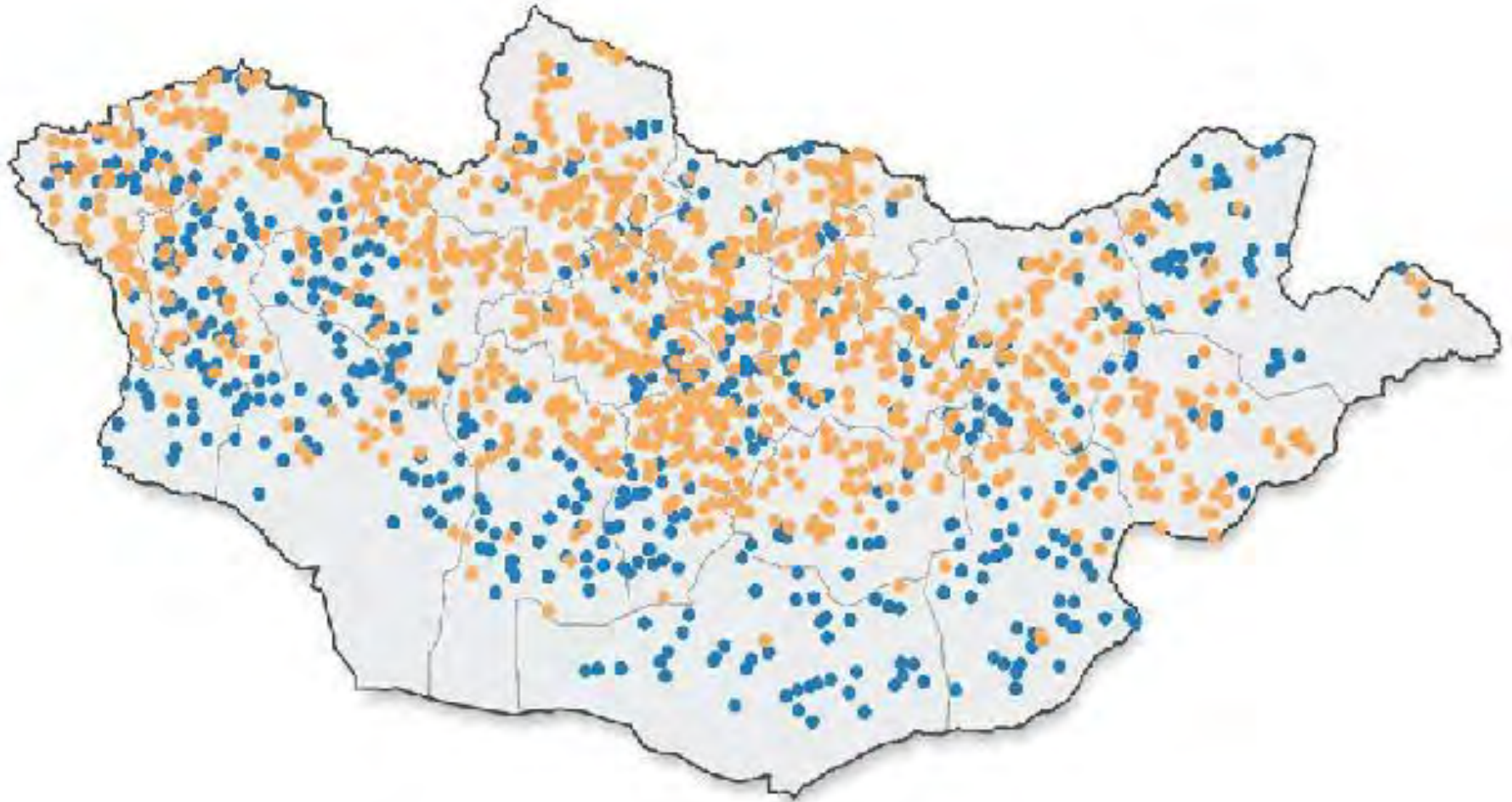
The average of 1970-1989 compared to the average of 1990-2014



# Livestock population reached 55,977,620 in 2015, growing by 4 million units or 7.7% from 2014,

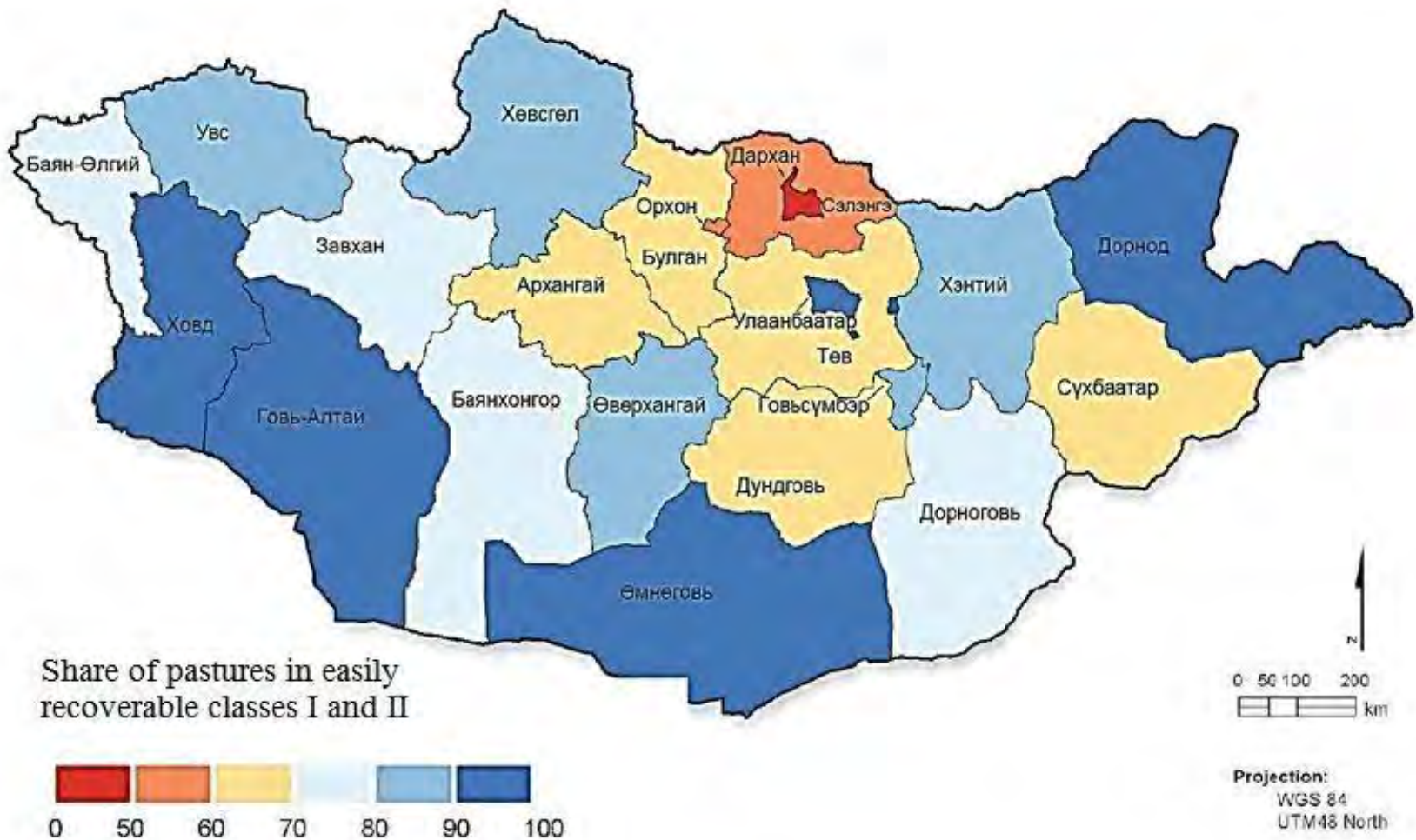


**65% of pasturelands in Mongolia undergone to certain degree of degradation losing their natural freshness**



- Fresh pasture conditions
- Degraded pasture conditions

# WHERE IS PASTURE DEGRADATION MOST PREVALENT?



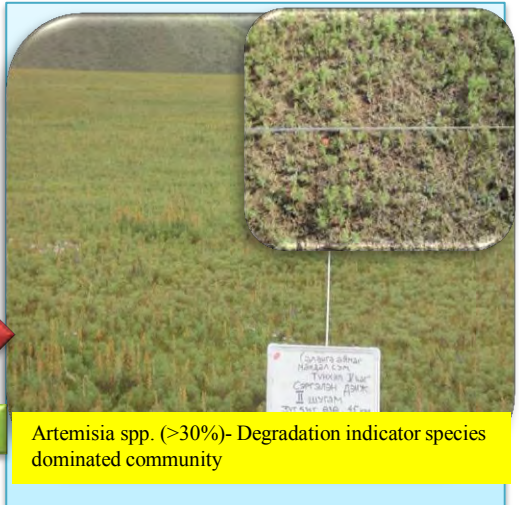
# State and Transition Model for the Small bunch grass-forb rangeland in Loamy Fan of mountain valley in Forest Steppe zone



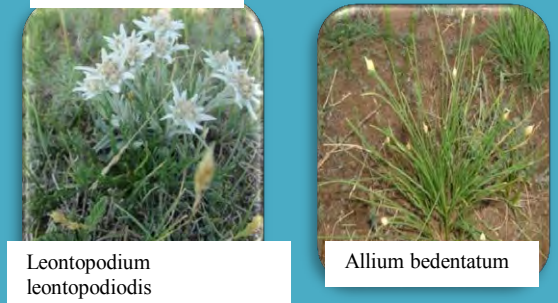
Stipa krylovii (>40%) - Small bunch grass (<10%) - Carex duriuscula (<20%) community




Carex duriuscula (20-40%) - Artemisia spp. (10-30%) community

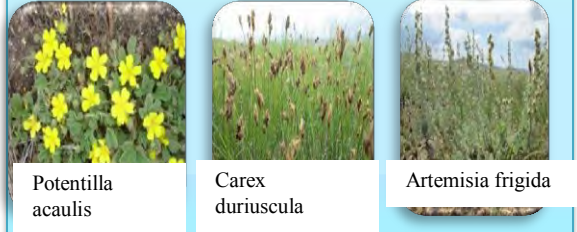



Artemisia spp. (>30%) - Degradation indicator species dominated community



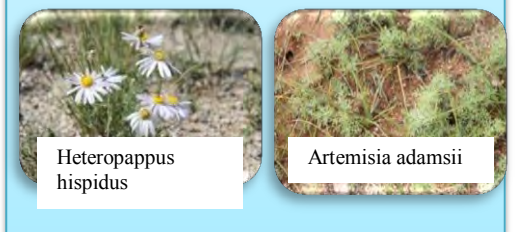
## 1. Small bunch grass dominated reference state

Biomass: 1243-1420 kg/ha  
Resilient carrying capacity: 73-83 sheep unit/100 ha



## 2. Carex dominated alternative state

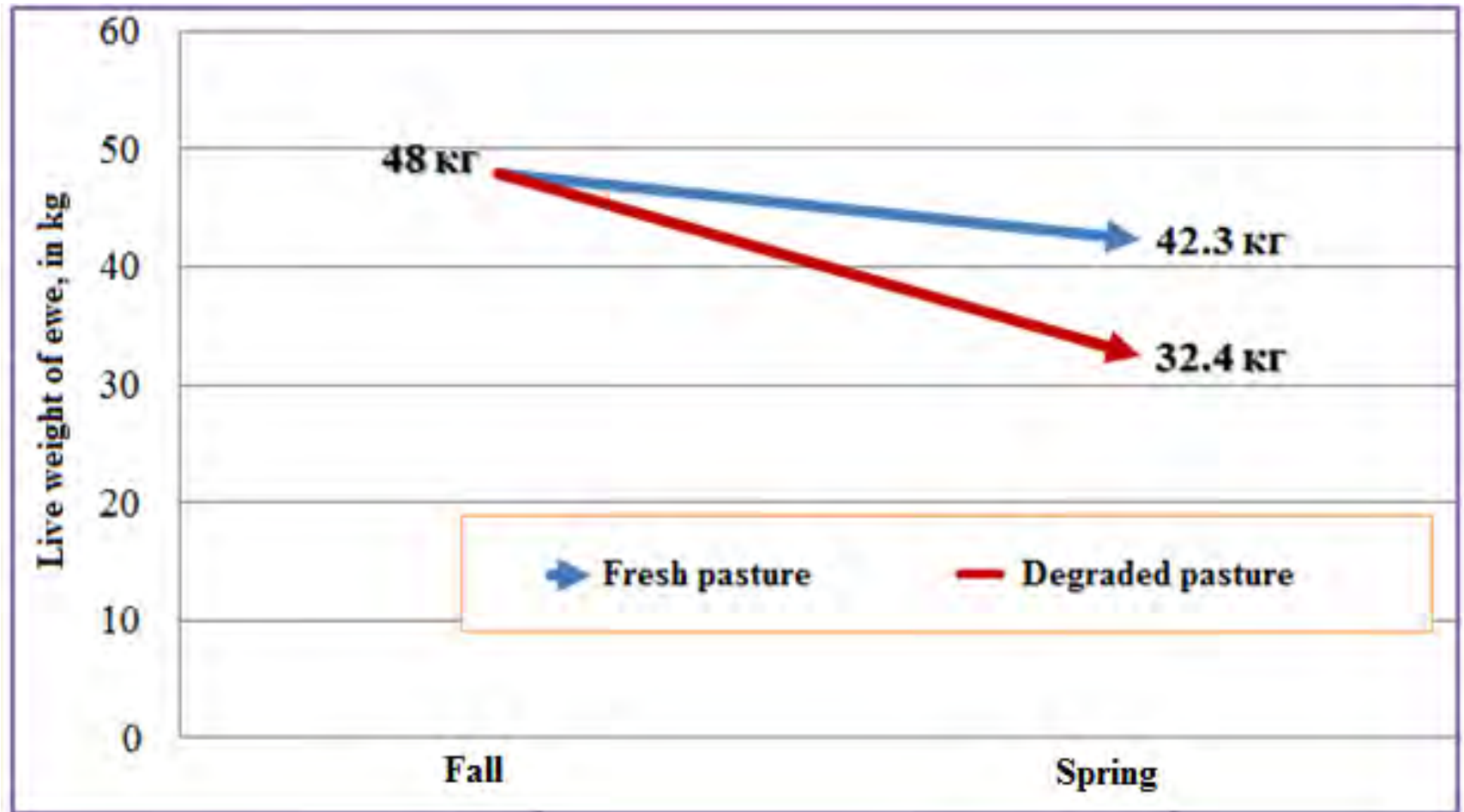
Biomass: 744-826 kg/ha  
Resilient carrying capacity: 41-45 sheep unit /100 ha



## 3. Artemisia dominated alternative state

Biomass: 707-808 kg/ha  
Resilient carrying capacity: 35-40 sheep unit/100 ha

# Pasture degradation causes animal live weight loss, example by ewe



Source: B.Munkh. Study summary, the effects of pasture, animal herding, body conditions & supplementary feeding on sheep . Sheep study in 50 years/2011 /

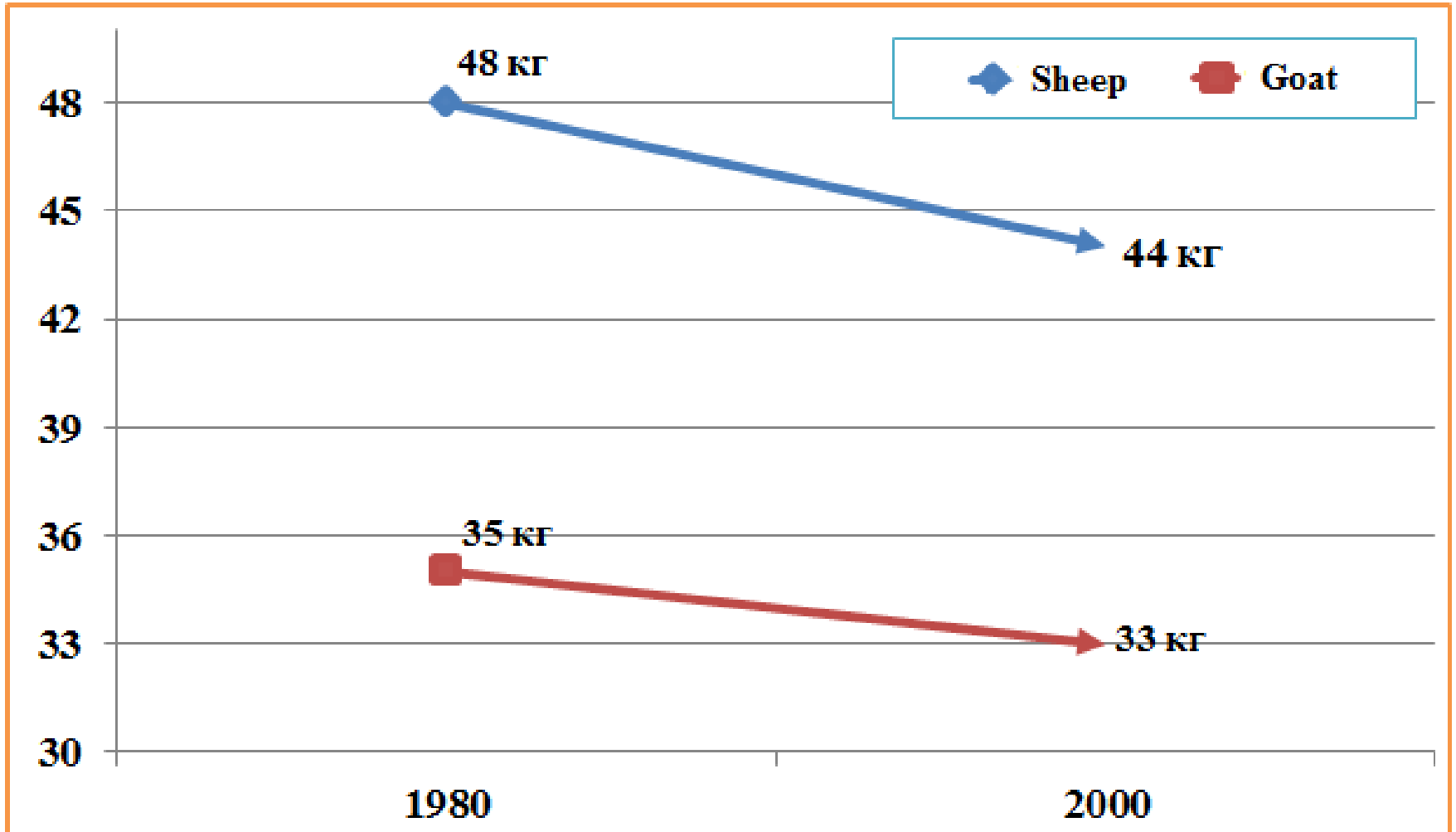


# The pasture degradation causes decreased milk yield: /Daily milk yield of ewe, in grams/



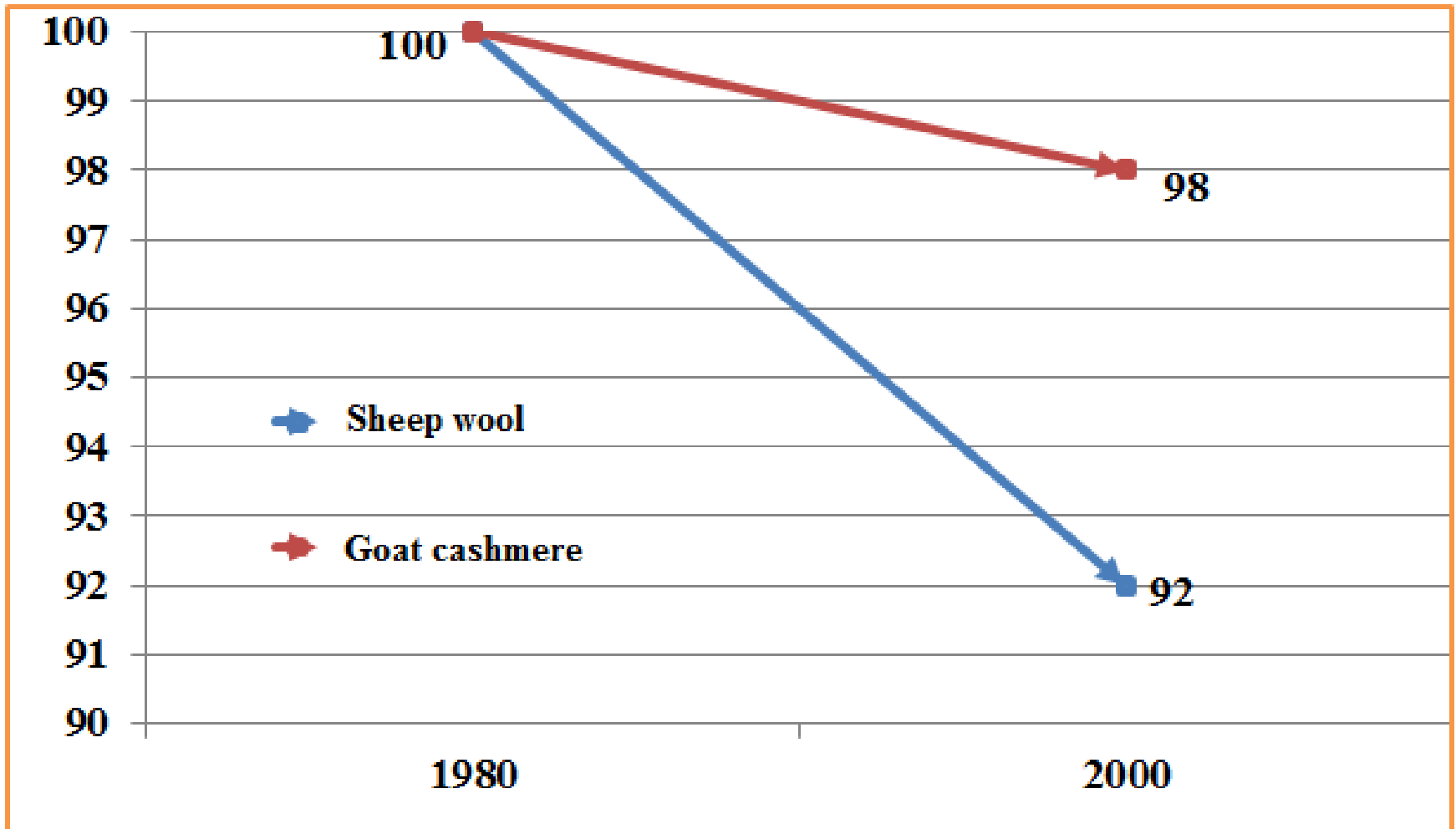
Source: B.Munkh. Study summary, the effects of pasture, animal herding, body conditions & supplementary feeding on sheep . Sheep study in 50 years/2011 /

# Pasture degradation causes animal live weight loss, kg



Source: Batima II, “The effects of climate change & adaptability assessment” AS 06 project report summary, Washington, [www.start.org](http://www.start.org) /2006/

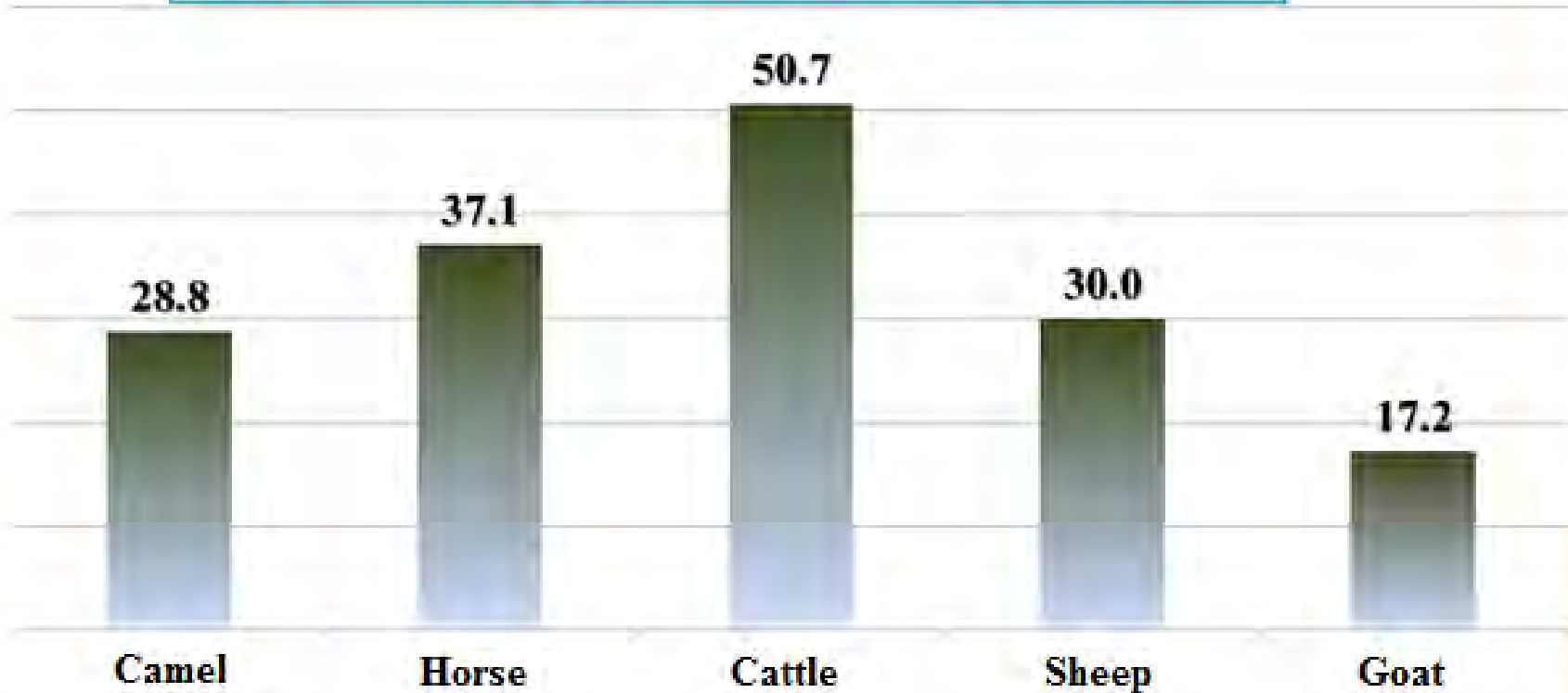
# Pasture degradation causes wool & cashmere yield loss, by percentage



Source: Batima II, “The effects of climate change & adaptability assessment” AS 06 project report summary, Washington, [www.start.org /2006/](http://www.start.org/2006/)

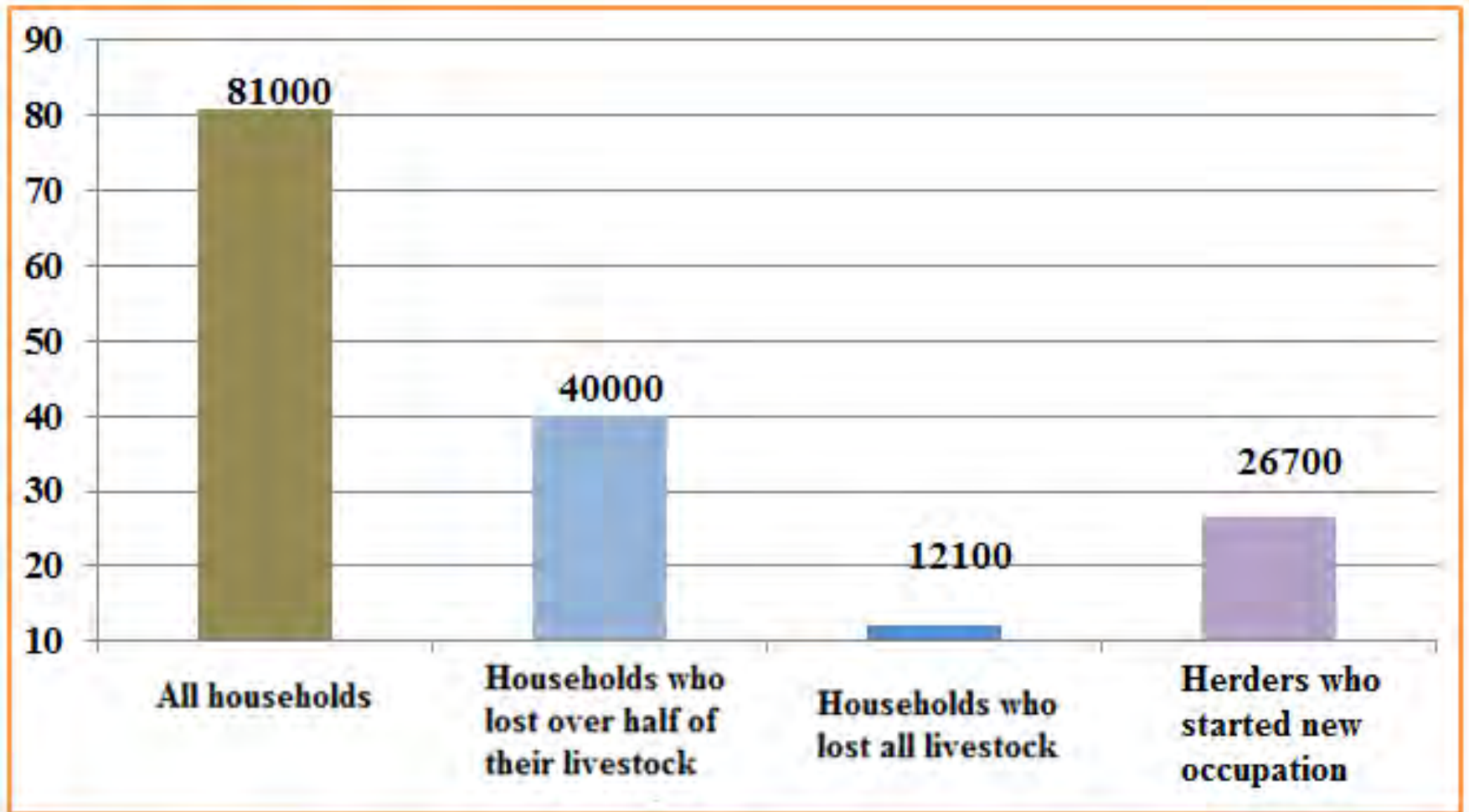
## A total of 11.2 million livestock were lost in droughts & zuds from 1999-2002, costing herders MNT 333 billion

The decrease in herd size, by percentage, as the 2002 livestock census witnesses a drop from the 1999 livestock census



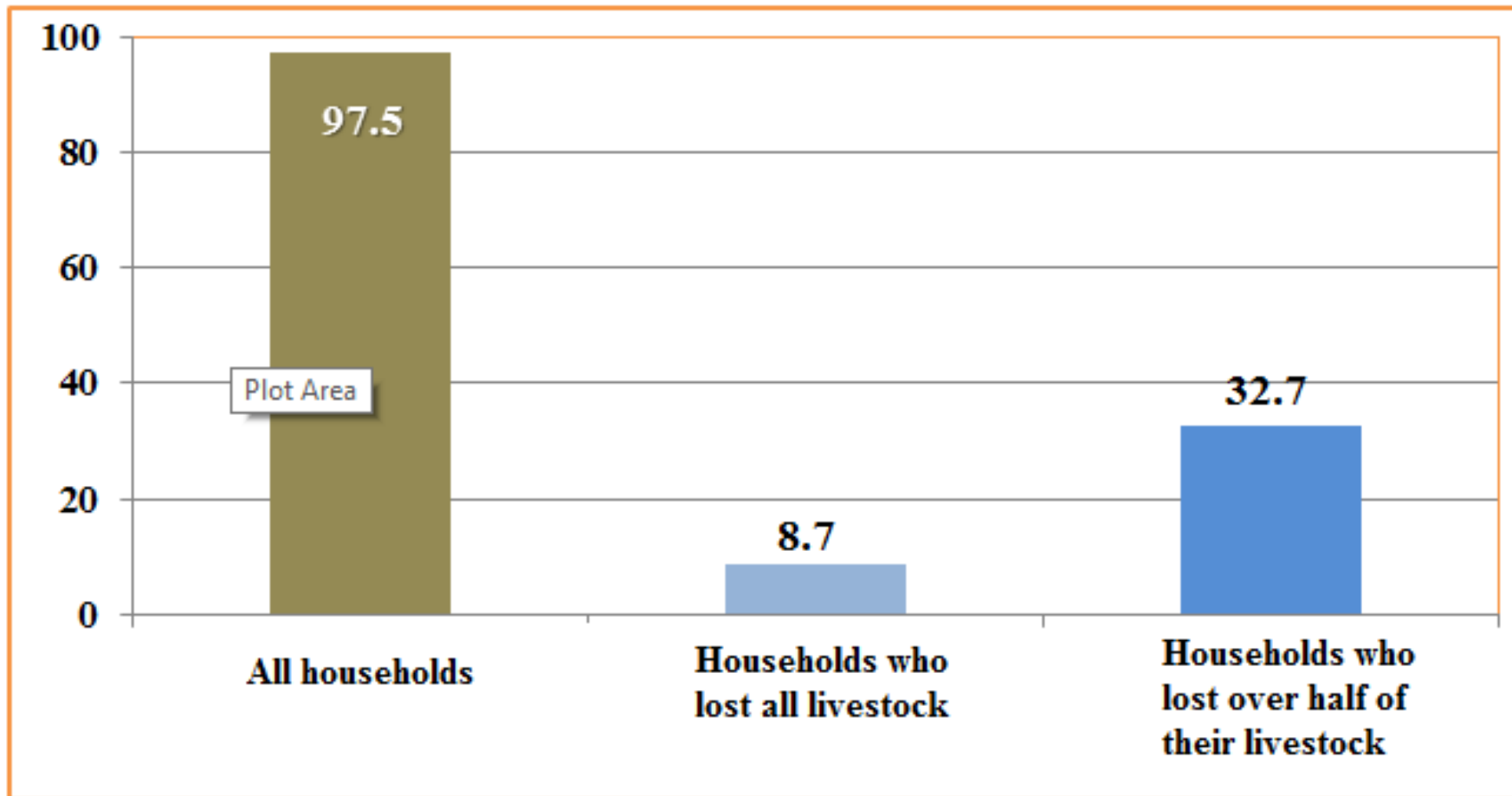
Source: Climate change has an impact on extensive livestock husbandry. "Poverty Study Unit", UNDP, Ministry of Finance Mongolia /2004/

# Number of households affected by droughts & zuds from 1999-2002, number of households



Source: Climate change has an impact on pastureland livestock farming. “Poverty Study Unit”, UNDP, Ministry of Finance Mongolia /2004/

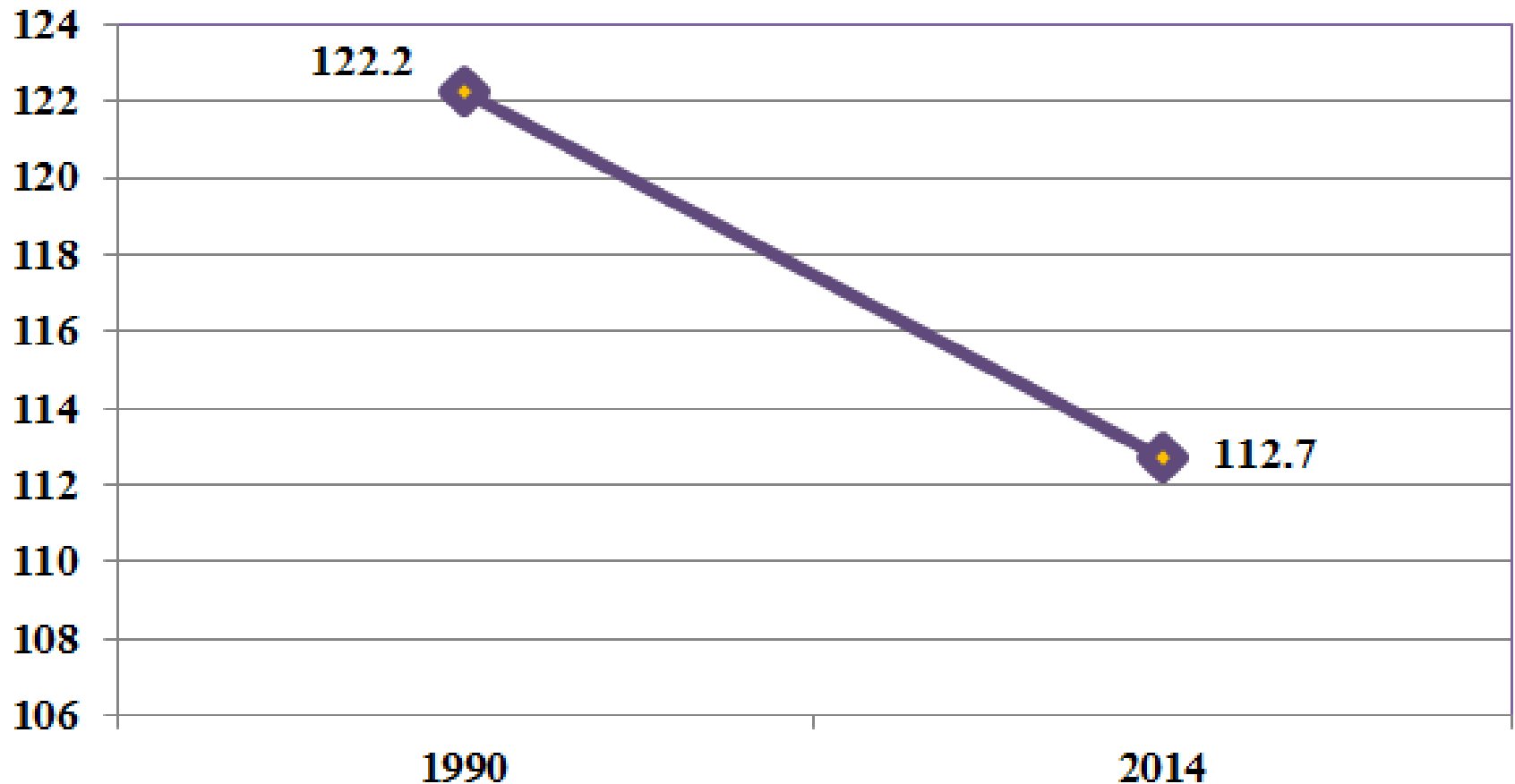
**A total of 9.7 million livestock were lost in the 2009-2010 zud, affecting 769,000 people or 28% of the population and costing MNT 527 billion, Number of households**



**Source: Climate change has an impact on extensive livestock husbandry. “Poverty Study Unit”, UNDP, Ministry of Finance Mongolia /2004/**

**A total of 9.5 million hectares of pastureland was lost as a result of conversion to other uses from 1990-2014, causing pastureland areas to shrink every year**

**Pastureland area, in millions of hectares**



# **Can degraded pasture ever be recovered?**

- ✓ **Pasture can be recovered once proper use is practiced**
- ✓ **The proper use of pasture can be enforced through the implementation of the pastureland use agreement**



# Pasture recovery class



**I:** Relatively fresh pasture with little alteration. Such pasture can be recovered within 3 years through short-term pasture rotation.



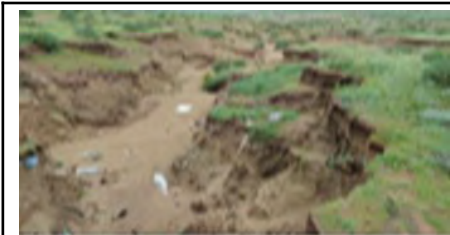
**II:** Palatable species slightly declined in grass composition. Regulating stocking density & grazing periods can recover such pasture in 3-5 years.



**III:** The share of unpalatable plants is dominant with decreased ability to protect soil, regulate soil moisture and provide wildlife habitat. At least 5-10 years is needed to recover such pastures.



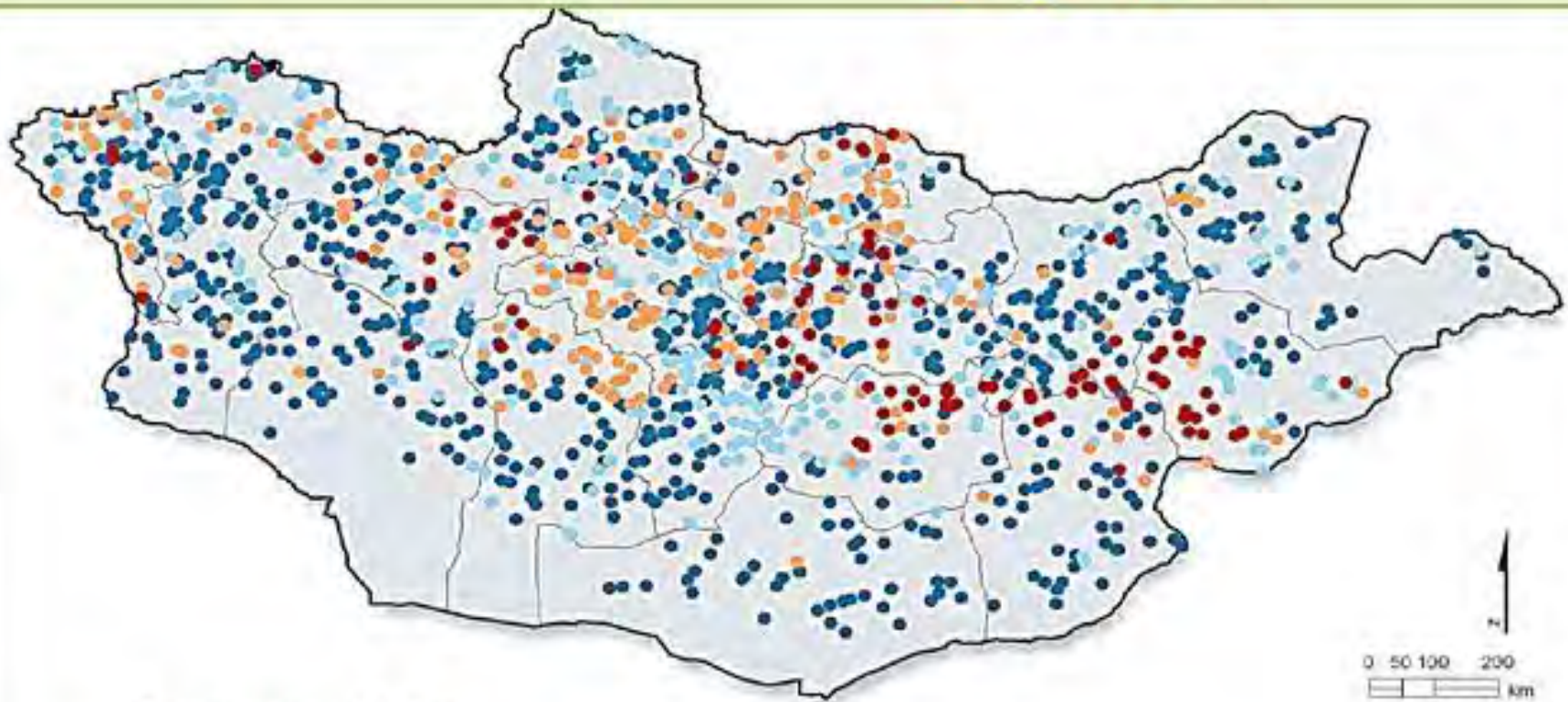
**IV:** The disappearance of native plants gives way to the prevalence of unpalatable plants. Changes in soil hydrology make recovery unlikely without recovery measures. Such pasture require more than 10 years to recover.



**V:** There is strong presence of soil erosion & salinization. Such pastures can not be recovered. Desertification occurs.

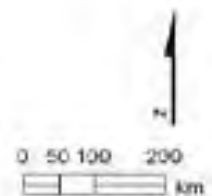
# 90% of all degraded pasture can be recovered within 10 years

Recovery potential, by class: I – 50%, II – 30%, III – 13%, IV – 7%



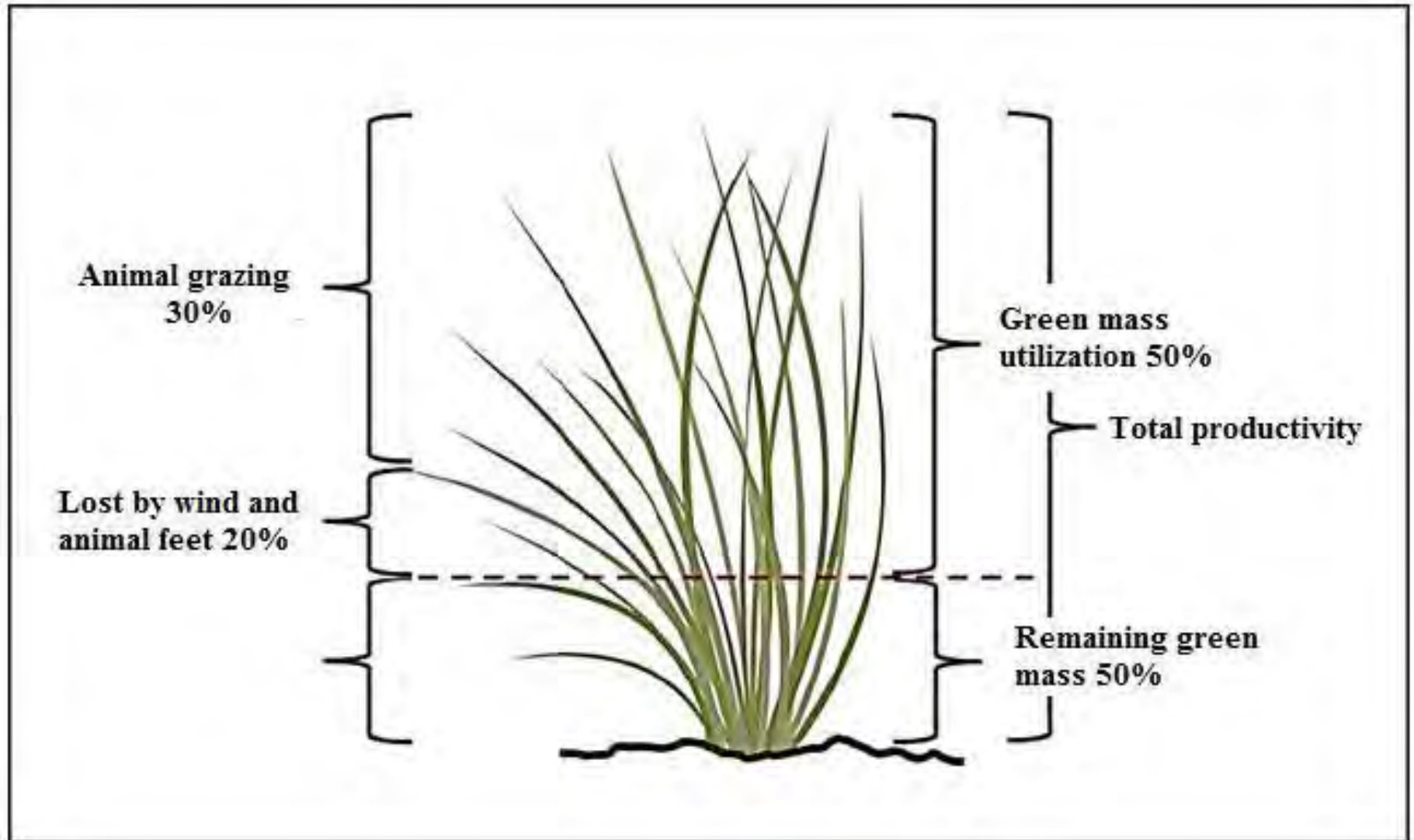
Recovery potential class

● I   ● II   ● III   ● IV   ● No information available

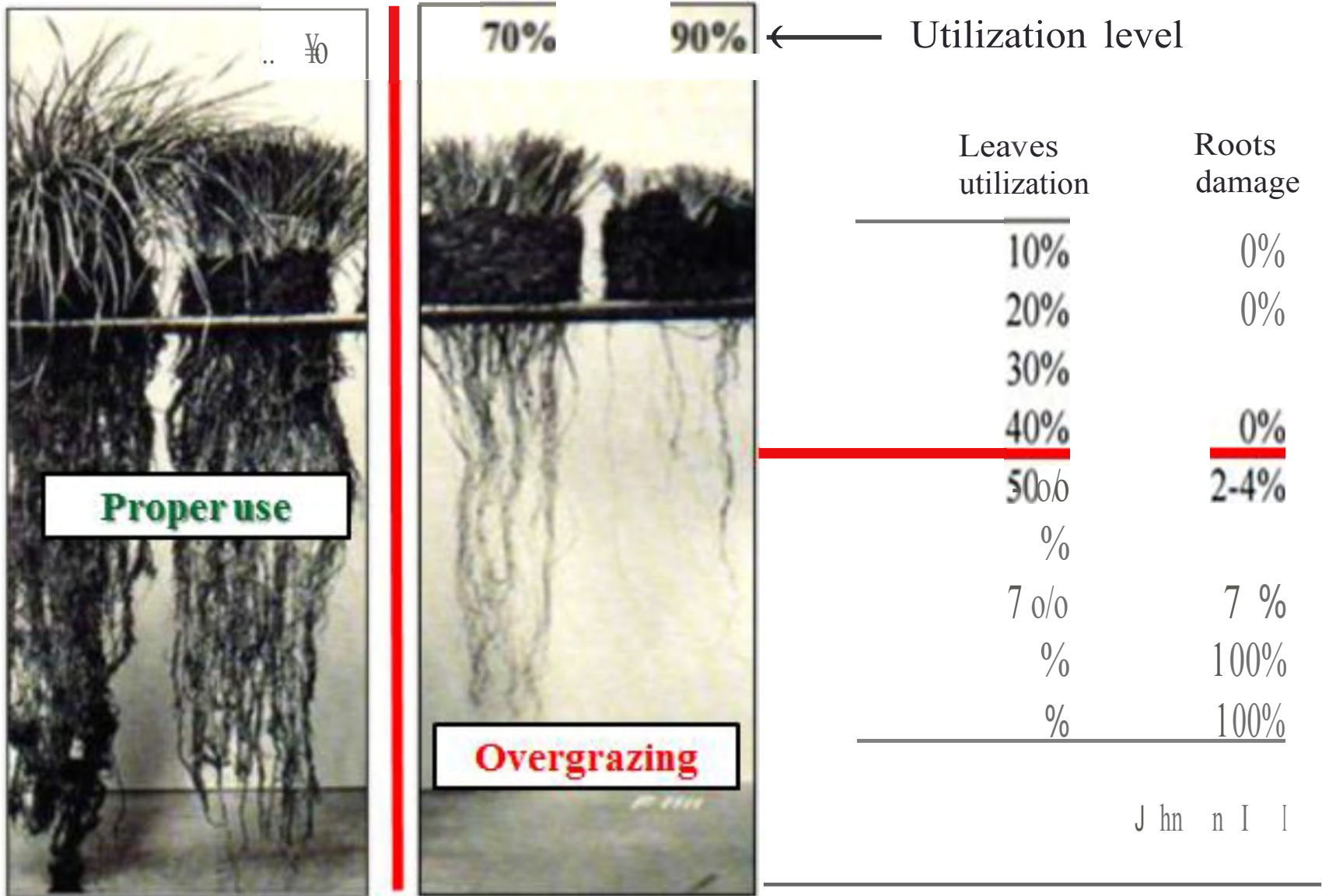


Projection:  
WGS 84  
UTM43 North

# Estimating pasture carrying capacity based on recovery potential



# Recovery potential of pasture vegetation



# Required measures

Adapt the use of  
pasturelands to  
carrying capacity  
& recovery  
potential

Adjust the herd  
size to pasture  
carrying capacity

Enforce the  
pastureland use  
agreement

Link livestock  
products to  
markets

Stimulate the  
quality of livestock  
products rather  
than quantity

## 2-stage pastureland use agreement

- Herders are now forced to face the costs of herd size maximization with no effective plans to sell livestock in the markets. The growing herd size has only aided to pasture degradation ensued by underfed livestock with low productivity. All this has been caused by the common use pastureland regime with no incentives for sustainable use.
- As the current trend persists, the situation is bound to deteriorate if no intervening measures are introduced.
- Solution to the problem is the **PASTURELAND USE AGREEMENT**
- The following conditions can be reached through the pastureland use agreement signed between the pasture owner, the state, and pasture users/ herder organizations (Pasture User Groups (PUG), herder groups & partnerships):
  - Protection & proper use of pasturelands
  - Reduction of pasture degradation
  - Prevention of unwanted in-migration from other aimags & soums
  - Hold other conversion to other land uses, such as mining, at a proper level
  - Provide a legal document establishing the rights & responsibilities to improve pasture recovery potential and assess the agreement enforcement.



# RATIONALE OF PASTURELAND USE AGREEMENT

What are there ways for pasture users to protect pasturelands?

The best principle is to make pasture users be in charge of protecting their respective pasturelands. Pasturelands are used only by herders. Thus, its sustainable use is in the best interest of herders.

How the laws & rules claim the sustainable use of pastureland?

The Land Law of Mongolia states that “Herders are held liable for pasture degradation caused by their improper use”. Thus, herders have the legal duty to protect their pasturelands. Even so, despite what the law states, it has still been our wrongdoing to ignore pasture conditions and let the situation deteriorate as it is now.



## WHAT PRINCIPLES MUST BE UPHELD IN ESTABLISHING THE AGREEMENT?

It is important to be aware of the principles that must be followed in the implementation of the agreement.

❑ As stated in the Land Law of Mongolia, the agreement is signed with PUGs & herder groups/partnerships. PUGs & herder groups/partnerships (known as herder organizations) are household units who have voluntarily joined together to pursue common interests. More details can be found on articles 195-199 of the Civil Code.

❑ The appropriate size of herder organizations is 3-8 households per herder group\partnership and 20-35 households per PUG.

❑ All households are deemed a “pasture user” in the agreement regardless of membership status in any herder organization. This is because nobody can violate the right of herders to use pasturelands.

❑ Livestock may enter into the territory of other herder organizations in emergency conditions of drought & zud but based on the available pasture carrying capacity. This can help herders overcome natural disasters in joint efforts and prevent hoof zud.



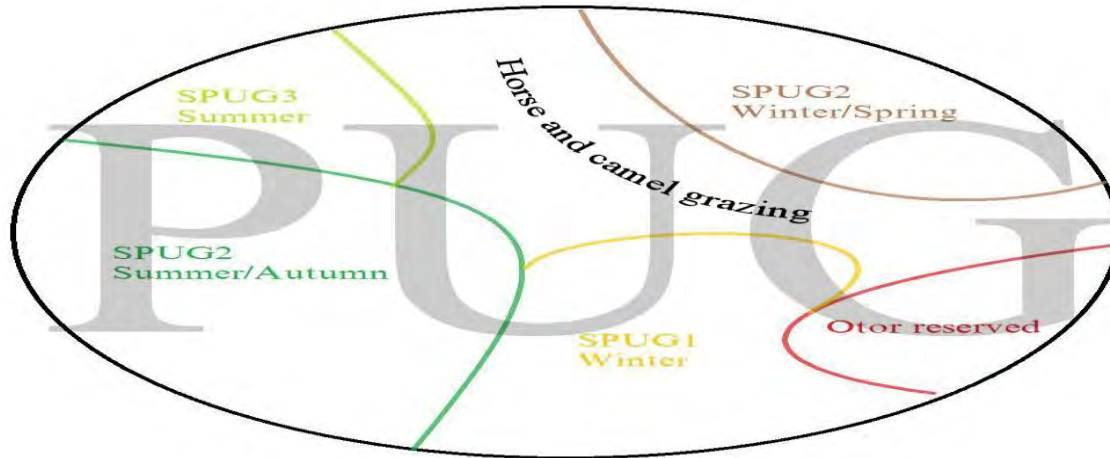
## **WHAT PRINCIPLES MUST BE UPHELD IN ESTABLISHING THE AGREEMENT?**

The location & boundary of contracted pasturelands must be based on the current land use patterns. The pasture of one herder can not be taken away and given to another herder.

The rights of neighboring herders must be respected in the same principle as one's rights must be respected in order to avoid disputes.

Special places such as otor reserve pasturelands, water sources and salt licks must remain under the control of the soum/bag administration. This can help soums/bags coordinate pasture rotation during harsh periods of natural disasters.

## WHY IS IT A 2-STAGE PASTURELAND USE AGREEMENT?



**Scheme of the 2-stage agreement SPUG-small PUG or Herder group**

The pastureland use agreement is a 2-stage agreement as it is implemented both at PUG level and herder group/partnership level. Both are obliged to practice the protection & proper use of pasturelands.

### ***Stage I– PUG agreement:***

All 96 soums of the “Green Gold” project have established PUG membership & boundaries. The PUG agreement plays a vital role in coordinating seasonal pasture division, seasonal migration and grazing of long-distance animals

### ***Stage II- SPUG agreement:***

On a voluntary basis, herder groups/partnerships can be formed within the PUG as a sub-unit of pastureland use. These units make up stage II to coordinate pasture carrying capacity through reduction of the herd size and improvements in animal quality.

## **THE 2-STAGE AGREEMENT WILL ENSURE:**

- ❑ Member households shall only camp within PUG boundaries in normal weather conditions during the designated seasons meaning that herders may camp in all 4 seasons if the agreement is contracted as a 4 season agreement or 2 seasons if the agreement is contracted as a 2 season agreement, etc.
- ❑ Non-member households do not camp within the boundary of contracted pasturelands.
- ❑ Since the herder groups/partnerships are small in terms of the number of member households and the area under the agreement, compared to bigger pasture user groups, they are more capable of:
  - Fostering a ownership mentality towards pasturelands
  - Facilitating consultations among members with regard to reducing the herd size if pasture carrying is exceeded and increasing off-take rates to sell animals to the market



## 2 HERDERS' DIALOGUE:

**As I have understood, herders don't just automatically sign the pastureland use agreement. There are a few steps & criteria that need to be fulfilled first. What do you know about that?**

- Promotion & public education need to be arranged for the Soum Khural of Citizens' Representatives (SKCR), bag meetings, soum/bag administration, officials from the Soum Governor's Office (SGO) and herders.
- As I've learnt from bag meetings, I notice how some people have a misunderstanding of the agreement as they think the agreement will restrict the herders mobility and opens door to pastureland ownership by herders, all this was wrong!!!
- Not only should herders work with SPUG & PUG, but the soum/bag administration should also work with them as well.
- The agreement should first be tested as a model in a few groups/partnerships within one or two PUGs to provide feedback information & assessment.





## **HOW DO YOU ESTABLISH THE PASTURELAND USE AGREEMENT?**


The pastureland use agreement is implemented through the active participation of herder households, herder organizations, SKCR and SGO who all follow a specified course of steps and processes.

## **STEPS IN ESTABLISHING THE PASTURELAND USE AGREEMENT**

# Step 1: Form a group/partnership and decide memberships

Activity	Outcome	Responsibility
<ul style="list-style-type: none"> <li><input type="checkbox"/> Form a group/partnership (known as group from now on) joined together by voluntary herder households</li> <li><input type="checkbox"/> The group can be initiated by one or more herder households to hold discussions and consultations</li> <li><input type="checkbox"/> The SPUG, PUG must be informed of the group's establishment</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Member households hold discussions &amp; consultations regarding the group</li> <li><input type="checkbox"/> The SPUG, PUG must be informed of relevant Information</li> </ul> 	<p>Initiator (s)</p> 
<ul style="list-style-type: none"> <li><input type="checkbox"/> Organize meetings to establish a group</li> <li><input type="checkbox"/> Officially decide the group's membership</li> </ul>	<p>Remarks made by the group's founders</p>	<p>Initiator (s)</p>

# Step 2: Organize all members meetings

Activity	Outcome	Responsibility
<ul style="list-style-type: none"> <li><input type="checkbox"/> Discuss and approve water &amp; pasture use rules along with common fund rules</li> <li><input type="checkbox"/> Select a leader</li> <li><input type="checkbox"/> Members should contract a cooperation agreement when establishing partnerships</li> </ul>	<ul style="list-style-type: none"> <li>• Selection of a leader and decision to implement rules regarding water &amp; pasture use along with common fund rules</li> <li>• Cooperation agreement of members</li> </ul>	<ul style="list-style-type: none"> <li>• Founder(s)</li> </ul>  <ul style="list-style-type: none"> <li>• Leader(s)</li> </ul>

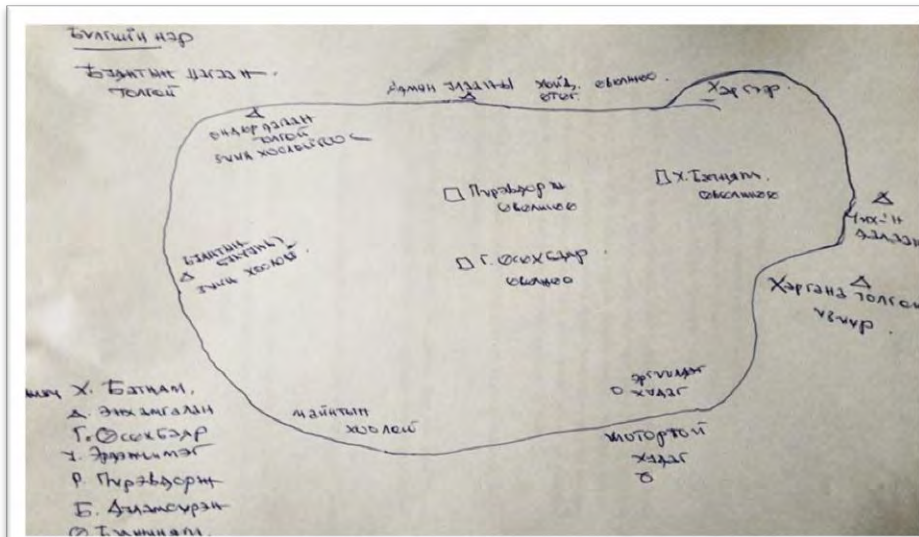
\* The establishment of partnerships follows the “Rules for citizens’ partnerships responsible for possession and protection of particular kinds of natural resources “ issued by the Minister of Environment, Green Development & Tourism in decree #A-250 in 2010.

# Step 3: Map the boundaries of pasturelands

Activity

Outcome

The location & boundary of contracted pasturelands is mapped jointly by group members



All members, especially female members, should participate in the mapping of pastureland boundaries



# Step 4: Identify neighbors (PUG, groups, households) with whom to consult pastureland boundaries

## Activity

## Outcome

## Responsibility

When identifying neighbors:

Draw a line on the map with a distance of a minimum of 1 km from pastureland boundaries



All herders who have winter/spring camp sites, buildings and wells must be regarded as neighbors

- A map of pastureland boundaries that have been consulted with members
- Identified neighbors with whom to consult pastureland boundaries



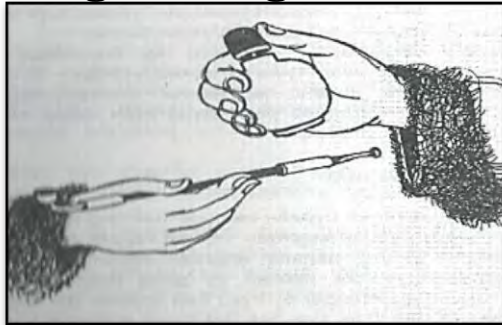
# Step 5: Consult pastureland boundaries with neighbors

**Activity**

**Outcome**

**Responsibility**

- The boundaries are consulted with all neighboring households



- Mark overlapping territories and other necessary revisions on the map

- Consultation of contracted pastureland boundaries with neighbors
- Marked map indicating necessary changes and revisions






**Leader**


# Step 6: Incorporate consultation results into maps and get no objections from neighbors

Activity	Outcome	
<ul style="list-style-type: none"> <li><input type="checkbox"/> Consult with neighbors before mapping necessary changes &amp; revisions</li> <li><input type="checkbox"/> Present the revised map to all parties involved in the consultation before validating with signatures</li> </ul>	<ul style="list-style-type: none"> <li>• Revised map of boundaries after consultation with neighbors</li> <li>• No objection signatures signed by neighbors</li> </ul>	<p><b>Leader, members</b></p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Present the boundary map to SPUG after consultation</li> </ul>	<p><b>Original copy of the boundaries map presented to the SPUG</b></p>	<p><b>Leader</b></p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Map the official boundaries of contracted pasturelands</li> </ul>	<p><b>Original copy of the boundaries map developed through the GIS program</b></p>	<div data-bbox="865 982 1483 1396" data-label="Image"> </div> <p><b>SPUG/Land Officer</b></p>


# Step 7: Submit request to bag meeting

Activity	Outcome	Responsibility
<ul style="list-style-type: none"> <li><input type="checkbox"/> Submit request to contract the pastureland to the bag meeting</li> <li><input type="checkbox"/> A signature-validated map of pastureland boundaries, pasture area and carrying capacity information can be attached to the request</li> </ul>	<p>Original copy of the request submitted to bag meeting</p> 	<p>Leader</p> 
<p>The group request is submitted by the group leader to the head of bag meeting</p>		<p>Leader</p>

## **Step 8: Prepare for the bag meeting discussion of the group's request**

<b>Activity</b>	<b>Outcome</b>	<b>Responsibility</b>
<b>Preliminary review of the group's request to contract the pastureland</b>		<b>Chairperson of bag meeting</b>
<b>The bag Governor prepares the introduction regarding the group's request while preparing for the bag meeting</b>	<b>Discussion at bag meeting</b>	<b>Chairperson of bag meeting</b>
<b>Prepare for the bag meeting discussion with the SPUG and present to the head of the bag meeting in advance</b>	<b>Discussion at bag meeting</b>	<ul style="list-style-type: none"> <li>• <b>Bag Governor</b></li> <li>• <b>SPUG</b></li> </ul>

## **Step 9: Discuss the group's request at bag meeting and submit decision to the Soum Governor**

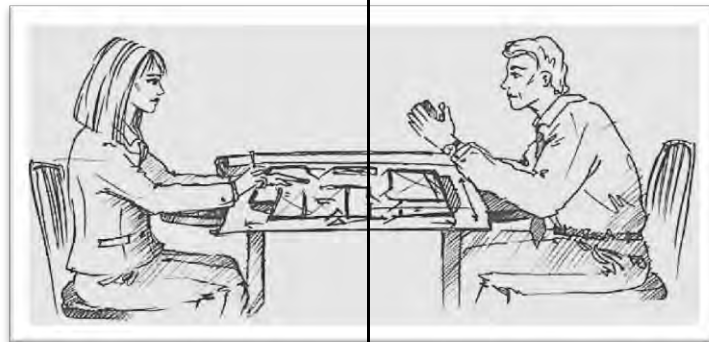
<b>Activity</b>	<b>Outcome</b>	<b>Responsibility</b>
<b>Inform the SPUG or any other relevant official on whether to hold the bag Governor's introduction</b>		<b>Chairperson of bag meeting</b>
<b>Discuss the group' request to contract the pastureland (The SPUG and bag Governor must be present)</b>		<b>Bag Governor</b>
<b>Reach a decision on the group' request</b>	<ul style="list-style-type: none"> <li>● Bag meeting records</li> <li>● Bag meeting resolution</li> </ul>	<b>Chairperson of bag meeting</b>
<b>Reach a decision on the group' request</b>	<ul style="list-style-type: none"> <li>● Bag meeting records</li> <li>● Bag meeting resolution</li> </ul>	<b>Chairperson of bag meeting</b>

## **Step 10: Receive and review the group's request & decision of the bag meeting**

<b>Activity</b>	<b>Outcome</b>	<b>Responsibility</b>
<b>Receive and review the group's request and decision of the bag meeting</b>		<b>Soum Governor</b>
<b>Send the group's request and decision of the bag meeting to the Head of SGO for reviewing</b>		<b>Soum Governor</b>
<b>Assign the Land Officer and other relevant officials to conclude the request needed for the Soum Governor's pending resolution</b>	<b>Review of the group's request and decision of the bag meeting</b>	<b>Head of SGO</b>
<b>Seek opinion from the SPUG regarding the group's request, decision of the bag meeting and Soum Governor's decree</b>	<b>SPUG opinion</b>	<ul style="list-style-type: none"> <li><b>• Head of SGO</b></li> <li><b>• Land Officer</b></li> </ul>


# Step 11: Review & conclusion by the Land Officer

Activity	Outcome	Responsibility
<p><input type="checkbox"/> Review and assess the group's boundary map of pasturelands to be contracted</p> <p><input type="checkbox"/> Establish whether any of the following disputes or overlapping territories are existent with other households, groups or PUG:</p> <ul style="list-style-type: none"> <li>○ Protected areas, mining licenses</li> <li>○ Infrastructure, crop field, common use water sources and salt licks</li> <li>○ Property or land under the ownership and possession by others</li> </ul> <p><input type="checkbox"/> Work with PUG, SPUG &amp; VABU to settle disputes if any</p>	<ul style="list-style-type: none"> <li>• Conclusion &amp; proposal in cooperation with relevant officials</li> <li>• The settlement of disputes</li> </ul>	<ul style="list-style-type: none"> <li>• Land Officer</li> <li>• Environmental inspector</li> <li>• Soum Veterinary &amp; Animal Breeding Unit (VABU) specialist</li> </ul>








# - Continuation -

Activity	Outcome	Responsibility
<ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Revise the pastureland boundary map and other relating items</b></li> <li><input type="checkbox"/> <b>Attach the following information in the agreement</b> <ol style="list-style-type: none"> <li><b>1. Member households' &amp; group information</b></li> <li><b>2. The area &amp; location of contracted pasturelands along with the seasonal division map</b></li> <li><b>3. Ecological site description &amp; pastureland state transition model</b></li> <li><b>4. Baseline information to assess the implementation of the pastureland use agreement through photo monitoring methodology</b></li> </ol> </li> <li><input type="checkbox"/> <b>The herd size, pasture carrying capacity and pasture yield information should be included in the group information</b></li> </ul>	<ul style="list-style-type: none"> <li><b>• Finalized map of pastureland boundaries</b></li> <li><b>• Group information</b></li> </ul> <div style="text-align: center; margin: 10px 0;">  </div>	<ul style="list-style-type: none"> <li><b>• Land Officer</b></li> <li><b>• VABU specialist</b></li> </ul>
	<b>Herd size</b>	
	Pasture, in hectares	
	Yield, centner	
	Carrying capacity, in	

# Step 12: Develop and present the draft Soum Governor's decree

Activity	Outcome	Responsibility
<ul style="list-style-type: none"> <li><input type="checkbox"/> Submit the proposals &amp; conclusions on the group's request to the Head of SGO</li> <li><input type="checkbox"/> Prepare draft Soum Governor's decree</li> <li><input type="checkbox"/> Present the draft to SPUG and receive their feedback</li> </ul>	<ul style="list-style-type: none"> <li>• Conclusions &amp; proposals by relevant specialists</li> <li>• Draft decree</li> <li>• SPUG proposals</li> </ul>	<ul style="list-style-type: none"> <li>• Head of SGO</li> <li>• Land Officer</li> </ul>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Soum Governor receives the draft issues the decree</li> </ul>		<ul style="list-style-type: none"> <li>• Soum Governor</li> <li>• Head of SGO</li> </ul>

# Step 13: Sign the 2-stage pastureland use agreement

Activity	Outcome	Responsibility
Present the Soum Governor's decree to the group, bag & SPUG	Submit copy	Head of SGO
Prepare draft 2-stage pastureland use agreement based on the Soum Governor's decree	Draft agreement 	<ul style="list-style-type: none"> <li>• Land Officer</li> <li>• VABU specialist</li> </ul>
Finalize the agreement and present it to the Soum Governor	Official original copy of the agreement	Head of SGO
Sign the 2-stage pastureland use agreement	<p>Owners' and users' representatives (PUG and group leader, along with the heads &amp; housewives of all member households) sign the agreement</p>  	<ul style="list-style-type: none"> <li>• Soum Governor</li> <li>• PUG, group leader &amp; members</li> <li>• Other herders who have signed the agreement</li> </ul>

**The implementation of the pastureland use agreement can improve pasture condition, minimize livestock farming risks and provide a sustainable growth of herders' income.**

**It can be seen in the following example of herder groups:**

### **STARTING CONDITIONS OF HERDER GROUPS**

## 2 approaches to livestock herding development

**The existing common use pasturelands:**













**Contracted use of pasturelands:**

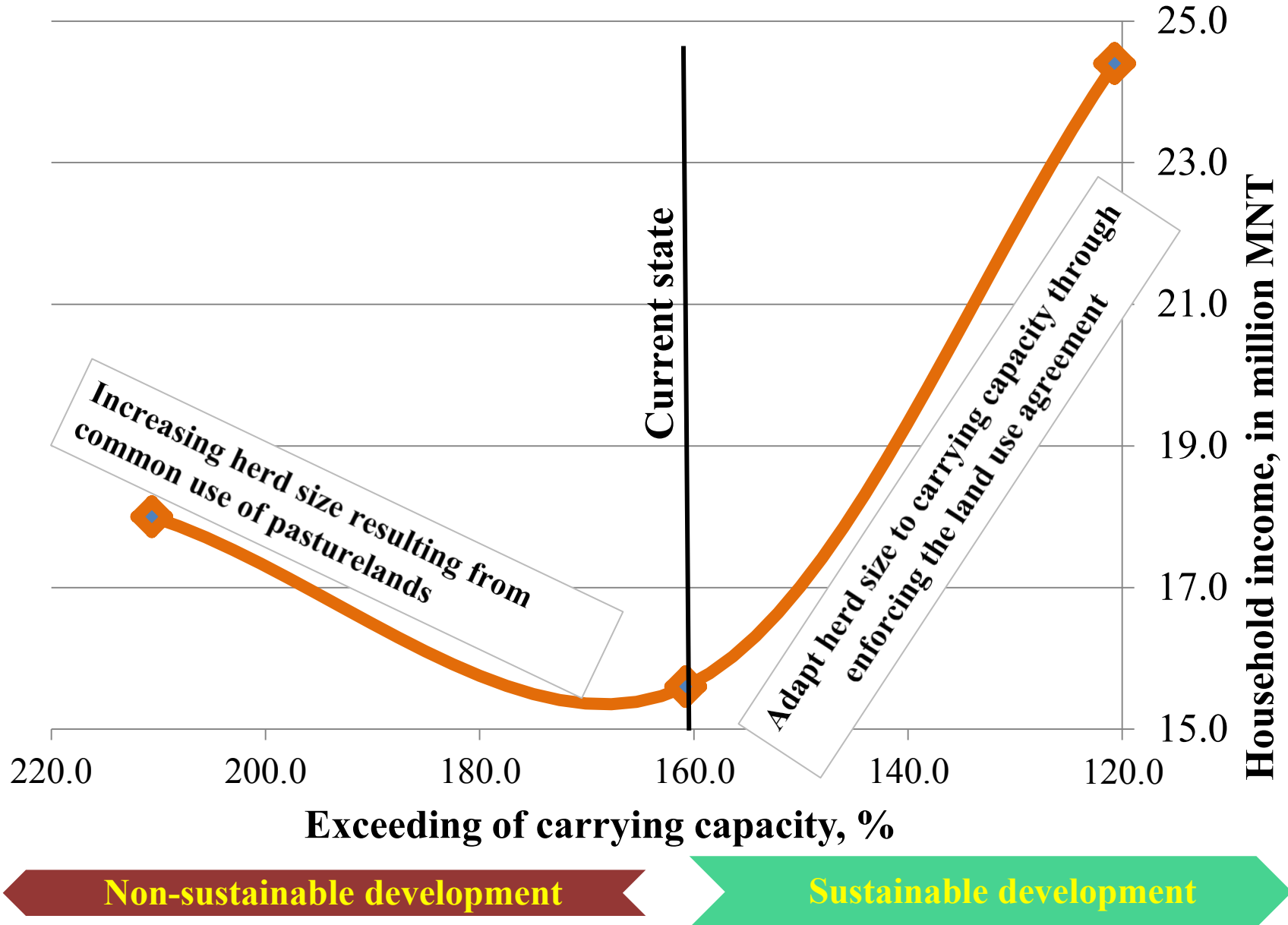


# After 5 years...

	Baseline state	Common use of pasturelands	Contracted use of pasturelands
Number of households	5	5	5

Herd size, physical heads	3067		4107		2135
Herd size, sheep units	3135		4308		2354
Exceeding of carrying capacity, %	60.8		110.6		20.7
Group annual income, million MNT Annual average	78.0		90.0		122.2
income per household, million MNT	15.6		18.0		24.4

# Approach to livestock herding development



# The future of the livestock sector depends on which approach we take





**It is crucial to make the right choice knowing the adverse consequences if you make the wrong one!!!**



If only I had chosen the pastureland use agreement for the sake of my livestock & pasture. Now I have neither.



The pastureland use agreement is definitely the way to gain income from both livestock and pasture