

Activity Title	A.4.1 - <u>AG 1</u> Setting indicators of sound tourism, state survey, monitoring and review
Output Title:	Recommended set of indicators
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Monitoring plan

1. Introduction, prehistory

Planning and implementation of the monitoring programme was carried out in co-operation with the tourism capacity sub-project (AG.1), as information gathered in that sub -project provides basis for the monitoring tests as well. In order to ensure coherence and compatibility of these tests, investigated areas and testing methods were determined and the questionnaires were worked out as common labour.

The following documents and consultations provided basis for the monitoring plan of the programme:

- Indicators worked out and suggested by Iván Gyulai
- Draft study on spatial planning of Aggtelek-Domica border region (VÁTI Kht.2005)
- Tourism development plan of the ANP area (KT Kht. of BAZ County 2004)
- Consultations with the group carrying out tests concerning tourism capacities
- Consultations with the local professional team of the GEF programme

2. Defining examined settlements

Approximately 50 settlements are located in the area and immediate surroundings of the biosphere reserve. These have significantly different circumstances regarding vulnerability of natural values as well as the type, intensity and potential effects of tourism. Therefore it would not be reasonable to investigate all settlements in the same way and into the same depth. In order to ensure optimal utilisation of resources we have put settlements located in the area of the National Park, adjacent to it and in its surrounding region into various groups and we have examined these groups with different methods.

Criteria of classification were the following:

- Natural values of the settlement and their vulnerability
- Tourist attractions and spectacles in the settlement
- Present and expectable intensity of tourism
- Potential impact of tourism and vulnerability of local communities

We have created four categories, which are the following:

1. Settlements with important, vulnerable natural values (biosphere reserve core area, caves), where tourism is of high volume and dominant in the life of the settlements. Two settlements fall into this category: Aggtelek and Jósvalfő.
2. Settlements with important natural values, where tourism is already present in a moderate level, and its growth may be expected. Also those settlements may be put into this group where major tourist investments are envisaged in the near future, and/or due to the low population of the local community it is highly vulnerable. 11 settlements have been listed in this category.
3. Settlements with important natural values, where tourism is present on a low level, and significant growth is not expected either in the medium term. 14 settlements have been put into this category.

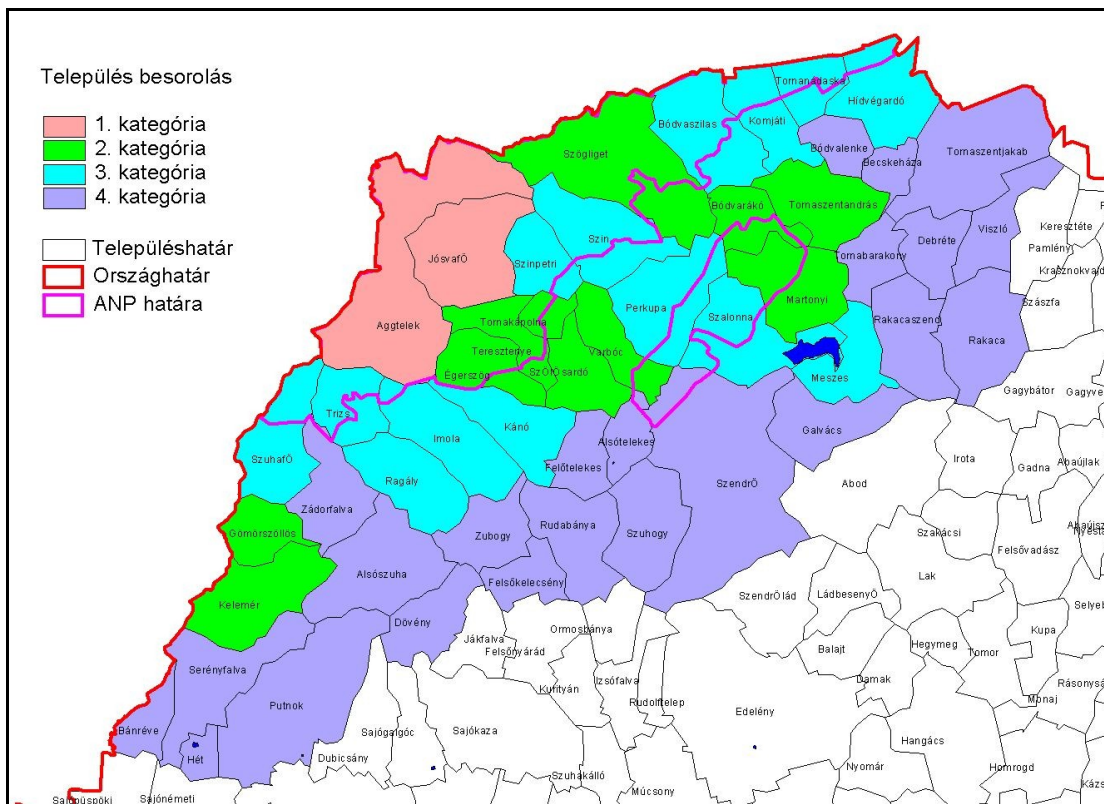
4. Settlements located further from the biosphere reserve, where tourism is not significant, and its growth cannot be expected either. Also the small towns of the region have been put into this group. 23 settlements have been listed in this category.

Classification of settlements is shown in Table 1. and the territorial distribution in Figure 1.

Table 1. Classification of settlements

1.	2.	3.	4.	
Aggtelek Jósvafő	Bódvarákó Gömörzölös Kelemér Martonyi Teresztenye Tornaszentandrás Égerszög Szögliget Szőlőszárd Tornakápolna Varbóc	Bódvaszilas Hidvégdó Komjáti Meszes Perkupa Ragály Szalonna Szin Szinpetri Szuhafoő Tornanádaska Imola Kánó Trizs	Alsószuha Alsótelekes Bánréve Felsőkelecsény Becskeháza Bódvalenke Debréte Dövény Felsőtelekes Rakaca Rakacszen Serényfalva Szuhogy Tornabarakonny	Tornaszentjakab Viszló Zádorfalva Rudabánya Szendrő Putnok Hét Zubogy Galvács

Figure 1.



3. Investigated indicators

3.1. Satisfaction of the tourists

3.1.1. Satisfaction of tourists – satisfaction index

Method of measurement:

Questionnaires are prepared which ensure clear and quickly answerable questions. The respondents can indicate their contentment on a barometer. The barometer is a 5-grade scale from 0 to 5. Questionnaires are filled in two different ways:

- a. **On the field** – by personal interviews. In case of tourists visiting settlements of category 1 and partly those of the category 2.
- b. **At the hosts** – by voluntary filling. Questionnaires placed at lodging places pledged to participate in data collection in settlements of categories 1, 2 and 3 are filled in voluntarily by visitors who have spent there at least 2 nights.

Questions of the questionnaire

10. Please, tell us your opinion on the following!

(Evaluation: 1:bad, unacceptable 5:excellent, favourable; 0:not experienced)

public transport services	0	1	2	3	4	5
quality of the settlement (environment, landscape)	0	1	2	3	4	5
quality of the natural environment	0	1	2	3	4	5
crowding (tourist traffic), Where?	0	1	2	3	4	5
attitude of the local community towards tourism	0	1	2	3	4	5
quality of accommodation	0	1	2	3	4	5
price-level of accommodation	0	1	2	3	4	5
environment-friendly operation of accommodations	0	1	2	3	4	5
price level of catering services	0	1	2	3	4	5
entertainment facilities	0	1	2	3	4	5
price-level of programmes	0	1	2	3	4	5
opportunities for learning about nature	0	1	2	3	4	5
quality of meals	0	1	2	3	4	5
public security	0	1	2	3	4	5
opportunities for gaining tourist information	0	1	2	3	4	5
opportunities for gaining information on the region	0	1	2	3	4	5
local services (shops, post office, health)	0	1	2	3	4	5

Evaluation of the questionnaire

The filled questionnaires are summarized at the end of the year. The answers of each question are added up individually and then averaged out. The total points of the questions are scored, too. The points of each question and the aggregated figure is compared to the earlier year(s)'s figures, and showed a graph.

Evaluation is made for the settlements themselves and for the settlement groups, as well as for the whole investigated region. The figures of each aspect show which scopes need change. These data may be important inputs for development planning.

The questions concern various levels – from individual catering establishments through settlements up to the whole region. There are some questions that are connected to several levels. The accommodation, sometimes the meals, hospitality and information gaining opportunities characterize the hosts, while settlements may be characterized by meals, services, hospitality, public security, entertainment and leisure facilities, information gaining opportunities. The attractions, public security, services, hospitality, environment quality, learning and cultural opportunities are more connected to the regional level. These levels should be considered when interpreting data, because e.g. the poor opportunities of one host may wipe out the good performance of the others.

Frequency of monitoring

The questionnaire testing is reasonable to carry out in every 2 or 3 years. At the next investigation new tourist developments and the growth in the number of hosts should be considered as well. Data collection should be extended for these implicitly.

3.2. Satisfaction of the local community – societal satisfaction index

Tourism is based on local resources, which are theoretically the joint property of the local community, therefore it should serve the benefit of that community. The preservation and reasonable use of local resources can be expected from them, because if the community realises the opportunity of making their living out of these resources they will be interested in the maintenance of those.

It is important that the most possible local people obtain direct or indirect benefits from the use of resources. If only a small part of them monopolises the resources it will be a source of conflicts within the local community and will create a public feeling that may hamper the improvement of tourism.

3.2.1. Percentage of local families gaining income from tourism

The indicator shows the annual changes in the number and proportion of families gaining income from tourism.

Method of measurement:

The number of families making profit of tourism is determined on the basis of self government information (local person knowing the settlement very well (mayor, custodian etc.) Data collection is carried out based on the land register map of the settlement, anonymously, therefore no information is generated that could be connected to persons or real estate property. Data are collected for settlements falling into categories 1 and 2.

Separated categories are:

- A.** All family members are employed in the tourism industry (*tourism enterprise, institute, catering establishment etc.*)
- B.** The family runs some form of tourism enterprise (*catering establishment, lodging place, other services related to tourism etc.*)
- C.** A member of the family manufactures any kind of product or provides a service which is connected to tourism market (*e.g. manufacturing souvenirs, occasional services, cleaning, cooking etc.*)
- D.** The family has no direct relation to tourism

Evaluation of data

As a result of the investigations the proportion of families falling into A, B and C categories is determined. Estimations are made for the settlements, the settlement groups and for the whole investigated area as well. Changes of the proportion of certain categories bear an important information on the long run as it shows how the character of employment changes in a certain settlement resulting from the changes of tourism, e.g. if the growth in the number of private enterprises and/or in the number of employees dominate. Apparently, besides tourism the social and economic effects of current political background tourism significantly influence these processes, which have to be considered as well when conclusions are drawn.

It is not sure that the large number of people living on tourism serves the individual contentment because they are rivals of each other. If many people are working in the sector the total income will be shared between them, but if only a few, the individual profit will be higher. Although concerning sustainability, the benefit of the community is superior to that of the individuals. It can be assumed that according to the logic of market the number of people concerned in tourism will grow if the demand increases. However, the demand-supply conditions

are often hidden by the exterior development sources, which increase the supply without developing the demand side.

Frequency of monitoring

Data collection is reasonable maximum in every 3 years.

3.2.2. Proportion of tourism profit within the total community income

This indicator can be calculated if there is local tax connected to the local tourist service. Such is the tourist tax paid after guests, or the local business tax of local tourist service suppliers. The way and appearance of those taxes connected to tourism that are paid into the central budget, (personal income tax, corporate tax and VAT etc.) cannot be traced in the local budget.

Method of measurement:

The point of the measurement is to ask all local governments in the region whether and in what proportion they have tax income from tourism annually. They are asked on questionnaires in the course of which procedure we apply two different methods:

- a. Direct personal contact** - in the settlements of category 1 and 2.
- b. Getting in contact via mail** – in settlements of category a 3 and 4.

Evaluation of data

The changes in the number of local governments with tourism income and the proportion of tourism income in the total sum of incomes can be determined by comparing the annual results.

The desirable structure of local budget is if it consists of appropriately diverse sources and does not depend too much on the unpredictable tourism. At the same time other external incomes of the settlement have to be considered as well at the evaluation, because e.g. a huge investment, which may occur only in every 10 or 20 years can significantly distort budget proportions.

Frequency of monitoring

Data collection is reasonable annually. When monitoring is carried on, experiences of the estimation of the starting situation have to be considered as well.

3.2.3. Taxes of tourism profit turned back into the preservation of natural, cultural and built heritage and education

This indicator may be applied only if there is local tax income and the local government uses this income to the purposes above. Those sums too may be kept count of here that the local government is able to take up from external sources (development assistance), after the local sources have increased its absorbing capacity.

Method of measurement:

All local governments in the region are asked to what extent do they turn back tourism tax incomes into the development of tourism, and for the preservation of natural/cultural/built heritage. Specific examples are asked as well. Asking is carried out using questionnaires and in the course of this procedure we apply two different methods:

- a. Direct personal contact** - in the communes of category 1 and 2.
- b. Getting in contact via mail** – in communes of category a 3 and 4.

Evaluation of data

This indicator is not suitable for annual comparisons as developments are not continuous but occasional. Therefore it is practical to average out data for 5-10-year-periods beyond annual data collection. Comparing the investigated periods (5-10 years), it can be detected what proportion of tourism income is turned back into the above purposes by local governments.

Frequency of monitoring

Data collection is reasonable annually, and it is worth processing them in every 5 years. When planning the continuation of monitoring, experiences coming from the baseline survey have to be considered.

3.2.4. The ownership proportion of tourism infrastructure between the local and external participants of tourism

This indicator shows to what extent it serves the benefit of local participants. Since these are very complex and delicate questions, the survey focused only on the tourist hosts when making the baseline survey. As lodging gives the backbone of tourism and is usually connected to several other services, we think it well represents the other fields as well.

Method of measurement:

Personal interviews with questionnaires at local hosts, which clears if the owner of the place is local resident or not. The data are summarized by settlements, then we calculate a proportional number showing the percentage of local hosts.

Evaluation of data

Estimations are made for settlements, settlements groups and for the whole investigated area as well.

Frequency of monitoring

Data collection is reasonable in every 3-5 years.

3.3. Sustainable use of local resources – the rate index of values

Changes of the natural assets

Out of genetic, racial and habitat diversity the latter is the simplest to measure. It is probably enough, as the good quality of natural habitats goes usually together with the maintenance of species. The investigation is carried out on three levels, which are suitable to characterize the changes in the state of habitats concerning landscape, local and specific objects.

The extension of land cover classified into categories of naturalness and the indices assigned may characterize the state of the area. Thus it can be compared to other areas and trends of the changes might also be examined. Calculations and defining of areas are supported significantly by GIS applications.

3.3.1. Biodiversity change at landscape level – naturalness index, usage intensity index

Method of measurement:

The survey is carried out on the whole area (all the 50 settlements). The basis of investigation is the Corine 1:50.000 landcover database was created by interpretation of 1998-99 satellite images and is planned to be updated every 10 year. The spatial resolution of the database is 4 ha.

Naturalness (1-6) and usage intensity indices (1-10) are assigned to the land cover categories. With these two maps were created: a naturalness and a usage intensity map.

Evaluation of data

The average naturalness and usage intensity indices of the region are calculated on the basis of data assigned to land cover polygons. The index can be calculated both for settlements and groups of settlements, if the maps are intersect with the borders regarded. Indicators are the area and rate of the certain categories and the indices calculated from these.

The investigation shows reliably the long-term and expansive changes of an area, so is useful to interpret changes primarily on landscape level. Changes in the values of the indices indicate the intensity of naturalness and use.

Frequency of monitoring

Since the CLC50 database is updated only in every 10 years, the survey can be repeated out only with the same time frequency. From satellite images the database and the derived naturalness and usage intensity indices can be prepared more frequently if proper resources are available. The monitoring survey is reasonable to carry out in maximum every 5 years.

3.3.2. Biodiversity changes at settlement level - naturalness index, usage intensity index

Method of measurement:

The survey is carried out in settlements of category 1, which are the most intensively affected by tourism (Aggtelek, Jósvalfő). The investigation is based on a habitat map created from aerial photographs and field checking in 2005. The habitat categories are provided with naturalness (1-6) and usage intensity (1-10) indices. With help of these two maps are prepared: a naturalness and a usage intensity map. The spatial resolution of the maps is 0,5 ha.

Evaluation of data

For the investigated area the average naturalness and usage intensity indices are calculated on the basis of the data assigned to habitat-polygons. The extension and percentage of the certain categories and the indices created on the bases of these are also indicators. Change in the value of the indices shows the tendencies of naturalness and usage intensity.

Frequency of monitoring

The monitoring survey is reasonable to conduct at least in every 5 years.

3.3.3. Biodiversity changes in the vicinity of touristic destinations – degradation index

Method of measurement:

The survey is conducted on two places intensively affected by tourism: the surroundings of Aggtelek Baradla-tető and Vöröstó Medveszklák. 2 transects respectively are laid down in specified directions with a detailed documentation of their direction and length in order to be able to repeat the survey later. Along the transect we count plant species indicating degradation and estimate their coverage by segments in a zone of some meters along the transect. The segments are categorized according to the presence and coverage of these species.

Evaluation of data

Summarized points of the sections give the index values of the transects surveyed. These can be compared with the data of later surveys. The whole transect made up of the segments is also drawn, which compared with next years results enables to draw conclusions about the degradation trends.

In the course of data evaluation tourism independent effects should be considered as well e. g. forest management.

Frequency of monitoring

The monitoring survey can be made annually, but reasonable to carry out at least once in every 3 years.

3.4. Changes of cultural assets

3.4.1. Number of local specialties

Method of measurement:

The survey is carried out in settlements of category 1, 2 and 3. We collected and listed local specialties that might appear as products and at the same time serve as attractions and provide value on the tourism market. These categories are: meals, drinks, local handcraft products and local special services.

Evaluation of data

The number of products (product types) serves as indicator.

Frequency of monitoring

The monitoring survey is reasonable to carry out in every 3 year.

3.4.2. Changes in the number of cultural events

Method of measurement:

The investigation is made in settlements of category 1, 2 and 3. The number of events in days and changes in the number of visitors are recorded. These events can be e.g. village days, village weeks, exhibitions, festivals, etc.

Evaluation of data

The indicator is the changes of the number of events and the number of their visitors.

Frequency of monitoring

Data collection is reasonable to carry out annually.

3.5. Changes in the value of the built environment

3.5.1. Changes in the state of buildings

Method of measurement:

The survey is made in settlements of category 1 and 2. In each settlement the following parameters are surveyed by individual building:

- state of the building
- character, style of the building
- character of maintenance/renovation
- tidiness and orderliness of the parcel

Evaluation of data

The weighted values calculated during the survey are summarized by individual building and then averaged by settlement. The result is the building condition index of the settlement. Change of this index indicates the way and trend of changes in the condition of buildings in the settlement.

Each parameter is summarized individually too (e. g. tidiness of the parcel) and the settlement indices calculated this way show the finer details of changes.

Frequency of monitoring

The monitoring survey is practical to repeat maximum in every 5 years.

3.5.2. Change of the image of the settlement

Method of measurement:

The investigation was carried out in settlements falling into category 1 and 2. This survey is similar to evaluation of building condition, but here street and settlement scenery is evaluated. Evaluation is made by 3 experts at the same time, who fill datasheets by settlement, street/parts of settlement concerning the following parameters:

- Street scenery (character, harmony, tidiness, orderliness, unity, dissonant elements, etc.)
- Settlement scenery (harmony, orderliness, negative elements, harmony with the landscape, etc.)

Evaluation of data

During the investigation the records of the experts are averaged out and this value characterises the investigated object (street, settlement). Data concerning the streets **must not** be summarized on the settlement level because it may result misleading information. Data collected about the streets are useful in characterization of the settlement's internal situation and are important data for resettlement and development plans.

The settlement as a whole is characterized by settlement scenery index.

Frequency of monitoring

The survey is reasonable to repeat maximum in every 5 years.

3.6. Maintenance of the quality of the environment – environment quality index

3.6.1. Seasonal motor vehicle and pollution emission strain index

Method of measurement:

Survey is made in settlements of category 1 and 2. Traffic count is carried out on public road segments that are representative regarding traffic load in two periods, in high season (in August) and out of season (in October). During data collection we record the number of motor vehicles passing by the observing point (motorcycle, car, motor truck, bus, etc.)

Evaluation of data

The difference between traffic data of the two periods gives the seasonal motor vehicle strain index.

From traffic data one can calculate the pollution representing additional load for the settlements due to increased traffic. The ratio of the pollution strains of the two periods gives the seasonal air pollution strain index.

Frequency of monitoring

The survey is reasonable to carry out annually. As possibilities allow, the number of traffic counts in a year may be increased.