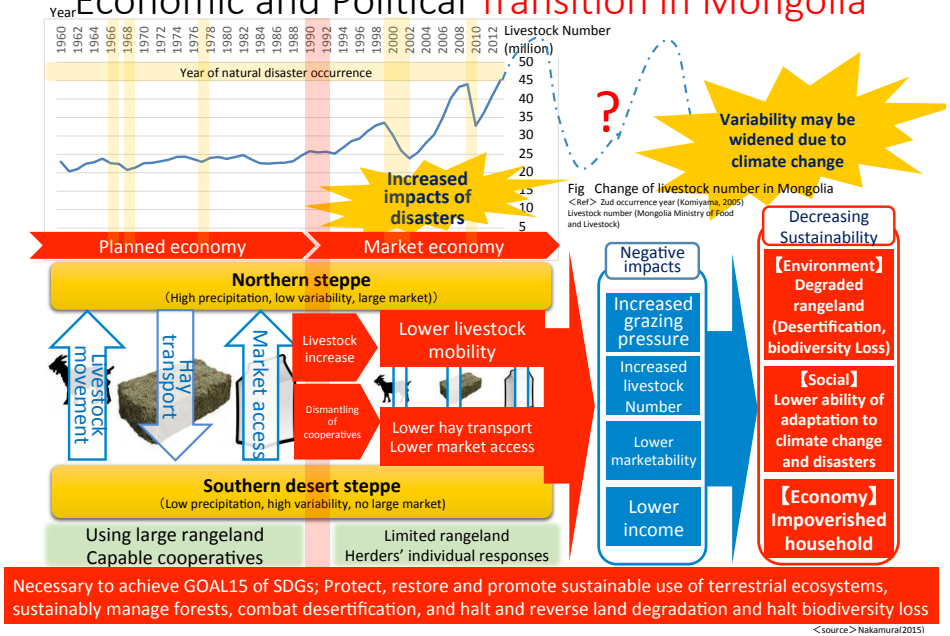
Economic and Political Transition in Mongolia



<Background>

Adaptive Management

- "Adaptive management" is a method to adapt the policy implementation based on the uncertainty of the targets with the participation of various stakeholders（Costanza et al, 1998）
- "Uncertainty" includes the following (Hidaka et al, 2008)

  Uncertainty in acquiring information

  High variability

  Open system with ambiguous boundaries

  ⇒ matches the characteristics of Mongolia particularly the Gobi region
- Ecosystem management needs to be adaptive by itself (Washitani, 1998)
- Stakeholders are expected to undertake the all steps of surveillance, planning, implementation and management (Japanese Ministry of Land, Infrastructure and Transport, 2007)
- Important to build consensus among stakeholders (Washitani, 1998)

  ⇒ Promoting land use in partnership with governments in Mongolia

Community-Based Rangeland Management

- Community plays a key role in managing natural resources, the management regimes were successful (Ostrom, 1990 etc.), including arid rangeland (Fernandez-Gimenez et al., 2011 etc.)

- There has been little consensus on the outcome of community-based natural resource management in arid rangeland (Brosius et al., 2005)
- Characteristic of rangeland;
  - spatial boundaries are fuzzy and flexible
  - user group membership is negotiable and contingent

(Addison et al., 2013, Fernandez-Gimenez et al., 2002 etc.)

Preceding projects on community-based approaches in Mongolia

Pasture user groups have become an important tool by which development agencies have sought to improve rangeland condition (Addison et al., 2013).

Contribute to SDGs GOAL 15

e.g.

- "Green Gold Ecosystem Management Program (GGEMP)"
  Swiss Agency for Development and Cooperation (SDC)'s
- "Sustainable Grasslands Management Program (SGMP)"
  (United Nations Development Program (UNDP))

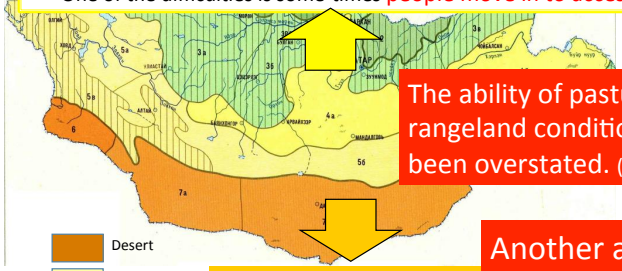
These projects are based on "territorially-based approach"

(Fernandez-Gimenez et al., 2015 etc.)

Outcomes from Prior Projects (Addison et al., 2013 etc.)

Steppe Type

- Territorially-based approach is well suited because there is a boundary(in bad (small precipitation) year, 18% herders left sum(district))
- One of the difficulties is some-times people move in to access the variable forage resource.



The ability of pasture user group to improve rangeland condition in "Gobi" may have been overstated. (Addison et al., 2013)

Another approach is necessary

Gobi Type(desert-steppe)

Most herders - pasture users often move to another aimag (Province)
(under bad condition, 71% herders leave their sum in a year)

<Model Project>

Outline of Model Project

- **Object**
  Development of community-based natural resource management, suitable to Gobi area prone to desertification → Contribute to GOAL 15 of SDGs

- **Project period**
  FY2012- FY2015

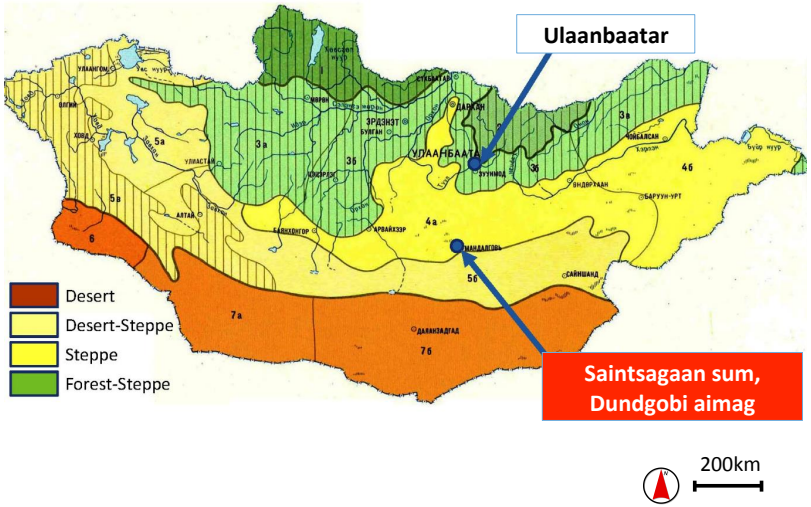
- **Project area**
  Saintsagaan sum(district), Dundgobi aimag(province)

Outline of Model Project

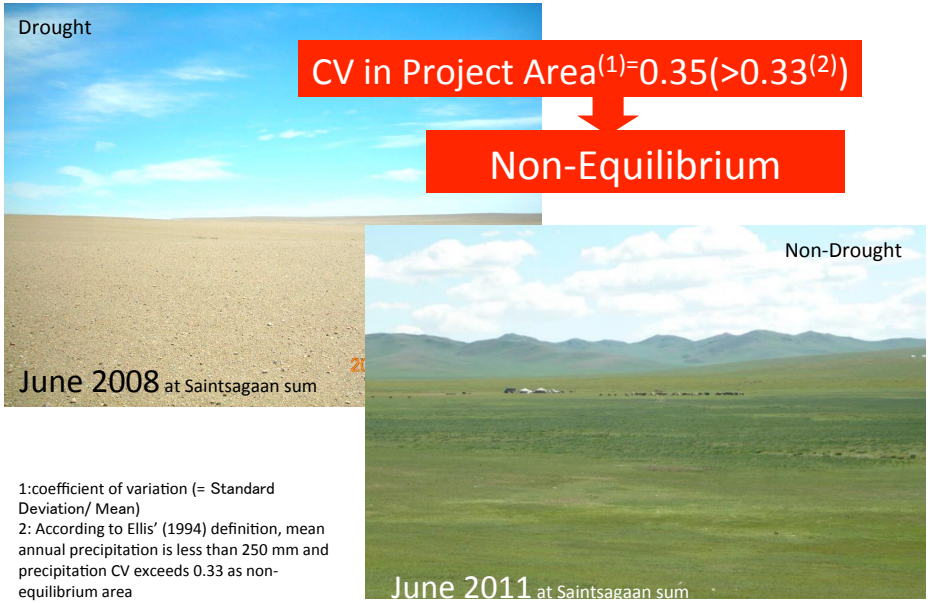
- **Project financer**
  Ministry of the Environment, Japan

- **Collaborators**
  - Ministry of Environment, Green Development and Tourism of Mongolia
  - Ministry of Food and Agriculture of Mongolia
  - Institute of Geography & Geoecology of Mongolian Academy of Sciences
  - Mongolian University of Life Sciences
  - Institute of Animal Husbandry of Mongolian University of Life Sciences
  - Local government (Saintsagaan sum, Dundgobi aimag)
  - Global Environmental Forum

Project Area



source：Administration of Land Affairs, Geodesy and Cartography, Mongolia (2004), "*Geographic ATLAS of Mongolia*"



1:coefficient of variation (= Standard Deviation/ Mean)
2: According to Ellis' (1994) definition, mean annual precipitation is less than 250 mm and precipitation CV exceeds 0.33 as non-equilibrium area

Traditional countermeasure against Variability, "*Otor*"

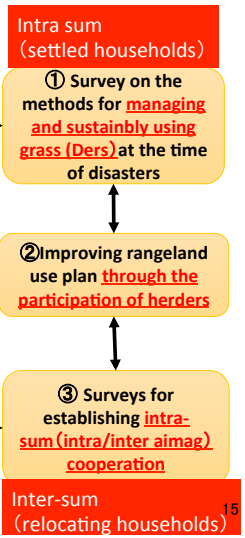
Otor is a traditional mobility strategy developed by Mongolian herders to cope with their highly variable and uncertain environment (Xie & Li 2008).

－When *Otor* or mobility is reduced, rangeland degrades and herders face impoverishment（Sneath, 1996）

－Long distance movement at the time of disasters（150-200km）: Characteristics of the Gobi region（⇔ throughout the year in stepp, 30-40km movement at the time of disaster）（Sneath, 1996）

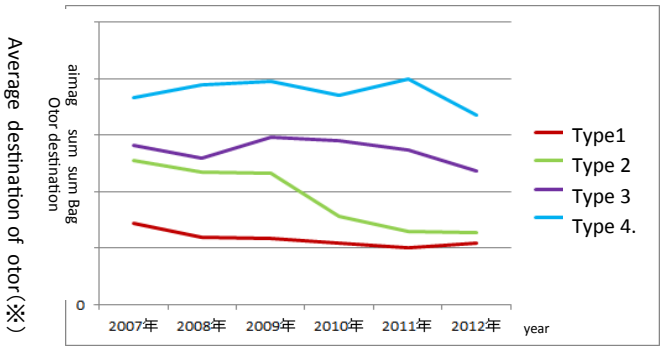
Challenges for each relocation type

Type	Mobility	Livestock No	Challenges	Necessary measures
1	**Settled long**	300	・Started diversifying income sources ・Need to protect winter shelter rangeland	・**Shifting from livestock farming to other income generating activities** ・**Managing winter shelter rangeland**
2	**Settled recently**	400↓300	・Protecting winter shelter rangeland ・Promoting otor rangeland use in aimag	・**Managing winter shelter rangeland** ・**Supporting the use of otor rangeland in aimag**
3	**Intra-aimag otor**	600		
4	**Inter-aimag otor**	900	・Difficult to use inter-aimag otor rangeland	・**Setting up inter-otor rangeland**



Categorizing herders based on the survey outcome

Cluster analysis on the destination of yearly *otor*（Ward Method）。



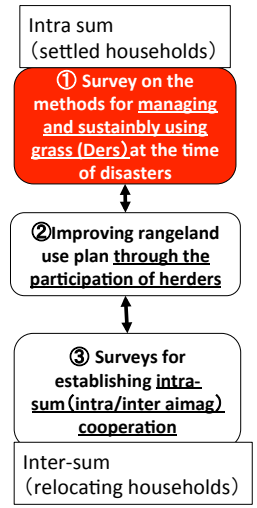
＜**Categorization based on the otor destiny＞ settled（long、recently）、Intra-aimag, inter-aimag**

Clear categorization

※ Used dammy variant based on the destination categories, and calculated the average iindices—（1 bag、2 intra-sum、3 Intra-aimag, 4 inter-aimag）

Type	n , %	Characteristics	Relocation destiny
Type 1	n=78, 45%	**Settled long**	**In bag**
Type 2	n=36, 21%	**Settled recently**	**Intra aimag** otor→（After zud 2009～2010）→ **Intra bag**
Type 3	n=29, 17%	**In aimag**	**Intra aimag** otor（No change even after zud）
Type 4	n=29, 17%	**Out of aimag**	**Inter aimag** otor

①Surveys on the methods for managing and sustainably using grass (Ders) at the time of disasters



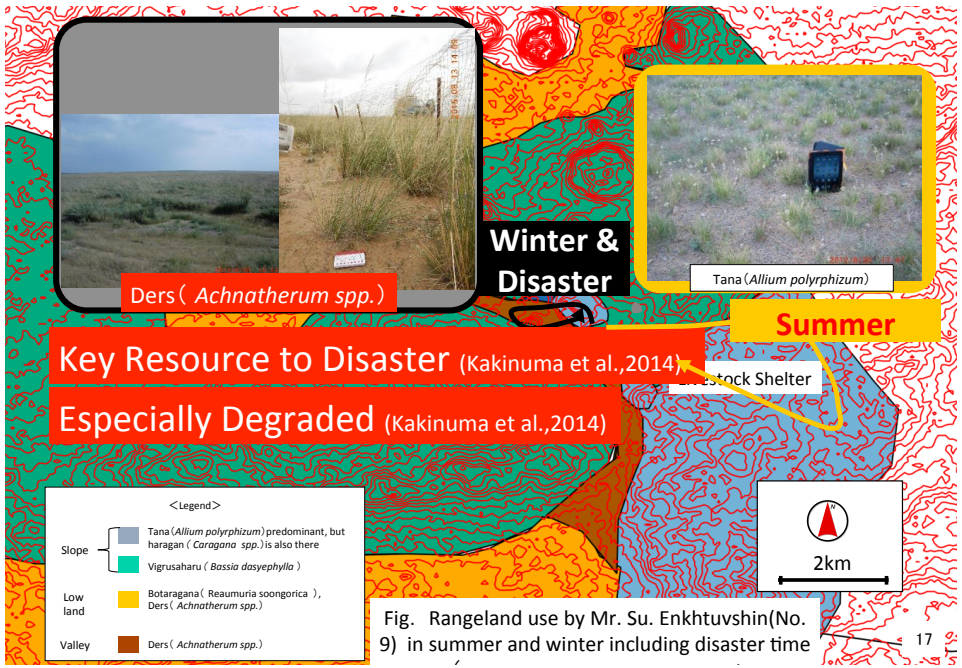


Fig. Rangeland use by Mr. Su. Enkhtuvshin(No. 9) in summer and winter including disaster time

Characteristics in using rangeland in the researched sites

・Winter：Settled（Using the same rangeland in the shelter）

・Summer～Autumn：Open（Using rangeland with rain, grass and water）

→Important to manage rangeland in winter

Community based Key Resource Area (CKRA)

The area that the communities decide to reserve for the use and rely on at the time of disasters

Expected outcomes from Keeping CKRA

<Environment> Recover degraded Vegetation

<Social> Reduce working time

<Economic> Reduce livestock loss

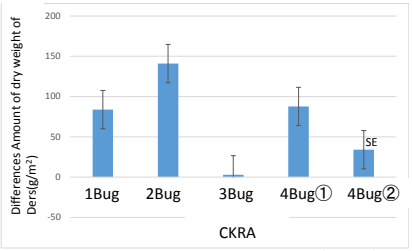


Fig Biomass volume in and out of the fenced fallow

Results of experimental keep of CKRA In Saintsagaan sum

Challenges in implementing the project activities

- Conflicts and passage disturbance rarely occur as the customary use of rangeland near the winter shelters is permitted and other herders do not intrude the areas.
- Herders do not envisage to graze all livestock→They graze only the enfeebled livestock that cannot be grazed outside.
- When otor-making/relocated herders are absent, the winter shelters can be used by others. → They need to stay at the winter shelters.
- Camel and cattle damage fences → Need to patrol fences and repair those that are damaged.
- An extensive CKRA adjacent to the winter shelters may cause frictions.

→(Case)The fenced winter shelters have prevented the other herders from using wind protected rangeland. The frictions among relatives may not necessarily become evident.

Destroyed fence, NOT CKRA（2015.8 Saintsagaan）

Findings and Challenges

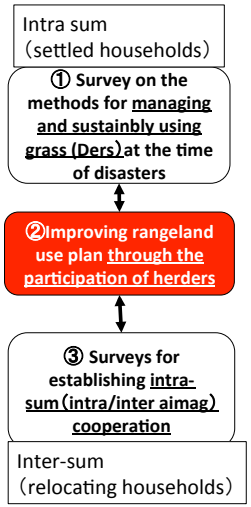
☐Findings

- Use of grass from winter to spring helps growing annual Ders
- The use of grass from summer to autumn is for emergency, and normally herders reserve it.
- When herders use it, there is a optimal volume different from winter to spring

☐Challenges

- Necessary to transfer techniques for using and managing grass at the time of non-disasters from winter to spring
- Need scientific research by Mongolian and Japanese organisations

② Improving rangeland use plan through the herders' participation



1. Considering the methods for developing rangeland use plan through the herders' participation

Date: August 2014
Venue:Saintsagaan sum office meeting room
Participants:30 persons – herders, vice sum chief, land use officer, bag chiefs
Overview:
With the support of Ass. Prof. Gerelee of the Mongolian Agriculuture University, the particpants discussed the development of rangeland use plans in Saintsagaan sum, Dundgobi aimag.
＜Activities＞
・Grouping within sums → grouping by bags
・Preparing a map by groups that show winter shelters, wells and livestock numbers
・Discussing by the group the elements that the group would like reflect in the rangeland use plans
＜Challenges＞
・The grouping based on mobility was suggested at the meeting, but as it was difficult for the herdrs with high mobility to join, the grouping was made with the extended geographic cover like Hungai aimag. However, sum officials and bag chiefs stated that such an approach was not suitable to Gobi.

2. Explanation on the rangeland use plan to herders and training on rangeland use

Date:January 2015
Venue:Theater in Mandalgobi
Participants:300 herders
Overview:※ Conducted as bag meetings to involve many herders
・Explaining the developed rangeland use plan
・Explaining methods for effectively implement the plans（Importance of the herders' participation）

3. Evaluation and improvement of rangeland use plans

Date : August 2015
Venue : Saintsagaan sum office
Participants : 30 herders
＜Overview＞
・Grouping based on mobility → Relocating households, settled households
・Grouping settled households → by the bag
・Evaluating by the group the methods for improving the rangeland use plan of this year and making suggestions


Challenges in implementation

- **Land use plan by the Mongolian government is a method suitable for steppe**

The method used by the expert of the Mongolian University of Agriculture was said unsuitable to Gobi government and herders. When we follow the conventional methods, it was difficult to fill a gap between experts and government officials
→ The method was improved by the external facilitators to make the method suitable to Gobi

- **Not all households participated**

Many participants of the meeting were the herders with low mobility. 300 households of 600 participated in the meeting and the deliberations may not be representative for all.

- **Difficult to manage the plan of relocation from summer to autumn**

The relocation frequency from summer to autumn is high. There are good rainfalls and water puddles. Livestock concentrates in the dense grass areas. There is a need for shelters in winter. The usefulness of planned relocations differs by seasons.

Experiment on Herder's participation to pasture using plan of sum in Gobi

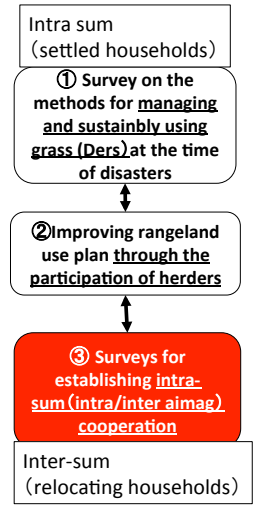
Mobility and Territorially-based approach

- Experimenting the grouping based on mobility
  - Settled households ⇒ Participated by the bag in pursuance with laws and customs
  - Relocating households ⇒ Developing plans and evaluations by the groups based on mobiity
- Herders' participation in yearly planning, implementation, evaluation and revision (PDCA cycle)

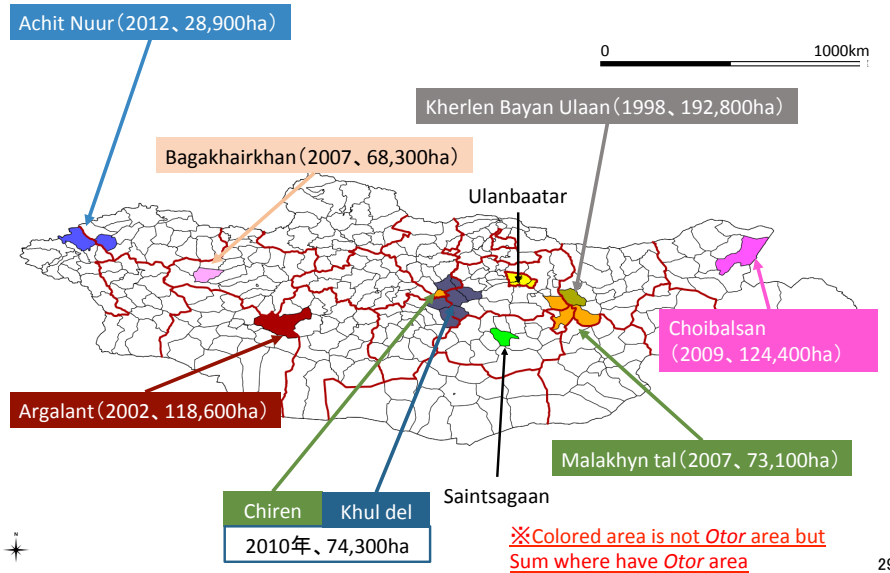
↓

(Expected outcome)
・Increased participation of herders in the pasture using plan
・Promote adaptive management by annual PDCA cycle by Participation of users of natural resources.


③ Survey for establishing inter sum (intra and inter aimag) collaboration



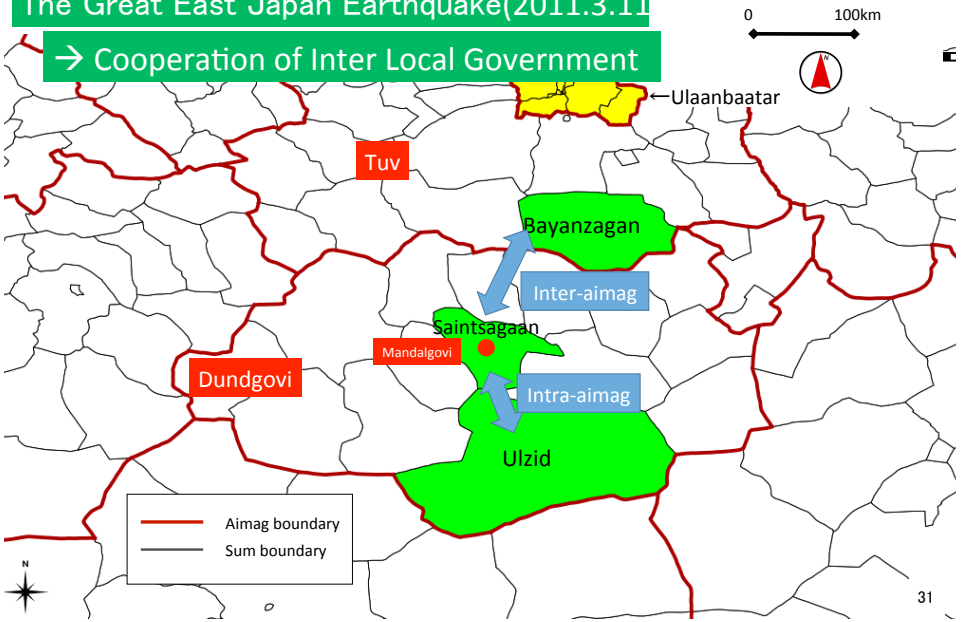
Sum with inter-aimag otor sites



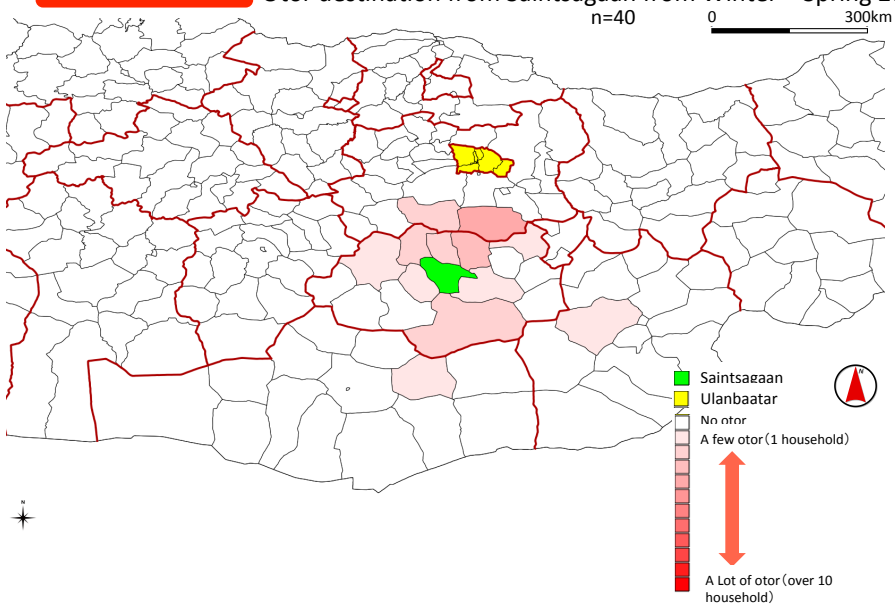
※Colored area is not *Otor* area but Sum where have *Otor* area

The Great East Japan Earthquake(2011.3.11

→ Cooperation of Inter Local Government



When Zud occurred Otor destination from Saintsagaan from Winter – Spring 2009



Objectives

- Type 2 and Type 3 were ostensibly promoting otor and reducing grazing pressures.
- It was deemed as useful for the government to coordinate otor as limited coordination reduced mobility. In addition, the interviews with local herders and officials revealed that there was a need for inter-sum agreement and rules for intra-aimag otor site use.
- Based on the aforementioned findings, a survey will be conducted on the rules for using otor sites and develop inter-sum agreements and inter-sum otor use within aimags.

Overview of agreements

Article 1 （General conditions）
1.1 An agreement shall be concluded in pursuance with the national legislations.
1.2 An agreement shall be conducive to promoting the implementation of the Mogolia's national action plan for combating desertification.

Article 2 （Objectives）
・Mitigating negative impacts on the environemnt（rangeland use, cleaning after the use）
・Mitigating the impacts of disasters（accommodating otor）
・Cooperating for social, cultural and economic areas（education, livelihood improvement）

Article 3 （Rights and obligations of the sums）
・Implementing the projects to activate cooperation
・Assuring the participation of local people
・Planning the prevention of rangeland degradation (mobilizing support of research institutes and overseas organizations）
・Developing rules on the acceptance and expulsion at the time of disasters（developing the environment conducive to making otor, considering the impacts on rangeland at the otor destination, providing governmental services to the otor making households）

Article 4 （Others）
・An agreement is valid for an year
・Possible to extend an agreement through mutual sum discussions

Challenges in implementation

- Governments are supportive to the agreement, but・・

Positive reactions were shown at the governmental meetings. However, there was little need for concrete support in discussions with the herders that have low mobility

However, the herders with high mobility have shown positive reactions as they believe that they would not be expelled and will not be required to pay to the governments/herders.

- Making agreements applicable extensively

In the agreement between Saintsagaan that is urban and has livestock concentrations and rural Ulzid, a barter agreement was included for Saintsagaan to allow the children of Ulzid to attend schools in Saintsaagan.

- Objections were expressed to the agreement that entrench the receiving sum and dispatching sum

At the meeting for the agreement that intended for Saintsaagan.to dispatch otor to Bayanzagaan, herders of Bayanzagaan objected the accommodation of otor making herdrs from Saintsaagan. The government have asked to consider the whole Mongolia and an otor clause was retained in the agreement.

- Herders' voice

Herders meetings were held and the ebullient discussions, but their assertions did not lead to the revision of the agreements.

Expected outcome from inter sum cooperation agreement

<Environment> Mitigating desertification
<Social> Preventing conflicts by Otor
<Economic> Reduceing livestock loss by disasters

Conclusion and Discussions

Lesson of community-based natural resource management, suitable to the Gobi area

- Mobility based approach

Mobility is an important strategy for not degrading arid land. Useful to consider the involvement of communities based on their mobility.

- Mezzo revel cooperation

In addition to the importance of management at the macro (national) level and the micro (basic locality and community) level, it is deemed useful to plan systems for resource management at the mezzo level (inter-municipality) to mitigate conflicts and improve motility in the areas with high mobility.

- User based studies

In addition to the scientists, policy makers, it is regarded as useful to monitor situations of local resource use and consider measures with trans-disciplinal stakeholders

Follow up

◘ Interviews with herders and local governments to evaluate the inter-sum agreement

An interview will conducted with the officials and the herders of the three sums concerning the agreement developed by Saintsagaan and two other sums.（January or February）

＜Proposed survey method＞

Target：Officials and households (6 each) of Saintsagaan, Ulzid and Bayanzagaan sums

Survey method：Face-to-face interviews at the sum office or mobile dwellings (gels), free writing

Survey items：Government　Outcome and challenges of the agreement, future improvement

Herders　Recognition of the agreement, its content, usefulness and challenges

Project output and outcome