

Danube Geo Tour

Valorisation of geo-heritage for sustainable and innovative tourism development of Danube Geoparks

Pilot geoCulture and geoOutdoor products tested

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List of Abbreviations

DTP	Danube Transnational Programme
JS	Joint Secretariat
LP	Lead Partner
PP	Project Partner
WP	Work Package
EGN	European Geoparks Network
GGN	Global Geoparks Network
UGG	UNESCO Global Geopark
TIC	Tourism Information Centre



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1. Introduction

1.1. Background information

Danube GeoTour project aims to “improve management capacities and strategies and to develop practical solutions for the activation of geodiversity/geoheritage and to seize positive market trends for sustainable tourism development in 8 Geoparks of the Danube region”¹. In order to achieve this, one of the challenges is to “seize the potential of Geopark values and brand for socio-economic development while inspiring local residents and small businesses to develop new, sustainable and innovative geoproducts along the defined Danube GeoTour”²

The objective of WP4 is “to increase the capacities of participating Geoparks in creating unique sustainable tourism products and services based on a Geopark’s specific heritage, the involvement of local SMEs, new gamification tools and visitor engagement with a focus that is in line with the strategy on management tourism pressures and the carrying capacity of each individual territory.”³ Thus, the new geoproducts developed are key elements for the success of the entire project.

This document shows how the pilot geoproducts were tested and what results were reached both qualitative and quantitative. The pilot geoproducts were developed and tested in the WP4 in connexion to all other WPs. The basic criteria, the first step in testing the geoproducts were developed in WP3. It also uses the work from WP5, especially in defining “innovative” as mainly a question of interpretation and also in describing the methods of emphasizing the products connexion to Earth. The promotion component of a geoproduct will be developed in correlation with WP6 recommendations.

Testing the geoproducts shows a snapshot of a particular new geoproduct in this moment of its development. However, all the tools described and used here are available on the on-line platform (<http://geo.slavokozar.sk/>) in a gamification form. Thus, any time from now, the geopark staff, the partners, SMEs or any other producer may use the assessment tools available on-line to test a geoproduct. This is also helpful for education and training purposes, for any discussion involving the concept of geoproduct.

Each of the Geoparks created and tested a unique product by designing a concept, by engaging, training local providers and/or by developing missing highlights in the geoproduct. Different GeoCulture and GeoOutdoor products were introduced in participating geoparks. Lessons learned are documented, evaluated and made available as models for others in this document and on the on-line platform.

The geoproduct developed by Železné hory National Geopark is called the GeoFamily. The Czech acronym for the new geoproduct is: *Kde se to tu vzalo?* English translation is *Where does it come from?* The name itself tells visitors to find out what geological features were (are) presented at the individual stages or how they are connected with the site.

¹ Danube GeoTour Application Form

² Danube GeoTour Application Form

³ Danube GeoTour Application Form



This product, of course, is not only designed for families with children, but also for the general public of all ages and condition. GeoFamily basically combines 10 geologically important sites that will be presented in an interesting form.

Interpretation is carried out by means of special casts of geological representatives of individual geolocations, together with a small table which, with the help of a QR code, carries the information minima - a link that redirects the visitor to the website of individual minerals or fossils. All casts are kind of hidden so people have to find them in terrain. One of the stops is even a carrier of augmented reality, where people can, thanks to a special application, revive ammonite, which will be projected in 3D into their smartphones. GeoFamily introduces geology to visitors in a fun way, so it presents and translates complicated geological phenomena which are predominant in these locations to be attractive and easier understand by audiences.

The casts are gradually placed in the field and we are working on the promotion of the product, which is created with the help, support and cooperation of Chrudim town municipality, the municipal offices of areas where the castings will be located, protected landscape area of Železné hory, graphic studio, printing company and casting manufacturers. GeoFamily will be integrated and promoted as geoproducts network. In this document the GeoFamily will be analysed as a case study which in the contrary to other geoproducts (GeoOutdoor, GeoCulture) horizontally captures different geopark phenomena. We are still waiting for the promotional materials to be done so we can start to promote the new geoproduct.

1.2. Methodology

This material was developed using data provided by Železné hory National Geopark in the project and by other geoparks in the European Geoparks Network. Most of the methodology for defining the geoproducts followed the Output 4.1. *Guideline for development of innovative GeoProducts*.

Other data derives from experiences and lessons learned from ASP and other members of EGN and GGN, the skills and expertise of the geopark managers present in the project as well as all the partners direct contact with local entrepreneurs in tourism, food art and crafts.

For the specific geoproduct tested here – GeoFamily – the data used was collected directly by the geopark staff and was completed by discussions with the producers of the casts Marek Rejent and Jakub Fafílek.

1.3. Summary

The GeoFamily geoproduct combines several interesting aspects: hiking, geology, treasure hunting (geocaching), learning and modern technologies. Geo interpretation is very brief directly on geosites. People can find just a cast with a small information table there in the field. All other activities are up on them. We believe in simple and elegant style. In modern world people don't want to read long information boards about history or technical



geology, they are curious and want to find it by themselves, try it by themselves, to understand it very simply and to enjoy this moment of discovery in a special way.

We would like to create a geo-product that will have a success in the tourism market and the geological market, which will also support the promotion of our Geopark and make an effective tool for raising awareness of geological knowledge and heritage. Thanks to our own experience and thanks to the experience of the Danube GeoTour project, we successfully developed a geo-product that will be present to the general public soon.

2. Basic criteria

2.1. Description

Geoproduct is a product that presents the characteristics of a geopark on the market. At the same time a geoproduct can have additional values from nature conservation. In this case, a geoproduct must comply with the principles and standards of conservation of the geological heritage and its promotion in order to improve awareness about the importance of conservation of our GEO heritage. The geological heritage should be recognized through the geoproduct as the geopark's essential element.

The Strategy on Management of Tourism Pressures in Geoparks (shortly Strategy) elaborated within WP3 provides a tool which enables all target groups (visitors, residents, geopark managers and investors) to better plan their activities, understand different impacts of these activities and alternatives which can be used to avoid or reduce negative impacts. The Strategy has to be included to clarify the aspect of nature protection as well as the aspect to contribute to the holistic concept of protection, education, public awareness and socio-economic benefits for sustainable local development. In order to carry out integrated evaluation of geoproducts we had to firstly create the relevant framework and then a methodology for the assessment of impacts of recreational activities on natural heritage.

The framework developed in WP3 can be used as a first and basic qualifier in the first steps of the decision process, which tells us if the product can be defined as a geoproduct. The Strategy also provides a common framework which enables all geopark managers as well as visitors, residents and investors to better plan their activities, understand different impacts of each activity and to be aware of available alternatives which can be used to avoid or reduce negative impacts. The information from the Strategy can be also used to increase awareness of investors and it can help to change their behaviour towards more sustainable patterns in geoproducts. As such it leads to better conservation of natural and cultural heritage and it supports the achievement of the programme specific objective "Foster sustainable use of natural and cultural heritage and resources".

In this way, the Strategy also served as a framework for the development of joint geoproducts (as a part of WP4).

Nature conservation definitively has to be incorporated to the geoproduct as its intangible value. The evaluation of the geoproduct from the point of nature conservation is essential. The geoproduct has to comply with the principles and standards of conservation of



the geological heritage and its promotion in order to increase the visibility of the importance of protecting the geoheritage.

Geoproducts may include various geoheritage and nature conservation aspects, which can be displayed in several ways. Finally a geoproduct may be included/integrated directly as a tangible (mineral raw materials, agricultural product) or intangible (cultural, historical, ethnological) content. Geoproducts can be recognized as an activity or a final market object, available indoor or outdoor.

Four different groups of geoproducts can be distinguished:

- Market objects (souvenirs, food)
- Outdoor activities (guiding for groups/individuals in nature; rafting, biking, hiking, riding, water activities, mines and caves visiting, camp schools)
- Indoor activities (indoor programs in museums, info centres, restaurants, tourist farms)
- Small interpretation infrastructure dedicated to specific local heritage items (houses, dinostops, geotrails) developed and managed in partnership with local partners.

2.2. Application

A set of questions supporting geoproduct development was applied and tested by each partner while designing its own geoproduct.

Question 1: Is a geoproduct developed according to the actual legislative framework and it does not cause any damage to nature?

If the answer is YES:

→ *follow the assessment. The product:*

1. *has strong tangible connection to local geodiversity or **geological heritage** (geosites, fossils, minerals, rocks, mines, quarries, caves, geologic processes or phenomena...) YES/NO*
2. *has strong intangible connection (historical, ethnological, cultural) connection to local geodiversity or **geological heritage** YES/NO*
3. *increases awareness of users about the importance of protecting geological heritage. YES/NO*
4. *encourages and helps the user to engage/involve in nature conservation. YES/NO*
5. *is produced in a sustainable way, it is made from recycled or/and local materials. YES/NO*

If the answer is NO:

→ contact to your geopark or follow the *Recommendations for residents, visitors and investors on behaviour and sustainable use of geodiversity in Geopark*



In the case of the GeoFamily geoproduct the answer is yes, it follows the legislative framework and it does not cause any damage to nature

1. *YES it has strong tangible connection to local geodiversity and **geological heritage** due to its geological theme*
2. *YES it has strong intangible connection (historical, ethnological, cultural) connection to local **geodiversity** due to its placement in different places all around the Geopark*
3. *YES it increases awareness of users about the importance of protecting geological heritage and the importance of geodiversity due its information minima*
4. *YES it encourages and helps the user to engage/involve in nature conservation due to its placement in terrain (outdoor)*
5. *YES it is produced in a sustainable way, it is made from recycled or/and local materials due to its natural materials and simple form*

3. Qualitative assessment

3.1. Description

Geoproduct is a new term appeared along with the geopark philosophy. It is usually used in the context of a geopark's socioeconomic involvement along with geotourism and geodiversity. Its understanding varies from a broad perspective to one of the most concrete result of the geopark concept implementation.

In the most extensive definition, the geoproduct is considered a potential geotourism focus point⁴, usually a geological attraction. The more focused definitions mention a geopark connexion and include local, manmade products as well as the dialogue between tourists and local heritage. For example, Farsani et al. (2012) define geoproduct as:

Local products related to geopark activities and symbols of geological and geomorphological heritage of the geopark. Geoproducts which are made based on geological elements of geoparks not only introduce the local products and the local handcrafts as cultural components to tourists, but also increase the public knowledge of tourists about geology.⁵

If we discuss the main attributes of a product⁶, then we have to consider three aspects which the geoproduct must comprise in order to be a product:

- It has to respond to a need,
- It has to be created, constructed through a production process,
- It has to be marketable and sold.

⁴ **Complova, M.**, 2010, *The identification of geoproducts in the village of Jakubany as a basis for geotourism development*, Acta Geoturistica, volume 1, number 1, 51 – 56

⁵ **Farsani, T., Coelho, C., Costa, C., Carvalho, C.**, 2012, *Geoparks and Geotourism. New approaches to sustainability for the 21st century*, BrownWalker Press, Boca Raton

⁶ <https://www.merriam-webster.com/dictionary/product>



These characteristics bring the term geoproduct closely to a practical and economical approach, it defines it more clearly and focuses on its necessity as a tool for socioeconomic development through geoparks. This perspective underlines the role of geoparks in achieving social, economic and cultural sustainability and in coping with pressure from the sociocultural impact of tourism.

On the other hand, a geoproduct is not simply another product sold in a geopark. A geoproduct comes with a deep connexion to Earth on a local level and with a strong sense of identity. Each geoproduct is unique in its construction with a story about people and the place they inhabit.

As a result, we find that the philosophy of a geoproduct takes into account three axes: identity, management and production. If we see it as a graphic model, then the geoproduct finds itself at the intersection of these three axes (Fig. 1).

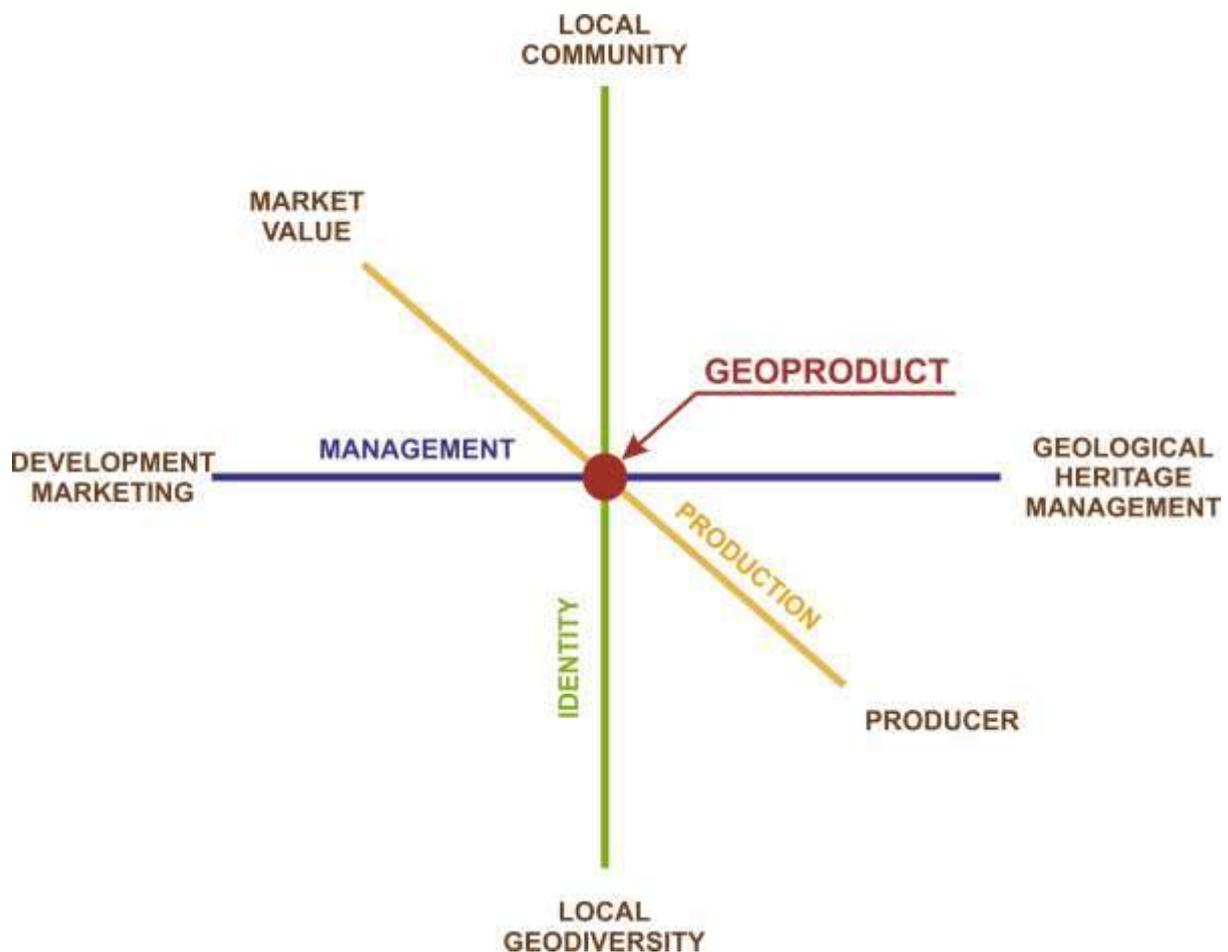


Figure 1. **The philosophy of the geoproduct**

Identity Axis

A geopark territory is a complex structure made of ecological, socio-economic and cultural realities, shaped by its geodiversity, biodiversity and historic evolution. The sum of them is generating the local identity made of tangible and intangible heritage. The tangible



heritage is mainly related to local geodiversity like raw materials, relief, mineral resources and soils. Intangible Cultural Heritage, as defined by UNESCO, 2003⁷ means:

...the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity.

One of the key requirement² for a UNESCO Global Geoparks is to have sites and landscapes of international geological significance managed with a holistic concept of protection, education and sustainable development. A UNESCO Global Geopark uses its geological heritage, in connection with all other aspects of the area's natural and cultural heritage, to enhance awareness and understanding of key issues facing society, such as using our Earth's resources sustainably, mitigating the effects of climate change and reducing the impact of natural disasters. By raising awareness of the importance of the area's geological heritage in history and society today, UNESCO Global Geoparks give local people a sense of pride in their region and strengthen their identification with the area. The creation of innovative local enterprises, new jobs and high quality training courses is stimulated as new sources of revenue are generated through geotourism, while the geological resources of the area are protected.

The Identity axis expresses local cultural and historical identity generated during centuries or millennia by the continuous interaction between local community and natural environment. On the other hand, this axis is revealing one of the main goal of a geopark to cooperate with communities and to identify innovative approaches in order to re-appropriate tangible and intangible heritage values and to revive and strengthen the local cultural identity, in respect to sustainable development principles.

The identity axis is the axis of product development. Is the way a producer is using directly or indirectly local geodiversity components, local knowledge and market needs in the geopark context. This process is part of the cooperation between geopark team and local entities which could be associations, companies, private persons, artists, freelancers, museums, schools, etc.

Management Axis

The management axis is the way to transform a geoproduct in a market good, a product to be sold directly or indirectly and to generate benefits. The benefits are both direct incomes and indirect and induced ones that contribute to geopark promotion, strengthen of local identity and socio-economic development.

Each Global Geopark is using the UNESCO Global Geoparks logo which is one of the most powerful brand in the world in order to develop a local brand of quality for its territory. The management axis is reflecting the way a geoproduct is using the geopark brand to increase its value and also the role each new geoproduct is playing in strengthening the geopark brand. The management axis is expressing the cooperation between the geopark team and the producer of a new geoproduct. In some cases the producer is the geopark team. The management axis is reflecting the main philosophy of Global Geoparks: *Celebrating Earth Heritage, Sustaining local Communities*. Each



⁷ UNESCO, 2003. *Intangible Cultural Heritage*

geoproduct is embedding a part of local geodiversity or geoheritage and in the same time is contributing to local socio-economic development.

Production Axis

This vector represents the organisational aspect of a geoproduct. The Geopark has to encourage entrepreneurship of local partners and to provide to them the context presented by the other two axis. The production axes starts with a producer, an entity able to provide a service or create a product in a legal way and in close cooperation with the Geopark. The direction of the axis is the actual profit from the products and services. In the case of the Geopark being also the producer of a geoproduct, the benefits can be other than financial: awareness, promotion, community involvement etc.

The philosophy of the geoproducts uses axes to show the whole concept as a process. The Geopark team has to manage the process and evaluate its position on each of the axis. The partners (SMEs, NGOs and others) base their business in geoproducts on the identity and management axis and contribute to the development of the production axis.

In conclusion, figure 1 shows a geoproduct at the intersection of the three axis. The identity axis is expressing the innovative way in sustainable use of local resources, the management axis reflecting the capacity of a geopark team to support geoproducts development and sale in the benefit of producer and local communities and the production axis shows the process of constructing the offer by a geopark partner.

In the creation and development of geoproducts, geopark managers and local entrepreneurs must start from the philosophy described in the previous chapter. Then they must follow the most important three requirements of a geoproduct (Fig. 2):

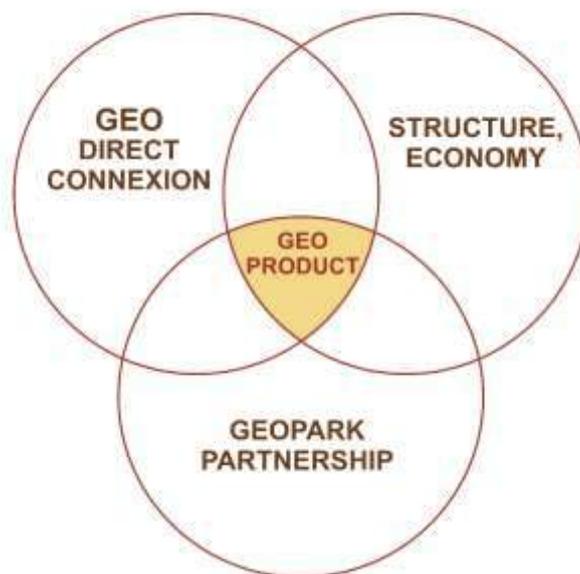


Figure 2. **The requirements of the geoproduct**

In addition to the main three requirements, the newly developed geoproducts have to respect sustainable standards and communicate these values to their users, visitors and thus help raise awareness on the importance of protecting and valorising the area's geodiversity, natural and cultural heritage in a sustainable way.

Geoproducts creation and development will also consider and respect specific needs of people with disabilities or elderly people and thus increase potential for these groups to have access to geoheritage. The design of these products and their management have to reflect equal chances and inclusion of all categories.

3.2. Application

Geo direct connexion

“Geo” (Gaia / Gaea in Greek) is the personification of Earth. Represents natural characteristics of a territory, whether is the local geodiversity, or biodiversity. Cultural values or tangible and intangible heritage being the human appreciation and use of these characteristics. Geo direct connexion requirement assures that the product is not only a geographical designation – “produced in the geopark” – but it has a deep meaning and an interpretation. The geoproduct must be a sentence in the dialogue between Man and Earth. Sometimes this connexion is only a matter of interpretation. Many products developed today in geoparks can be transformed into geoproducts with ease, if the proper interpretation of their connexion with geology or local identity is added.

A good example for this requirement is the GeoFood label⁸. This designation, managed by Magma UGG, is more than just another ecolabel.

GEOfood products must have strong connection with the local Geological Heritage, specific brief information concerning this connection must be provided in the food products and in the GEOfood restaurant menus through written information (ex: potatoes or vegetables that grown in fertile sandstones which were formed by glacier movement during the last Ice Age; olive oil produced from olives grown in Jurassic marls that were deposited in the ancient Sea of Tethys, salt from the ancient Sea, bread from grain growing in the Geopark soil due to special geological phenomena, etc.).

The GeoFamily fulfils this requirement by interpreting 10 geologically important sites presented in an interesting form. There are representatives of minerals and fossils important for different geological sites. The individual stops introduce the visitor to the basic characteristics of the geological phenomena.

Structure and economic viability

Structure and economic viability means that the geoproduct has to live up to its “product” part of the term. It has to be constructed (“produced”) as a marketable product meant to be sold. Of course that in some cases the geoproducts are not sold per say, instead they belong to the geopark administration’s educational offer, or they are provided along with other services. In order to be a geoproduct, the object or service doesn’t have to be actually sold, but to have the construction and economic viability which allow it the possibility to be sold. For example, an educational program from the educational offer of a geopark can be considered as fulfilling this requirement by asking the question: would this program be viable if it were to be sold by someone to tourists?

⁸ <https://www.geofood.no/>



The viability is the health assurance of the geoproduct – it can only exist if it is bought. This means it has to be adapted to market demands, it has to continuously address the needs of the buyers and it has to have the adaptability to focus on new trends and requirements.

The GeoFamily fulfils this requirement by promoting of the product which will be a brochure compiled by a graphic studio, promoting banner, individual websites of each geostops and other standard forms of promotion (geopark webpage, Facebook, Instagram, Geocaching) together with promoting it as normal product targeting a particular groups. Geoproduct has potential in the future - it can be expanded at any time by other geolocations and elements. The product reflects current trends: geo-phenomena are presented here in a fun way using modern technologies. First, visitors have to find a cast in the field, they will be able to touch it then and finally they will get some brief information by the help of their cell phones.

Geopark partnership

The geological connexion and the economic viability would describe only a good business idea without the active role of the geopark. This is the reason why the third important requirement for geoproducts is to have the geopark partnership. Of course, this applies when the geopark is not itself the provider of the geoproduct.

The geopark's role as a partner of the geoproduct provider is to assure the quality of the geoproduct and the conditions in which the selling process takes place. This will eliminate opportunistic initiatives of low quality products made to look like geoproducts. It will also make sure that the production process is made with care for the heritage and environment and that it respects the culture and needs of all people, especially vulnerable groups.

The GeoFamily fulfils this requirement by cooperation with other organizations, municipalities, groups and individuals (organizations, groups and individuals who helped us with creating geoproduct, municipalities and protected areas had to know about placing casts in terrain so we discussed this matter with them – all made during personal meetings).

We have long-time reliable suppliers and “customers”, we work with organizations across the socio-economic spectrum. We have valuable experience that we are using to create a new geo-product and will apply it after its creation (marketing and promotion). With these experiences we are able to make this new geoproduct successful.

4. Quantitative evaluation

4.1. Description

The evaluation process starts from the basic idea that a geoproduct is representing the tool a geopark has to develop in order to contribute to the holistic concept of protection, education, public awareness and socio-economic benefits for sustainable local development.



Testing and evaluation are connecting four key elements defining a geoproduct: Earth resources, Geopark management, Local community, Geoproduct development.

The questionnaire has five sections from A to E, each section with a set of elements to be self-evaluated on a scale from 1 to 5. The values are: 1 – low degree; 2 – quite low; 3 – medium; 4 – quite high; 5 – high degree. According to the Logic Matrix:

LOCAL COMMUNITY	Contribute to social entrepreneurship approach of the geopark	Documented relation geo-bio-cultural	Tells a story about local community	Enhances local cultural heritage	GEOPRODUCT DEVELOPMENT AND MARKETING
New local products strongly related to geopark territory				Integration in geopark's marketing strategy	Connects to the marketing strategy
Connects to geodiversity and geoheritage interpretation			Quality assurance by geopark labeling		Involves the geopark in the product process
Integrates into geopark's promotional strategy		Common advantages based on a partnership agreement			Contribution to the promotion of the geopark values
Results from geopark's involvement in the community (trainings, seminars, programs)	Assures novelty and innovation				Impact evaluation
GEOLOGICAL HERITAGE MANAGEMENT	Contribute to Geodiversity Action Plan Development	Identify all potential values of geoheritage	Tangible and intangible themes	Assessment of local geodiversity	LOCAL GEODIVERSITY

Table 1. Logical matrix in development and assessment of a geoproduct

4.2. Application

Section A - Any geoproduct has to be connected to local geodiversity / geological heritage and to have a geological story (in a broad sense). Local geological assets are identified and defined based on scientific research and a coherent management plan guides the conservation and interpretation of geological features. It sets the geological scene, looks in detail at the geological heritage in the geopark territory, details opportunities to explore and celebrate the local Earth history.

A1. How well are the geological assets / subjects related to the geoproduct documented from the scientific point of view?

1 – not documented; 5 – Very well documented.

4 A significant number of objects installed in the terrain are based on the geological background of the locality and the findings that have been carried out here or in the vicinity.



A2. In what degree the geoproduct contains both tangible and intangible components of the geological asset/s?

1 – not having both elements; 5 – Very well integrating the two elements

5 Both components are perfectly integrated. The material form is visible in the field and its interconnectedness to the surrounding geology and the intangible component is contained in the information encoded in the QR code. On some stages, an augmented reality (AR) is used to make the selected fossils alive.

A3. Does the geoproduct tell all the possible stories on the specific geological asset?

1 – very few stories; 5 – the whole story

4 There are several geological stories in a number of locations and so it is not possible to include all of them in one geoproduct.

A4. In what degree are those geologic assets part of a geodiversity action plan / geoconservation plan developed by a Geopark?

1 – they are not in a plan; 5 – all of the assets are part of a clear plan

4 Creating new geo-products through innovative ways is generally included in the Geopark Action Plan.

Section B - A geoproduct has to incorporate a story of local people and could contribute to connect geological heritage with local community.

B1. In what degree is the geoproduct created and developed by a local company / person / producer?

1 – not a local company; 2 – most parts of the geoproduct are not created/developed by a local company/producer; 4 – most parts of the geoproduct are created/developed by a local company/producer 5 – totally created and develop by a local company

5 The emergence of a new geoproduct is totally related to local companies (the geopark is owned by a local company and suppliers of service, material and know-how come from the region too).

B2. In what degree the connections between the identified geologic asset/s and natural and cultural heritage are documented?

1 – not documented; 5 – Very well documented

3 Some localities are closely connected with the cultural and natural heritage, but some of them are difficult to connect, so some of these links are missing.

B3. Does the geoproduct tell more than a geological story?

1 – only the geological story; 5 – many other stories connected to geology

3 In some localities it is not just a geological story, it is often linked to the history (eg. Mining of deposits).

B4. In what degree is the geoproduct directly connected to a specific community / person/s?

1 – not directly connected; 5 – Very well connected



3 Part of the product is the creation of geocaches by each of the stage that are targeted to a specific community and the whole product itself is targeted for a specific segment - people interested in geology and nature.

Section C - A geoproduct has to have a practical and economical approach, as a tool for socioeconomic development inspired and supported by the geopark development.

C1. In what degree is the geoproduct new and innovative?

1 – not new; 5 – totally new and innovative

5 The new geoproduct is completely new and innovative - there is nothing like this in Central Europe (according to our information).

C2. How detailed and clear has the geopark identified different types of partnerships in geoproduct development (e.g. produced by the geopark, supported by, produced in the territory of the..., etc ?

1 – not a single partnership; 5 – clear and detailed partnerships

3 The logo of the geopark and the logo of the project are mentioned directly on the products (on the small information board), the informative bearer is completely under the heading of our geopark website.

C3. Did you use the geopark's geoproduct development criteria defined by the Geopark in the geoproduct development?

1 – not defined/used; 5 – Very well defined/used

3 In creating a geoproduct, the product had to be defined, including its promotion (the archives are archived).

C4. Is the geoproduct sold in regular events (geo-fairs) organized by the geopark dedicated/integrating local geoproducts?

1 – no; 5 – frequent events clearly targeted

5 Yes, within the geopark, regular events are organized, where all our geoproducts, educational trails and other interesting places within the geopark are being promoted.

Section D - A geoproduct is not simply another product sold in a geopark. A geoproduct comes with a deep connexion to Earth on a local level and has to generate interest and respect for the Earth pro-cesses that generated local geodiversity

D1. In what degree local producer/s are inspired by the local geodiversity / geoheritage in developing new products?

1 – very low; 5 – very high

1 The specificity of this geoproduct does not allow the participation of local producers at the time of its creation, except for the producers of individual parts of the product.

D2. In what degree the geoproduct/s are connected or supported by the interpretation infrastructure of the geopark (taking into consideration geological and cultural components of the geopark territory)?

1 – not connected or supported; 5 – Very well connected and support-ed



5 The geoproduct is very well connected with the interpretation structure, because the product itself is interpretative.

D3. In what degree the new geoproduct/s are promoted by the geopark?

1 – very low; 5 – very high

5 The new geoproduct is (is going to be) very well promoted by the geopark.

D4. In what degree were the producers involved in training courses and/or regular meetings as part of the geopark activity plans?

1 – not at all; 5 – they are very much involved

1 The Geopark does not provide courses and meetings for local producers, because in the geopark, this activity is provided by another entity

Section E – A geoproduct is a combination of market opportunities generated by the geopark activities in tourism development and the ability to generate emotions of visitors to be interested to buy new products related to local Earth and people stories.

E1. Is the developed geoproduct connected to the geopark marketing strategy?

1 – very low connection; 5 – very high connection

3 Yes, the geopark strategy is not connected directly with this product, but overall it is linked to the creation of new, innovative products in general.

E2. In what degree is the geopark involved in development, marketing and selling of the geoproduct?

1 – very low; 5 – very high

4 Geopark is the bearer of the idea and its development, it will participate in its promotion.

E3. Does the geoproduct contribute to the promotion of the geopark values?

1 – very low contribution; 5 – very high contribution

5 The new geoproduct has very high contribution to the geopark values.

E4. Is there any established mechanism to evaluate the geoproduct impact (financial, appreciation, satisfaction, recognition, etc.)?

1 – no; 5 – a very well developed mechanism

3 No evaluation mechanism has been developed, but the impact can be evaluated primarily or indirectly to various instruments (see below).



LOCAL COMMUNITY	B1 - 5/5	B2 - 3/5	B3 - 3/5	B4 - 3/5	GEOPRODUCT DEVELOPMENT AND MARKETING
E1 - 3/5				C4 - 5/5	D1 - 1/5
E2 - 4/5			C3 - 3/5		D2 - 5/5
E3 - 5/5		C2 - 3/5			D3 - 5/5
E4 - 3/5	C1 - 5/5				D4 - 1/5
GEOLOGICAL HERITAGE MANAGEMENT	A4 - 4/5	A3 - 4/5	A2 - 5/5	A1 - 4/5	LOCAL GEODIVERSITY

TOTAL = 74 / 100

Table 2. **Logical matrix used for the GeoFamily geoproduct**

Thanks to its point assessment, we can state that the product GeoFamily that is being created can be considered as a real geoproduct according to the logical matrix. For some of the whole group questions, the geoproduct could achieve even higher values, which we are aware of and we will think about them when creating further potential geoproducts in the future.

5. Customer satisfaction

The product has not yet been launched yet. The project is in completion phase and will be tested in December December 2018. Until that time, it is necessary to complete all the supporting materials and ensure the promotion of the product.

By placing the geocaches at each of the casts, feedback is provided in the form of individual users' logs on Geocaching.com. We will not be able to objectively measure the satisfaction of other visitors except for possible feedbacks on our website or social networks. Only think we can measure is the number of downloads of the app which helps you to “alive” the trilobite and ammonite in terrain (just two stages out of ten). Otherwise we have to trust data from the website (number of accesses through the cell phone). Another non-measurable but demonstrative indicator is, for example, the “wide” of the trail to individual castings in terrain – load of the path.

It is possible in time to implement some support actions with the possibility of taking pictures on the spot and sharing them or answering some questions: this will provide feedback and the ability to monitor the number of users of the geoproduct to us.



6. Conclusions and recommendations

6.1. Conclusions

The geoproduct Geofamily is, according to the above assessment, a viable product which, if properly used, will serve to promote the selected geological phenomena. The main benefits of this product include a reasonable combination of electronic and material content with an acceptable level of presentability of factual information in the form currently accepted by a common visitor (according to current experience with the presentation of products based on a similar principle). One of the great benefits of this geoproduct is the fact that it is not a closed system of localities, but that it can be supplemented by other geotopes to expand the network (according to the financial possibilities, the interests of the main actors or the interest of the visitors).

The geoproduct is also a suitable tool for guiding visitors and their redeposition within the tourist-exposed places. Appropriate use of a geoproduct can therefore also have a significant impact on the environment of exposed sites.

6.2. Recommendations

The concept of the geoproduct is very innovative and currently has no comparison within the European territory. At the same time, however, this is a cost-effective project, which can be applied with little changes in any place. The natural human desire to find hidden treasures offers the ideal use within this geoproduct.

The product is currently not subject to copyright protection and its portability is very simple on the other hand. The only problem can be the technological portability, which the developer is willing to share under certain conditions.



7. Bibliography

- Danube GeoTour project application form
- <https://www.merriam-webster.com/dictionary/product> visited in October 2017
- **Complova, M.**, 2010, *The identification of geoproducts in the village of Jakubany as a basis for geotourism development*, Acta Geoturistica, volume 1, number 1, 51 – 56
- **Farsani, T., Coelho, C., Costa, C., Carvalho, C.**, 2012, *Geoparks and Geotourism. New approaches to sustainability for the 21st century*, BrownWalker Press, Boca Raton
- <https://www.geofood.no/> visited in October 2017
- **UNESCO**, 2003. *Intangible Cultural Heritage*

8. Annexes



Pyrite cast in terrain





Fossil oyster cast in terrain



Trilobite cast in terrain

8.1. Output Factsheet