

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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Recommended set of indicators

The task of tourism is to contribute to the social welfare of the local community and to preserve the good quality of the environment. These aims can be reached through the sustainable use of resources. The fourth function of tourism to serve the content of the visitors in having rest and culture. That is why the indicators concern these four main scopes:

- 1. Satisfaction of the tourists**
- 2. Satisfaction of the local community**
- 3. Sustainable use of the local resources**
- 4. Preservation of the environment quality**

The essence of indication is to measure the direction and extent of changes compared to an earlier state. Tourism contributes to sustainability if it is balanced positive in all four criteria. It often happens that there are such investments to raise the income from tourism which cause degradation in natural environment or other attractions. It is also important not to improve local conditions of tourism in a way which increases the impact on the global environment.

The major indicators can be aggregated from indicators of different main groups. It is worth mentioning that the aggregated values may hide even extremely negative tendencies, so they should be used only with the interpretation of the subindicators.

1. Satisfaction of the tourists

Method of measurement:

The collection of data is done by questionnaires which consist of clear, quickly answerable questions. The respondents can indicate their contentment on a ten-grade scale. The questionnaires have to be set at reliable quarter-masters. It is not essential to gain answers from all visitors. In the Aggtelek region short staying is characteristic, which is insufficient to have an absorbed opinion. It is recommended to ask only those visitors who stay at least two nights.

Questions:

- How content are you with the tourist attractions of the region?
- accommodation?
 - meals?
 - services (transport, purchase conditions, health and postal services)?
 - hospitality?
 - public order?
 - opportunities for entertainment?
 - opportunities for rest?
 - quality of the environment?
 - opportunities for gaining information?
 - opportunities for culture and learning about the region?

Estimation of the questionnaire:

The filled questionnaires are summarized annually. The answers of each question should be 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 years' figure and delineated in a graph. The figures of each question show which scopes need alteration. These are important data for development planning.

Note:

The questions concern various levels from individual quarter masters through settlements up to the whole region. There are some questions which are connected to several levels. The accommodation, hospitality, information gaining opportunities, sometimes the meals characterize the hosts. The settlements can be characterized with meal opportunities, services, hospitality, public order, opportunities for entertainment and rest, information gaining opportunities. The attractions, public order, services, hospitality, environment quality, learning and cultural opportunities are connected to the settlements. These should be considered when interpreting the data, because e.g. the poor opportunities of one host may wipe out the good performance of the others.

2. Satisfaction of the local community

Tourism is based on local resources, which is theoretically the joint ownership of the local community, so it should serve the benefit of that community. The preservation and wise use of local resources can be expected from them as they are interested in the upholding of resources if the community can make a living based on them.

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

Therefore this major indicator has to concern several aspects at the same time.

How many families' income is connected to the tourism and in what level?

What percentage of the income originating from tourism stays in the region?

What proportion of the tourism supply originates from local services and commodity production?

What proportion of the private profit is turned back to public purposes?

2.1. What percentage of the local families gains income from tourism?

As we have said that as much local people should have a share in the income from local resources, it means that the desirable structure is that as many families are connected to tourism as possible. Meanwhile the total dependence of any family on tourism is unfavoured.

Consequently in the best structure many families get profit from tourism but they still have other sources of income. The reason of this is that the demands of tourism are not balanced or predictable.

The indicator shows how the number of families connected to tourism changes annually.

Method of measurement:

The number of families making profit of tourism has to be determined on the basis of local government information. Sources of income:

Member of family is employed in tourism industry.

The family runs some form of tourism enterprise.

Member of family manufactures any kind of product which is sold on the tourism market.

Note:

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 tourism branch the total income will be shared between them, if only a few, the individual profit will be higher. Although it is to be noted that in 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 hid by the exterior sources, which increase the supply without developing the demand side.

2.2. Proportion of tourism profit in the total family income

Method of measurement:

Tourism income has to be determined annually – avoiding asking directly the sum. First the total annual income has to be asked and then a connected question can concern the proportion of tourism in the total.

The selection of the respondents is a crucial question. Not everybody can be asked in the region but there are many people who do not gain their profit directly from tourism but through selling some kind of product on the tourism market, so their income is connected to tourism.

Respondents should be those

- who are employed in tourism service industry
- who operate some form of tourism enterprise (hosts or other direct service suppliers)
- who manufacture and/or sell products on tourism market.

The study is carried out by personal request after the selection of respondents in agreement with the aspects above.

Questions:

The number of family members.

The number of earners in the family.

Total family income.

The proportion of tourism profit in the total income.

The sources of tourism income

- what percentage as employee?
- what percentage as entrepreneur and service supplier?
- what percentage as tourism product manufacturer?

Estimation:

Study of the annual changes of the individual family incomes and comparing to the base year. The changes of performance can be shown on a graph. Of course the incomes of families can be added up and studied as well.

Note:

Considering that it is an indication process, we do not have to know the changes of income in the whole region. We only have to find out how predictable income do those have who mainly lean on tourism. This can be found out by comparing the annual changes of incomes. It is enough to monitor the performance of those ten families who probably earn the most.

The two indicators have to be estimated together. In favourable case the number of people living on tourism grows up to the carrying capacity while the income per family does not decrease.

2.3. 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 service suppliers. Those taxes from tourism which are paid into the central budget (personal income tax, corporate tax and VAT) cannot be detected in the local budget.

The desirable structure of local budget is if it consists of diverse sources and does not depend too much on the unpredictable tourism.

Method of measurement:

The local governments are asked whether and in what proportion they have tax income from tourism. The changes in the number of local governments with tourism income and the total sum of income can be determined by comparing the annual results.

2.4. Taxes of tourism profit turned back into the preservation of natural and cultural heritage and education

This indicator is unambiguous only if there is local tax income and the local government uses this income to the purposes above. Those sums may be kept count of which originate from external sources like development assistance as the local sources increased its absorbing capacity. This indicator is not suitable for annual comparison as development is not continuous but periodic.

2.5. The ownership proportion of tourism infrastructure and the share of tourism profits between the local and external participants of tourism.

This indicator shows in what extent the benefits of tourism serve the local participants. Annual measurement shows the ownership changes and the alteration of rate of incomes among the owner clubs.

Method of measurement: Recording of the ownership relations of tourism objects and their changes. The objects have to be estimated according to their capacity. The incomes can be judged by direct questions of questionnaires or information can be deduced from the leverage rate.

2.6. Proportion of local products in the supply of tourists

Tourism is becoming the dominant element of local market, in small settlements it is more significant driving force than the consumption of local inhabitants. That is why it is crucial how much the local community is able to supply this demand from local resources. The high local proportion is beneficial for the income conditions of the local community.

Method of measurement:

Selection of optional number of basic product and service. These will be studied in what proportion do they originate from local production and service instead of external source.

The annual change of variety and amount of sold local products can be used as a complementary indicator.

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

3.1. Changes of the natural capital

3.1.1. Biological diversity

Habitat diversity is measurable the most easily from genetic, racial and habitat diversity. It is probably enough as the good quality of natural habitats goes hand in hand with the maintenance of species.

Method of measurement:

A habitat map is needed of the whole region which qualifies the habitats by rating them into different classes. Four categories should be used: natural, semi-natural, degraded and human use category.

A habitat is natural, when its state corresponds with the potential state and is not exposed to such local external affects which may change the natural composition of the habitat.

A habitat is semi-natural, when its basic structure is unaltered but the area is exposed to such disturbance which reversibly modified some part of the area. The land can be restored (e.g. changes of the forest structure).

A habitat is degraded if previous direct or indirect effects degraded the structure of the area, but it can be restored through reconstruction (e.g. abandoned grasslands or ploughlands).

Ecosystem converted to human use: usually areas permanently used where the natural structure of the area has been irreversibly converted, e.g. settlements, roads, arable lands).

After setting the categories in the area the proportion of them can be expressed in percentage on the base of the map. With three or five-year revisions the tendencies can be illustrated and evaluated.

3.1.2. Changes in the state of forests

By the qualification of the forest associations the temporal changes in the state of forests can be monitored.

Method of measurement: An evaluation system for naturalness of forest has to be created. In the simplest case the naturalness of forest is surveyed and ranked on a ten-degree scale how far it is from its natural state. (10 is considered natural). The classification is subjective, carried out by ecologists. The experts involved build consensus upon the quality of the current state. The base of evaluation is the age structure, species composition, presence of associated organisms, the method of forest cultivation, level of disturbance, extension of the area, etc.

The scores obtained to each forest associations can be aggregated but have to be estimated individually too. The temporal changes of the values are studied.

3.1.3. Changes of the water bases

The potential water base of the area has to be defined. The research extends to the catchment area and estimates the scale of water use in the whole catchment area.

The indicator shows if the actual water use allows sustainable water management. The figure is the quotient of the available water bases and the actual amount of water use.

3.1.4. Changes of vegetation cover

This figure indicates the temporal changes in the intensity of land use.

3.2. Changes of cultural capital

3.2.1. Number of local specialties

Method of measurement: Those local specialties have to be listed which may serve as attractions and provide value on the tourism market. The categories are: meals, drinks, local handicraft products, local special services.

The consumption of every listed specialty has to be measured too. The joint changes of the number and consumption of the local specialties provide information about the maintenance and demand for these cultural attractions.

3.2.2. Changes in the number of cultural events

The changes in the number of cultural events in days and the number of their visitors have to be recorded. These events can be village days and weeks, exhibitions, festivals, etc.

3.3. Changes in the value of the built environment

Method of measurement: First step is to create the classification system of built environment than to select the circle of experts who will carry out the qualification. Individual buildings (not only the significant ones), the whole image of the settlement and its fitting into the landscape also have to be qualified. Aspects of estimation are in the case of individual buildings: naturalness of the building material, its local character, the maintenance state of the building, appropriateness of the building function, the tidiness of the parcel. The image of the settlement and the fitting into the landscape is based on the subjective opinion of the examiners, and can be measured with a barometer. The qualification has to be revised and the changes recorded regularly.

This indicator provides help for the development planning.

4. Maintenance of the quality of nature

4.1. Index of environmental strain

4.1.1. Local seasonal pressures

One characteristic of tourism is the local destinations are usually seasonally utilized. Skiing, aquatic sports, beach recreation, bird watching are related to well-determined periods of the year. In the main season there is heavy pressure on the area because of the intensive use of resources such as water use, energy consumption, waste production, while in the dead season the maintenance of the infrastructure leads to environmental pressure.

There are destinations where there is almost no staying in dead season and in many cases the settlements have very few inhabitants. In every case the pressure of the high season consists of the total resource use of the inhabitants, seasonal workers and visitors. The problem is that the capacity has to fit the maximum number, regardless the length of the maximum pressure. This fact causes serious problems when the capacities developed to fit the maximum pressures are underused.

Obviously the favourable case is when the load is balanced and the changes do not exceed the flexibility of the system, which can be determined about 30% increase or decrease of pressure. Larger fluctuation is environmentally disadvantageous.

The measurement is rather difficult. The number of constant stayers, inhabitants, visitors, seasonal workers, their proportion and the seasonal changes can be measured. In line with this the minimum and maximum water consumption and available water amounts; the minimum and maximum waste production and capacity for management; the minimum and maximum energy consumption and its expression in CO₂ emission also have to be recorded.

4.1.2. Global pressure

Usually the increase of the global strain is not calculated to the environmental impacts of tourism; however mainly traveling is the most important part of extra environmental strain caused by tourism. Tourists use resources at home as well, and their use may be more intensive as tourists, but globally not this is the significant extra strain: while staying on another place is not an absolute extra strain, only the temporal structural change of impacts, the change of place is an actual extra strain. The change of place hardly affects the local environmental state, while globally it may heavily increase strain depending on the means of transport applied.

Global strain can be calculated by adding up the difference between the environmental impacts of staying home or in the destination and the strain caused by the change of place. The first one is difficult to interpret, as the precognition of habits of each tourist would be needed, therefore only that can be used as an indicator how large global strain do each destinations mean. The strain can be calculated by adding up the kilometers ridden by tourists considering the means of transport (plane, bus, train, individual car, bicycle, walking). In order to ease the calculation, it is recommended to create international straining standards for each means of transport per kilometer, e.g. converted to CO₂ emission. Without this, we also may create values, using them consistently.

4.1.3. Local strain

Local strain is created on the destination site through the visitation of various attractions. The intensity of the strain depends on the number and behaviour of visitors, on the rules of visitation and the accommodation to them and on the way of travel. If an attraction can only be visited by foot, not by car (as there is no road towards it) it can mitigate strain.

Method of measurement:

All of the visited attractions have to be recorded on map and determined their distance from the staying and starting locations. The objects which can be visited by car or by foot must be distinguished. The number of visitors per each objects and the maximum seasonal strain must be

determined. It also has to be diagnosed whether the maximum seasonal attendance causes the harm of the object and its surroundings.

The studies of strain have to be regularly repeated and limitations have to be set in case of overstraining.

4.2. Use of eco-labels

Obviously this indicator can only be used in the case of existence of this kind of labeling in the region. If there is such system in the region the question is what proportion of the the local service suppliers are able to apply the qualification, how many of them use it, and how their number changes annually. Also the qualification system is qualified if the visitation of the labeled suppliers increases.

Some of the qualification systems can only be adapted to larger suppliers. If we want to qualify others, too, then the qualification system can be set to different categories of service suppliers.