

## Menu of Conservation Measures

### Promotion of Eco-Corridors in the Southern Caucasus Consulting Services for Programme Implementation

March 2018



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Consulting Services for Project Implementation

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Programme deliverables 2.7, 2.8 and 2.9

March 2018

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**Acknowledgement:**

The project team wishes to express its gratitude to all resource persons and experts from all institutions and stakeholders involved in the collation of data and information and to all persons and bodies that have supported the work of the project. Special thanks are extended to the WWF and its expert staff.

Project Facts:

Financing:	BMZ through KfW (€8.000.000), Co-financed by WWF Germany (€530.000).
Executing Agency:	WWF Caucasus Programme Office
BMZ no:	2012.3656.1
Project start date:	15 <sup>th</sup> January 2015
Expected end date:	14 <sup>th</sup> January 2020
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**Disclaimer:**

This report has been produced with financing from BMZ through KfW. The content, findings, interpretations, and conclusions of this publication are the sole responsibility of the ECF Team and can in no way be taken to reflect the views of the Donor.

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# 0. Introduction

## 0.1 The programme

The “Eco-corridors Programme in the Southern Caucasus” is implemented in Armenia, Azerbaijan and Georgia by the World Wide Fund for Nature (WWF) Caucasus Programme Office with funds provided by the German Federal Ministry for Economic Cooperation and Development (BMZ) through KfW Development Bank and by WWF Germany. The consortium of GOPA, DFS and HessenForst are providing consulting services for the implementation.

The Programme is setting up an “Ecoregional Corridor Fund” (ECF) as an instrument for promoting sustainable land use practices in ecological corridors through contractual nature conservation, essentially payments for environmental services. ECF is a long term funding instrument run and managed by the WWF Caucasus Programme Office, initially funded by BMZ through KfW, but open to other donors and funding sources. The Eco-corridors Programme is the set up phase of operation of the ECF in its initial five years. It is implemented by the programme team involving WWF, WWF Germany and the consultant’s team.

The purpose of the ECF is to introduce funding for ecologically sustainable land use in selected eco-corridors in the Caucasus and thus contribute to interlinking protected areas and enhancing their ecological stability. The financial resources provided are to help the local rural population (beneficiaries) living in selected eco-corridors to manage their land in an ecologically sound way.

To set the conservation objectives and determine the scope of conservation measures to be funded, long-term land/resource use plans (up to 10 years) will be developed with the participation of the beneficiaries. Based on these land/resource use plans, concrete “Conservation Agreements” will be concluded with those managing the land. Payments under these agreements will ensure that opportunity costs for a biodiversity-focused management of land are covered, and thus land use practices (incl. e.g. community conservation areas) compatible with the principles of sustainable land use in ecological corridors are applied.

Expected programme outputs are:

- Output 1: The ECF has been established as an instrument for promoting sustainable land use practices in ecological corridors.
- Output 2: Using the ECF funds, long-dated land use plans have been developed with participation of the beneficiaries; the plans are aiming to support the ecologically sound use of natural resources.
- Output 3: Based on the land use plans, concrete measures have been agreed upon (Conservation Agreements) and are implemented.
- Output 4: Acquisition of additional financial resources for the ECF.

## 0.2 Purpose and scope of the Menu of Measures

This is the Menu of Conservation Measures to be financially supported by the “Eco-corridors Programme in the Southern Caucasus”. The menu is a list of measures prepared by ECF in the framework of the development of the initial set of Conservation Agreements in the three ecoregional corridors. The purpose of the Menu is to summarise and standardise the conservation measures themselves and to simplify the process of the development and negotiation of the Conservation Agreements with the local communities. Based on this regional Menu, national Menus of Measures will be prepared in local languages and taking into account the specific national circumstances.

The present draft was developed by the regional programme team based on the results of the annual ECF workshop on October 23 - 25, 2017. It is based on the experience gathered so far in the three countries. In the future it will be amended and expanded as more experience is gathered.

The Menu includes three groups of measures:

1. Direct technical measures for maintaining the specific habitats;

2. Conservation management including patrolling and monitoring, securing land tenure rights, functioning of the Community Based Organisation and management planning according to the conservation objectives and legal requirements;
3. Investment into the socio-economic development of the local community, which is at least equivalent to incurred loss of revenues due to implementation of other conservation measures.

Based on the land use or habitat management plan developed and agreed with the individual beneficiaries or communities, the Conservation Agreement should include a relevant selection of the measures from the menu indicating their monetary value. Conservation Agreements will fund measures equivalent to the monetary value by implementing specified measures according to an agreed plan.

### 0.3 Cost calculation methods

Several methods may be used to calculate the monetary value of the measures undertaken:

**Full cost calculation** is applied when no additional revenues are expected to be generated by the measure or on the land (as in case of no-disturbance zones or subsistence farming with most production for own consumption). The costs to be covered include the initial investment needed, depreciation and maintenance of the investment, as well as running costs - including labour, transport and any other inputs.

**Marginal cost calculation** is applied when revenues are generated or may reasonably be expected. The expected revenues are deducted from the measure's calculated full cost.

**Investment support** is applied in case a capital investment is critical to unlock economic opportunity for the beneficiary, thus compensating the loss of revenue due to habitat management measures. It is assumed that the revenues generated by this opportunity will cover depreciation, maintenance and other running costs. In this case only the initial investment is used as a base for cost calculation.

**Co-funding** is applied where part of the cost is borne by a partner, for example a public authority (forest service, local community), the beneficiary themselves through cash or in-kind contribution, a foundation, or other donors. In such case the most relevant of the three calculation methods above may be applied, taking into account any costs. Then the costs borne by the co-funding partners - in kind or in cash - are summed up and deducted from the total amount. Co-funding by a public authority is only acceptable in case the measure implemented is additional to the regular activities of the authority in question, or has important capacity building or transformational effect. In other words, ECF funding must not be used as a replacement for the regular activities and/or funding of public authorities.

The menu is complemented with an Excel cost calculator, providing cost calculation methods and formulas to calculate the compensation of each measure separately and to aggregate them at the level of a Conservation Agreement.

### 0.4 List of measures

The list of individual measures is presented below, indicating general guidance on cost calculation methods to be applied.

Category	Measure	Methods of cost calculation
1. Habitat management	Core wildlife habitat zone with no use and restricted access	Full cost
	Pasture Management	Marginal cost Full cost in case when beneficiaries have lack of capital to invest and small revenue stream (subsistence farming)
	High plant diversity meadows	Marginal cost Full cost in case when beneficiaries have lack of capital to invest and small revenue stream (subsistence farming)

	Arable Land Production	<p>Marginal cost</p> <p>Full cost in case when beneficiaries have lack of capital to invest and small revenue stream (subsistence farming)</p>
	Forest Management	Co-funding: Full cost of planned measures excluding running cost of public forest service
	Non-timber forest products regulation	Full cost of planned measures (excluding costs of collection and revenues generated)
	Rehabilitation of habitat	Full cost
	Planting	Full cost
	High Value Landscape Element Conservation	<p>Co-funding: Full cost of planned actions excluding running cost of public authorities</p> <p>Possibility of co-funding with state or other donors</p> <p>Marginal cost in case revenue exists due to economic co-benefits (e.g. payments for irrigation)</p>
	Removing bottlenecks	<p>Co-funding: Full cost of planned actions excluding running cost of public authorities</p> <p>Possibility of co-funding with state or other donors</p>
2. Conservation management	Caretakers (Community Rangers)	Full cost
	Land Tenure Rights	<p>Full cost</p> <p>Marginal cost in case revenue exists due to economic co-benefits</p> <p>Possibility of co-funding with state or other donors</p>
	Compensation of damages by wild predators	Co-funding with the participants in the scheme, state or other donors
	Community Based Organisation	<p>Full cost of services related to conservation agreement</p> <p>Possibility of co-funding with state or other donors</p>
	Community Conserved Area/Protected Landscape	<p>Co-funding: Full cost of planned actions excluding running cost of public authorities</p> <p>Possibility of co-funding with state or other donors</p>
	Forest management plans	Co-funding: Full cost of planned measures excluding running cost of public forest service
	Pasture management plans	<p>Full cost of planned actions in case of new establishment</p> <p>Possibility of co-funding with state or other donors</p> <p>Marginal cost in case revenue already exists due to economic co-benefits</p>
	Hunting area	<p>Full cost of planned actions</p> <p>Possibility of co-funding with investors, state or other donors</p>



		Marginal cost in case revenue already exists due to economic co-benefits
	Land use plans	Co-funding: Full cost of planned actions excluding running cost of public authorities Possibility of co-funding with state or other donors
3. Socio-economic compensation		Lump sum calculated based on investment needed to generate same or more income than lost by giving up on land use due to conservation Possibility of co-funding with state or other donors

Obviously, some measures represent just a different angle of a measure or costs estimation. When designing a measure or a set of measures, this needs to be taken into account in order to avoid counting the same costs twice. In principle, all costs related to specific habitat management measures should be included as part of habitat management measures (e.g. a pasture management plan and caretaker work should be counted as part of pasture management). Additional and separate conservation administration measures may be considered if they cannot be tied to specific (field) habitat management activities. For example, this may apply to management and administrative costs of a community supporting different habitat measures or developing an official land use plan that represents a self-standing measure with a positive impact on land use management, but with no specific actions on the ground.

## 0.5 Use of funds

As long as measures are implemented in line with contractual obligations from the Conservation Agreement, the decision on how to use the compensation payment is up to the beneficiary or the local community, as long as the provisions on the use of funds in the CA are respected. At the same time WWF reserves the right to conduct an independent audit of all measures implemented and all revenues and expenditures related to the Conservation Agreement. This may be done on a sample basis or in case of dispute regarding the implementation of measures or use of funds.

However, if it serves the purpose of the beneficiary and the wider local community, the use of some of the payments may be restricted to funding certain activities by the CA. This may specifically apply to activities that are a crucial pre-condition for the implementation of any agreed conservation measures, e.g. initial investment in equipment and infrastructure, operational costs of the community-based organisation or labour costs of caretakers.

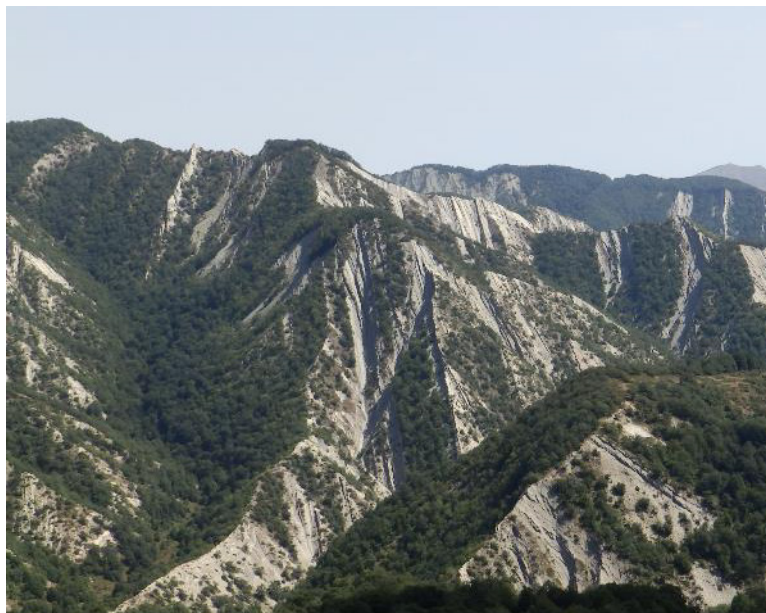
# 1. Direct management of habitats

## 1.1 Core wildlife habitat zone with no use and restricted access

### 1.1.1 Purpose

The purpose of the core wildlife zone with no use and restricted access is to:

- secure undisturbed habitat (stepping stone or corridor areas) for target wildlife species,
- secure undisturbed habitat (stepping stone or corridor areas) for other animal and plant species and their communities,
- allow for protection and natural development of ecosystems such as forests, grasslands, wetlands etc.
- allow for natural processes of adaptation to climate change,
- secure protection of water regime,
- secure protection against erosion and landslides.



### 1.1.2 Description

Human activities in the core areas need to be limited as much as possible. This requires an agreement with the past and present users and visitors of the area to stop or modify their activities (possibly in conjunction with other conservation measures) as well as effective monitoring and control of access by caretakers (e.g. patrolling) and/or electronic means of surveillance (e.g. camera traps).

Depending on the character of the area, some activities may be allowed, especially those activities related to monitoring and scientific research. They may also include visits for recreational (nature based tourism, animal observation) or traditional purposes preferably along pre-defined trails, transit of domestic animals (if this is the only feasible option), and low impact economic activities (such as collection of edible or medicinal plants or bee-keeping). The exceptions need to be defined in the management plan.

### 1.1.3 Indicators

<b>Possible indicators of performance:</b> Must be collected to demonstrate the implementation of the Conservation Agreement	Surface of core zone with limited access (ha) Caretaker time spent controlling core zone access (work months/year)
<b>Possible optional impact indicators:</b> A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on biodiversity, conservation of soil and climate change	Target mammal species observations (No./year) Number of plant species present (No./m2 or ha) Number of bird species present (list) Standing volume of timber/biomass (M <sup>3</sup> /ha, tC/ha) Annual increment of timber/biomass (m <sup>3</sup> /ha, tC/ha)



	Average depth of soil (cm) Soil carbon (t/ha) Number of violations of environmental regulations identified (No/year)
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#### 1.1.4 Calculation of costs

Full cost calculation is used as no revenue streams are expected from a strictly protected zone. The costs of this conservation measure may include:

Initial costs:

- Payments to obtain land use rights related to the zone (obtaining land lease, compensation to previous users etc.)
- Investment costs for equipment and infrastructure needed to control access and for monitoring (camera traps, preventive and informative signs, road blocks, fencing)

Recurrent costs:

- Payments for the land use rights related to the zone (land lease)
- Depreciation of the equipment and infrastructure
- Maintenance costs of equipment and infrastructure
- Labour and operational cost related to monitoring and controlling (transport, personal equipment, subsistence).

## 1.2 Pasture Management

### 1.2.1 Purpose

The purpose of sustainable pasture management is to maintain or increase the productivity of the pasture lands while preserving grassland biodiversity and reducing grazing pressure on other lands. Depending on the local situation, specific impacts of improved pasture management may include:

- Preventing or reversing pasture degradation (both due to overgrazing and due to under grazing),
- Maintaining specific pasture grassland plant communities,
- Reducing wildfires by keeping mosaic of open lands and reducing the availability of dry biomass,
- Maintaining the “edge effect” (meaning that biodiversity in a given area is increasing with the length of the boundary between forest/trees/bushes and pastures/meadows),
- Providing wildlife habitat outside the grazing season,
- Reducing risk of carnivore attacks due to absence of forest grazing and better control of cattle,
- Maintaining local cultural heritage related to pastoralism,
- Improving the economic benefits for the local community by increasing productivity of animal husbandry and securing attractiveness of the area for visitors.



### 1.2.2 Description

Depending on the distribution of pastures, land tenure rights, and existing model of animal husbandry, sustainable pasture management may include elements, such as:

- Securing infrastructure needed to continue using remote pastures (including road, water supply and accommodation for herders);
- Cleaning pastures of rocks, debris, inedible plants, undesired bushes and trees,
- Erosion control measures (fencing, replanting, technical measures...)
- Fencing to manage grazing and prevent grazing outside designated pastures (e.g. forests and fields)
- Annual calendar of pasture use in order to secure that early grazing does not impede the growth of grass while securing equal grazing rights within the community,
- Herding of animals to control their grazing, including use of shepherd dogs,
- Periodic cutting of grass (e.g. every three years) to increase the productivity of grass and avoid intentional burning of pastures
- Coordination, monitoring and supervision of the agreed pasture management regime

### 1.2.3 Indicators

<b>Possible indicators of performance:</b>	Surface of pastures under management (ha)
Must be collected to demonstrate the implementation of the Conservation Agreement	Infrastructure in use compared to plan
	Fencing in use compared to plan

	Erosion control measures implemented compared to plan Surface of pastures cleaned (ha) Surface of pastures cut periodically (ha) Actual dates of grazing calendar Herder time spent controlling cattle (workmonths/year) Caretaker time spent managing pasture use (workmonths/year)
<b>Possible optional impact indicators:</b> A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on biodiversity, conservation of soil and climate change	Number of cattle using pastures per ha (No./ha) Volume of hay (t/ha) Target mammal species observations (No./year) Number of plant species present (No./m2 or ha) Number of bird species present (list) Area of degraded pastures (ha) Area of erosion (ha) Average depth of soil (cm) Soil carbon (t/ha) Number of violations of environmental regulations identified (No/year)

#### 1.2.4 Calculation of costs

Marginal cost calculation method should be used when a revenue stream from animal husbandry already exists or can be predicted with high certainty. In cases that grazing is absent and needs to be (re)started from scratch, in cases when the animal husbandry is mainly for subsistence purposes or considered as a replacement for the socio-economic compensation measure, the full cost calculation method is justified. The costs of this conservation measure may include:

Initial costs:

- Payments for the land use rights related to the pasture (securing land lease, compensation for previous users, preparation of management plan etc.)
- Investment costs for equipment and infrastructure needed (roads, water supply, shelters, fencing...)
- Implementation of pasture cleaning,
- Implementation of erosion control measures

Running cost

- Payments for the land use rights related to the pasture (land lease etc.)
- Depreciation of the equipment and infrastructure
- Maintenance costs of equipment and infrastructure
- Costs of periodic cutting of grass
- Costs of herding (labour, transport, personal equipment, subsistence, dogs)
- Labour and operational (transport, personal equipment, subsistence) cost related to coordination monitoring and controlling

For marginal cost calculation, the net income from grazing should be used, calculated as the difference between the revenue from milk, meat or animals sold, minus the inputs in terms of purchase of animals, labour involved, costs of hay for the winter, depreciation and maintenance of infrastructure and equipment (stable, milking equipment...) veterinary costs etc.

## 1.3 Hay meadows

### 1.3.1 Purpose

Maintenance of meadows with high plant diversity, i.e. unfertilised hay meadows, can serve several conservation purposes. These are the high plant diversity itself (especially rare plants or plant communities), supply of fodder to domestic and wild animals (either in form of hay stacks for the winter or fresh grass during spring and summer). Using land as hay meadows reduces the disturbance in contrast to grazing, as people and cattle are only present there during a short period of the year. If necessary, meadows in combination with fencing can also be used as a means to protect land from erosion or to restore plant cover on eroded soil.



### 1.3.2 Description

Maintenance of meadows mainly involves cutting hay by hand or by machine. This is traditionally done once a year when combined with spring or autumn grazing. On good soils with good precipitation it can also be done several times a year. At a minimum, the frequency of cutting has to be every two or three years.

In order to have a positive impact on plant diversity, first cut should only be done after the flowering and seeding of the grasses and flowers. This means not before July or August depending on elevation. If cutting is done using machinery, precaution should be taken to minimise the damage to animals and birds hiding in the grass (start cutting in the middle of the meadow, so that birds and animals can escape to the outside).

To prevent livestock from entering meadows during the regrowth of grass, meadows may be fenced. This is normally applicable close to the villages or in other places where fences can be controlled and repaired on a regular basis.

### 1.3.3 Indicators

<b>Possible indicators of performance:</b> Must be collected to demonstrate the implementation of the Conservation Agreement	Surface of meadows cut (ha) Surface of meadows fenced (ha) – if applicable
<b>Possible optional impact indicators:</b> A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on biodiversity, conservation of soil and climate change	Volume of hay (t/ha) Target mammal species observations (No./year) Number of plant species present (No./m2 or ha) Number of bird species present (list)



	Average depth of soil (cm) Soil carbon (t/ha) Quantity of hay produced (t)
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### 1.3.4 Calculation of costs

Marginal cost calculation method should be used when a revenue stream from the sale of hay or animal husbandry already exists or can be predicted with high certainty. In cases where

1. hay making is absent and needs to be (re)started from scratch,
  2. no revenues are expected (hay being left on site for wildlife),
  3. animal husbandry is mainly for subsistence purposes or considered as a replacement for the socio-economic compensation measure,
- the full cost calculation method is justified.

The cost of meadow maintenance is the difference between the costs of hay making (and if applicable fencing) and the value of the hay produced. The costs of haymaking include:

- Land tenure costs (land lease)
- Equipment depreciation and maintenance (if the equipment is owned, based on investment value of the equipment) or equipment rental (if not owned, based on market prices)
- Fuel costs
- Labour costs (based on regulations or market value)

For marginal cost calculation, the value of hay produced is calculated based on the expected productivity in terms of tons or bales per hectare and market price of bale or ton of hay, based on available norms or on experience of the local community in the actual circumstances.

The costs of fencing include:

- Cost of material (wood, posts, wire...) and transport
- Cost of transport of the material
- Equipment depreciation and maintenance (if the equipment is owned, based on investment value of the equipment) or equipment rental (if not owned, based on market prices)
- Labour costs (based on regulations or market value)

The costs of fencing should be calculated separately for construction and for maintenance. Based on the habitat management plan, the length and location (transport distance) of the fences should be calculated as the input for the cost calculation. The total cost should then be divided by the number of hectares fenced.

## 1.4 Arable Land Production

### 1.4.1 Purpose

The purpose of arable land production may be:

- to produce animal fodder on more productive land to compensate for reduced time or area for grazing and/or hay making,
- to preserve agro-biodiversity (traditional plant varieties) and/or cultural heritage,
- to provide economic opportunities to local community as compensation for losses under other measures



Cultivated arable land and orchards may also provide a habitat or food source for wildlife, birds or insects in certain periods of the year.

### 1.4.2 Description

Depending on the exact purpose, the arable land production may entail ploughing, sowing and harvesting the selected culture, or planting and maintenance of an orchard. In order to minimise negative side effects on surrounding biodiversity and landscape, preference should be given to organic production of traditional local plant varieties (not necessarily certified) as opposed to intensive production of imported or new varieties. But depending on circumstances, it may also be necessary to include fertilisation, irrigation and plant protection.

If harvesting is done using machinery, precautions should be taken to minimise the damage to animals and birds hiding in the grass. Main method to do this is to start harvesting in the middle of the field, so that animals can escape to the outside.

### 1.4.3 Indicators

<b>Possible indicators of performance:</b> Must be collected to demonstrate the implementation of the Conservation Agreement	Surface of arable land cultivated (ha) Production of selected culture(s) (tons/year) - if applicable
<b>Possible optional impact indicators:</b> A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on biodiversity, conservation of soil and climate change	High value agricultural variety preserved (list) Quantity of organic fertiliser used (t/ha) Target mammal species observations (No./year) Number of plant species present (No./m2 or ha) Number of bird species present (list) Average depth of soil (cm) Soil carbon (t/ha) Certification of production (Organic, Geographic origin...) Yes/no

#### 1.4.4 Calculation of costs

Marginal cost calculation method should be used when a revenue stream from agricultural production already exists or can be predicted with high certainty. The cost of arable land production is the difference between the costs of production and the value of the agricultural product. In cases where production is absent and needs to be (re) started from scratch, or in cases when the production is mainly for subsistence purposes or considered as a replacement for the socio-economic compensation measure, the full cost calculation method is justified.

The costs of production include:

- Land tenure costs (land lease)
- Cost of seeds
- Equipment depreciation and maintenance (if the equipment is owned, based on investment value of the equipment) or equipment rental (if not owned, based on market prices)
- Fuel costs (based on market value)
- Labour costs (based on regulations or market value)
- Cost of fertiliser (only organic manure should be supported)
- Cost of irrigation
- Cost of plant protection

The costs of production may also be calculated to the hectare based on available norms or on experience of the local community in the actual circumstances.

For marginal cost calculation, the revenue generated by the sale of the produce should be taken into account. The value is calculated based on the expected productivity in terms of tons or bales per hectare and market price of bale or ton at the time of sale or use.

## 1.5 Forest Management

### 1.5.1 Purpose

The purpose of forest management measures is to secure increase and sustainability of the various ecosystem services provided by the forest. These include

- Providing habitat for wildlife and key species
- Plant biodiversity
- Conversion of exotic species forests into natural forests
- Reforestation
- Production of wood
- Production of non-timber forest products
- Regulation of water regime
- Protection from erosion and landslides
- Opportunities for recreation and enjoyment of nature



The measure should be implemented with the approval and in cooperation with the relevant forest authority and should include protection of forest from illegal logging and forest fires.

### 1.5.2 Description

The scope of the forest management measure will depend on the conservation needs of the forest in question and in the context of the conservation corridor. In case no intervention is planned in the forest itself, it should be considered under the measure “Core habitat zone”. It may include reforestation, fencing to prevent forest grazing, transformation of existing forest with the objective of increasing its resilience, biodiversity, and its ecosystem services including productivity in supply of wood or non-timber forest products.

The measure should be based on a valid forest management plan. If such plan does not exist or needs to be updated, the measure can also include management planning. It may also include capacity building activities for the relevant forestry authority.

### 1.5.3 Indicators

<b>Possible indicators of performance:</b>  Must be collected to demonstrate the implementation of the Conservation Agreement	Area of sustainably managed forest (ha)  Management plan prepared y/n  Quantity of management works implemented (trees planted, area of planting, hectares of thinning conducted, area of forest transformed, roads or trails built, recreation areas installed...)  Caretaker/forester time spent monitoring and controlling forest (workmonths/year)
<b>Possible optional impact indicators:</b>	Standing volume of timber/biomass (M <sup>3</sup> /ha, tC/ha) Annual increment of timber/biomass (m <sup>3</sup> /ha, tC/ha)

<p>A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on biodiversity, conservation of soil and climate change</p>	<p>Target mammal species observations (No./year)</p> <p>Number of woody plant species in the forest (list)</p> <p>Number of plant species present (No./m2 or ha)</p> <p>Number of bird species present (list)</p> <p>Average depth of soil (cm)</p> <p>Soil carbon (t/ha)</p> <p>Certification of management (FSC ...) Yes/no</p> <p>Annual harvest of wood (m<sup>3</sup>/year)</p> <p>Annual harvest of non-timber products by type (t/year)</p>
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#### 1.5.4 Calculation of costs

In case of forests, a part of the cost of measures is borne by the relevant forest authority, so co-funding is used for cost calculation. Full cost of planned measures are calculated and the running cost of the public forest service covered by the state are seen as a co-funding contribution.

The costs of forest management may include

Initial costs:

- Inventory and management planning
- Investment costs for equipment and infrastructure needed forest management, including roads, mechanisation, fences, firefighting equipment etc.
- Planting and enrichment planting
- Early thinningthinning to increase resilience
- Establishing recreation infrastructure (forest trails, picnicpicnic area...)

Recurrent costs:

- Depreciation of the equipment and infrastructure
- Maintenance costs of equipment and infrastructure
- Labour and operational costs (transport, personal equipment, subsistence) related to monitoring and controlling

In some cases revenue may be generated by the sale of wood or of non-timber forest products. In such cases marginal cost calculation may be used (except in case the measure is considered to replace the socio-economic compensation measure). Due to long time frames of forest production, in cases that revenue from the forest does not accrue to the local community during the timeframe of the measure, the net present value of this revenue should be calculated based on the expected production and the expected sales prices through the life time of the forest at hand. In case when the revenues accrue to the local community, only the expected on-going revenues in the Conservation agreement lifetime shall be considered.



## 1.6 Non-timber forest products regulation

### 1.6.1 Purpose

The purpose of the non-timber forest product regulation is to:

- Avoid overusing the resource of the species used (herbs, mushrooms, forest fruits etc)
- control disturbance in the ecosystems caused by those collecting non-timber products.

At the same time, such regulation may have a positive impact on the revenues for non-timber products as it secures predictability for individual users, prevents unfair competition by those who collect using harmful or unsustainable methods, and provides customers the guarantee that the product has been collected in a sustainable manner.



### 1.6.2 Description

The measure may include:

- Economic assessment of the available non-timber resources and their sustainable use,
- Participatory development of a management plan for use of the non-timber resources,
- Establishing the rules for collection (quantities per collector, calendar limits, permits etc.),
- Establishing the rules for buyers of non-timber products,
- If applicable, implementing measures that increase non-timber product production (enrichment planting of fruit bearing species, maintain certain habitat types and/or their structure...)
- Monitoring and control of collection and buyers.

### 1.6.3 Indicators

<b>Possible indicators of performance:</b> Must be collected to demonstrate the implementation of the Conservation Agreement	Surface of area under management for non-timber forest products (ha) Management plan prepared y/n Rules for collection established y/n Rules for buyers established y/n Quantity of measures implemented (trees planted, area of planting, hectares of habitats maintained ...) Caretaker/forester time spent monitoring and controlling forest (workmonths/year)
<b>Possible optional impact indicators:</b> A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on	Number of woody plant species in the forest (list) Number of fruit bearing species present (list) Quantity of fruit bearing species (% of the area) Number of plant species present (No./m2 or ha)

biodiversity, conservation of soil and climate change	umber of bird species present (list) Average depth of soil (cm) Soil carbon (t/ha) Annual harvest of non-timber products by type (t/year)
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#### 1.6.4 Calculation of costs

Full cost calculation method is used covering the activities planned under the measures. This does not include the costs and revenues related to collection of non-timber products. The reason is that it is difficult to predict who actually benefits financially from collection, and the revenues are highly unpredictable and difficult to monitor.

The costs of non-timber forest product management may include  
Initial costs:

- Assessment and management planning,
- Establishment of rules for collection and buying,
- Participation of relevant stakeholders in the planning and regulatory process,
- Habitat management measures that increase non-timber product production (enrichment planting of fruit bearing species, maintaining certain habitat types and/or their structure...)

Recurrent costs:

- Labour and operational (transport, personal equipment, subsistence) cost related to monitoring and controlling

## 1.7 Rehabilitation of habitat

### 1.7.1 Purpose

This measure is warranted in case an existing habitat of high conservation value or of symbolic importance had been degraded or severely damaged. Damage may be due to physical destruction, erosion, over-use, pollution, dumping garbage, invasive species, a combination of the above or any other reason. The purpose of the measure is to restore the habitat so that it can become a key element of the landscape and/or as a habitat for important species.



### 1.7.2 Description

The scope of the measure depends on the type of habitat, the type of damage and the size of the intervention, therefore the rehabilitation needs to be planned individually. Habitat restoration may be very expensive compared to other conservation measures. The intervention needs to be well justified, limited to the minimum necessary to achieve the objectives and preference should be given to supporting natural processes as opposed to technical solutions. As a precondition, it must include the removal of the original cause of habitat damage or destruction and it may include:

- Fencing and signposting
- Awareness raising and interpretation of actions taken
- Cleaning up
- Pollution control
- Physical reconstruction
- Anti-erosion measures
- Removal of undesired plants
- Planting of desired plants
- Rehabilitation through natural succession
- Monitoring and control of the area

### 1.7.3 Indicators

<b>Possible indicators of performance:</b> Must be collected to demonstrate the implementation of the Conservation Agreement	Surface of area rehabilitated (ha) Rehabilitation plan prepared y/n Quantity of measures implemented compared to plan (trees planted, area of planting, hectares of habitats maintained ...) Caretaker time spent monitoring and controlling the habitat (work months/year)
<b>Possible optional impact indicators:</b> A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on	Number of woody plant species (list) Number of plant species present (No./m2 or ha) Number of bird species present (list) Number of water fauna species present (list)

biodiversity, conservation of soil and climate change	Cleanliness of water Average depth of soil (cm)
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#### 1.7.4 Calculation of costs

Full cost calculation method is used for habitat rehabilitation, where possible co-funding approach should be applied e.g. by public authorities or volunteers covering part of the cost.

The costs of habitat restoration may include

Initial costs:

- Assessment and rehabilitation planning
- Investment costs for equipment and infrastructure needed for rehabilitation, including fences and signposts, pollution control equipment, garbage removal, civil works etc...
- Plant removal
- Planting and enrichment planting

Recurrent costs:

- Depreciation of the equipment and infrastructure
- Maintenance costs of equipment and infrastructure
- Labour and operational (transport, personal equipment, subsistence) cost related to monitoring and controlling.



## 1.8 Planting

### 1.8.1 Purpose

Planting of trees, bushes or other plants species of importance may be included as part of other measures (forest management, habitat restoration). But in some cases it is a self-standing measure in order to diversify habitats in a landscape or to restore or promote certain species in the area. In some cases tree planting may also be done as an awareness raising activity aiming at restoration of forest or greening the settlement areas.

### 1.8.2 Description

The scope of the measure depends on the area where planting will take place, the

species planted and the specific objectives of planting. The species selected for planting must not be an invasive species and shall contribute to biodiversity and cultural value of the landscape. As a precondition, the consent of the land owner or land user is required. The measure may include:

- Selection of appropriate species for planting,
- Purchase of planting material, its acquisition in nature or cultivation of seedlings,
- Planting and protection of seedlings (if applicable)
- Fencing and signposting
- Maintenance (weeding) and replanting
- Awareness raising and interpretation of actions taken
- Monitoring and control of the area

Once an area is planted, the seedlings need to be protected individually or by fence. In the first few years the status of seedlings needs to be controlled, including removing undesired plants (weeding) and replanting in case of unsuccessful planting. The fence needs to be maintained and removed when it is not needed anymore.

### 1.8.3 Indicators

<b>Possible indicators of performance:</b>  Must be collected to demonstrate the implementation of the Conservation Agreement	Surface of area planted (ha) Number of seedlings planted (No) Other actions taken (fencing, awareness raising) Caretaker time spent monitoring and controlling the habitat (work months/year)
<b>Possible optional impact indicators:</b>  A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on biodiversity, conservation of soil and climate change	Number of woody plant species (list) Number of plant species present (No./m2 or ha) Number of bird species present (list)  Average depth of soil (cm)





#### **1.8.4 Calculation of costs**

Full cost calculation is used for planting, except in case of forests where co-funding is applied as in case of forest management.

The costs of planting may include

Initial costs:

- Assessment of the area and selection of species for planting
- Cost of planting material, its acquisition in nature or cultivation of seedlings,
- Cost of land preparation, planting and protection of seedlings (if applicable)
- Fencing and signposting, including removal of fence after use
- Cost of maintenance (weeding) and replanting in the next few years
- Awareness raising and interpretation of actions taken

Recurrent costs:

- Labour and operational (transport, personal equipment, subsistence) cost related to monitoring and controlling.

## 1.9 High Value Landscape Elements

### 1.9.1 Purpose

High value elements of the landscape may be key or rare habitats important for local and migrating species (wetlands and streams, rocky outcrops, clearings in a forest...), elements important for both humans and wildlife (water reservoirs), or cultural sites and monuments with associated natural elements (holy forests and sites, temples, churches, mosques, castles, bridges...) The purpose of conservation of high value elements in a landscape is to secure the functioning of the landscape as a whole by providing the functions of these elements for biodiversity, and to secure the spiritual connection between people and the landscape.



### 1.9.2 Description

The scope of the conservation measure will depend on the needs of the landscape element in question, therefore the conservation actions need to be planned individually. The measure should be implemented with the approval and in cooperation with the local entities managing the individual elements and with the relevant local or national authorities (water authority, cultural heritage, religious authorities, forestry) depending on the type of element. As a precondition, it must include the removal of the original threat or cause of damage to the element. It may include:

- Assessment and planning, including design and permitting if necessary
- Fencing and signposting
- Awareness raising and interpretation of actions taken
- Cleaning up
- Pollution control
- Physical reconstruction works
- Removal of undesired plants
- Planting of desired plants
- Construction of recreation infrastructure
- Rehabilitation through natural succession
- Maintenance of the landscape element
- Monitoring and control of the area

### 1.9.3 Indicators

<b>Possible indicators of performance:</b>	Surface of the landscape element under conservation (ha)
Must be collected to demonstrate the implementation of the Conservation Agreement	Management plan/design prepared y/n
	Quantity of management works implemented (trees planted, area of planting, hectares of thinning)

	<p>conducted, roads or trails built, recreation areas installed...)</p> <p>Caretaker/forester time spent monitoring and controlling forest (workmonths/year)</p>
<p><b>Possible optional impact indicators:</b></p> <p>A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on biodiversity, conservation of soil and climate change</p>	<p>Number of woody plant species in the forest (list)</p> <p>Number of plant species present (No./m2 or ha)</p> <p>Number of bird species present (list)</p> <p>Number of water fauna species present (list)</p> <p>Cleanliness of water</p> <p>Average depth of soil (cm)</p> <p>Soil carbon (t/ha)</p> <p>Number of visitors (No./year)</p>

#### 1.9.4 Calculation of costs

Depending on the type of landscape element, a part of the cost of measures may be borne by the relevant authority, so co-funding is used for cost calculation. The full cost of planned measures are calculated and the running cost of the public authority service covered by the state are seen as a co-funding contribution.

Initial costs:

- Assessment and planning, including design and permitting if necessary
- Fencing and signposting
- Awareness raising and interpretation of actions taken
- Cleaning up
- Pollution control
- Physical reconstruction works
- Removal of undesired plants
- Planting of desired plants
- Establishing recreation infrastructure (forest trails, picnic area...)

Recurrent costs:

- Rehabilitation through natural succession
- Labour and operational (transport, equipment, subsistence) cost for maintenance of the landscape element
- Labour and operational (transport, personal equipment, subsistence) cost related to monitoring and controlling

In some cases revenue may be generated from the services provided by the landscape element, such as payments for irrigation water or entrance fees to cultural monuments. In such cases marginal cost calculation may be used, unless the measure is considered a replacement for the socio-economic compensation measure.

## 1.10 Removing bottlenecks

### 1.10.1 Purpose

In some cases, connectivity within the ecological corridor is threatened or broken in a small geographic area, the so-called bottleneck. This is usually at the intersection of specific topographic conditions and high concentration of anthropogenic influences. Such a case may be high concentration of infrastructure and urbanisation in river valleys (especially narrow gorges), or large scale agricultural operations with no natural habitat in between. Another case may be where a river course is no longer connected, but is crucial as a migratory habitat, or is, through its forested river banks, the only interconnection of two forests.



The purpose of this measure is to secure ecological connectivity in such areas allowing for movement of fauna, especially target species of large mammals.

### 1.10.2 Description

The scope of the conservation measure will depend on the specific situation at the bottleneck in question, therefore the conservation actions need to be planned individually. The measure should be implemented with the approval and in cooperation with the land owners and local entities managing the activities in the area and with the relevant local or national authorities (spatial planning, roads, energy, rail, water authority, cultural heritage, forestry) depending on the type of bottleneck. It may include:

- Assessment and planning,
- Spatial planning,
- Participatory decision making on the measures to be implemented,
- Establishing the rules for activities in the bottleneck,
- Securing land tenure rights,
- Compensation of existing users for stopping or changing their activities
- Design and permitting if some infrastructure needs to be built,
- Fencing and signposting
- Awareness raising and interpretation of actions taken
- Cleaning up
- Pollution control
- Physical reconstruction works
- Removal of undesired plants
- Planting of desired plants
- Rehabilitation through natural succession
- Maintenance of the elements of connectivity
- Monitoring and control of the area

### 1.10.3 Indicators

<b>Possible indicators of performance:</b> Must be collected to demonstrate the implementation of the Conservation Agreement	Surface of the bottleneck removal measures (ha) Management plan/design prepared (y/n) Quantity of regulations (spatial plan, other rules) and works implemented (buildings removed, area of planting, roads or trails built, recreation areas installed...) Caretaker time spent monitoring and controlling the area (workmonths/year)
<b>Possible optional impact indicators:</b> A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on biodiversity, conservation of soil and climate change	Number of wildlife observed (No. by species) Number of water fauna species present (list)

### 1.10.4 Calculation of costs

Depending on the type of bottleneck, a part of the cost of measures may be borne by the relevant authority, so co-funding is used for cost calculation. Full cost of planned measures are calculated and the running cost of the public authority service covered by the state are seen as a co-funding contribution. Initial costs:

- Assessment and planning, including design and permitting if necessary
- Costs of stakeholder participation
- Land lease
- Compensation for existing users,
- Fencing and signposting
- Equipment and infrastructure if needed
- Awareness raising and interpretation of actions taken
- Cleaning up
- Pollution control
- Physical reconstruction works
- Removal of undesired plants
- Planting of desired plants
- Establishing recreation infrastructure (forest trails, picknick area...)

Recurrent costs:

- Payments for the land use rights
- Depreciation of the equipment and infrastructure
- Maintenance costs of equipment and infrastructure
- Rehabilitation through natural succession
- Labour and operational costs (transport, equipment, subsistence) for maintenance of the connecting habitats as well as for monitoring and controlling



## 2. Management of conservation

### 2.1 Caretakers (Community Rangers)

#### 2.1.1 Purpose

Conservation in the field needs dedicated people who will spend their time and effort taking care of nature including monitoring of biodiversity and activities, control of the area, education and awareness raising, coordination and management of conservation measures and other tasks.

The purpose of employing caretakers has several purposes:

- To effectively and efficiently implement the conservation measures,
- To secure local ownership and understanding of conservation measures,
- To visibly show presence and provide a point of contact,
- To provide socio-economic benefits to the community in terms of jobs and other services related to the work of caretakers.



The caretaker work is central to habitat management measures. It may be considered a self-standing measure in case their tasks cannot be allocated to a specific measure (such as in case of anti-poaching measures covering a wider territory than covered by direct habitat management).

#### 2.1.2 Description

Caretakers are local people with good knowledge and understanding of their natural environment, ability to communicate with locals and visitors, and motivation to protect nature. They may be equipped with uniforms, means of transport, communication and other personal equipment, but do not have the legal rights of (governmental) protected area staff or forest rangers. This means that they do not engage in legal enforcement. They may inform and educate people, but in case they identify infringement, their task is to report it to the relevant authorities.

The caretaker conservation measure includes:

- Employment of local caretakers,
- Providing them with transport (car, horse...) and personal equipment (uniform, protective clothes, mobile phone, binoculars, computer...),
- Education and training in conservation and methods of work,
- Planning of work and evaluation of their results,
- Performance of specific tasks such as data collection for monitoring, outreach to locals and visitors, coordination or implementation of individual habitat management measures, etc.

#### 2.1.3 Indicators

<b>Possible indicators of performance:</b>	Area covered by caretaker activities (ha) Caretaker time spent (workmonths/year)
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Must be collected to demonstrate the implementation of the Conservation Agreement	Patrolling time and distance (hours/km)
<b>Possible optional impact indicators:</b>  A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on biodiversity, conservation of soil and climate change	Number of target species  Number of environmental violations (poaching, logging) identified and stopped/prevented (No.)  Number of environmental violations (poaching, logging) identified and reported to the State Authorities (No.)  Share of habitat management measures implemented compared to the plan (%)  Share of monitoring indicators reported compared to the plan (%)  Number of persons engaged in outreach (No.)  Number of jobs created (No.)

#### 2.1.4 Calculation of costs

Full cost calculation method is used for caretakers, for the time they work for purpose of the conservation agreement.

The costs may include

Initial costs:

- Cost of purchase of vehicle(s) and/or horse(s)
- Cost of clothes and personal equipment (uniform, protective clothes and shoes, rucksack, mobile phone/GPS, camera, binoculars, computer...)
- Cost of infrastructure (shelter...)
- Initial training

Recurrent costs:

- Depreciation of the vehicles and equipment,
- Vehicle running costs (fuel, maintenance),
- Upkeep of horse(s),
- Maintenance costs of the equipment,
- Labour (salary, subsistence) cost
- Regular training and capacity building

## 2.2 Land Tenure Rights

### 2.2.1 Purpose

Clear land ownership or the right to use the land (land tenure) is the basic precondition for the implementation of any habitat management measure. Although, in principle, nature conservation is in the public interest, the land use rights of the beneficiary need to be clear and secure before funds are made available under the Conservation Agreement. This is to make sure that no rights of other legal or physical persons are infringed upon. Another reason is to secure long term interest of the beneficiary to manage the land in their care sustainably. The purpose of this measure is to clarify, legally regulate, obtain and hold the land tenure rights needed for conservation actions.



The land tenure rights represent an integral part of individual habitat management measures. They may be considered a self-standing measure when:

- securing the land tenure rights is sufficient to achieve the conservation without direct interventions on the ground, or
- land tenure rights cannot be associated with a specific direct measure, but are indispensable for the overall success of the Conservation Agreement.

### 2.2.2 Description

Land tenure encompasses land ownership, lease of land and/or other rights related to the use of land. The land tenure rights may be legally documented and registered or “tradition” - based on the verbal agreements and traditions within the community. For the purpose the Conservation Agreement, the relevant land tenure rights of the beneficiary need to be formalised according to the applicable law. As most of the forest, pasture and water land in the Caucasus is public and not available for purchase, land tenure will mostly be regulated in terms of land lease or other types of user rights, such as special agreement between the beneficiary and state authority, written consent of the state authority or relevant provisions of the forest or pasture management plan.

The land tenure measures may include:

- Compensation for current lease holders or users to terminate an existing contract,
- Land lease or user payments according to valid lease prices set by the relevant authorities
- Costs of setting up a land lease or user agreement, including land measurement, cadastre, registration and legal cost if and as applicable.

### 2.2.3 Indicators

Possible indicators of performance:	Area covered by land tenure measure (ha)
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Must be collected to demonstrate the implementation of the Conservation Agreement	
<b>Possible optional impact indicators:</b> A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on biodiversity, conservation of soil and climate change	Number of target species Number of local households benefiting from land tenure rights secured.

#### 2.2.4 Calculation of costs

Depending on the type of land tenure, full cost, co-funding or marginal cost approach may be used. In case the relevant authority provides land user rights free of charge or at a discounted price, this is considered co-funding. If revenue may be generated from the use of the land, such as agricultural production marginal cost calculation may be used, unless the measure is considered a replacement for the socio-economic compensation measure.

Initial costs:

- Assessment and definition of necessary land tenure rights for the performance of the conservation agreement, including land measurement or GIS analysis as needed
- Legal costs related to the land tenure contract(s)
- Registration fees
- Compensation for current lease holders or users for termination or modification of an existing contract,

Recurrent costs:

- Land lease fees
- Other regular costs related to land tenure



## 2.3 Compensation of Damages by Wild Predators

### 2.3.1 Purpose

Damage to cattle caused by predators (Leopard, Brown Bear, Wolf) may be an important reason or justification for local population killing the predators by poaching, poisoning or trapping. Preserving or increasing the population of wild predators requires both technical measures to reduce risks of attacks on domestic animals (providing hay to keep livestock indoors, supervised grazing) and compensation of damages by wild predators.



The purpose of the compensation scheme is to:

- Secure that livestock breeders are not economically disadvantaged;
- Improve the awareness and attitude of the local population towards wild predators leading to reduced rate of their killing;
- Gathering information on wild predator attacks to inform the future conservation strategy and measures.

### 2.3.2 Description

The scheme may take different forms. Most probable ones are subsidised insurance of the livestock with insurance companies and a locally managed solidarity fund.

In case of subsidised insurance, ECF would provide a contribution to annual insurance payments by livestock breeders. When deigning this option, it is important to make sure the insurance fees and that the procedure for receiving compensation are reasonable.

The solidarity fund scheme may be more cost effective than subsidised insurance if managed by the beneficiary as part of the wider Conservation Agreement. The solidarity fund would operate as a dedicated bank account, owned by the community-based organization for the purposes to collect money for compensation of losses of the cattle caused by wild predators. The fund is linked to the conservation agreement and is operated and managed by the same community based organization, responsible for the conservation agreement. The fund would involve livestock herders from the conservation area. The amount to cover these damages will be raised by collecting contributions from the participating herders (say 50 %) and from the ECF grant (say 50%). In case damages occur, reimbursement will be issued based on the mutual agreement of organization/council members, who will assess each case separately, based on the conditions signed by each herder involved in the programme. The decision document will be prepared and filed by the community based organization with the involvement of community members.

In the initial years of operation, ECF may cover the risk of fluctuation f damages by providing a larger initial down payment. Once track record is established, adjustments to the overall budget and individual contributions can be made. On the other hand, it is expected that implementation of measures identified in conservation agreement (keeping livestock indoors in the winter, better control of grazing) will decrease the number of conflicts and accordingly the loss of animals. In case the funds remain unused over multiple years, they can be redirected to other needs based on the mutual agreement of the community. Once the Conservation Agreement expires, the solidarity scheme may continue without the annual contribution from ECF, especially if a significant reserve is built up in the process and/or if the number of losses decreases due to the implementation of other measures.



### 2.3.3 Indicators

<b>Possible indicators of performance:</b> Must be collected to demonstrate the implementation of the Conservation Agreement	Number of domestic animals covered by the scheme (No.) Reserve fund built up (EUR)
<b>Possible optional impact indicators:</b> A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on biodiversity, conservation of soil and climate change	Number of wild predators (No. by species) Number of cases of damage compensated (No./year) Number of attacks by wild predators documented (No./year) Number of killings of wild predators (no./year)

### 2.3.4 Calculation of costs

Co-funding approach is applied where the livestock herders provide a share of contribution either from insurance or for a solidarity fund scheme. ECF provides matching funding, which may be 50% or a different share depending on the situation. Expected annual damages caused by predators will be estimated based on the past experience, which will provide the basis for the amount to be raised. As the budget is calculated based on the average annual loss of animals, there will be a limit to total reimbursements resulting in the a risk that the losses will exceed the expected amount. To prevent this, a reserve fund should be developed over the years.

Initial costs:

- Assessment and definition of the insurance subsidy or contribution to the solidarity fund
- Initial reserve fund to cover annual fluctuations in compensation of damage

Recurrent costs:

- Annual contributions to insurance fees or to solidarity fund

## 2.4 Community Based Organisation

### 2.4.1 Purpose

A community based organisation (CBO) is a legal entity representing the local community in the Conservation Agreement. Its responsibility is to secure the implementation of the agreement and the fair and equitable distribution of its benefits among the local community. It may have any legal form under the national law that is appropriate to its purpose.

The purpose of this measure is to secure the establishment (if needed) and successful functioning of the CBO during the implementation of the Conservation Agreement and sustainability of the institutional setup of the local community beyond the Conservation Agreement itself.



In case if it is impossible to create CBO, a community (and/or municipality) can charge an NGO to act on its behalf as whichas CBO in the Conservation Agreement.

### 2.4.2 Description

The functioning of the CBO may central to direct habitat management measures themselves, such as monitoring and controlling in case of caretakers or pasture management coordination. But for some of the costs of the CBO it may not be possible to allocate them to the specific habitat management activities. These may include the general management of the CBO (accounting, board of directors, premises, vehicles and equipment etc.), awareness raising activities targeting local population and visitors, and monitoring and controlling in outside the areas covered by habitat management (visitor management and anti-poaching measures).

### 2.4.3 Indicators

<b>Possible indicators of performance:</b> Must be collected to demonstrate the implementation of the Conservation Agreement	Surface of area with CBO activities (ha) Staff (including caretaker) time spent implementing Conservation Agreement (workmonths/year)
<b>Possible optional impact indicators:</b> A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on biodiversity, conservation of soil and climate change	Share of Conservation Agreement actions implemented (%) Payments for Conservation Agreement received regularly (y/n) Number of jobs (No. of full time equivalents, No. of persons) Funds from the Conservation Agreement invested for the benefit of the community (EUR, %, EUR/community member) Additional funding raised for the CBO and the local community (EUR/year) Number of visitors in the area (No/year)

	Number of violations of environmental regulations identified (No/year)
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#### 2.4.4 Calculation of costs

For the activities covered by the Conservation Agreement the full cost should be used. At the same time, the CBO should be encouraged to seek other sources of funding for activities within or outside the Conservation Agreement from its members, public authorities and donors. In such case, co-funding may be used if these sources of funding, including in kind contributions such as premises, are secured at the time of the Conservation Agreement negotiation.

Initial costs:

- Legal and process costs related to the setup of the CBO
- Registration fees
- Construction or renovation costs (only if well justified)
- Vehicles
- Office equipment
- Personal equipment
- Initial training and capacity building

Recurrent costs:

- Lease of premises
- Depreciation of the equipment and infrastructure
- Maintenance costs of equipment and infrastructure
- Consumables
- Labour and operational costs (transport, personal equipment, subsistence)

## 2.5 Community Conserved Area/Protected Landscape

### 2.5.1 Purpose

A community conserved area is an area corresponding to IUCN definition of Indigenous and community conserved areas<sup>1</sup> and protected landscape is a protected area of IUCN Category V.<sup>2</sup> Either or both concepts may apply at the same time. The purpose of this measure is to set-up and manage a protected landscape by the local community in a wider area where such management is warranted due to the importance of human activities to preserve the biodiversity and associate cultural values, i.e. the cultural landscape. The measure may complement the direct habitat management measures in smaller areas within the protected landscape.



### 2.5.2 Description

A community conserved area or protected landscape should be managed by the local community (municipality, CBO...), or, if it is managed by a national authority, with strong local participation. A management plan should be developed, indicating the zoning (e.g. strict protection zone, cultural landscape zone, infrastructure and settlement zone, tourism zone...) and the conservation measures and actions to be undertaken in the different zones. Preferably a protected landscape should be declared as a protected area according to the national legislation and the management plan should be approved according to the national law and integrated into the applicable spatial and regional development plan(s).

Management of the community conserved area and/or protected landscape includes the application of traditional and new rules to land use, spatial planning and planning of settlements and infrastructure including permitting, monitoring and supervision, support to land users to preserve traditional land use practices, development of value chains related to the local resources, visitor infrastructure and management, maintenance of cultural monuments and values etc. The management usually requires the cooperation of local and national authorities responsible in the area, local population, NGOs and businesses. In the context of ECF it is assumed, that key coordinating and implementing function will be played by the CBO.

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<sup>1</sup>Indigenous and Community Conserved Areas are natural and/or modified ecosystems containing significant biodiversity values, ecological services and cultural values, voluntarily conserved by Indigenous peoples and local communities, both sedentary and mobile, through customary laws or other effective means. ICCAs can include ecosystems with minimum to substantial human influence as well as cases of continuation, revival or modification of traditional practices or new initiatives taken up by communities in the face of new threats or opportunities.

<sup>2</sup> A protected area where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values. The primary objective is to protect and sustain important landscapes/seascapes and the associated nature conservation and other values created by interactions with humans through traditional management practices.

### 2.5.3 Indicators

<b>Possible indicators of performance:</b> Must be collected to demonstrate the implementation of the Conservation Agreement	Surface of area of protected landscape (ha) Legal designation (y/n) Management plan prepared y/n Staff (including caretaker) time spent managing Protected Landscape(workmonths/year)
<b>Possible optional impact indicators:</b> A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on biodiversity, conservation of soil and climate change	Area of different zones (ha) International certification received, e.g. IUCN Green List (y/n, list) Number of target species present (list) Number of woody plant species in the forest (list) Number of plant species present (No./m2 or ha) Number of bird species present (list) Number of jobs (No. of full time equivalents, No. of persons) Additional funding raised for the CBO and the local community (EUR/year) Number of visitors in the area (No./year) Number of violations of environmental regulations identified (No/year)

### 2.5.4 Calculation of costs

In case of a Protected Landscape, a part of the cost of measures has to be borne by the relevant local or national authority, so co-funding is used for cost calculation. Full cost of planned measures are calculated and the running cost of the public service covered by the state or local authority are seen as a co-funding contribution. There may also be opportunities for co-funding by public sector or other donors and these should be taken into account if secured at the time of negotiation of the Conservation Agreement.

Initial costs:

- Inventory and management planning
- Public participation in the planning process
- Resolving land ownership and land tenure issues
- Legal designation
- Integration into spatial and other plans
- Lease of land needed for management functions
- Investment costs for equipment and infrastructure needed, including information centre, vehicles, office equipment, personal equipment, roads, fences, fire fighting equipment etc.
- Establishing visitor infrastructure (signposting, trails, picnic areas...)
- Investment into value chains based on local resources (tourism, wood, animal husbandry products, organic agriculture...)
- Investment into public infrastructure
- Repair of cultural monuments

Recurrent costs:



- Depreciation of the equipment and infrastructure
- Maintenance costs of equipment and infrastructure
- Labour and operational (transport, personal equipment, subsistence) cost related to monitoring and controlling
- Costs of direct habitat conservation measures (if not specified in separate measures)
- Communication with the public

## 2.6 Forest management plans

### 2.6.1 Purpose

Sustainable forest management requires long term forest management planning to secure that forest are not over-exploited, that the surface area and age classes of forests are balanced and that the different functions of forests (biodiversity, protection, production of timber and non-timber products, recreation, etc.) are secured and optimised. Forest management plans are prescribed by Forest Code in each country. The purpose of this measure is to make sure that a good quality management plan is in place in support of Conservation Agreements.



Forest management planning may

be an integral part of the measure Forest Management. It may be considered a stand-alone measure in cases where the availability of the management plan itself can achieve the conservation objectives through actions taken by forest authorities. The measure has to be implemented with the approval and in cooperation with the relevant forest authority and should include protection of forest from illegal logging and forest fires.

### 2.6.2 Description

The preparation of a forest management plan includes an inventory of the forest resources, input and analysis of the data collected using GIS and preparing the plan regarding the use of forests in the next 10 years. The use of forest may include different functions or ecosystem services provided by the forest, therefore the management needs to be multipurpose. In case of ECF, special emphasis needs to be on biodiversity conservation and in particular providing habitat to target species. The management plan produced needs to be in compliance with the legal requirements, but it should also contribute to the development of planning methodology in terms of management of biodiversity and other forest functions.

### 2.6.3 Indicators

<b>Possible indicators of performance:</b>  Must be collected to demonstrate the implementation of the Conservation Agreement	Surface of forest under management plan (ha) Management plan prepared y/n Labour invested in management plan preparation (workmonths) Labour invested in management plan implementation (workmonths/year)
<b>Possible optional impact indicators:</b>  A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on biodiversity, conservation of soil and climate change	Number of woody plant species in the forest (list) Number of plant species present (No./m2 or ha) Number of bird species present (list) Standing volume of timber/biomass (M <sup>3</sup> /ha, tC/ha)

	Annual increment of timber/biomass (m <sup>3</sup> /ha, tC/ha) Target mammal species observations (No./year) Average depth of soil (cm) Soil carbon (t/ha) Certification of management (FSC ...) Yes/no Annual harvest of wood (m <sup>3</sup> /year)
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#### 2.6.4 Calculation of costs

A part of the cost of measures is borne by the relevant forest authority, so co-funding is used for cost calculation. Full cost of planned measures are calculated and the running cost of the public forest service covered by the state are seen as a co-funding contribution. There may also be opportunities for co-funding by public sector or other donors and these should be taken into account if secured at the time of negotiation of the Conservation Agreement.

The costs of Forest Management Plan may include

Initial costs:

- Forest inventory (Aerial, satellite images, field work, analysis)
- GIS database input and analysis
- Management planning
- Public participation in the planning process

Recurrent costs:

- Labour and operational (transport, personal equipment, subsistence) cost related to monitoring and controlling

## 2.7 Pasture management plans

### 2.7.1 Purpose

Pastures are a renewable resource, and the purpose of a pasture management plan is to secure long term productivity and sustainability of pastures and related animal husbandry, to prevent over-use and degradation of pastures, and to secure rehabilitation of already degraded pastures.

The development of a pasture management plan as a conservation measure is needed in case a pasture management scheme based on traditional knowledge and rules of the local community is insufficient or no more functioning to achieve the conservation objectives.



Management planning may be a central part of any pasture management measure. It may be considered a stand-alone measure in cases where the availability of the management plan itself can achieve the conservation objectives through actions taken by pasture users or the authorities. The measure should be implemented with the approval and in cooperation with the relevant authority responsible for pasture land management.

### 2.7.2 Description

The preparation of a pasture management plan includes an inventory and assessment of the pasture resources and existing use, input and analysis of the data collected using GIS and preparation of a plan regarding the use, conservation and rehabilitation of pastures in the next period. The plan should take into account the rights and customs of the users of the pastures and provide long- term certainty regarding user rights. The management plan needs to be in compliance with the legal requirements, but it should also contribute to the development of planning methodology in terms of management of biodiversity and other functions of pastures. In case of ECF, special emphasis needs to be on biodiversity conservation, in particular providing habitats to target species, and on the participation of the local community (users of pastures) in the development and implementation of the plan.

### 2.7.3 Indicators

<b>Possible indicators of performance:</b>  Must be collected to demonstrate the implementation of the Conservation Agreement	Surface of pastures under management (ha) Pasture management plan developed (y/n) Land tenure issues resolved (y/n) Labour invested in pasture management plan (workmonths) Caretaker time spent managing pasture use (workmonths/year)
<b>Possible optional impact indicators:</b>  A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on	Number of cattle using pastures (No.) Target mammal species observations (No./year) Number of plant species present (No./m2 or ha) Number of bird species present (list)

biodiversity, conservation of soil and climate change	Area of degraded pastures (ha) Area of erosion (ha) Average depth of soil (cm) Soil carbon (t/ha) Erosion control measures implemented compared to plan Surface of pastures cleaned (ha) Surface of pastures cut periodically (ha) Actual dates of grazing calendar Number of jobs (No.) Number of households using pastures (No.) Number of violations of environmental regulations identified (No/year)
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#### 2.7.4 Calculation of costs

In cases

1. grazing is absent and needs to be (re)started from scratch and
2. animal husbandry is for subsistence only or
3. considered to replace for the socio-economic compensation measure,

the full cost calculation should be used.

There may also be opportunities for co-funding by public sector or other donors and these should be taken into account if secured at the time of negotiation of the Conservation Agreement. Marginal cost calculation should be used when a revenue stream from animal husbandry already exists and the users are ready to contribute to the development of the plan.

Initial cost:

- Pasture inventory and assessment (Aerial, satellite images, field work, analysis)
- GIS database input and analysis
- Management planning
- Public participation in the planning process

Recurrent costs:

- Labour and operational (transport, personal equipment, subsistence) cost related to monitoring and controlling



## 2.8 Hunting area

### 2.8.1 Purpose

In case animal species are not protected by law and their population is sufficiently large, sustainable hunting is one of the most effective ways to secure long term preservation of the hunted species and prevent poaching of the protected species.

The purpose of this measure is to set-up a hunting area managed by the local community where wildlife populations are sufficiently large to warrant recreational hunting or where it can be reasonably expected that population size can be increased to a sufficient level within the duration of the conservation agreement. The measure may complement the direct habitat management measures on smaller areas within the protected landscape or integrate such measures in an integrated management.



The measure should be implemented with the approval and in cooperation with the relevant conservation and hunting authorities and should include protection from poaching and compliance with the hunting rules and regulations.

### 2.8.2 Description

Depending on the national hunting legislation, a hunting area should be designated with a sufficient size to enable the management and subsequent hunting of natural wildlife populations. This excludes farm breeding of game species in a too small area just for hunting. A hunting management plan should be produced based on the assessment of the existing wildlife population, fixing annual hunting quotas and planning measures for increasing of protected animal populations. Based on the hunting management plan, a business plan should be produced to assess the expected costs and revenues over time.

Management of the hunting area should be implemented by the local community (e.g. CBO). When justified, the management could also be supported by outside investors or interested hunters, with a consent of WWF to prevent possible misuse of the hunting area<sup>3</sup>. Management activities include monitoring of wildlife and control of the area, anti-poaching control, improving animal habitat and feeding, sale of hunting permits and guiding hunting guests.

### 2.8.3 Indicators

<b>Possible indicators of performance:</b>  Must be collected to demonstrate the implementation of the Conservation Agreement	Surface of hunting area under management (ha) Hunting management plan developed (y/n) Land tenure issues resolved (y/n) Labour invested in hunting management plan (workmonths)
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<sup>3</sup> Please see the WWF policy on trophy hunting:

[https://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf\\_policy\\_and\\_considerations\\_re\\_trophy\\_hunting\\_july\\_2016.pdf](https://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_policy_and_considerations_re_trophy_hunting_july_2016.pdf)

	Caretaker time spent managing hunting (workmonths/year)
<b>Possible optional impact indicators:</b> A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on biodiversity, conservation of soil and climate change	Number of game species present (list) Target mammal species observations (No./year) Number of bird species present (list) Revenue from hunting (EUR/year) Number of jobs (No.) Number of violations of environmental regulations identified (No/year)

#### 2.8.4 Calculation of costs

Marginal cost calculation should be used when revenues from hunting already exist and the hunting managers are ready to contribute to the development of the plan.

In cases where legal hunting is absent and needs to be (re)started from scratch or considered as a replacement for the socio-economic compensation measure, the full cost calculation should be used. In such case hunting should be managed by the community based organisation.

There may also be opportunities for co-funding by public sector, other donors or private investors and these should be taken into account if secured at the time of negotiation of the Conservation Agreement.

Initial costs:

- Pasture inventory and assessment (Aerial, satellite images, field work, analysis)
- GIS database input and analysis
- Management planning
- Public participation in the planning process
- Resolving land ownership and land tenure issues
- Legal designation
- Integration with other plans
- Lease of land needed for management functions
- Investment costs for equipment and infrastructure needed, including lodges, vehicles, office equipment, personal equipment, roads, fences, fire fighting equipment etc.

Recurrent costs:

- Depreciation of the equipment and infrastructure
- Maintenance costs of equipment and infrastructure
- Labour and operational costs (transport, personal equipment, subsistence) related to monitoring, controlling and guiding
- Costs of direct habitat improvement and feeding
- Communication with the public

## 2.9 Land use plans

### 2.9.1 Purpose

Land use (spatial, physical) plans are a tool for the sustainable management of space as a limited resource and for the coordination of the spatial development (expansion of settlements and infrastructure, as well as balancing different types of land use). The types and methodologies for land use plans are prescribed in the national legislation on spatial or urban planning.

The purpose of this measure is to prevent negative impacts of land development and land use change on biodiversity and the existing landscape, by limiting, regulating and channelling future land developments such as settlements, industry, infrastructure etc.

The measure may complement the direct habitat management measures on smaller areas within the protected landscape, or integrate such measures in an integrated management. It may be considered a stand-alone measure in cases where the existence of the land use plan itself can achieve the conservation objectives through actions taken by relevant authorities. The measure should be implemented with the approval and in cooperation with the relevant local and national authority and should include biodiversity and landscape conservation as an important priority while enabling sustainable social and economic development of the local communities.



### 2.9.2 Description

Preparation of a land use plan includes an assessment of the existing situation, evaluation of effectiveness of previous plans, input and analysis of the data collected using GIS and preparation of a plan in line with the applicable law. The plan is subject to public participation and should finally be adopted by the authority designated in the law (local community, municipality, district, ministry...) The land use plan produced needs to be in compliance with the legal requirements, but it should also contribute to the development of planning methodology in terms of management of biodiversity and landscape.

### 2.9.3 Indicators

<b>Possible indicators of performance:</b> Must be collected to demonstrate the implementation of the Conservation Agreement	Surface of land under land use plan (ha) Land use plan adopted y/n Labour invested in Land use plan preparation (workmonths) Labour invested in Land use plan implementation (workmonths/year)
<b>Possible optional impact indicators:</b> A small numbers of indicators can be selected depending on the area and the wider objectives to demonstrate the impact of the measures on	Area of different zones (ha) New construction enabled by the plan (Buildings/year)

biodiversity, conservation of soil and climate change	Buildings legalised (No.) Number of violations of environmental regulations identified (No/year)
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#### 2.9.4 Calculation of costs

In case of Land use plan, a part of the cost of measures is borne by the relevant local or national authority, so co-funding approach is used for cost calculation. Full cost of planned measures are calculated and the running cost of the public service covered by the state or local authority are seen as a co-funding contribution. There may also be opportunities for co-funding by public sector or other donors and these should be taken into account if secured at the time of negotiation of the Conservation Agreement.

Initial costs:

- Assessment and management planning
- Public participation in the planning process
- Resolving land ownership and land tenure issues
- Legal adoption

Recurrent costs:

- Labour and operational (transport, personal equipment, subsistence) cost related to monitoring and controlling
- Communication with the public



## 3. Socio-economic Compensation

### 3.1.1 Purpose

There may be cases, where direct habitat management measures and conservation management measures do not generate enough economic benefits to the local community to compensate benefits lost due to conservation measures. In other words, when additional funds are required to secure at least an equal income of the local rural population compared to the situation without the Conservation Agreement.

The purpose of this measure is to finance social and economic activities of the local communities that are not linked to habitat conservation, but that will generate new income or other types of benefit equal or larger than the income or benefits arising from the land use to be discontinued due to Conservation Agreement.



### 3.1.2 Description

Investments and activities that will benefit the local communities economically and socially may take very different forms. They may include construction and/or improvement of roads, water supply, electricity and internet connectivity, development of value chains based on local resources such as tourism, processing of milk, wool, meat, farm and non-timber forest products, wood processing, artisanal products such as carpets or traditional clothes, or activities supporting community and education, such as schools, kindergartens or community centres.

The measure should be structured in such a way that the beneficiary maintains full responsibility for the design and implementation of the actions. This means that a lump sum corresponding to the needs of the community should be included in the Conservation Agreement (as initial investment and/or divided over the years) to be used at the discretion of the beneficiaries. If requested, this can be combined with on demand technical assistance and capacity building support provided by ECF. The measure does not cover the operation of the investments by the local community, as they need to be economically self-sustainable based on the initial investment subsidy.

Ownership preference should be given to the CBO or any other form of collective entity, based on the consensus of the local community. If investment grants are provided to individuals or private companies, precautions need to be taken that the benefits are shared in a wider community.

### 3.1.3 Indicators

<b>Possible indicators of performance:</b>  Must be collected to demonstrate the implementation of the Conservation Agreement	Surface of land under conservation (ha)  Funds for compensation spent within ECF  Funds for social-economic development co-financed
<b>Possible optional impact indicators:</b>  A small numbers of indicators can be selected depending on the area and the wider objectives to	Investment mobilised based on the sum provided (EUR)  List of investments



demonstrate the impact of the measures on biodiversity, conservation of soil and climate change	Annual revenue generated (EUR/year) Number of jobs created(No.) Households involved (No., %) Number of violations of environmental regulations identified (No/year)
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#### 3.1.4 Calculation of costs

Lump sum is calculated based on investment needed to generate same or more income than lost by giving up on land use due to conservation. The amount should be based on the identified existing investment needs of the local community, but taking into account the benefits provided by the other conservation measures and general benchmarks regarding the value of Conservation Agreements compared to other communities.

The items to be used in the calculation are:

- Existing revenues: Assessment of the revenue or other benefits arising from existing land use that will be discontinued
- Conservation revenues: or other benefits to be generated by the implementation of other conservation measures.
- Revenues from the investment: Assessment based on the investment plans presented by the local community. Preferably including a business plan.
- Benchmark: Average compensation per hectare for combined conservation measures in other conservation agreements.
- Area: covered by the combined conservation measures.

The relations between the above items should be as follows

Conservation revenues + Revenues from the investment  $\geq$  Existing revenues  $\cong$  Benchmark\*Area