Representing ‘Resilience’: Stories and Images from Kenya and Mongolia

‘Resilient Pastoralism: Towards Sustainable Futures in Rangelands’
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‘Бэлчээрийн мал аж ахуйн нехөн сэргээлт, тогтворой хөгжил’

(Global Challenges Research Fund (GCRF) Project no. NE/P01626X/1, 2016-2017)
The ‘Resilient Pastoralism’ (RP) project was carried out from 2016-17 in Kenya and Mongolia by teams comprising UK-based and in-country academics, NGOs and, most importantly, local pastoralists. The project was developed in response to the UK Global Challenges Research Fund’s (GRCF) 2016 call for projects on the theme of ‘Building Resilience’. This was a foundation building call, designed to bring people together to explore innovative approaches to resilience, to develop and test new questions and to better understand the policy relevance and uptake of previous work, with a view to shaping ‘resilience building’ strategies in the future.

As part of this work we were keen to explore and better understand local meanings of, challenges to and aspirations for ‘resilience’ amongst participating pastoralist households. In order to do so, we adopted PhotoVoice as part of our suite of methods. PhotoVoice is a participatory, visual tool, developed with the aims of empowering and giving voice to communities (Pearce et al., 2016). Although not without its critics, it is designed not only to promote locally-led identification and representation of key issues, but to facilitate knowledge development and exchange, critically through bridging the gap to policymakers and enabling change. For our Resilient Pastoralism project, volunteer photographers from pastoralist communities in Narok district, Kenya and Sumber and Bayanjargalan regions, Mongolia each spent a week capturing images from their local areas that for them highlighted important aspects of and contributions to ‘resilience’. They were then invited to discuss these with other community members, to tell the stories behind these images and to select the most important ones – i.e. the ones that for them best encapsulated the environmental, social and practice-based dimensions of ‘resilience’. It is the results of that process that are presented here, without editing and using the pastoralists’ own words, translated into English and Mongolian.

This small book is only one of the project’s key outputs: others include the project report, policy briefing and other documents available through the project website (https://www2.le.ac.uk/departments/geography/research/projects/resilient-pastoralism), wherein analysis of all results are presented. However, in our view this PhotoVoice book is a very important output, in that it derives from pastoralists’ own identification, recording and analyses of their resilience challenges and responses. The short commentaries by key in-country policy makers recognise the importance of this approach and of the knowledges produced through it. We also include reflections from our two in-country academic project leads, who had the opportunity to visit each other’s countries as part of the project and to reflect on shared resilience challenges.

Caroline Upton,
University of Leicester,
December 2017.
Бэлчээрийн мал аж ахуйн нөхөн сэргээлт, тогтвортой хөгжил (2016-2017)

Их британи, Умард Ирландын Нэгдсэн Вант улс болон төслийн хэрэгжүүлэхийг оршсон судлаачид, ТББ-ууд, орон нутгийн малчдын хамт хэрэгжүүлэхийг, баг нь "Бэлчээрийн мал аж ахуйн нөхөн сэргээлт, дасан зохицох чадвар тесэл"-ийг 2016-2017 онд Кени болон Монгол улсад хэрэгжүүлсэн. Тус тесэл нь Их британи, Умард Ирландын Нэгдсэн Вант улсын Дэлхийн сорилт судлааны сангаас 2016 онд зарласан "нөхөн сэргээлт, дасан зохицох чадвар бий болгох" чиглэлээр давшуулж хэрэгжүүлсэн төсөл юм. Энэ төслийг зэрэгцээ тогтвортой хөгжлийн инноваци орчны арга баарлаар судлах олон орлогчтой хамаруулж өнгөтгөл зохион байгуулах, нөхөн сэргээх, даван тулах чиглэлд бодлогын ачаа бол буулгын асуудлын түүхэн нөхөрлөг болсон. Мөн хэтээс бий болох нөхөн сэргээх, дасан зохицох чадавхийн стратегийг тодорхойлоо уртнах эмнэлээ эсүх судалганы ажлуудад дун шинжилгээний нөхөрлөг болож дүүргэж үзсэн юм.

Тус судалгааны ажлын хүрээнд "нөхөн сэргээлт, дасан зохицох чадавхий" гэсэн ажил хэрэгтэй судлах зорилготой байдаг. Уг судалгааны үндэснийхээ түүхэн нөхөрлөгтөө, нөхөн сэргээх салбарын стратегийн тодорхойлолтын үндэс нь зөвхөн орчны дүүргэлэл болон тогтвортой хөгжлийн салбарыг тодорхойлохыг хүсээн. Энэхүү судалгааны ажлын хүрээнд бий болсон зургийг хэвлэх болон чухал үр дүн болсон бөгөөд төслийн тайлан, холбогдох мэдээ материалыг https://www2.le.ac.uk/departments/geography/research/projects/resilient-pastoralism. сайтаваас үзэж болно. Бидний улс улсуудын бодлого боловсруулагчдын өгсөгчдөөс үзэж болно. Мөн судалгааны багийн зохион байгуулалт, нөхөн сэргээх, дасан зохицох чадавхийн талаар санал бодол нь энэ төсөлд тусгагдсан юм.
We are pleased to collaborate with the project team of ‘Resilient Pastoralism: Towards Sustainable Futures in Rangelands’ being implemented in Mongolia and Kenya, funded by the Global Challenges Research Fund by sharing the policy of the Government of Mongolia on Livestock Development and participating in the discussions of project workshops. We are grateful for the support to the implementation of pastoral development policies and for the comparative pastoral analyses in Mongolia and Kenya.

Mongolia has stated in its Constitution that “All livestock is a national wealth and shall be under the protection of the State”. This provision is reflected in and being implemented through the Laws on Land, the Disaster Protection, the Genetic Fund and the Health Protection, and the Index-based Livestock Insurance and the Government Policies and Programs. Mongolia provides economic supports to herders by providing free access to natural resources such as grazing land and water, exempting livestock taxation, and providing subsidies for raw wool and hides and skins sold to the national processors. As of 2016, 160.6 thousand herder households, 311.4 thousand herders and 2128 professionals work in the Mongolian livestock sector that produces 11% of GDP and 80% of gross agricultural products.

The Mongolian herders carry with themselves the thousands years pastoral heritages and cultures. They face dramatic climate, social and economic changes and work initiative how to overcome them and adapt to them. We are acknowledged that the project has studied and is publishing the experience of pastoralists in livestock development, pasture protection and rational use, feed production, and improvement of water points through the photovoice tool engaging volunteer herders as photographers.

We support the project initiative to assess and inform rangeland conditions through the modern remote sensing technology. We would like to express our willingness to cooperate with you in the next phase of the project, on behalf of the Mongolian livestock policymakers and pastoralists.

Dr. L. Choi-Ish,
Director of Coordinating Department of Livestock Policy Implementation,
Ministry of Food, Agriculture and Light Industry, Mongolia
Өмнөтгөл
Дэлхийн Сорилт Судалгааны Сангийн санхүүжилтээр Монгол болон Кени улсад хэрэгжүүлэн "Бэлчээрийн Мал Аж Ахуйн Тогтвортой Хөгжил: Нөхөн сэргэлт" төслийн багийн судлаачдад Монгол улсын засгийн газраас МАА-г хөгжүүлэн болдог танилцуулуулж, төслийн хэлэлцүүлэгүүддэд оролцож хамтарч ажилласандаа таатай байна. Энэхүү төслийн хүрээнд зөвхөн Монгол улс төдийгүй Кени улсын бэлчээрийн МАА-ны бодлого зорилтуудыг хэрэгжүүлэхэд дэмжлэг үзүүлж, харьцуулсан судалгаа хийх байгаад талаархаж байна. Монгол улсын ХХААХҮЯ-ны Мал аж ахуйн бодлогын хэрэгжилтийг зохицуулах газрын дарга Др. Л. Чой-Иш

Монгол улсын ХХААХҮЯ-ны Мал аж ахуйн бодлогын хэрэгжилтийг зохицуулах газрын дарга

Др. Л. Чой-Иш
My visits to Kenya in spring and summer 2017 were full of new experiences, especially meeting the Maasai pastoralists and talking with the chief of the village about the resilience of the community. There were many similarities in the problems that pastoralists in Mongolian and Kenyan are facing, such as climatic uncertainties, drought, access to water, poverty, migration to urban areas, marketing of livestock products, poor road networks and lack of access to social services. At the same time, both pastoralist communities were attempting to adhere to local rules of sustainable use of natural resources, and to protect and preserve their traditional knowledge.

Drought is one extreme climatic event that affects Kenyan pastoralists as well as Mongolian herders. In Kenya, pastoralists had developed a chain of water catchments that help them to manage shortages of water during dry seasons. In my opinion this practice would be good to adopt in Mongolia, along with the use of deep water resources.

The rural communities I visited in Kenya were divided into two main groups, pastoralists and farmers. However, more land was allocated for farming where the land was irrigated. Pastoralists were mainly concentrated in the less productive lands. As in Mongolia, rotational/seasonal use of pasture, in other words mobility between pastures, still remains a key strategy to mitigate risk and hazard.

From my visits I observed that the system of natural resource management in Kenya is highly complex. Discussions with one of many NGOs that operated in the areas visited indicated that there are many stakeholders involved in pasture regulation and decision-making, with the line separating their different roles and responsibilities often being quite thin and poorly defined.

Overall, pastoral strategies of herders in Kenya and in Mongolia are similar in that diversity, flexibility and mobility remain rational and crucial strategies for survival in the face of changing climatic and vegetative conditions. Indigenous knowledge and traditional pastoral resource management systems in both countries are usually based on customary rules governing access to and use of resources.

So, there were many similarities between the two pastoralist communities in Mongolia and Kenya. In the future, there is a need to have exchange visits between herders as well as decision-makers to exchange experiences and share knowledge and also to develop joint projects on resilience building.
Кени улсад зочлох үед тэрсэн нөхөн сэргээх чадавхийн талаарх сэтгэгдэл (2017 он)

Нуудэлч Малчдын Судалгааны Төв, Б.Батбуян (PhD)

2017 онд богоно хугацаагаар Кени улсад зорчихдоо Масаи омгийн нутгийн малчид болон тосгоны ахлачтай уулзаж, эрхлэж буй бэлчээрийн мал аж ахуйн тухай олон шинэн мэдээллүүлгүй олж авсан сонирхолтой аялал болсон. Тус улсын малчид ухэр, хонь, ямаа малах ба хагас суурыгны сүрэнд болон амьдарч буй бэлчээрийн мал аж ахуйн сэргээхийн талаарх сэтгэгдэл (2017 он) нүүдэлч Малчдын Судалгааны Төв, Б.Батбуян (PhD) 2017 онд богино хугацаагаар Кени улсад зорчихдоо Масаи омгийн нутгийн малчид болон тосгоны ахлачтай уулзаж, эрхлэж буй бэлчээрийн мал аж ахуйн тухай олон шинэн мэдээллүүлгүй олж авсан сонирхолтой аялал болсон. Тус улсын малчид ухэр, хонь, ямаа малах ба хагас суурыгны сүрэнд болон амьдарч буй бэлчээрийн мал аж ахуйн сэргээхийн талаарх сэтгэгдэл (2017 он) нүүдэлч Малчдын Судалгааны Төв, Б.Батбуян (PhD)
This project enabled me to visit Mongolia, a country I had never thought of ever visiting and had the impression that it would be terribly cold for me. My visit in April 2017 brought me face to face with the pastoral Mongolian herders. I found them very friendly and welcoming to visitors. Welcoming involves elaborate pleasantries and sharing of a drink of Vodka together then followed with tea full of milk. They have a positive attitude to discussing pastoralism. I learned that Mongolians have attachment to livestock including those living in the cities and pastoralism to them is not just a culture, but can be an attractive business venture. They talk about investments in livestock being more rewarding that savings in the bank or real estate. While living in the cities, they hire herders to look after their livestock. Herder families rent houses in the urban centers for their school going children.

Both Mongolian and Maasai people are pastoral communities living in marginal lands and reliant on livestock assets under frequent

Professor Bockline Omedo Bebe, Research and Extension Division, Egerton University, Kenya
exposure to drought periods. However, there are huge differences I noticed. Compared to Kenyan Maasai pastoralists, the Mongolian herding families own TV sets, are members of cooperative societies and use animal dung fuel energy. I find this a sustainable adaptation to utilizing large ruminant and horse populations. These livestock are grazed on very extensive, flat, open fields with little vegetation. The pasture diversity is limited. The Mongolian people keep much larger herds of which ruminant animals and horses are characteristic features. The government closely monitors household movements and natural resource use. Land use planning seems active and regularly reviewed. I think this is a more responsive management planning than that practiced in Maasai rangelands. Grazing pastures are zoned and access is to some degree managed by the local authorities. It is good planning of natural resource use that helps to eliminate conflicts between communities over natural resources. I noticed the cooperative movement is stronger among the Mongolian herders than among the Maasai communities. Extension service delivery is better and closer to the herders.

The herders in the areas visited in Mongolia have good access to water boreholes located strategically in the grazing areas. The management of the boreholes is interesting in that they are constructed by the government and a herder accesses water by coming with his own diesel to pump water for his animals. The government stocks hay for the herders, with this planning informed by weather forecasts. The weather forecast is both by scientific and traditional knowledge. The traditional knowledge weather forecasting was reviewed frequently and widely disseminated to herders. Dissemination is in a published handbook, which many herders use.

We visited a family where the man explained to us that he was a retired truck driver from another part of the country. He had just settled in his present location. He did this by asking the local administration to allow him settle. He irrigates vegetables and is slowly building a flock of sheep and goats by collecting new born lambs and kids left behind by more mobile herders. This is an unlikely event among the Maasai people.

From the visit, I made contacts with the Mongolian Academy of Sciences, NGOs and government officials. We are planning to write a joint paper drawing on commonalities and distinctions in pastoralism and resilience between the Maasai and Mongolian herders. We are discussing developing a collaborative project proposal on drought responses and pasture management strategies. These are networks I will go the extra mile to retain. It opens for me an interesting horizon for research into resilience and pastoralism.

Professor Bockline Omedo Bebe, Egerton University, December 2017
Mongolia Map and Case Study Area
Because of environment and climate changes…no rain…many lakes dry out, and there are fewer and fewer water points.

Besides the information that we get from the soum administration and public channels, there is another reliable resource - the barometer, which indicates weather changes.

We prepare more hay in the autumn. It is very important to feed animals in the winter when pastures become less productive.
Hay making is not easy for single households due to labour shortages. Last year, several herder households collectively prepared enough hay, using a tractor.

Last fall, it rained and snowed and the soil received moisture. This resulted in early growth of pastures and pregnant animals had access to the fresh green grasses. Animals graze calmly when the vegetation is good.
Herders produce hand-made fodder (gar tejeel) to feed weak animals when the weather becomes unfavorable. This is an important means to pass the winter. Our household prepares gar tejeel by mixing heads of needle grasses with bran.

Heavy trucks of mining companies drive everywhere over pastures instead of taking the main road. This destroys grazing areas nearby our winter camp.

We learn knowledge on pasture areas and experiences of herding and pastoral livestock from our previous generation. They have rich experience in how to overcome harsh winters and natural disasters.
Herders regularly receive weather forecasts on TV. In addition, soum and bag administrations inform herders beforehand about the critical weather events by phone.

The herders need to prepare for the winter. In addition to fattening animals, warming winter shelters and producing home-made fodder, herders have to prepare ourselves for winter and collect enough fire materials.
Herders started fencing small pasture spots for harsh periods and for grazing baby animals and female animals with low milk productivity. We have fenced two broomgrass areas, which are enough for grazing our sheep and goats for one month. Here pastures are not suitable for cattle, so we also grazed our 10 cattle within the two fenced areas in the winter.

In 2014, herders of the “Ur shim” herder group participated in the Community-based disaster risk reduction project and fenced and developed one ha field for planting fodder crops. Every year they plant oats, corn and lucerne and produce silage and feed their animals in winter without losses.
Herders are organizing mating of female animals in shifts to let them give birth later. Having late offspring is good for the recovery of female animals and for better development of newborns because of the greening pastures.

When it gets warmer, usually from March 15, we leave the female animals with newborns on fresh grassland and keep them there permanently. This assists the animals to get strong more rapidly and the newborns grow well.
Before winter becomes too cold, we conserve animal manure in a hole dug within the shelter. We take it out and use it for animal bedding when it gets very cold. If the bedding is warm, the animals pass the winter well. We – herders - need to reserve such manure as much as possible.

In addition to using the manure for animal bedding, we put it in special places inside the camp where it gets wet and frozen because of the urine of animals through the winter.

In winter camels are the main draught animals in the desert areas. Therefore it is important for herders to train camels when they are young. This takes a lot of time and we have trained only two camels this year.
Last year, there was little rain here and the pastures were pretty bad. This year also, the grasses didn’t grow in early spring. Fortunately, the pasture grasses are now growing well.

This is our second fenced pasture area. Broomgrasses grow very densely here and higher than a man, because we put snow here using trucks. The snow melts slowly and provides the soil with deep moisture, so the broomgrasses grow well.... Before we tried to irrigate the fenced area by spraying water, but this didn’t give deep moisture and the broomgrasses didn’t grow well.

We build nests round the fenced broomgrasses to attract harriers (birds). Harriers hunt mice and protect the pastures from rodents. We built a nest nearby our wells, but ravens occupied it. Here, harriers are a few.
Farmers have access to the latest information and technology. We equipped our hand-well with a motorized pump and use it for watering animals. It is much easier to water animals compared to a hand-operated well and saves time.

This picture shows one example of desertification. Fine sands bury pastures and leave nothing to graze on...... In 2000, there was such a sand movement. Only flood water can remove these sands fully. Wind carries very little sand away....
We grow a few trees in the soum centre with an aim of building windbreaks to protect pasture from sand movement. Otherwise, animals can eat these young trees when we move away. We will replant them in the pasture after they get bigger.
Due to lack of rain some nutritious pasture grasses don’t grow or grow very little.

Extensive mining produces a lot of dust which covers pasture grasses and reduces seasonal pasture areas and mobility of pastoral livestock. Grazing on the dust-affected grasses affects the digestive organs of animals. This also negatively affects the livelihoods of pastoralists.

The fenced pasture areas are designated for grazing by weak and pregnant animals or when the weather is unfavorable and it is snowing and windy.
Winter shelters need repairing every year and warming. Warm animal houses and shelters assist herders to overcome harsh winters and windy springs.

Due to the global warming and absence of rain, permafrost melts and pastureland is cracked and broken.

Needle grasses are not only nutritious feed, but also good for animal bedding and protecting animals from winds and storms.

The number of days with dust storms is increasing. It gets cloudy like rain is coming, but strong wind starts blowing and turns the soil over. Due to the absence of rain, winds blow continuously and accelerate ongoing desertification.
Partners:

Indigenous Livelihoods Enhancement Partners (ILEPA)

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‘Ufugaji Stahimili’: Juhudi za Maendeleo Endelevu Katika Maeneo Kame’

‘Ramatare Nanini oo Iparaku: Entalunoto Entaisere e ramatare Olmabarishioi Sidai too-Ipurkel’

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This small book is only one of the project’s key outputs: others include the project report, policy briefing and other documents available through the project website (https://www2.le.ac.uk/departments/geography/research/projects/resilient-pastoralism), wherein analysis of all results are presented. However, in our view this PhotoVoice book is a very important output, in that it derives from pastoralists’ own identification, recording and analyses of their resilience challenges and responses. The short commentaries by key in-country policy makers recognise the importance of this approach and of the knowledges produced through it. We also include reflections from our two in-country academic project leads, who had the opportunity to visit each other’s countries as part of the project and to reflect on shared resilience challenges.

Caroline Upton,
University of Leicester,
December 2017.


Maandishi ya Caroline Upton, Chuo Kikuu cha Leicester, Uingereza, Desemba 2017

Tafsiri ya Charles W. Recha, Chuo Kikuu Char Egerton, Kenya
Ramatare Nanini oo Iparakuuo: Entalunoto Entaisere e ramatare Olmabarishioi Sidai too-Ipurkeli

Ore ena Mradi “e Ramatare nanini oo Iparakuuo” netaasaki terishata O-lari loo nkalfuni are o-tomon o-ile o-lari loo nkalfuni are o-tomon o-naapishana to losho le Kenya o to losho le Mongolia ereriero oltim loo laisumak le-nkop oo Nkirisa o liatua nena kulie kwapi are, o-lturruuri leme le Sirkali neisulaki tenebo see olero Parakauo oti ikaalele.

Enkipototo apa ena olkitamanyunoto, natetemuuki aayau iltung’anak tenebo pee eibirribirr nkotooi e ramatare nanini, nerretenu neineneng nkilikuanat ng’ejuko neidimieke metjuru te-nguton tipat oolkerreti le ramtare e-sirkali o kulie oke ake duaatt, pee eimidike meitantu mu entaisere e-ramatare nanini.

Ore erishata nabo ena kiaas, nnaa ena tipat obo nkaalele, ilkobi o-ng’uraral naaiipiratamatare nanini tiatau lelo mareita loo-Iparakuoo oolikikuanishoreki tena mradi. Ore nnaa pee kitumoki aitarbaita ena, nikiigelu “Oltoilo loo mpishiai” anaa orrekere obo le-nena oitoi enkitamaayare. Ore Oltoilo loo mpishiai, naa orrekere le nkitamaayare oibala te nkongu oo too nkiaasini o terretenuuki pee eisho engolon o ltoilo olorere oitamaai te njurore enkisuma naje (anaa enatuuruta Olaisumani oji Pearce tenebo o kulikae aismak, tiatau o lari loo nkalfuni are o tomon o-ile). Ore hoo duuo neeta si ninye ele rrekee le nkitamaayare iltung’anak oota naamen, eterretenuuki pee errep nepeluunyie erishata naishore iilung’anak loo nkaalele metegelemu nelimu mbaa enye etipat, neidimie o cinchelin oke oto arata e ng’arata e ng’engo, neeku olkedet obaikinyieki lelo ashetak leo-Ilkeerreti le ramatare e sirkali pee eimidieki nkibelekenyat.

Ore tiaatua ena mradi ang e Ramatare na-nini, nnaa iltung’anak ooitaituo athe aoshok loo mpishiai tiatau Enkare Narok, te Kenya o tenebo o oloring’uua Sumber oe enkutoto e Bayanjargalan te-nkop e Mongolia, meetae oleitu eya nkongu naapishana e-oshito mpishiai too nkaalele enye naaide todolu too ndamuto enye mbaa e tipat naata enabaikinore ramatare nanini.

Neitokini sii aaitoomon ilelo Aoshok loo mpishiai meeimaki nena pishiai tenebo o kulie tung’anak lo losho lenye, pee einosu nkaatin naata enabaikinore nena pishiai, negelu sii nena pishiai naaisul; aa nhchere, nena naaiatang’aa te nguton olmanyara, o-Ikuaak o rrekee le nkishon nanini. Nena ba naatonkinoteki tele rrekee le nkitaamayare einosuni tene, metii kulie kibelekenyat eemu iorei/iltoloishi loo-Iparakuoo maate

Ore ena kiti buku, nnaa nabo ake oo mbaa e tipat naasirisaki naaimutuena ena mradi: ore kulie nnaa empalai oo lolom le mradi te luluung’ata, empalai naipirita Ilkeerreti le ramatare e sirkali, o kulie pala, naatoomoyu tene:

https://www2.le.ac.uk/departments/geography/research/projects/resilient-pastoralism.

Ore te nena pooki, ore te yiook ena buku Oo-Iltoloishi loo mpishiai naa entoki etipat aisul naaimua ena mradi, amu ore ntona enyenak naa Ilparakuoo oopeny oo-gelu, nesiir, neiguanare ilkobi le ramatare nanini neetu sii iwaleta. Ore nnaa duaatt naatisira lelo ashetak loo-Ikkeeerreti le ramatare e sirkali le nena kwapi naataasieki ena kitaamayare, neterrepa ele rrekee le nkitaamayare oe ng’eno naaimua ele rrekee. Kinyaakita sii aapik nduuat e lelo Aisumak arikok lena mradi, oo noto apa erishata naparan ena kwapi pokira neibirribirr enabaikino ilkobi le ramatare nanini too nkwapi pokira.

Caroline Upton,
University of Leicester,
December 2017.
Regional Pastoral Livelihoods Resilience Project (RPLRP) is one of the IGAD member’s states initiatives to end drought emergencies in the Horn of Africa. It is being implemented through four guiding components (Natural Resources Management, Market Access and Trade, Livelihoods Support and Pastoral Risk Management) in Kenya, Ethiopia and Uganda. The overall project objective is to enhance livelihood resilience of pastoral and agro-pastoral communities in drought prone areas in the IGAD region and enhance the capacity of countries to respond to an eligible emergency. In Kenya the project is active in 14 ASALs counties (Turkana, Garissa, Isiolo, Mandera, Marsabit, Samburu, Wajir, West Pokot, Tana River, Baringo, Narok, Kajiado, Laikipia and Lamu). The project aims to assist project targeted communities to build resilience against effects of extreme weather by facilitating investments development and capacity building opportunities that will protect their livelihoods and thereby improving their living standards.

Regional Pastoral Livelihoods Resilience Project, Kenya (RPLRP), implementation team recognizes that, success is founded on partnership and we are really excited to collaborate with the project team implementing the Resilient Pastoralism: Towards Sustainable Futures in Rangelands initiative in Mongolia and Kenya, funded by the Global Challenges Research Fund on building pastoral resilience in the rangelands. RPLRP has appreciated its participation in forums organized by Resilient Pastoralism: Towards Sustainable Futures in Rangelands to identify new insights into and understandings of pastoral resilience and how it may best be supported in the future. We are proud to share valuable lessons on pastoral resilience building interventions that RPLRP has put in place in the arid and semi-arid lands (ASALs) of Kenya.

We recognize the efforts of the Resilient Pastoralism: Towards Sustainable Futures in Rangelands it has made in documenting the experience of pastoralists in livestock development, pasture protection and rational use, feed production, and improvement of water points through the photo-voice tool and also the strides it has made to assess and inform rangeland conditions through the modern remote sensing technology. Ultimately, all our work is directed towards building resilience for ASAL communities and helping them to protect their livelihoods. We are driving for the development of better opportunities in the ASALs environment. All of this requires increased and renewed commitments to a strong collaboration, thus we would like to express our willingness to cooperate with you in the next phase of the project, on behalf of the RPLRP – Kenya.

Pancras Tumna Ngati, Project Knowledge Management and Communication Officer, Regional Pastoral Livelihoods Resilience Project- Kenya
Mradi wa Kieneo wa Shirika la Ufugaji Stahimili (RPLRP) ni mojawapo ya miradi ya mataifa wanachama wa IGAD kumaliza athari za kiafya kwenye kanda ya pembe ya Africa. Inatekelezwa kupitia vipengee inne (Uhifadhi wa Maliasili, Upataji Soko na Biashara, Utunzaji wa Njia za Mapato na kumudu Dharura za Wafugaji) nchini Kenya, Ethiopia na Uganda. Lengo kuu la mradi huhu ni kuimarisha ustahilimilivu wa maisha ya jamii za wafugaji na wakulima–wafugaji kwenye sehemu ambazo hufanyweza kuomba hukumbwa na kiafya kwenye eneo la IGAD na kuimarisha uwezo wa nchi hizi kukabiliana na halu za dharura.


Timu ya ukelezaji wa Mradi wa Kieneo wa Ufugaji Stahimili Kenya inatambua kuwa unajengeka kwa ushirikiano na tumefurahia kushirikiana la timu inayotekeleza Mradi wa Ufugaji Stahimili: Juhudi za Maendeleo Endevu katika maeneo kame katika kuratibu wanapitisha wafugaji katika maendeleo ya mifugo, utunzaji malisho na matumizi yafanya. Tumefurahia kushirikiana lisimana kwa kuboresha visima ya maendeleo ya mifugo, utunzaji wakati wa hatua ilizopiga kutathmini na kuuliza hali zao za maeneo kame katika kuratibu wa “remote sensing”. Kwa ujumla, kazi yetu yote inayotekelezwa kwa kushirikiana la timu inayotekeleza Mradi wa Ufugaji Stahimili: Juhudi za Maendeleo Endevu pia kwa kushirikiana nchini Kenya na mke ya “Global Challenges Research Fund” linalokupa Ufugaji Stahimili kwenye maeneo kame.
This project enabled me to visit Mongolia, a country I had never thought of ever visiting and had the impression that it would be terribly cold for me. My visit in April 2017 brought me face to face with the pastoral Mongolian herders. I found them very friendly and welcoming to visitors. Welcoming involves elaborate pleasantries and sharing of a drink of Vodka together then followed with tea full of milk. They have a positive attitude to discussing pastoralism. I learned that Mongolians have attachment to livestock including those living in the cities and pastoralism to them is not just a culture, but can be an attractive business venture. They talk about investments in livestock being more rewarding that savings in the bank or real estate. While living in the cities, they hire herders to look after their livestock. Herder families rent houses in the urban centers for their school going children.

Both Mongolian and Maasai people are pastoral communities living in marginal lands and reliant on livestock assets under frequent
exposure to drought periods. However, there are huge differences I noticed. Compared to Kenyan Maasai pastoralists, the Mongolian herding families own TV sets, are members of cooperative societies and use animal dung fuel energy. I find this a sustainable adaptation to utilizing large ruminant and horse populations. These livestock are grazed on very extensive, flat, open fields with little vegetation. The pasture diversity is limited. The Mongolian people keep much larger herds of which ruminant animals and horses are characteristic features. The government closely monitors household movements and natural resource use. Land use planning seems active and regularly reviewed. I think this is a more responsive management planning than that practiced in Maasai rangelands. Grazing pastures are zoned and access is to some degree managed by the local authorities. It is good planning of natural resource use that helps to eliminate conflicts between communities over natural resources. I noticed the cooperative movement is stronger among the Mongolian herders than among the Maasai communities. Extension service delivery is better and closer to the herders.

The herders in the areas visited in Mongolia have good access to water boreholes located strategically in the grazing areas. The management of the boreholes is interesting in that they are constructed by the government and a herder accesses water by coming with his own diesel to pump water for his animals. The government stocks hay for the herders, with this planning informed by weather forecasts. The weather forecast is both by scientific and traditional knowledge. The traditional knowledge weather forecasting was reviewed frequently and widely disseminated to herders. Dissemination is in a published handbook, which many herders use.

We visited a family where the man explained to us that he was a retired truck driver from another part of the country. He had just settled in his present location. He did this by asking the local administration to allow him settle. He irrigates vegetables and is slowly building a flock of sheep and goats by collecting new born lambs and kids left behind by more mobile herders. This is an unlikely event among the Maasai people.

From the visit, I made contacts with the Mongolian Academy of Sciences, NGOs and government officials. We are planning to write a joint paper drawing on commonalities and distinctions in pastoralism and resilience between the Maasai and Mongolian herders. We are discussing developing a collaborative project proposal on drought responses and pasture management strategies. These are networks I will go the extra mile to retain. It opens for me an interesting horizon for research into resilience and pastoralism.

Professor Bockline Omedo Bebe, Egerton University, December 2017

Jamii za Mongolia na Maasai ni jamii za wafugaji wanaoishi katika ardhi isiyo na rutuba na wanategemea kupata faida kutokana na mifugo ambao wanaishi kwenye sehemu inayokumbwa


Kutokana na ziara yangu, niliweza kuwasiliana na Chuo cha Mongolia cha Sayansi, Mashirika yasiyokuwa wa Serikali na maafisa wa Serikali. Tunajaribu kuandika kitabu kifupi cha mambo zinazofanana na zile zinazotofautiana kati ya jamii ya wafugaji wa Maasai na wa Mongolia kuhusiana na ufugaji na ustahimilivu. Tunajadili kubuni kwa pamoja mapendekezo za kukabiliana na ukame na pia mikakati ya kusimamia ardhi ya ufugaji. Nitajitahidi kadri ya uwezo wangu, kuendelea kuwa na ardhi ya ufugaji. Inanipa fursa kubwa ya kufanya utafiti kuhusu ustahimilivu na ufugaji.

**Profesa Bockline Bebe, Chuo Kikuu Cha Egerton, Desemba 2017**

Paran e Ramatare Nanini OO-Iparaku: Embaikinoto olosho Le Mongolia (Olari loo Nkalifuni are o tomon oo-pishana)

Professor Bockline Bebe, Research and Extension Division, Egerton University, Box 536-20115 Kenya

Aaidimie ena mradi mataparana enkop e Mongolia, enkop neitu aikata aitedidetu ajo kaaidim ataparana neisul amu ajo apa eirobi oleng te nanu. Aaidimie ina paran ai o lapa li-ong’uan o lari loo nkalifuni are o-tomon o-naapishana metanang’ata nkomomi ang o-nelelo paraku le Mongolia. Ataduaa apa ajo olorere oota shorueisho oleng nenyor olomon. Ore e nkitoomo oo lomon naa entoki sapuk oleng nang’arie enaisho e Vodka neitusuji Shai nairrusha te kule oleng. Eta ndamunot e dupoto naaipirta ramatare oo nkishu/enkisho olparakuoni. Atujurruo ncherre enyorr olorere lo losho le Mongolia nkishu oleng, o metabaiki lelo oo manya Ilkerrengeti/intaonini; neme duaaki olkuaak lenye leramatare oo nkishu, kake enkoitoi e dupoto e biaashare te ninche. Etolimutuo nchere ene dupoto ratamare oo nkishu alang enchumata oo ropiyiani te benki anaa enchetare oo mpulooti. Ore lelo oo
tamanya ilkerengeti neiggir ilchekuti ooirritaki nkishu enye. Elaaki lelo mareita loo-Iparakuo nkera enye nkaajjik too ntaonini pee etumoki aa-shom sukuul.


Keeta olmabarishioi lenaikunakinoi ramatare enkulupuoni neigungareki too rishat naibala. Adol nanu ajo, olkerreti lolmabarishioi le tipat lemeibala too-lpurkeli lolmaasai. Kekerr, netemu ndaat oo nkishu ilarikok le Kansol tenebo olofisaani le sirkali eina kop e Mongolia. Ele mabarishioi le naikunakinoi imasaa o ndaat oo nkishu owuung’ie ilarrabali le-orrro oo masaa tiatua olosho. Atoduaa si ajo keiroshi naboishio oolturrurri le biaashara to lolparakuo le Mongolia alang lelo Maasai. Kenyikita sii ramatare oo lofisaani le sirkali oota enabaixinore ramatare o nkishu olerere.

Keeta sii ilparakuo le Mongolia nkariak naadanyuno naatipikaki ivweejitin neenare too ndaat oo nkishu. Ore hoo duoo naa sirkali natadanyua nkariak oo nchoki, ilparakuo liopeny nkishu oinyiangu eilata naoshiuki enkare pee eok nkishu enye. Ekeshumaki sii Sirkali ilparakuo nkujit esujari enaikununo ilarin. Ore eingoruni irreteni lenaikunakinoi ilarin o lameitin, naa esujari eng’eno e darasa oe eng’eno ikinet oolparakuo. Einenengi sii neng’arieki ilparakuo too rishat naaje in ng’eno ikinet naipiirta enaikununye ilarin. Esiri ina ng’eno te mbuku naishori ilparakuo pee errerioo.

Kitaparan sii Olmari otiaka iyoook olee oti, nchere olarewani apa ninye loo lorin oing’ua ae kutoto eina kop e Mongolia. Enamanyishore ake det teina murua. Ilarikok le Sirkali eina murua e-toomono meishori enepik emanisho. Olaremoni loo mpuka ebukoki enkare, neiterua sii asot ntare o nkineji esotu ilkuoo le tare o le-kineji ooiturra ilparakuo tenaidurra. Kegol taa eesayu embae naaio ena to lorere lolmaasai.


**Professor Bockline Omedo Bebe, Egerton University, December 2017**
‘Resilient Pastoralism’ Exchanges: Visits to Kenya (2017)

Batbuyan Batjav, Center for Nomadic Pastoralism Studies, Mongolia

My visits to Kenya in spring and summer 2017 were full of new experiences, especially meeting the Maasai pastoralists and talking with the chief of the village about the resilience of the community. There were many similarities in the problems that pastoralists in Mongolian and Kenyan are facing, such as climatic uncertainties, drought, access to water, poverty, migration to urban areas, marketing of livestock products, poor road networks and lack of access to social services. At the same time, both pastoralist communities were attempting to adhere to local rules of sustainable use of natural resources, and to protect and preserve their traditional knowledge.

Drought is one extreme climatic event that affects Kenyan pastoralists as well as Mongolian herders. In Kenya, pastoralists had developed a chain of water catchments that help them to manage shortages of water during dry seasons. In my opinion this practice would be good to adopt in Mongolia, along with the use of deep water resources.

The rural communities I visited in Kenya were divided into two main groups, pastoralists and farmers. However, more land was allocated for farming where the land was irrigated. Pastoralists were mainly concentrated in the less productive lands. As in Mongolia, rotational/seasonal use of pasture, in other words mobility between pastures, still remains a key strategy to mitigate risk and hazard.

From my visits I observed that the system of natural resource management in Kenya is highly complex. Discussions with one of many NGOs that operated in the areas visited indicated that there are many stakeholders involved in pasture regulation and decision-making, with the line separating their different roles and responsibilities often being quite thin and poorly defined.

Overall, pastoral strategies of herders in Kenya and in Mongolia are similar in that diversity, flexibility and mobility remain rational and crucial strategies for survival in the face of changing climatic and vegetative conditions. Indigenous knowledge and traditional pastoral resource management systems in both countries are usually based on customary rules governing access to and use of resources.

So, there were many similarities between the two pastoralist communities in Mongolia and Kenya. In the future, there is a need to have exchange visits between herders as well as decision-makers to exchange experiences and share knowledge and also to develop joint projects on resilience building.

Batbuyan Batjav, Center for Nomadic Pastoralism Studies, Mongolia, December 2017.
Kenya Map and Case Study Area
The Maasai community value livestock and will always strive to ensure that necessary effort is put in place to maintain the health of livestock;

Mobility is one of the best strategies employed during times of drought;

Herders will travel over long distances in search of pasture and water;

Large bushes provide alternative forage during times of drought and are therefore revered;

Pastoralists always strive to protect bushes as they are perceived as alternative lifelines for their livestock;

Bushes also provide shade for cattle during times/seasons of high temperatures known to be affecting grazing duration. When temperatures are high, livestock are forced to shelter in between grazing sessions which lengthens the daily grazing duration, a problem pastoralist overcome when grazing in bushy places.

Katika nyakati za ukame, wao huhamahama kama mbinu bora ya kuhifadhi mifugo wao

Wafugaji hutembea na kusafiri masafa marefu kutafuta lishe na maji;

Vichaka vikubwa kama inavyodhiriishwa katika Picha 1 huwa ni lishe mbadala nyakati za ukame na hivyo huthaminiwa;

Jamii za wafugaji hujitolea kulinda vichaka kwa sababu vichaka huonekana kama njia mbadala ya kusitiri uhai wa mifugo;

Vichaka pia huwa na vivuli vinvyotumwa na mifugo katika nyakati/misimu ya joto; Wakati kunakuwa na joto jingi, mifugo hulazimika kututia vivulini na hivyo kufanya mifugo kuhitaji muda mwingi wa kula. Wafugaji hukabili changamoto hii wanapowalisha mifugo katika vichaka yenye miche na majani.

Enkarna: JK; Manyisho: Ilkimatti;

Empisha e Dukuya

Inetipat nkishu too-lmaasai naa kenyok Ilparakuoo aaramatu iswam;

Ore enaidurra Oolaramatak loo nkishu nasuji ilkisirat noo orrekie obo ogilunoreki Olameyu;

Eidurr ilaramatak nepuo nkadorr eingoru nkujit oo nkariak;

Ore iseroi/o-ntimi naa ndaat oo nkishu too rishat olameyu, neeku kerrip and neyanyit oleng;

Errip oshi ake Ilparakuoo ntimi, eyiolo ajo ninye ai oitoi naishuyie nkishu enye;

• The pastoralist values ‘green environments’ and will do everything possible to access such localities;

• In the process of ‘eating stories’ (sharing vital pastoral information), pastoralists will ask for areas that are green or have received rainfall. This is frequent during droughts;

• Experienced pastoralists will also identify such areas that remain green over long periods and contain alternative forage for livestock. One example is shown here. The area is appreciated because it is covered by relatively drought resistant palatable vegetation;

• Livestock can spend a whole day in such locations with minimal movement which is good for their health.

• Wafugaji huthamini mazingira ya kijani kibichi na huweza kuwepo lolote kuyafikia maeneo kama hayo;

• Katika wakati wa kupiga gumzo, wafugaji huulizia kuhusu maeneo yenye lishe nzuri ama ambayo yamepokea mvua. Hili hutendeka hasa nyakati za ukame;

• Wafugaji wenye ujuzi huweza kutambua maeneo ambayo husalia kuwa kijani kibichi kwa muda mrefu na yenye lishe mbadala kwa mifugo. Maeneo kama haya yameonyeshwa kwenywe Picha. Maeneo hayo hufurahiwa kwa sababu huwa na majani ambayo hustahimili ukame;

• Mifugo huweza kushinda hapo mchana kutwa bila kutembea sana, jambo amabalo ni nzuri kwa afya yao.

Empisha e-are:

• E-Kenyorr ilaramatak loo nkishu olmanyara onyori/enkop olari, nna e keas pooki mbae naaidim pee embaiki ilo ari;

• Ore te nkimosaro o o lomon, eikilikuana nelikino ilaramatak loo nkishu inetii ilkisirat, neisulaki too rishat olameyu;

• Eyiolo si ilaramatak loo nkishu kalamasi inene wuejitin neisiadaki nkijit/arashe. Nnaa e nautu e picha e are, naa ntonat oo nkeek e naaisudoo erashe;

• Kenyorr nkishu kuna daat, nna keo neiperipare endama nalulunga.
This shows an area that is gentle sloping, at the lower sections of Loita Hills;

The hill modifies the temperatures of the surroundings making it good for grazing during time of high temperatures;

The gentle slope makes the grazing area easily accessible by relatively weak cattle affected by drought events;

The neighbouring bush provides forage for livestock during time of drought;

The area also serves as a resting place in between grazing sessions around 1-2pm when the temperatures are high and pasture for those not resting.
Abundant soil moisture in this area ensures that grass takes a long time to dry out in the area, making it an important location in pastoralists' lives and seasonal grazing plans;

The area is always covered with pasture most of the time and regularly visited by pastoralists.

Empish e-onguan:

Eitodolu e picha e-onguan enchorro/olobobo laa ole tipat too laramatak loo nkishu amu mmesioki aatayu nkuji tene – naa data oo nkishu terishata olameyu;

Esesh etii nkuji ene, nesesh eparan ilparakuo.
• This shows an area preferred by sheep and goat herders;
• It contains grass and palatable forage/thicket that serves both the sheep and goats at the same time;
• It is mostly accessed after the livestock watering sessions around 3pm;
• It lies between the water points and approximately 1 km enroute to homestead, making it an ideal grazing spot for herders heading back to the village.

Jina: MK; Kijiji: Ilkimatti

• Inaonyesha sehemu ambayo hupendwa na wachungaji wa kondoo na mbuzi;
• Sehemu hii ina nyasi na malisho ambayo hutumiwa na kondoo na mbuzi kwa wakati mmoja;
• Mara nyingi hutumiwa baada ya mifugo kunywa maji za saa tisa alasiri;
• Eneo hili liko katikati ya visima takriban kilomita moja kuelekea bomani na hivyo kuifanya eneo bora la malisho kwa wachungaji warudipo kijiji.

Enkarna: MK; Manyisho: Ilkimatti

Empisha e-imiet
• Eitodolu e mpisha e-imiet ndaata naanyorr ilchekuti loo ntare;
• Ketii nkujit o mbenek naanyorr ntare oo nkineji;
• Ndaat oo nkerrai teneidip aatookishu, etushukote iloipi;
• Etii ena murua erishata e nkongu enkare/eneok ntokitin oe manyisho, neeku ewueji sidai nedaare ntare erinyo apuo ang.
• The area contains a special type of grass preferred by goats and sheep;

• In spite of surrounding maize fields, the area is extensive, restricted for cattle and provides a vast grazing area for goats and sheep. The fallow sections between the maize fields are normally covered with grass throughout the year except during times of extreme drought;

• The grazing zones is sandwiched between crop fields and hence provides easy control of movement of goats and sheep;

• It serves as the 1st stop grazing zone during a grazing session.

Empisha e-ile:

• Ewueji ene naata ndaat sidan oo ntare o nkineji;

• Ore hoo duoo nemanita imukuntani ene, elala, netekeraki pee mejing nkishu;

• Erishata oo mukuntani etii kuna daat oo nkishu, neeku keibooroyu ntare;

• kuna murua engas ntare aa-daare te-neoshi;

• Esesh etii ena murua nkujit meteleku too rishat olameyu, tenkaraki nemanita imukuntani.
• Presence of fence/barrier controls the movement of goats and sheep towards a defined direction;

• Goats and sheep are restricted in a specific zone making it easy to monitor loss and trespass;

• The area is also free from predators and therefore guarantees safety;

• The area contains a variety of trees/shrubs and grass that support goats and sheep respectively.

• Kuweko kwa nyua/ kizuizi huelekea mbuzi na kondoo kufuata njia/mkondo fulani;

• Mbuzi na kondoo huzuiliwa katika kijisehemu fulani ili kurahisisha kuwachunga;

• Kijisehemu hicho hakina wanyama mwitu na hivyo hukakikisha usalama wao;

• Sehemu hiyo huwa na aina tofauti za miti na nyasi ambazo hutumiwa na mbuzi na kondoo mtawaliwa.

Empisha e-naapihana:

• Ketii olpaashie ene oboin/oo-aaraki ntare meingura enchoto naje;

• Ore amu keibookini ntare emurte nabo, kelelek enkirritata oe enkikenata oo ntare;

• Eisidai sii ena murua tendaata oo ntare amu metii bata/ ilowuarak;

• E ketii sii ena murua mpukunot napaasha oo Ikeek o nkujit naanya ntare.
• This shows an open resting area for goats;

• The pastoralists value open spaces neighbouring grazing fields;

• Pastoralists use the resting moments to monitor the number of goats and sheep so that none is left behind following movement to different grazing ground;

• The resting period last for about 5-20 minutes and takes place around 2 pm when the temperatures are high.

• Inaonyesha sehemu wazi ya mbuzi kupumzika;

• Wafugaji huthamini mahali wazi inayokaribiana na viwanja vya kulisha mifugo;

• Wafugaji hawa hutumia wakati wa mapumziko kukesabu idadi ya mbuzi na kondoo; kuhakikisha kwamba hakuna anayeachwa nyuma wakihamia sehemu tofauti ya malisho;

• Wakati wa mapumziko huchukua dakika 5-20 na hufanyika saa nane adhuhuri wakati kuna jua kali.

Empisha e-isiet:

• Eitodolu e mpisha e-isiet olkiu oirragi nkineji;

• inetipat imurua naaiaisasha/ ewuas naaijo ena too lparakuo;

• ore kuna wuasin naa inetipat tenkikena oo ntare teneipangu tosero eton eitu ejing likae;

• Enkiti rishata (nusu esaa) ake eirag ntare damae, nesesh aa tenei-ul enkolong.
• Though pastoralists seek refuge on the hills during times of drought, there are times, especially when droughts are prolonged, that the grass gets depleted and the livestock are forced to feed on the leaves of trees – these offer alternative foliage;

• The period taken at any spot in the hills is influenced by the intensity and duration of drought events and the number of livestock allowed to graze in a defined location.

Jina: TP; Kijiji: Oloshoron

• Ingawa wafugaji hutafuta hifadhi kwenye milima katika nyakati za ukame, kuna nyakati; hasa za kiangazi kirefu ambapo nyasi huisha na mifugo hulazimika kula majani ya miti ambayo ni lishe mbadala;

• Muda ambao wafugaji hutumia katika eneo moja kwenye milima hutegemea urefu wa vipindi vya kiangazi na idadi ya mifugo ambayo hurusiwa kulishwa katika eneo maalum.

• Hii ni ishara kwamba wafugaji hujali kiwango cha ardhi fulani ya mifugo – wao hujadili na kukubaliana namna ya kusambaza mifugo yao kwenye milima.

Enkarna: TP; Emanyisho: Oloshoron

E-Mpisha e Naaudo

• Ore hoo duoo naa ndaat oo nkishu etipat irashat oo-ldoinyo te rishata olameyu, kelo neruoyo olameyu oleng ometudungokini nkishu mbenek;

• Ore erishata oo-ldoinyio naadung’okinyiek nkishu mbenek, enkirowuaj oe nkadori olameyu tenebo oe nkereta oo ndaat nkishu einenengi;

• Eutu ena duaata nchere eyiolo ilparakuo enaba nkishu naaidim aatadaare emurua naje.
This shows part of River Elangata Entim;

It contains water throughout all seasons and therefore serves as a major watering spot;

It has relatively cold water so is good for watering livestock during high temperatures;

Its proximity to the grazing location plays a significant role during times of drought as long distance movement affects the health of livestock. More so weak animals may not be able to withstand travelling long distance in search of water.

Empisha e-tomon:

Picha inaonyesha sehemu ya mto Elangata Entim;

Mto huu huwa na maji misimu yote na hivyo hutumika kama kisima kikuu ambamo mifugo hunywa maji;

Ina maji baridi ambayo ni mazuri kwa kunywesha mifugo wakati wa joto jingi;

Ene hili liko karibu na malisho ya mifugo na hivyo kuwa na umuhimu mno nyakati za ukame kwani masafa marefu huathini afya ya mifugo. Mifugo wanyonge huenda wasiweze kustahimili kwenda mwendo mrefu kutafuta maji.
This is a forested area with undergrowth that supports livestock during drought;

Though not captured on the photograph, the area is relatively close to a water point;

Livestock feed on leaves of trees when the isolated patches of pasture/undergrowth is depleted during prolonged dry season.

Jina: TP; Kijiji: Oloshoron

• Sehemu hii ni ya misitu yenye miche ambayo husaidia mifugo nyakati za kiangazi;
• Ijapokuwa haionekani kwenye picha, mchungaji huyu aliashiria kwamba eneo hilo liko karibu na chemichemi ya maji;
• Mifugo hula majani ya miti wakati ambapo nyasi na malisho mengine hunyauka wakati wa kiangazi kirefu.

Empishi e tomon o-obo

• Entim ena naata olekop oret nkishu terishata olameyu;
• Etuutua sii ilo shekut enkongu enkare natii embata ena tim;
• E-kenya nkishu mbenek oolkeek teneiting nkijit too rishat olameyu.
The area is known for receiving relatively high rainfall;

Always dominated with abundant pasture during the rainy season;

It is well drained and ideal for grazing during both the wet and dry seasons;

The area contains a special type of pasture that is good for livestock health and satisfies with a shorter grazing duration.
• Sehemu hii ya ardhi huwa kwenye mwinuko na huwa na kiwango cha chini cha nyuzi za joto kutokana na athari za mabadiliko za kimazingira;

• Hii huwezesha mifugo kula bila kupumzikapumzika wakati wa malisho;

• Sehemu hii ya ardhi huwa kwenye mwinuko na huwa na kiwango cha chini cha nyuzi za joto kutokana na athari za mabadiliko za kimazingira;

Empisha e tomon ookuni:

• Oloikarere ele, neeku keisiusiu;

• Kedaa nkishu te wueji neeijo ene terishata naado eitu eitigil enkolong ndaat;

• Kedungoki oltintilua nkishu ndaat, neeku keya nkishu erishata naado pee eraposho;

• Mmeshuma sii ele kiu oleng, neeku kebaya nkishu nashal te rishata olameyu.

• The land is raised and therefore experiences cool temperatures;

• This enables the cattle to graze without resting periods during the grazing sessions from shelter from high temperatures;

• This provides an opportunity for fast feeding;

• High temperatures force cattle to rest/shade during the grazing sessions and therefore it takes a long time for them to get satisfied;

• The place is also gentle sloping and therefore can easily be accessed by weak animals during time of drought.
• The photo shows a cow that calved along the way to the grazing land;

• It shows that pastoralists must always be equipped with calving skills and should be aware that it is always hard to estimate the exact day that a cow may calve;

• Emergency preparation is important during times of drought when cattle travel long distances in search of water and pasture;

• If it happens, then it is the duty of the herder to carry the calf.
The area is covered with trees and is crucial for supporting goats during times of drought;

We cut the branches to feed sheep/goats during drought;

The patches of grass support sheep.

Jina: MK; Kijiji: Oludukulupuoni

- Sehemu hii imefunikwa na miti mingi na ni muhimu kwa kusitiri mbuzi wakati wa kiangazi;
- Wafugaji/ wachungaji hukata matawi kuwalisha kondoo/mbuzi wakati wa kiangazi;
- Vijisehemu vyenye nyasi husaidia kondoo.

Empisha e tomon o-pishana:

- Enetipat kuna daat neisulaki terishata olameyu too nkineji tenkaraki ketii ilkeek/mbenek;
- E-kedungoki ilchekuti ntare mbenek terishata olemayu;
- Nedupore ninche ntare/nkerra nkujit natii imurua too rishat e kulo keek.
• The photo shows maize stalks that are useful at times of drought;
• This shows the importance of agro-pastoral activities for ‘resilience’;
• Different approaches should be put in place to help preserve plants residues.

Empisha e tomon o-isiet
• Eitodolu ena pisha nkishu enyaita ilmapepeeni, neisulaki too rishat olameyu;
• Eutu ena dupoto natum ilparakuuo telelo kulikae parakuoo oo-ata mukuntani;
• Eiririkino naa nepiki irreteni oo-shumieki ilmapepeeni pee dupore nhoki too rishat olemayu.
- A permanent water source for livestock;
- The water reservoir located within the forest was constructed by Illoshoron village/community with support from county government;
- Its proximity to the grazing ground places gives it great significance as herders are able to use the water source in between the grazing sessions.

**Jina: TK; Kijiji: Illoshoron**

- Vyanzo vya maji vya kudumu kwa mifugo;
- Bwawa la maji liloko ndani ya msitu lilitengenezwa na jamii ya kijiji cha Illoshoron kupitia usaidizi wa serikali ya kaunti;
- A permanent water source for livestock;
- The water reservoir located within the forest was constructed by Illoshoron village/community with support from county government;
- Its proximity to the grazing ground places gives it great significance as herders are able to use the water source in between the grazing sessions.

**Enkarna: TK; Manyisho: Illoshoron**

- Empisha e tomom o-naaudo
- Enkongu enkare nalepo naok nchoki;
- Enchorro natesheta olorere le murua oo loshoron enoto e reteto naing’uua sirkali e Kaunti;
- Enetipat ena ong’u enkare amu enyikita ndaat oo nkishu, neeku elelek eok nkishu terishata oo ndaat.
• Resting spot for livestock for approximately 30 minutes between feeding times;

• It also provides opportunity to livestock not interested in resting to continue grazing;

• Quiet place with minimal disturbance;

• Plain – Provides a general overview of all livestock – it is easy to spot the whole herd at a glance;

• Spot predators and livestock easily.
Partners: