

Erosion protection by fencing and reduction of grazing and trampling pressure, Ehen. (Hanns Kirchmeir)

## Community-based approach in Erosion Control (Азербайжан)

Ismayilly district, Ehen community

### ТОДОРХОЙЛОЛТ

The unsustainable use of pastures and forest areas leads to erosion, degradation, desertification and loss of biodiversity in high mountain areas of the South Caucasus. In the village Ehen in the Ismayilli district in Azerbaijan, a community-based approach for erosion control was developed in a participative way. Together with village stakeholders, different measures were developed to stop erosive processes, flooding and to rehabilitate vegetation cover.

The Ministry of Ecology and Natural Resources of Azerbaijan together with the Deutsche Gesellschaft fuer Zusammenarbeit (GIZ) selected integrated erosion control as a priority in their cooperation and the district Ismayilli was chosen for the implementation of pilot activities.

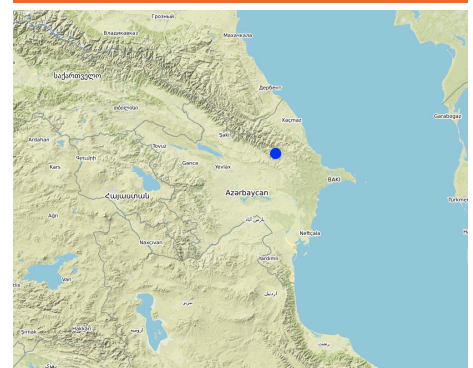
The district Ismayilli covers an area of about 2.158 km<sup>2</sup>. Approximately 31% of the territory is covered with forest. Pasture lands on slopes are particularly exposed to vegetation degradation due to overgrazing. The loss of a closed vegetation cover on mountain slopes can lead to severe soil erosion due to surface water runoff. The project team together with the district administration decided to set the focus on the village Ehen near Lahic.

The approach chosen for integrated erosion control in Ehen was a community-based approach. Together with stakeholders, the most severe erosion sites were identified, and a list of priorities was developed. In cooperation with international experts, different technologies and practices were developed to stop erosion processes. Several preconditions for the development of a number of practices were set: The technologies should be cost-effective and affordable for the villagers, and the villagers should be able to use them without the use of external technicians. In order to achieve this, particular emphasis was placed on the application of bio-engineering measures. Measures were applied on degraded pasture lands and erosion gullies in the pilot community at the south slope of the Great Caucasus.

As a first step, the implementation sites were determined through joint field visits by village representatives and experts ('Screening mission'). In the first phase the GIZ-team and the SLM-experts have been introduced to the village community. In this phase, the national GIZ project coordinator had the major role to create a basis of respect and trust to enable a positive atmosphere for an open minded discussion. The driving factors of deforestation and overgrazing were discussed in the field, and the potential intervention sites were marked with colour spray and wooden poles in the field. The marking in the field instead of only working with printed maps was very important for the recognition, discussion and acceptance of the sites by all villagers. There was a gap of several weeks between marking and implementation, which provided enough time for internal discussion about the site selection and the adaptation of boundaries.

Nine degraded pastures and forest land sites were selected by the village stakeholders together with the SLM specialists. Four sites are located above the village with the risk of

### БАЙРШИЛ



**Байршил:** District Ismayilli, Ehen village, Азербайжан

**Сонгосон байршлуудын газарзүйн холболт**

• 48.41683, 40.85267

**Эхлэх огноо:** 2015

**Төгсөх жил:** 2018

**Арга барилын төрөл**

- ☐ уламжлалт / уугуул
- ☐ Сүүлийн үеийн орон нутгийн санаачлага / шинэчлэл
- ☒ төсөл / хөтөлбөр дээр үндэслэсэн



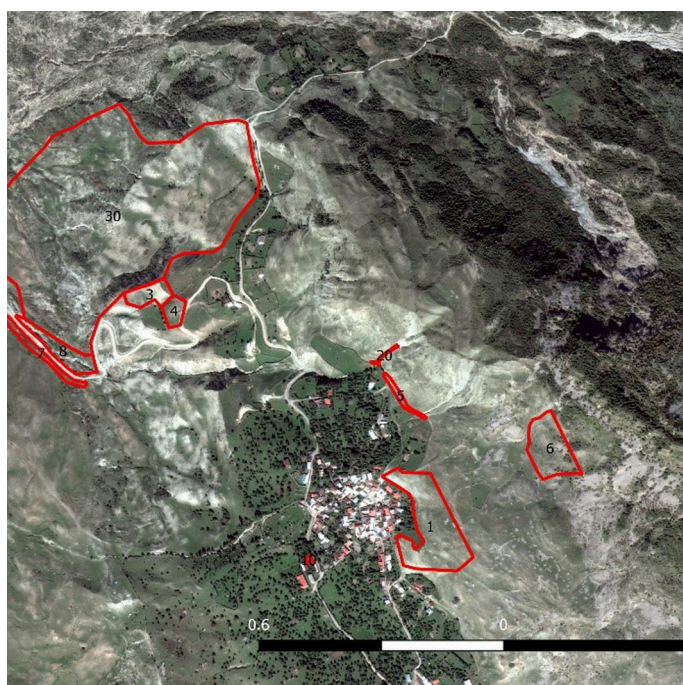
increasing rockfall and flooding by surface water runoff. Five sites are located below the village and were selected to ensure the productivity of the land. For providing tree seedlings, a local tree nursery was established near the school (10th site). One site was selected to combine effects by establishing a hazelnut plantation to stop erosion, increase vegetation cover and provide an income generation opportunity.

Two sites with gully erosion were selected: a site above the village with the risk of flooding into the village and a site below the village along the road with a high risk of road damage if the deepening process continues (detailed instructions on measures can be found at the internet links attached).

Regular meetings took place between the traditional administrative community board, the GLZ-project team and the SLM experts to discuss the implementation process and to evaluate together the results. The availability of local resources was taken into consideration to adapt technologies to fit the local needs. New ideas, locally available materials and technologies have been integrated into the implementation process by the local stakeholders.

The implementation of the measures was done mainly by the local village people and local experts. The SLM experts provided 'hands-on-training' and all materials that were not available in the village as well as external experts were financed by the project.

Another essential aspect is the sustainable use of well-managed meadows by different stakeholders (beekeepers, wild herb collectors, orchard owners and others) in the community. This includes the agreement (rule) of the community to share the protected pastures and to consider the needs of all interest groups. The decision of the profit sharing is taken by the traditional administrative community board. A further factor was the establishment of a tree nursery, which led to an increased motivation to plant additional trees (especially fruit trees) in the community.



Mapped sites in Ehen. The village was assessed in the screening mission in May 2014 and was subject of several further field missions. Ehen acts as a demonstration site for the other villages, as many different measures were implemented here. (Hanns Kirchmeir)



Construction of a pile wall on a steep slope in the village of Goydan (Hanns Kirchmeir)

## АРГА БАРИЛЫН ЗОРИЛГО БА ЭЭРЭГ НӨЛӨӨ

### Арга барилын үндсэн зорилго, зорилт

Develop erosion control measures that can be implemented by village population without significant investment. The measures are addressed to rehabilitate vegetation on eroded sites and to slow down water speed and erosive energy where gullies already exist. This should help protect roads and other infrastructure as well as stop soil loss and increase overall productivity.

### Тухайн Арга барилын хүрээнд нэвтрүүлсэн Технологийг хэрэгжүүлэхэд дэмжлэг болох нөхцлүүд

- **Нийгэм / соёл / шашны хэм хэмжээ, үнэт зүйлс:** Local population tend to save resources such as forest and pasture surrounding their village. Residents, especially women collect wild plants to use in daily life. Furthermore, selling collected wild plants in the market, residents earn income.
- **Санхүүгийн нөөц, үйлчилгээний хүртээмж / боломж:** Most of the activities (fencing, willow fascines, pilewalls, gabion or wooden check dams) only need small-scale financial investments. Only the drip irrigation system for the hazelnut orchard needed significant external investment, and the return of the investment cannot be expected before 10 years. Such an investment would have been impossible for the village community without external support.
- **Бүтэц зохион байгуулалт:** The Community Management Group was established at the early stage of the project.
- **Талуудыг хамтын ажиллагаа/зохицуулалт:** Pilot activities are implemented in cooperation with local decision makers and communities. The active involvement of the village people in the implementation works was a hands-on training.
- **Бодлогууд:** The Azerbaijan policy to establish more than 2000ha of hazelnut orchard in the district of Ismayilli supports the decision to establish hazelnut orchards on eroded sites as a control measure.

- **Газрын засаглал (шийдвэр гаргах, хэрэгжүүлэх, шаардлага):** Pilot sites are located in municipality land. Community members and local authority decided the border of pilot sites.
- **ГТМ-ийн талаарх мэдлэг, техникийн дэмжлэг авах боломж:** Residents have some initial knowledge of sustainable land management. Implementing pilot activities their information is developed.
- **Зах зээл (материал худалдан авах, бүтээгдэхүүн борлуулах), үнэ:** Collected wild plants are sold in the market located next to Ehen village.
- **Ажлын багтаамж, хүн хүчний нөөц бололцоо:** The manpower is available in the village

Тухайн Арга барилын хүрээнд нэвтрүүлсэн Технологийг хэрэгжүүлэхэд хүндрэл учруулах нөхцлүүд

- **Хууль, эрхзүйн хүрээ (газар эзэмшил, газар, ус ашиглах эрх):** The forest's legal protection does not allow timber or poles to be taken from the forest for the construction of pile walls or wooden check dams. The poles had to be imported and transferred to the village. A balanced sustainable forest management would enable village people to make use of the local timber and would encourage people to establish forest areas.

## ТАЛУУДЫН ОРОЛЦОО БА ҮҮРЭГ

Арга барилд оролцогч талууд болон тэдгээрийн үүрэг

Ямар оролцогч талууд / хэрэгжүүлэгч байгууллагууд арга барилд оролцож байсан бэ?	Оролцогч талуудыг тодорхойлно уу	Оролцогч талуудын үүргийг тайлбарлана уу
Орон нутгийн газар ашиглагч / орон нутгийн иргэд	Livestock farmers, shepherds, smallholder farms and women that were loosely organised.	Selection of sites for intervention, providing labour during implementation of measure, local hay residuals provided by farmers for testing the measure, maintenance of drip irrigation and electric fence of the hazelnut orchards.
ГТМ-ийн мэргэжилтэн/ хөдөө аж ахуйн зөвлөх	International and national specialists have been integrated.	The SLM specialist elaborated in close cooperation with the local stakeholders the implementation concept.
Судлаачид	Researcher from the Agrarian University in Ganja.	
Орон нутгийн захиргаа	Ministry of Ecology and Natural Resources, Ismayilli District Administration	Numerous pilot activities (test and demonstrate the most appropriate actions and raise awareness of the community on the long-term socio-economic and environmental benefits of the pilot actions) have been implemented in cooperation with local government in Ehen municipality.

Арга барилын янз бүрийн үе шатанд орон нутгийн газар ашиглагчид / бүлгүүдийг татан оролцуулах

	Үгүй идэвхгүй	Гадаад дэмжлэг	Интерактив	Өөрийн хүчийг нэгтгэсэн
санаачлага/идэвхжүүлэлт	✓			
Төлөвлөгөө			✓	
Хэрэгжилт			✓	
Мониторинг/ үнэлгээ			✓	

The selection of Ismayilli district was done at Ministry level. The selection of the villages was done with district administration and experts assessment of erosion problems.

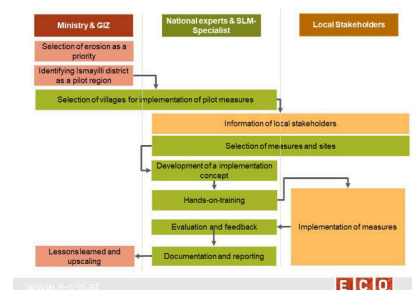
The site selection was done with local village stakeholders. The technical planning was done by external experts. Four additional municipalities were assessed for hazelnut plantations where local land users provided data.

Local stakeholders trained on bioengineering measures. The following measures were applied during hands-on training: 1. Wooden check-dam. 2. Gabion check-dam. 3. Willow-fascines. 4. Electric-Fencing. 5. Pile walls. 6. Drip irrigation system.

An external monitoring team (project team) did the monitoring in a participative way. The observations and monitoring results were discussed with the village stakeholders.

## Арга барил хэрэгжүүлэх бүдүүвч

This flow chart gives an overview on the different roles of project participants (Ministry and GIZ, the national experts and SLM specialists as well as the local stakeholders) and the actions implemented by them jointly or separately.





## ГТМ-ийн технологи сонгох шийдвэр гаргах явц

### Шийдвэр гаргасан этгээд

- ☐ Газар ашиглагч дангаараа (өөрийн санаачлага)
- ☐ ГТМ-ийн мэргэжилтнүүдийн дэмжлэгтэйгээр, голчлон газар ашиглагчид
- ☐ оролцооны зарчмын хэсэг болох бүх холбогдох талууд
- ☒ голдуу ГТМ-ийн мэргэжилтнүүд, газар ашиглагчидтай зөвлөлдсөний үндсэн дээр
- ☐ ГТМ-ийн мэргэжилтэн дангаараа
- ☐ улс төрчид / удирдагчид

### Шийдвэр гаргах үндэслэл нь

- ☐ ГТМ-ийн мэдлэгийг баримтжуулалтын үнэлгээ (нотолгоонд суурилсан шийдвэр гаргах)
- ☒ Судалгааны үр дүн, ололтууд
- ☒ Хувь хүний туршлага ба санал бодол (баримтжуулаагүй)

## ТЕХНИКИЙН ТУСЛАЛЦАА, ЧАДАВХИ БИЙ БОЛГОХ БОЛОН МЭДЛЭГИЙН МЕНЕЖМЕНТ

### Дараах үйл ажиллагаа эсвэл үйлчилгээ нь арга барилын нэг хэсэг болсон

- ☒ Чадавхи бэхжүүлэх/сургалт
- ☒ Зөвлөх үйлчилгээ
- ☒ Институцийг бэхжүүлэх (байгууллагын хөгжил)
- ☒ Мониторинг ба үнэлгээ
- ☐ Судалгаа

### Чадавхи бэхжүүлэх / сургалт

#### Дараах сонирхогч талуудад сургалт хийсэн

- ☒ Газар ашиглагчид
- ☒ хээрийн ажилтан / зөвлөх

#### Сургалтын хэлбэр

- ☒ Ажил дээр
- ☐ фермерээс -фермер
- ☒ үзүүлэнгийн талбай
- ☐ Олон нийтийн уулзалт
- ☐ курс дамжаа

#### Хамарсан сэдэв

Construction of willow fascines, pill walls, wooden check dams, gabion check dams, tree planting, fence construction (electric fence, mesh wire fence), construction and maintenance of drip irrigation system.

### Зөвлөх үйлчилгээ

#### Зөвлөх үйлчилгээ үзүүлсэн

- ☒ Газар ашиглагчийн талбай дээр
- ☐ Тогтмол төвд

The field trip provided advice and training on afforestation and tree species selection.

### Институцийг бэхжүүлэх

#### Институци бэхжисэн / бий болсон

- ☐ Үгүй
- ☐ Тийм, бага
- ☒ Тийм, дунд зэрэг
- ☐ Тийм, маш их

#### дараах түвшинд

- ☒ Орон нутгийн
- ☒ Бүс нутгийн
- ☒ Үндэсний

#### Байгууллага, үүрэг, хариуцлага, гишүүд зэргийг тодорхойлно уу.

The implementation capacity of line ministries, their subordinate bodies and of training institutions regarding the management of biodiversity and ecosystem services is improved. The regional exchange on sustainable management of biodiversity and ecosystem services is improved.

### Дэмжлэгийн төрөл

- ☐ Санхүүгийн
- ☒ чадавхи бэхжүүлэх / сургалт
- ☐ Тоног төхөөрөмж

#### Дэлгэрэнгүй мэдээлэл

Capacities in project planning, implementation and monitoring have been developed. Awareness raising on erosion-caused land degradation and effective, cost-efficient erosion control measures have been applied.

### Мониторинг ба үнэлгээ

In 2018, monitoring was carried out on the implemented measures in order to assess if additional interventions would be required or if measures had been damaged. Permanent monitoring plots have been established to assess the rehabilitation of vegetation.

## САНХҮҮЖИЛТ БОЛОН ХӨНДЛӨНГИЙН МАТЕРИАЛЛАГ ДЭМЖЛЭГ

### ГТМ-ийн бүрэлдэхүүн хэсгийн жилийн төсөв ам.доллараар

- ☐ < 2,000
  - ☐ 2,000-10,000
  - ☒ 10,000-100,000
  - ☐ 100,000-1,000,000
  - ☐ > 1,000,000
- Precise annual budget: 100.0

In the framework of the GIZ-program "Integrated Biodiversity Management, South Caucasus" (2015-2019), implemented on behalf of the German Federal Ministry of Economic Cooperation and Development (BMZ), the amount covers: fencing, electric fencing, hay, pile walls, afforestation, wooden check dams, gabion check dams, other materials and labour on the sites of Ehen.

### Газар ашиглагч нарт дараах урамшуулал, үйлчилгээг үзүүлсэн

- ☒ Газар ашиглагчдад санхүүгийн / материаллаг дэмжлэг үзүүлсэн
- ☒ Тодорхой хөрөнгө оруулалтанд нөхөн олговор олгох
- ☐ Кредит
- ☒ Бусад урамшуулал, хэрэгсэл

### Газар ашиглагчдад санхүүгийн болон материаллаг дэмжлэг үзүүлэх

Land users were provided materials for erosion control measures and tree nursery. The timber for the pile walls, the mesh wire fence and the electric fencing material as well as tanks for rain water collection (for the tree nursery) and irrigation equipment was provided. The local

stakeholders provided man power for the mainance of fences and irrigation system and maintaining the tree nursery for free. Workpower for setting up infrastructures like gabions or chech damms was paid.

хэсэглэн санхүүждэг  
Бүрэн санхүүждэг

#### Ажил хөдөлмөр

Only the construction of technical infrastructure (fence, check dams, irrigation system) was paid. Maintenance work was not paid.

#### tree nursery

Equipment (fence, water tanks, irrigation system, tools) have been financed. Seeds have been provided by locals.

#### Барилга байгууламж: Мод

Timber for pile walls was bought and provided, branches for willow fence and fascines was contributed by locals.

#### Газар ашиглагчаас гаргасан хөдөлмөр хүчний зардал

- ☐ сайн дурын
- ☐ хоол хүнсээр ажилладаг
- ☐ бэлэн мөнгөөр төлдөг
- ☒ бусад материаллаг дэмжлэгээр шагнагдсан

#### Бусад урамшуулал, хэрэгсэл

For the implementation of the pilot measures in Ehen, material and payment for labour was provided. There have been some follow up activities in neighboring villages where only the material was provided, as the work was done voluntarily.

## НӨЛӨӨЛЛИЙН ДҮН ШИНЖИЛГЭЭ БА ДҮГНЭЛТ

### Арга барилын үр нөлөө

Үгүй  
Тийм, бага зэрэг  
Тийм, зарим  
Тийм, их

Арга барил нь орон нутгийн газар ашиглагчдыг чадваржуулах, оролцогч талуудын оролцоог сайжруулсан уу?

The application of easy-to-use measures for erosion control enabled local land users to arrange land management and erosion control measures by themselves without relying on significant external support. The pilot actions in the village Ehen are used as a showcase for the neighbouring villages.

Арга барил нь ГТМ-ийн технологийг хэрэгжүүлж, хадгалахад газар ашиглагчдад тусласан уу?

As a result of the on-the-job training, most of the activities (fencing, pile walls, hay mulch application, wooden and gabion check dams) can now be implemented by the local village stakeholders without external support.

Арга барил нь ГТМ-ийн хэрэгжилтийн санхүүгийн эх үүсвэрийн хүртээмжийг сайжруулах / эргэлтэнд оруулахад чиглэсэн үү?

International funds were accessible for the village community and other international donors funded measures in the same village.

Арга барил нь ГТМ хэрэгжүүлэхэд газар ашиглагчдын мэдлэг, чадварыг сайжруулахад хүргэсэн үү?

The involvement of local stakeholders in all stages of planning, site selection and implementation improved capacity and knowledge. It was very important that the work was done mainly by local village people and not by external companies.

Энэ арга барил бусад сонирхогч талуудын мэдлэг, чадавхийг сайжруулсан уу?

University experts and district-level technicians participated in the planning and implementation. They can act as knowledge hubs.

Энэ арга барил зөрчилдөөнийг багасгасан уу?

Арга барил нь чанаржуулсан шим тэжээл/ хүнсний аюулгүй байдалд хүргэсэн үү?

Арга барил нь зах зээлийн хүртээмжийг сайжруулсан уу?

Арга барил нь хөдөлмөр эрхлэлт, орлогын боломжид хүргэсэн үү?

Villagers have reported that the improved vegetation in the fenced areas led to significantly higher honey harvest and herb collection for marketing on the bazaar of Lahic village.

Protection from national hazards

All gabions at the sites in Ehen are functioning well and show the impact of the gully deepening and the wash out at the lower (downhill) end of the gabion. Reduced water speed and the stabilised river bed helped to save the road.

#### Газар ашиглагчид ГТМ хэрэгжүүлэх болсон үндсэн шалтгаан

- ☒ үйлдвэрлэл нэмэгдсэн
- ☒ Ашиг нэмэгдсэн (боломж), зардал-үр ашгийн харьцаа сайжирсан
- ☒ Газрын доройтол буурсан
- ☒ Гамшигийн эрсдэл буурсан
- ☐ Ажлын ачаалал бууруулсан
- ☐ төлбөр / татаас

#### Арга барилын хүрээнд хэрэгжүүлсэн үйл ажиллагааны тогтвортой байдал

Газар ашиглагчид арга барилаар дамжуулан хэрэгжүүлсэн арга хэмжээг тогтвортой үргэлжлүүлж чадах уу (гадны дэмжлэггүйгээр)?

- ☐ Үгүй
- ☒ Тийм

- дүрэм журам (торгууль) / сахиулах
- нэр хүнд, нийгмийн дарамт / нийгмийн холбоо
- Сүлжээ/ бүлэг төсөл/ хөдөлгөөнд гишүүнээр элсүүлэх
- ✓ Байгаль орчны ухамсар
- зан заншил, ёс суртахуун
- ✓ ГТМ-ийн мэдлэг, туршлага дээшилсэн
- гоо зүйн сайжруулалт
- зөрчилдөөнийг бууруулах

#### ■ Тодорхойгүй

Local stakeholders trained on building and applying measures. The measures (fencing, pile walls, wooden and gabion check dams) are low-cost and can easily be replicated by village stakeholders. Only the drip irrigation system and electric fencing for the hazelnut orchard needs high investment and might not be up-scaled without external support.

## ДҮГНЭЛТ, СУРГАМЖ

### Давуу тал: газар ашиглагчийн бодлоор

- The integration of local stakeholders in the selection of measures and sites helped to address the most 'urgent' problems from the villagers view.
- It was important to have visual results from the work in a short time. Especially the reduction of flooding was a very positive result as well as the increased number of flowering plants which led to an increase of honey and tea production, which created additional income. Some of the trained techniques have been already transferred by villagers to neighbouring communities.
- Most of the beneficiaries see the hazelnut plantation area as a potential source of income in the future and at the same time as a useful measurement for rehabilitation of the biodiversity and measure against erosion. Land users see the implementation of the measures on the site as contribution to the future tourism perspective of the village.
- The pilot measure is cost-efficient and affordable for local people. It has a positive ratio of cost/benefit.

### Давуу тал: эмхэтгэгч эсвэл бусад мэдээлэл өгсөн хүмүүсийн бодлоор

- Measures are easily implemented and materials (mesh wire, willows, seedlings) are available locally.
- The measures are showing significant impacts in a short time. The rehabilitation of vegetation and the gathering of sediments halting gully deepening is already visible in the first year after implementation.
- As there is still enough pasture land available and the areas of intervention have been implemented on degraded land, there was no major conflict with shepherds and farmers.

### Сул тал/ дутагдал / эрсдэл: газар ашиглагчийн

#### бодлоордаван туулах боломжууд

- Low capacity of the municipality was limiting to the management of the drip irrigation and the electric fence. Handing over the hazelnut orchard to a private cooperative could increase ownership and personal involvement of local stakeholders in orchard maintenance. A long-term business plan and financing model needs to be developed if the approach is to be up-scaled.
- Current electric fence of hazelnut plantation is not efficient in protecting area from free roaming animals. It also reflects on the inefficiency of the overseer's working time, as he spends entire working hours on the controlling the fence which reduces his time on spending on the additional activities like controlling plant growth and irrigation system. Changing electrical fence to the ordinary mesh fence or wire fence.

### Сул тал/ дутагдал / эрсдэл: эмхэтгэгч эсвэл бусад мэдээлэл өгсөн хүмүүсийн бодлоордаван туулах боломжууд

- Because of a general ban on forest management, the timber used for pile walls and wooden check dams cannot be extracted from the local forest. Timber and logs have to be bought from foreign markets. An adaptation of laws on the legal extraction of local timber for certain purpose would be helpful.
- Hazel needs more than 750 mm annual precipitation. Humidity above 60% in June and July is beneficial. A strong wind is a danger for young trees. Ehen has 500-700mm precipitation and significant summer drought. A drip irrigation system was applied to overcome summer drought in the first couple of years until seedlings have established a sufficient root system to access water from deeper soil layers.
- The electric fencing and the drip irrigation for the hazelnut plantation and fruit tree plantations above the village need expensive investment and specific skills for mounting and maintenance. Project investment was used for pilot measures as a demonstration site. The hazelnut orchard can show a positive return on investment within 10-15 years if managed well.

## СУУРЬ МЭДЭЭЛЭЛҮҮД

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#### WOCAT мэдээллийн сан дахь бүрэн тодорхойлолт

[https://qcat.wocat.net/mn/wocat/approaches/view/approaches\\_5571/](https://qcat.wocat.net/mn/wocat/approaches/view/approaches_5571/)

#### Холбогдох ГТМ мэдээлэл

Technologies: Sustainable land management using controlled gullying [https://qcat.wocat.net/mn/wocat/technologies/view/technologies\\_1684/](https://qcat.wocat.net/mn/wocat/technologies/view/technologies_1684/)

#### Баримтжуулалтыг зохион байгуулсан

##### Байгууллага

- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

##### Төсөл

- Integrated Biodiversity Management, South Caucasus (IBIS)

#### Гол сурвалж баримт сэлт

- Planning meetings, site visit and stakeholder meeting, Hanns Kirchmeir, Azerbaijan 2017.: Report based on field visits
- Hazelnut plantations on eroded sites in Ismayilli, Hanns Kirchmeir, 2017: Concept based on surveys and field visits

#### Холбогдох мэдээллийн интернет холбоос

- Synthesis Report on Erosion control measures 2014-2017: <https://biodivers-southcaucasus.org/uploads/files/5b8655b3db452.pdf>
- Handbook on Integrated Erosion Control: [http://116.203.245.69/uploads/files/IEC%20Handbook\\_EN.pdf](http://116.203.245.69/uploads/files/IEC%20Handbook_EN.pdf)

