



# Pro Biodiversity Business

## Gap Analysis for Bükk National Park, Hungary



### Global Nature Fund - Eco Karst Project

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## **Gap Analysis for Bükk National Park**

Promising Pro Biodiversity Business ideas that support the protection, sustainable use and appreciation of Ecosystem Services in the Danube region

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# **1 Aim and procedure of the gap analysis**

## **1.1 Aim**

The aim of this gap analysis is to showcase opportunities for the development of Pro Biodiversity Businesses (PBBs) in the protected area of Bükk National Park in Hungary. The results of the analysis will contribute to the development of an Action Plan, which is an outcome of the ECKARST project. PBBs are enterprises that generate financial returns and at the same time make a positive contribution to preserving biodiversity. For most economic activities, ecosystem services are used and sometimes exploited. Conserving biodiversity and ecosystem services, while simultaneously ensuring economic success, offers the chance to ensure a sustainable use of ecosystem services.

The usage of ecosystem services in a protected area provides a special opportunity to produce natural products, because the resources are less exposed to pollution from traffic and industry. The special karstic landscapes additionally provide unique features to develop touristic activities. To ensure a long-term success, also for future generations, sustainability and biodiversity conservation are crucial aspects for the economic development of the region, so they should be a key aspect in planning economic development. In the Bükk National Park itself, there are only limited business activities possible inside the park, as the park is mostly forested and managed by the state forestry. However, in the wider Bükk region there are already some businesses showing good first approaches to preserve biodiversity and the environment. The intention of this analysis is to identify positive gaps for future economic development or for enhanced biodiversity conservation practices inside the Bükk National Park and its surrounding area.

## **1.2 Procedure**

The results presented in this gap analysis are the outcome of a desk research and expert interviews on Pro Biodiversity Businesses (PBBs) and international examples. The results of several interviews, discussions and workshops with the project partners and a variety of stakeholders that took place between May 2017 and December 2018 in each protected area will be presented and compared to successful PBB approaches. In a first round of interviews, local economic and environmental conditions in the area were discussed with the project partners from the Bükk area. Simultaneously, GNF searched for good international examples of PBBs, which were then presented to the involved partners and stakeholders through presentations and the PBB brochure. An overview of PBB examples is also included in the PBB Development Guide. Combining the information regarding the protected area with information on international best practice examples helped to identify first gaps and opportunities for the development of PBB. In a second round of interviews with the project partners open questions about the situation in relevant economic sectors have been clarified. While considering a rating of the project partners from each pilot area regarding the importance of the identified opportunities, a first selection of opportunities with high potential was undertaken. These sectors were then further discussed in a participatory approach with local stakeholders from a various institutions and sectors during two workshops. Relevant information acquired during these steps are summarised in this document.

## 2 Brief Introduction to Bükk National Park

The Bükk National Park, including the Bükk Mountains, was established on 1st January 1977 on an area of 38,774 hectares. As of today it covers 43,168.8 hectares. It is the third national park in Hungary, but the first one in a mountain area. The Bükk National Park extends over the northern mountain range of Hungary and is managed by the Bükk National Park Directorate (BNPD), a state institution fulfilling nature conservation duties and being responsible for the management of Natura 2000 sites, caves, mires, springs, etc. 93.8% of the park area is state owned (by two forestry companies). 2.7% is under the management of Bükk National Park Directorate (1,146 ha); 2.3% is privately owned; the rest by local communities, municipalities, and private sector companies. No entrance fee is charged and due to various circumstances such as missing statistical data collection or very different types of data, it is very difficult to accurately estimate the number of visitors. Rough estimations say that there are some million visitors each year. The region is characterised by karstic surfaces and forested mountains. The flora and fauna of the region represents a great diversity with sub-Alpine and sub-Mediterranean elements. The many caves, a typical karst phenomenon, lead to a rich and diverse underground world and are therefore only partly open for touristic and therapeutic activities (45 of the 853 explored caves are strictly protected). There is one village and two settlements as part of Miskolc town located within the park, whereas another 20 villages are located at its border. As a result, many small family businesses are active in the region and can be considered to be users of the Ecosystem Services. They collect herbs and plants, produce jam, cheese or syrups, own restaurants or offer accommodation. As only limited entrepreneurial activities are possible inside the park and inhabitants and entrepreneurs in the surrounding area use and influence the ecosystem services of the park, not only the park but also the national park region is considered in the following analysis.

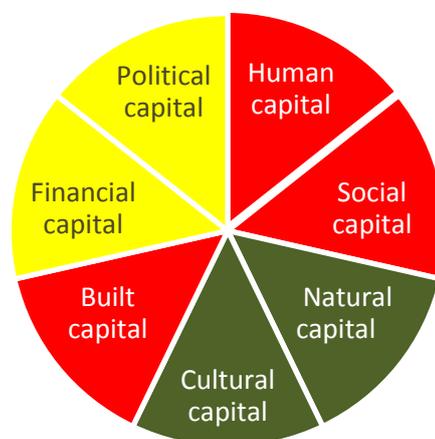
**Location:** Northern Hungary

**Size:** 43,168.8 hectares

**Unique characteristics:** Sump caves and other karst phenomena

**Landscape:** Low peaks and karstic surfaces (karrenfelds, dolinas, sink-holes, shafts, and caves), rocky area at the southern edge

In order to allow a quick overview, the following categorisation of the assets, resources and capitals are used for the description of Bükk NP and the surrounding area.



Capital	Overview Bükk NP
<p><b>Natural capital...</b> includes rivers, lakes, forests, wildlife, soil, caves, cliffs, rock types and any other natural beauty and geological heritage.</p>	<p>Attractive landscape, low population density, Hungary's largest contiguous forest area, clean air, quietness. Famous for a diverse population of owl, butterflies and other insects. Bükk shows diverse specific (and unique) karst features, volcanic formations in the foothills, numerous caves (over 1.000, Istvánlápa Cave being the deepest cave in Hungary), springs and gorges. Caves and springs are protected in Hungary, 45 caves are strictly legally protected. The Bükk limestone plateau provides high quality drinking water for over 500.000 people in the region.</p>
<p><b>Cultural capital...</b> includes traditions, heritage, multi-lingual populations, ethnic festivals and work ethics. Cultural capital influences what voices are heard, who has influence and where, and how creativity, innovation and influence emerge and are nurtured.</p>	<p>Bükk is the third largest National Park in Hungary and the largest forested National Park. The region has a long pottery and viticulture tradition. Hungarians have strong connections to their cultural ethnic and sacral heritage, i.e. the designated Blessed Virgin Mary trail which crosses the Bükk, too. An interesting and unique feature is the beehive stones, eroded rhyolite cones with rectangular "windows" carved into them. Trout farming is also an old tradition (e.g. in Lillafüred, Szilvásvárad). In addition the production of wood processing crafts has also a long tradition in the National Park region.</p>
<p><b>Human capital...</b> includes skills and abilities of residents as well as the capacity to access outside resources and knowledge in order to increase understanding and to identify promising practices (education, health, skills, and youth). Human capital also addresses leadership's abilities to "lead across differences," to focus on assets, to be inclusive and participatory, and to be proactive in shaping the future of the community or group.</p>	<p>The population is predominantly of Hungarian origin. A Slovakian minority is also present in the region, living mainly in the settlement Répáshuta. Local residents have a good knowledge about traditional production techniques.</p>
<p><b>Social capital...</b> reflects the connections among people and organizations. It refers to those close ties that build community cohesion. Bridging social capital involves weak ties that create and maintain bridges among organizations and communities.</p>	<p>Bükk-Térségi LEADER Association, a rural development organisation with more than 160 members (municipalities, associations, companies, persons...) is one example for networks in the region.</p>
<p><b>Political capital...</b> is the ability to influence standards, rules, regulations and their enforcement. It reflects access to power and power brokers, including government officials and leverage with a regional company.</p>	<p>As one of the larger National Parks in Hungary, Bükk can act as a pilot for favourable (legal) frameworks and management plans for protected areas in Hungary in general.</p>
<p><b>Financial capital...</b> includes the financial resources available to invest in community capacity building, underwrite businesses</p>	<p>Financial capacities and industrial development opportunities are rather limited in the region. Hence, the Bükk NP can play an important role</p>

development, support civic and social entrepreneurship, and accumulate wealth for future community development.	for the socio-economic future development of the region. However, there are national support mechanisms for business development such as agricultural subsidy schemes, but they are often complicated and not easily accessible for many farmers.
<b>Built capital...</b> is the infrastructure that supports communities, i.e. telecommunication, industrial parks, water and sewer systems, roads, etc. Built capital is often a focus of community development efforts.	Due to the vast forests and the low population density, the infrastructure in the region is rather underdeveloped. A special feature for touristic use are three narrow gauge railway lines (Lillafüred, Szalajka, Felsőtárkány), formerly used for the transportation of wood, limestone and workers. Bükk shows a vast network of forest cycle paths.

## 2.1 Cross-sectoral challenges in the Bükk National Park

There are several administrative and demographic challenges in the Bükk National Park which have an influence on the development of all economic sectors.

### 2.1.1 Administrative and political obstacles

The Bükk National Park is shared by two counties (Heves and Borsod-Abaúj-Zemplén), making administrative & management aspects as well as decision processes more complex. A major problem for many business founders is a lack of financial and technical support, also from official sides. There are relatively few agricultural areas in the NP. However, agricultural subsidy schemes are often complicated and rather difficult to understand and not easily accessible for many farmers without support. A Hungarian National Park label for products ([http://magyarnemzetiparkok.hu/wp-content/uploads/2014/06/MNP\\_termekek\\_eng.pdf](http://magyarnemzetiparkok.hu/wp-content/uploads/2014/06/MNP_termekek_eng.pdf)) that is provided by the State Ministry is a good start, but there is potential for improvement. A strong certification scheme should be based on clearer and more transparent rules and guidelines for the production and members. It would also be recommendable to have a tailor made label for the Bükk NP. As far as general development challenges are concerned, the relatively poor infrastructure (roads as well as public transportation) are a factor. However, this shortcoming s in infrastructure can also have a positive impact on biodiversity and the protection of the park.

### 2.1.2 Social and human resources

Due to rural-urban migration of the younger population, there is a lack of young people who are capable or willing to start businesses. At the same time, there is an aging local population. Due to these factors there is small motivation among the local population to found new businesses, especially in the agriculture and food sector. Within the local population there is a lack of trust in cooperatives. This might be due to experiences from the communism era, when land was taken for the communities and former landowners were left without any property rights. Within the remaining local population there is rather a small awareness and knowledge regarding the value, importance and opportunities of biodiversity conservation. This topic has not been a focus area in education of schoolkids so far (a European-wide effect). In addition to this, most parts of the local population do not have required financial resources as venture capital for the start of new businesses.

### 2.1.3 Environmental challenges

There are some environmental issues, primarily changing precipitation patterns (most likely due to climate change) resulting in occasional events of heavy rainfall causing soil erosion. More problematic seem to be longer periods of draughts, drying out habitats such as brooks etc. and leading to the abandonment of extensive grasslands. A growing appearance of invasive species in the foothills might also be increasingly problematic for the conservation of endemic species. However, it can also be observed that some introduced flora species such as the black locust tree (*Robinia pseudoacacia*) can also offer new opportunities, i.e. for beekeepers.

## 2.2 Cross-sectoral opportunities in Bükk

Several opportunities in the Bükk National Park are relevant for the development of a variety of sectors and shall be discussed, before going into more detail for the different sectors.

### 2.2.1 Cooperation between producers, processors and service providers

To successfully sell products enhancing the cooperation between producers, processors and service providers in the protected area and the region is considered to be crucial. The short transportation pathways between regional businesses are cheaper and decrease pollution in comparison to national or international import/export relations. The collaboration can simultaneously be used for a joint marketing and selling of products to tourists. For example, restaurants and accommodation providers can offer meals that are made from locally produced and processed products. This does not only create local value, but can also be useful for marketing strategies, since it transmits the local identity to tourists. Exporting the locally produced products to national or international customers is another opportunity, which is facilitated by cooperation since bigger amounts can be transported and sold jointly. The use of a certification scheme (see below) could facilitate the cooperation with international customers.

### 2.2.2 Certification schemes

Producing in an organic way without using fertilizers, pesticides and by avoiding antibiotics is recommended to preserve biodiversity and to ensure sustainable land use. This more natural way of producing does attract new customer groups and can increase revenues. Acquiring an organic certification proves the production techniques to the customer and raises awareness within consumers. Additionally, further nature-friendly certification schemes such as agri-environmental schemes, farming on high value grasslands (ETT scheme) are an opportunity for local producers. The FairWild standard for instance, ensures that wild resources are maintained and that there are no negative environmental impacts. In addition, good working conditions are ensured: no discrimination, healthy work conditions and a fair contract with collectors are required to receive the certification. Using such a standard can help to access new markets and to create trust.

In addition to these international certification schemes, there is an opportunity in using the origin from the protected area as a special feature that demonstrates the naturalness. Products from protected areas can be considered less contaminated, because of fewer industries that pollute the environment. Furthermore, traditional local fruit varieties or breeds from the protected area taste different and provide an advantage over industrial products. The naturalness can be used as a marketing feature and products could be sold as high quality products also outside of the region. The trust of customers who care about the origin of their food can be earned with a regional label, which

reliably certifies products from the National Park Bükk. Cross-sectoral organization is crucial for the success of such a regional label.

There is an initiative by the Bükk National Park Directorate to establish a UNESCO Geopark. The members of the Global Geoparks Network (<http://www.globalgeopark.org>) exchange ideas on best practice as well as quality standards of products and practices aiming at integrating the preservation of the geological heritage into strategies for regional sustainable economic development. This approach can certainly offer a new opportunity to create Bükk-Geopark products that use a reputation and image that is based on strong local “geo-heritage” as well as local communities and their traditions. The declaration as an official member of the International Dark Sky Parks Network (<http://darksky.org/ids/parks/bukk/>) can offer another unique selling proposition and create attractiveness for new target groups.

### **2.2.3 Store focusing on National Park products**

A specific store that primarily or exclusively sells National Park products could offer a business opportunity that connects different product chains and uses the regional character of products as a key selling point which promises naturalness to the buyers. The cooperation of businesses and the development and use of a regional brand certifying the origin of the product can be helpful here. Some products are already offered in the NP visitor centre at the Szt. István Cave at Lillafüred. The other way round, such a store could also serve as additional information contact point for tourists and visitors. Furthermore, the visibility of local products can be increased by offering them in existing tourist info points or shops.

### 3 Gap Analysis

During the process of analysis the possible linkages between the three sectors (primary, secondary and tertiary) became more and more apparent. Many companies operate in more than one of the sectors. In addition, the cooperation between companies of different sectors makes sense because it enables local value creation and a stronger connection to the protected area. This is why the results of the analysis will be presented in a value chain approach: each chapter includes various activities to underline possible linkages.

The indicated rating for each Pro Biodiversity Business is a result of discussion between stakeholders and the park administration. The discussions and the rating are ongoing processes. One star (\*) stands for no or low relevance, five stars (\*\*\*\*\*) stands for a high relevance and good opportunity for business development.

#### 3.1 Wood production, processing and marketing

##### 3.1.1 Current situation

Most of the area of Bükk National Park is forested, only about 2% are grassland. 94% of all forest area is state-owned and managed by two large state-owned forest companies. So far, the forest companies do not use any certification scheme for their wood & timber. The forest companies also offer accommodations (i.e. tourist cottages), railway tours and maintain study pathways. The extracted timber is predominately sold to large power stations in Slovakia for thermal use. In recent years, local and domestic market for timber have emerged, especially for private customers as many people have started firewood heating system due to the increasing prices of the fossil resources and electricity. The few private forest owners - their patches are usually quite small - mostly use the timber for firewood as well. In the buffer zone around the protected area, some wood processing businesses and a few smaller sawmills are located. They partly use timber from the park, but also import it from other areas.

 <b>Specific challenges and opportunities in the wood sector</b>	
Challenges for biodiversity conservation	Challenges for economic development
<ul style="list-style-type: none"> <li>○ No strong certification scheme (just ISO) promoting sustainable forest management;</li> <li>○ Soil compaction.</li> </ul>	<ul style="list-style-type: none"> <li>○ Cooperation with state forest company has been difficult so far;</li> <li>○ Businesses just have a few possibilities to influence extraction, production and processing techniques due to management by state-owned companies;</li> <li>○ Small patches of private forest owners;</li> <li>○ Low income level of population (no market for high-quality products).</li> </ul>
Opportunities for biodiversity conservation	Opportunities for economic development

<ul style="list-style-type: none"> <li>○ Promote the use of a well-known Certification Scheme (FSC, PEFC, SFI). For instance, almost the entire state forest area of 220,000 hectares in Rheinland-Pfalz, the most densely wooded state, is FSC certified;</li> <li>○ Identify markets for (certified) wood that was harvested with traditional methods with less influence on soil-compaction, i.e. the use of horses for extracting trees.</li> </ul>	<ul style="list-style-type: none"> <li>○ Intensify the contacts and the collaboration between the conservation and the forest departments;</li> <li>○ Production of wooden handicrafts &amp; souvenirs;</li> <li>○ Access new markets through certification scheme;</li> <li>○ Identify markets for furniture and other. (higher-priced) wooden products and promoted handicraft centres in the region.</li> </ul>
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### 3.1.2 PBB opportunities

<p><b>Wood processing / carpentry business</b></p>	<p>Establish wood processing/carpentry businesses that focus on processing of local timber under sustainable standards and using the origin of the wood for marketing and price setting. Production of final products increases the local added value. The use of environmental friendly paints and varnishes increases the positive influence on environmental conservation.</p>
<p>**</p>	<p>Building wood houses from timber from the park could increase added value and demonstrate the direct benefit people obtain from nature.</p>
<p><b>Manufacturer of wooden handicrafts and souvenirs</b></p>	<p>Manufacturing of i.e. wood handicrafts and souvenirs for tourists using traditional skills and environmental friendly additional products (i.e. paints). Products are distributed in collaboration with local markets, shops, restaurants, accommodations, visitor centers and park administration. The origin of the wood is used as a unique selling point and the connection to the National Park is used for advertisement.</p>
<p>**</p>	

### 3.1.3 Gaps and resulting opportunities

The Bükk forests form a very valuable ecosystem with a high biodiversity. It provides various significant ecological services & products such as fibre and timber, food (i.e. berries, mushrooms); habitats, water retention functions, carbon sequestration, pollination and soil fertilization as well as recreational and spiritual benefits. To preserve the biodiversity in the Bükk forests, it is important that wood harvesting is following Sustainable Forest Management (SFM) practices. Independent certification and monitoring schemes (FSC, PEFC, SFI) can better proof that good practices in the forest exploitation are in place respecting ecological, social and ethical criteria. Forest degradation and soil compaction needs to be limited during timber extraction activities. Furthermore, it is advisable to plant native and autochthone tree species. Ecological buffer zones or corridors such as mountain brooks can support the preservation of the biodiversity of the forest ecosystem as a whole. Furthermore, the karst water is very vulnerable and extraction should be limited at a certain buffer zone along all brooks, in order to protect these water resources. Since it seems as if the state-forest company has not yet undertaken too many activities to use opportunities for the conservation of biodiversity, this is considered to be a gap.

## 3.2 Non-timber forest products, processing and marketing

### 3.2.1 Current situation

Similar to many countries, the collection of mushrooms and other non-timber forest products is generally regulated and limited in Hungary. The collection of NTFP for any commercial use or in protected areas (such as the BNP) requires a permit. This permission, that is defining proper regulations on species, sites and seasons, is issued by the Green Bureau (Nature Conservation Inspectorate on County Level) and the forest-owner if the forest is state owned. Every business and person with such permission then should report the collected quantity of mushrooms, berries, herbs, etc. A shortcoming is that despite this obligation no accurate feedback exists and hence no monitoring is possible. Small family businesses which register as “őstermelő” (special administration category, which licenses traditional small-scale producers: a non-entrepreneur private farmer, who conducts activities listed in the relevant law on his/her own farm and holds a registered license for the activity) get access to an easier taxation and are allowed to sell their products in a 30 km radius. There are a couple of people who run businesses based on collected medicinal herbs to produce creams, soaps and several herb tea mixtures. In addition, there is a basket producer who uses bushes and shrubs such as Common Hazel from the protected area for his business. Despite that, there are a number of protected mushrooms species that are prohibited to collect. On private property the owner of the land has a general right on deciding about the collection of mushrooms. Within the state forests the state usually tolerates a collection of maximal 2 kg per day and person for private use.

 <b>Challenges and opportunities in the NTFP sector</b>	
Challenges for biodiversity conservation	Challenges for economic development
<ul style="list-style-type: none"> <li>○ Sustainable collection rates are not ensured (no monitoring or mapping of collected NTFP).</li> </ul>	<ul style="list-style-type: none"> <li>○ Dependency on seasons (cannot provide full incomes during the entire year);</li> <li>○ Existing businesses produce small quantities; people rely on additional jobs (for instance in tourism);</li> <li>○ The rather dry climate limits the growth of mushrooms and other NTFP respectively the quantities vary very much.</li> </ul>
Opportunities for biodiversity conservation	Opportunities for economic development
<ul style="list-style-type: none"> <li>○ Conservation focused forestry management and systematic and planned collection can maintain biodiversity.</li> </ul>	<ul style="list-style-type: none"> <li>○ Produce and sell handicrafts or food-products to tourists. Greatest potential have: medicinal herbs or baskets from hazel;</li> <li>○ Production of balm from spruce-resin;</li> <li>○ Use of FairWild standard.</li> </ul>

### 3.2.2 PBB opportunities

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*****	<b>Handicraft production</b>	In principle, the collection and processing of NTFP offers good opportunities for the development of businesses. As the example of basket producer shows, the traditional production of handicrafts provides a chance to develop markets for tourists and residents.
*****	<b>Processor of food, medicinal, cosmetic products</b>	This potential is not only available for handicrafts, but also for the processing of food and medicinal or cosmetic products such as jams, creams and oils. Especially the collection and processing of medicinal herbs can be seen as an opportunity, since the origin from unpolluted natural areas is especially valuable for the consumers of medicinal products. The use of a certification standard such as FairWild proves legal collection and can create a competitive advantage, especially on international markets.

### 3.3 Livestock production, processing and marketing and landscape maintenance

#### 3.3.1 Current situation

Around 2% of the area of Bükk National Park is grassland with a very high conservation value due to the large number of rare and unique species that can be found on the karstic meadows or foothill steppe grasslands. Within the National Park boundaries the meadows are state owned and managed by the forest companies, while in the buffer zone they are privately owned. Only some parcels, especially in the southern part of the Bükk region are managed by grazing (primarily sheep, goat and cattle). Currently, there are 5 to 10 farmers with livestock in the pilot area, keeping sheep and goats and selling the meat or the produced dairy products. One of the livestock farmers (Bükki Sajt Dairy) practices extensive grazing of animals, and thus contributes to the maintenance of the landscape. The farmer doesn't use pesticides on the meadows and avoids treating his animals with pharmaceuticals; he successfully uses a mix of herbs instead. He produces a variety of cheeses that are distributed through different channels (farm shop, supermarkets, etc.).

 <b>Challenges and opportunities in the grassland management &amp; livestock sector</b>	
Challenges for biodiversity conservation	Challenges for economic development
<ul style="list-style-type: none"> <li>○ Natural succession in the absence of grazing animals (neglected and disappearing (30%) grasslands);</li> <li>○ Infrastructure development consumes space;</li> <li>○ Water base protection when grazing takes place.</li> </ul>	<ul style="list-style-type: none"> <li>○ Lack of interest of land owners in the grassland management due to very limited income opportunities;</li> <li>○ Low quality of hay (dominated by thistle and brambles) especially at higher elevations;</li> <li>○ Appearance of wolves &amp; bears =&gt; problematic for livestock production;</li> <li>○ Lack of special subsidies for the sector (in comparison to other sectors);</li> <li>○ Loss of traditional knowledge (i.e. shepherds).</li> </ul>
Opportunities for biodiversity conservation	Opportunities for economic development
<ul style="list-style-type: none"> <li>○ Late mowing to enable seed dispersal</li> <li>○ Mowing without heavy machines to avoid soil compaction;</li> <li>○ Mowing instead of livestock grazing to avoid water contamination with faeces;</li> <li>○ Livestock production without antibiotics, pesticides;</li> <li>○ Reintroduction of regionally adapted livestock species and breeds.</li> </ul>	<ul style="list-style-type: none"> <li>○ Hay could potentially supply several livestock farms;</li> <li>○ Cooperation with beekeepers on meadows to produce honey;</li> <li>○ Production of hay-pillows;</li> <li>○ Social &amp; cultural activities ("Farmer Olympic Games", touristic mowing events, etc.).</li> </ul>

### 3.3.2 PBB opportunities

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#### Farmer association (dairy or meat)

Establishing a farmer association which produces livestock, or processes dairy products such as cheese, milk, etc. or meat jointly and supports the product distribution from the pilot area could be an opportunity to sell bigger amounts of goods. Sharing machines, grazing areas, and work force can save time and financial resources, which would make a livestock production business more profitable.

For a farmer association it could be an opportunity to **reintroduce traditional species & breeds** for the animal husbandry. This has several advantages: the business would contribute to the preservation of species. Simultaneously, it offers the possibility to sell specialty meat products, which differ in taste and quality from other meat. The origin from a protected area can add up to the high quality of the meat / dairy products, leading to higher achievable prices. Additionally, traditional species are often adapted to local climatic conditions. The farmer or farmer association could sell its products to local butchers, who then sell final products to restaurants, who preparing food for tourists with higher buying power. This collaboration would lead to a decreased waste of milk and could incentivise the registration of the business.

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A joint marketing strategy could highlight the origin of the products from a natural area.

#### Meadow business

Furthermore, there is a business opportunity in maintaining and mowing meadows. The hay from the meadows could potentially supply farms (estimation is up to 5) in the surroundings of the National Park. The processing of other products related to the meadows, such as honey or hay-pillows, also offer an opportunity, by enabling local value creation. Additionally, meadows can be used for cultural or touristic activities: traditional mowing techniques without heavy machines could be explained to and practiced by tourists or a local mowing competition “Farmer Olympic Games” could be established. This has the double effect of ensuring biodiversity friendly management and providing an income to the land owner. From a biodiversity conservation perspective it makes sense to use meadows avoiding heavy machinery to avoid soil compaction. In addition, it is useful to mow late in the year to enable natural reproduction of special plants. Mowing can generally be considered as more valuable than extensive grazing, because the karstic watershed is very sensitive to animal faeces (nutrients). Mowing has the additional advantage of preventing the natural succession that is currently taking place and can thus protect the high biodiversity prevalent on karstic grassland meadows.

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In the case of state-owned mountain meadows, it would seem advisable to explore EU funds that could help restore a large part of the grasslands (e.g. a LIFE Nature project); however, sustainability is highly questionable due to the existence of the indicated problems.

### 3.3.3 Gaps and resulting opportunities for the area

A number of larger protected areas, i.e. Hohe Tauern National Park in Austria or Rhön Biosphere Reserves in Germany, developed strong brands for dairy and other products from livestock farming inside the park boundaries. Those brands are strongly based on clear criteria of organic farming, animal welfare (animals living in natural landscapes), old traditional breeds and extensive production. See:

<https://magazin.janatuerlich.at/bio-milch-standards-janatuerlich/> and <https://www.alnatura.de/de-de/alnatura-produkte/alnatura-produktwelten/alnatura-milch/bergbauernmilch> and <https://biosphaerenreservat-rhoen.de/haus-und-nutztiere-rhoenschaf>

## 3.4 Orchards, fruit processing and marketing

### 3.4.1 Current situation

There are mostly family orchards in the buffer zone (small patches in the property of different people), but natural succession took place in the last decades. Efforts are undertaken to save the orchards, e.g. renewing old abandoned orchards with traditional fruit varieties or establishing local fruit nurseries etc.

Fruit production is a traditional activity in the region that is still being practiced in the pilot area. Some people produce jams, juices, local spirits such as “Pálinka” etc., but mostly for own usage. Some sell on the local markets and use the NP logo.

 <b>Challenges and opportunities in the orchard and fruit processing sector</b>	
Challenges for biodiversity conservation	Challenges for economic development
<ul style="list-style-type: none"> <li>○ Natural succession took place during the last decades;</li> <li>○ Old orchards deteriorating.</li> </ul>	<ul style="list-style-type: none"> <li>○ Small patches make it difficult to produce for more than own consumption;</li> <li>○ Lack of knowledge to process raw materials.</li> </ul>
Opportunities for biodiversity conservation	Opportunities for economic development
<ul style="list-style-type: none"> <li>○ Orchards can offer special habitat and a valuable biodiversity refuge as well as a natural gene bank (old varieties).</li> </ul>	<ul style="list-style-type: none"> <li>○ Contribution to biodiversity conservation can be used as marketing asset for instance with a local food labelling scheme;</li> <li>○ Collaboration of multiple entrepreneurs enables a more efficient production;</li> <li>○ Areas for establishment of orchards are available in the pilot area.</li> </ul>

### 3.4.2 PBB Opportunities

#### **Production of fruit products from orchards**

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Products like juices, spirits, fruits, dried fruit, etc. can be made with local products and can be sold to tourists. The establishment of a producer association might also be an opportunity to increase efficiency. A mobile fruit juice producing facility can visit the small patches one by one and facilitate the production for small enterprises.

In addition, it could be an opportunity to **reintroduce traditional tree species** for the orchards. This has several advantages: the business would contribute to the preservation of species. Simultaneously, it offers the possibility to sell specialty products, which differ in taste and quality from other. The origin from a protected area can add up to the high quality of the products, leading to higher achievable prices. Additionally, traditional species are often adapted to local climatic conditions.

Potential to show visitors how important orchards are for biodiversity conservation and how juices and other products are produced. Using the contribution to biodiversity as a

marketing asset is an approach to improve the marketing and promotion of the region. Some first ideas are already prevalent in the region, i.e. “Plum days”: <https://www.youtube.com/watch?v=tYi6hFjPBLw> or the Szarvaskő “Rosehip festival” <https://www.youtube.com/watch?v=cNZxb9KLjLg>

## 3.5 Wine production and marketing

### 3.5.1 Current situation

Vineyards represent very important land use in part of the buffer zones, considering their spatial representation and economic benefit, but not in the National Park itself. However, this offers possibilities for economic development. In November 2018, the National park directorate organised a guided tour in the Bükk foothills, called the “landscape walk”, where nature conservationists and local producers such as wineries, have exchanged information on their activities. This can be considered as a positive approach with a high potential of upscaling.

 <b>Challenges and opportunities in the wine production sector</b>	
Challenges for biodiversity conservation	Challenges for economic development
<ul style="list-style-type: none"> <li>No organic viticulture that conserves local biodiversity in the buffer zone.</li> </ul>	<ul style="list-style-type: none"> <li>Not easy for Wineries of Hungarian origin to compete with established South-western EU competitors.</li> </ul>
Opportunities for biodiversity conservation	Opportunities for economic development
<ul style="list-style-type: none"> <li>There are no organic wine producers (according to the EU Directive 834/2007) yet. Some of the farms work with traditional techniques.</li> </ul>	<ul style="list-style-type: none"> <li>High demand for wine in the region. Region is well known - good and positive reputation;</li> <li>Linking tourism offers with wineries such as visits, tastings, etc.</li> </ul>

### 3.5.2 PBB Opportunities

#### Organic Wine

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Convert local vineyards in the buffer zone to organic farming or agri-environmental schemes in order to increase quality of the wine and sell it for higher prices to wine lovers. Organic vineyards in the buffer zone could use the National Park logo, to show the connection of increased biodiversity from organic wine production on the biodiversity of the NP (Criteria should be defined then). Touristic activities such as wine tasting in collaboration with restaurants or typical accommodation could be offered for promotion of the region. Some of the vineyards have attractive old stone walls between their terraces. Preserving this form of viticulture will be very positive for biodiversity (insects, reptiles etc.). Guided walks through the vineyards are getting increasingly important as an offer from the vine producers. Possibilities to manage and maintain natural habitats at the border of the vineyards might be developed and promoted.

## 3.6 Bee keeping and honey production

### 3.6.1 Current situation

There are some beekeepers at the border of the NP. The biggest source of honey is Robinia, which is an invasive species (it was planted because it is a good timber source not especially for beekeeping). Beekeepers need to be convinced not to use Robinia as a monoculture for honey making. There is one beekeeper that already uses the NP logo for certification.

 <b>Summary of specific challenges and opportunities in the <i>beekeeping</i> Sector</b>	
Challenges for biodiversity conservation	Challenges for economic development
<ul style="list-style-type: none"> <li>○ Weather extremes, droughts, late spring frost, warm periods in the winter have negative effects on the bee population.</li> </ul>	<ul style="list-style-type: none"> <li>○ Veterinary medication against diseases &amp; additional food is expensive;</li> <li>○ Competition with beekeepers from other regions.</li> </ul>
Opportunities for biodiversity conservation	Opportunities for economic development
<ul style="list-style-type: none"> <li>○ Organic/environmental friendly beekeeping and honey production;</li> <li>○ Beekeeping enables pollination which enhances biodiversity in the protected area.</li> </ul>	<ul style="list-style-type: none"> <li>○ Origin from unpolluted environment as special feature. Logo as proof for origin;</li> <li>○ Access to EU subsidies;</li> <li>○ Growing demand for locally produced honey in the region also from visitors.</li> </ul>

### 3.6.2 PBB opportunities

<p><b>(Organic) beekeeping</b></p> <p>**</p>	<p>There is a potential for organic beekeeping inside the Bükk National Park, despite the majority of bee-keeping takes place outside the park at the moment. Honey from areas far away from industry and conventional farming – means from an unpolluted environment - can be used as an unique selling proposition (USP). Since many people appreciate the healing effects of honey, a natural origin is often important for honey consumers. Using a logo that proves this origin can help to achieve higher prices. There is a national association for beekeeping &amp; honey production (<a href="http://www.omme.hu/">http://www.omme.hu/</a>) with regional partners in Eger and in Miskolc. A benefit can be seen in strengthening the connection and collaboration between the beekeeper association, the NP and other the partners in the region.</p>
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## 3.7 Hunting, processing and marketing of wild game

### 3.7.1 Current situation

There is a new hunting regulation which divides the country into several hunting units. Every unit has a hunting manager, which mostly comes from the state administration. Like in many forested areas in Europe, overpopulation of certain game species (e.g. wild boar, red deer) can be observed, leading to some negative impacts on the biodiversity balance. Hunting trips are offered to tourists, especially red deer is hunted. The park does not receive any payments from the hunting fees. Two big companies buy all the meat and sell it to restaurants, but not as a NP specialty. A very limited potential for businesses development can be seen, since the state regulates the hunting.

## 3.8 Fishing, selling of fishes and sport fishing

There are two trout farms in the park, which seem to work on an economically viable and sustainable basis. They also run small restaurants where visitors can smoke their own trout, which is especially popular within the local population. The trout farms use the NP certification scheme, but so far they do not implement special measures for the conservation of biodiversity. There is also a risk posed by the farms, as fish escaping from the farm could have a large negative impact on local ecosystems.

 <b>Summary of specific challenges and opportunities in the fishing sector</b>	
Challenges for biodiversity conservation	Challenges for economic development
<ul style="list-style-type: none"> <li>Escaping fish can have negative impacts on local ecosystems.</li> </ul>	<ul style="list-style-type: none"> <li>No potential and resources for more than those two fish farms.</li> </ul>
Opportunities for biodiversity conservation	Opportunities for economic development
<ul style="list-style-type: none"> <li>Use of local species.</li> </ul>	<ul style="list-style-type: none"> <li>Origin from unpolluted environment as special feature;</li> <li>New trademark as proof for origin.</li> </ul>

### 3.8.1 PBB opportunities

**Environmental friendly trout farms**  
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There might be an opportunity to transform existing trout farms into environmentally more friendly farms, i.e. cultivating only native (autochthone) fish species and using environmentally friendly management techniques. Linking the pond to the natural assets of the National Park by using a logo would provide an opportunity for further promotion & advertisement.

### 3.9 Touristic accommodation & restaurants & cafés

#### 3.9.1 Current situation

Inside the park some accommodation facilities can be found. Some of them offer locally produced food and use it in their advertisement. In addition, there are two hotels inside the park. Furthermore, one camping site with a rather limited infrastructure exists. There is few/no information on restaurants and cafés inside the boundaries of the NP.

Challenges and opportunities in the touristic accommodation, restauration sector	
Challenges for biodiversity conservation	Challenges for economic development
<ul style="list-style-type: none"> <li>Existing accommodation and restaurants do not act very environmental friendly so far.</li> </ul>	
Opportunities for biodiversity conservation	Opportunities for economic development
<ul style="list-style-type: none"> <li>Restaurants and Cafés could sell organic products and traditional meals with old varieties;</li> <li>Implementation of environmental friendly practices, such as energy saving, waste reduction, etc. by restaurants and cafés.</li> </ul>	<ul style="list-style-type: none"> <li>Restaurants and Cafés could sell traditional meals from local products and advertise the naturalness;</li> <li>Connect farms with provision of accommodation, restaurant and activities with the protected landscape;</li> <li>Open Eco-Camping facility (camping, mobile homes, caravan parks);</li> <li>Open thermal bath.</li> </ul>

#### 3.9.2 PBB opportunities

<p><b>Eco-Camping</b></p> <p>****</p>	<p>The transformation of the existing camping facility to an Eco-Camping might be attractive, since many people who want to experience “close-to-nature” tourism care about their impact on the environment and would like to stay in an Eco-Camping facility. Environmental friendliness could thus be used for advertisement. This could as well be combined with livestock farming activities. Camping is a popular and low-budget way to experience close-to nature tourism. By implementing a couple of environmental friendly practices such as the provision of biodiversity refuges (nesting boxes, hedges, flowering strips, etc.), a camping space can be designed environmental friendly. In addition, a camping site could offer environmental education courses or tours into the National Park.</p>
<p><b>“Tourism Farms”</b></p> <p>****</p>	<p>Furthermore, a PBB opportunity could be to combine farming with accommodation and culinary restaurants which would give tourists the chance to experience the traditional life on farms. Courses related to farming practices, such as traditional livestock farming or mowing techniques or processing of local products, could be offered to tourists. This could also be used for educational purposes, especially to explain the high value of meadows for biodiversity. For instance, farmers could explain and show the special value of meadows to school children or tourists.</p>

***	<b>Restaurant (traditional or organic specialties)</b>	A restaurant which provides special services or products and differs from other restaurants might be a potential. Not only offering traditional food from local meals is a chance, but also the provision of special services like cooking classes, catering services or wine tastings could make a difference.
*	<b>Thermal bath</b>	Accommodation and restaurants could also be linked to a thermal bath that uses the water from hot springs from inside the park. By providing biodiversity refuges and environmental friendly cleaning and maintaining practices, the bath could be run in an environmental friendly way. Such an activity could also be linked to a store that sells locally produced products to the visitors and tourists

## 3.10 Touristic & cultural activities

### 3.10.1 Current situation

The Bükk NP has a long tradition of hiking and outdoor sports. This includes bicycle riding, horseback riding, rock climbing, caving and, to a smaller extent, winter sports. There are organized tours and sports competitions, such as performance racing (long distance hike), running and bicycle competitions, taking place. The effect of organized sport on the area is more significant than individual hiking activities. Numerous tour associations and operators existed in the past. Some of these are still active. The number of hikers, groups as well as individual hikers, in the Bükk region is not growing. The influence of hiking associations on the area is positive, since they contribute to the designation and maintenance of marked hiking paths and rest areas. Ultimately, this is one of the tasks of the forestry companies and the NP administration. The number of events and the number of participants in different competitions is increasing. Large-scale events can exert significant pressure on the protected area, so the organizers need to be aware and accountable for limiting wildlife disturbance to the minimum. Against this background, the NP administration is trying to limit such offers to the autumn season. BNPI has a bird watching program organized, but it depends on the frequency of the tours depends on the availability of the colleague (park ranger). The demand is significant, because many people from abroad come to Hungary for birdwatching. Most of the guided tours are typically environmental friendly tours, but do not focus on education on their tours.

#### Current business:

Accommodation by Dutch people, that offers bird watching and photography tours. Most of the visitors are from Europe (Germany, Netherlands, Belgium).

#### Current business:

[‘I am Bogaras’](#) : Offers ecotourism tours (mushroom tours and herbal walks)



### Challenges and opportunities for the development of touristic and cultural PBBs

#### Challenges for biodiversity conservation

- Events and races can have negative effects on the environment, the number of participants of sport events and the number of events should not be increased to protect the environment;
- Furthermore the events should not take place in strictly protected areas and during bird nesting periods;
- Tour operators do not follow environmental standards so far;
- Structural barriers hinder teachers from visiting the National Park with their children - > lack of environmental education.

#### Challenges for economic development

- Lacking knowledge in environmental education within local people hinders them from offering such tours;
- Better coordination between park management and event managers is needed.

Opportunities for biodiversity conservation	Opportunities for economic development
<ul style="list-style-type: none"> <li>○ Environmental education during guided tours can be enhanced;</li> <li>○ Arrange thematic national park day in schools to increase early environmental education;</li> <li>○ Follow “leave-no-trace” rules.</li> </ul>	<ul style="list-style-type: none"> <li>○ Beautiful landscape of the park;</li> <li>○ Potential to connect touristic activities (such as courses on traditional farming, cooking, handicrafts, etc.) with accommodation, restaurants, farms, etc.;</li> <li>○ Offer more bird watching tours as they are highly demanded;</li> <li>○ Positive impact of hiking associations since they contribute to maintenance of paths and resting places.</li> </ul>

### 3.10.2 PBB opportunities

<p><b>Environmental education (esp. for school kids)</b></p> <p>*****</p>	<p>Tours that primarily aim at environmental education are an opportunity. There is a special demand by schools for tours that provide education on natural and cultural heritage. Furthermore, such tours can also be very attractive for tourists with an interest in nature and biology. Environmental education creates a more respectful interaction with nature. Combining such tours with knowledge about ethnology and local culture, which is available within the local population, has potential. Offers could include traditional bakery, handicrafts, NTFP collecting, etc.</p>
<p><b>EcoTour operator and rental service</b></p> <p>*****</p>	<p>Tours can be further developed in certain areas in the Bükk National Park. This can include the development of equestrian tourism as well as e-bike or normal bicycle tours and renting. Cross-country skiing is another option in winter. However, due to milder and more snowless winters, this might not work every winter. The advantage is, that this does not require a specific infrastructure as given paths and forest roads can be used. Any rent of equipment could be connected with offering guided tours. In addition, there is a demand for guided hiking tours, also in combination with environmental education.</p>

## 3.11 Biodiversity management and consulting services

### 3.11.1 Current situation

At the time being there are no businesses that provide services such as consulting or advice on nature management; project impact assessment or biodiversity performance monitoring. There are also no certifying consultancies; organic production consultancies or environmental management consultancies in the region so far. There are a few companies respectively freelance individuals who offer services for farmers with a focus on applying for agricultural or rural subsidies or implementing agri-environmental schemes. There is no evidence of some tangible biodiversity management aspects in the framework of those services.

 <b>Challenges and opportunities in the biodiversity management and consultancy service sector</b>	
Challenges for biodiversity conservation	Challenges for economic development
<ul style="list-style-type: none"> <li>○ Currently there is a lack of awareness within the local entrepreneurs regarding biodiversity conservation.</li> </ul>	<ul style="list-style-type: none"> <li>○ Local entrepreneurs do not have the financial resources to pay such a consultancy. External funding / seed capital is needed.</li> </ul>
Opportunities for biodiversity conservation	Opportunities for economic development
<ul style="list-style-type: none"> <li>○ Consultancy on biodiversity friendly practices and management could increase the number of businesses that act in an environmental friendly way.</li> </ul>	<ul style="list-style-type: none"> <li>○ Local entrepreneurs could share their experiences;</li> <li>○ Consultancy for business registration; Certifying consultancies; Organic production consultancies;</li> <li>○ Offer services that are needed in the area and for which there is no competition.</li> </ul>

### 3.11.2 PBB opportunities

<p><b>Consultancy company</b></p> <p>*****</p>	<p>Since many local people have problems with the complicated legislation process, there is a potential for a consultancy company, which supports local people in the registration process. They could offer consulting services for the legal registration of business, for accessing funds and subsidies, etc. Additionally, consultation regarding biodiversity friendly practices, management and certification schemes could be an option.</p>
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## 3.12 Community and social service activities

### 3.12.1 Current situation

So far, there are no businesses but more NGOs that offer community and/or social service activities in the region. However, there might be opportunities to develop such business activities in the future. In Eger and in Miskolc a number of multinational companies are operating and in the past they have supported several cultural activities in the region. This might offer an opportunity to involve them in the nature protection or nature education activities.

 <b>Challenges and opportunities in the community and social service activities sector</b>	
Opportunities for biodiversity conservation	Opportunities for economic development
<ul style="list-style-type: none"> <li>○ Team building activities can contribute to the conservation of biodiversity (for example mowing of meadows; building hiking paths).</li> </ul>	<ul style="list-style-type: none"> <li>○ More and more companies offer team building activities to their employees to increase the overall productivity of the business by enabling good relations between co-workers. Offering such workshops in the National Park could contribute to a special experience.</li> </ul>

### 3.12.2 PBB opportunities

<p>Team building workshops</p> <p>***</p>	<p>There could be a business in offering team-building workshops for businesses. Participating in conservation work could be used as an attractive experience. There is one example of hiking paths that were established by one company in the framework of a team building measure. The NP currently does not have the capacity to offer such activities.</p>
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## 4 Conclusion

Despite the challenges facing the territory, such as migration of younger people to the cities, the legal and institutional framework that is not conducive for business development, the Bükk National Park and the surrounding area have the potential to establish and promote Pro Biodiversity Businesses.

The above discussed sectors cover those business opportunities that currently offer the most potential. It is highlighted the following Pro Biodiversity Businesses: **Handicraft production; Processor of food, medicinal and cosmetic products from NTFP; Offers of environmental education and Eco Tours and rental services.**

Overall, the economic development of the region requires cooperation between producers, processors and service providers in order to increase the local added value and attract young people and tourists to come to the region.

There are, however, other sectors in which the development of Pro Biodiversity Businesses is generally possible and which might provide opportunities in the future. Those sectors include crop production, banking, insurance and investments that support Pro Biodiversity Business ideas.

For further steps, it is recommended to read the Pro Biodiversity Business Development Guide, in which, through a series of simple items, recommendations are given to implement measures to incorporate biodiversity into small local businesses.

