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Indicators for the development of sustainable tourism in the Baltic Sea Region

by

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16. Abstract In conjunction with the implementation process of the Baltic 21, the Agenda 21 for the Baltic Sea Region, the Federal Environmental Agency of Germany in Berlin has asked the Institute for Tourism and Recreational Research in Northern Europe (<i>N.I.T.</i>), Kiel, to develop a system of indicators for the development of sustainable tourism that could be used by local and regional levels of planning. To achieve this goal it was necessary to analyse the current situation of tourism in the Baltic Sea Region, to survey already existing systems of indicators and to use this information as a basis for the development of the desired set of indicators. During an international workshop the first draft of this system of indicators was discussed with stakeholders and optimised afterwards. This final report contains the results of all phases of this project including a proposed set of indicators and advice for the introduction of this set into practice. The following criteria were used in the process of selecting the indicators and to develop the final indicator system: The selected and related indicators for sustainable tourism in the Baltic Sea Region are relevant with respect to sustainable development, available with regard to data; data should be accessible or readily obtainable, suitable for local and regional levels of planning, clearly understandable and feasible; i.e. that there is a realistic chance of finding target values for the indicators for which a consensus among the stakeholders in tourism can be reached.		
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Short description

SUBJECT	Indicators for the development of sustainable tourism in the Baltic Sea Region
CONTENTS	Final report of the entire project: (I) Overview: Tourism in the Baltic Sea Region (II) Survey of existing indicator systems (III) Analysis of data availability (IV) International workshop (V) Design of a practical indicator system (VI) Feedback from Baltic 21 Tourism Task Force (VII) Proposals for the implementation of the results
ASSIGNMENT	Umweltbundesamt, Berlin Project: FKZ: 312 01 129
PROCESSING	Institute for Tourism and Recreational Research in Northern Europe (N.I.T.), Kiel
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0 Introduction

In June 2000 the Institute for Tourism and Recreational Research in Northern Europe (N.I.T.) in Kiel was asked to realise the research project FKZ: 312 01 129 „Indicators for the development of sustainable tourism in the Baltic Sea Region“.

The entire project consists of seven phases. This final report contains the results of all phases of this project. Additionally, the last step contains suggestions for the use of the results in practice.

Project background

In June 1998 the Secretaries of State of the countries around the Baltic Sea passed the Baltic 21, which is a Local Agenda 21 for the region of the Baltic Sea. The Baltic 21 describes the goals and means for a sustainable development in the Baltic Sea Region during the next millennium for the following seven sectors: agriculture, energy, fishing industry, forestry, industry, traffic and tourism.

In tourism the goal is to create a common understanding of sustainable development in tourism among all stakeholders in the tourist industry. Also it is important to strengthen the co-operation between the different geographic regions of the Baltic Sea Region, to promote sustainable tourism in rural areas as well as in metropolitan areas, and to create a database about sustainable tourism as a common pool of information.

The administration of the countries of the Baltic Sea Region also agreed on the following specific means for the tourism sector:

- Inclusion of sustainable tourism in the recommendations of the Helsinki Commission (HELCOM) and the guidelines of spatial planning.
- Introduction of environmental management and certification systems.
- Development of indicators of sustainable tourism on a company, local or national level for the entire Baltic Sea Region.

A particular emphasis lies on the development of indicators of sustainable tourism in the Baltic Sea Region.

The indicators shall serve as a guideline for the future tourist development on all levels of planning. Additionally they are supposed to be used in the assessment of measures in environmental management and certification systems as well as in the development of an appropriate way of submitting reports to the HELCOM and the secretariat of the Baltic 21.

Various research projects and papers already offer a variety of systems of indicators of sustainability, sustainable tourism or the influence of tourism on the environment. Also there have been preliminary proposals and discussions of indicators during the work of "Baltic 21 - Agenda 21 for the Baltic Sea Region".

This research project shall use the preliminary studies, assess the indicators described in these studies concerning their feasibility and amend them if necessary. Finally this project shall present suggestions for the use of the indicators in practice.

Expected results of this project

The main result of this project should be a system of indicators that can serve as a unified basis for the assessment of sustainable tourism in the Baltic Sea Region, using already existing projects in this field of study as starting point. The indicators should be chosen in a way that presents a clear image of the situation of the tourist industry with a special emphasis on sustainability. Furthermore they should be a useful means for regional and local stakeholders in tourist planning.

By fulfilling these requirements, the indicators can be used as a basis for periodic reports about the development of tourism in the Baltic Sea Region as well as a guideline for tourist planning and the assessment of various tourist activities. In addition to general considerations regarding useful variables the aspect of data availability is of particular importance. The data should either be already directly accessible or readily obtained with reasonable effort. This guarantees that the proposed system of indicators can be implemented in practice quickly and with reasonable efforts.

Since sustainable tourism as defined in the Agenda 21 requires not only an ecologically but also an economically and socially sound development, it is imperative that not only the consequences of tourism on the environment are assessed. Also the economic and social consequences of measures related to the development of tourism on the local population at the destinations need to be considered.

Definitions

In this study various expressions are used that have different meanings for different stakeholders in the public discussion of this subject. Selected key expressions are defined below to ensure a correct understanding of this project report:

Sustainable development

Since the idea of this project arose from the Baltic 21 process, the definition of sustainable development that is used in the Baltic 21 will be used in this project as well. Sustainable development contains three dimensions that are co-dependent: the economic, the social and the environmental dimension. For a specific region this relates to

- ☒ a safe and healthy life for current and future generations;
- ☒ a co-operative and prosperous economy and society for all;
- ☒ that local and regional co-operation is based on democracy, openness and participation;
- ☒ diversity and productivity are restored or maintained;
- ☒ that pollution of the atmosphere, land, and water does not exceed the carrying capacity of nature;
- ☒ that renewable resources are efficiently used and managed within their regeneration capacity;
- ☒ that the material flow of non-renewable resources is made efficient and cyclic, and that renewable substitutes are created and promoted.

Sustainable development of tourism

In this report the development of tourism is sustainable if it occurs based on the guidelines mentioned above.

In the appendix of the conference material of the seminar "Sustainable tourism and nature 2000" of the European Commission in December 1999 at Lisbon, Portugal, sustainable development of tourism is defined as follows:

Sustainable tourism development is about keeping a balance between the needs of the visitor, the environment and the host community for current as well as future generations. Tourism can contribute to the three dimensions of sustainable development as follows:

- ☒ in economic terms, sustainable tourism development can improve the competitiveness of the enterprises, in particular SMEs, directly and indirectly related to tourism, and bring benefits to the local economy,
- ☒ in social terms, sustainable tourism development can enable at the same time to meet the needs and to encourage a responsible behaviour of the tourists, of the people working in tourism enterprises and of the local population,
- ☒ in environmental terms, sustainable tourism development can ensure the protection and rational management of natural and cultural resources.

Indicators

In this project "indicator" refers to quantitative and qualitative parameters that are useful in describing the development of tourism in a specified region economically, ecologically and socially. In other words: Indicators of sustainable development are those variables that should be definitely considered if one wants to develop sustainable tourism.

The Institute of Sustainable Development at the University of Long Island therefore defines indicators as follows: "Indicators are data and statistics that highlight key parameters in our biophysical and social systems. They tell us which direction a critical aspect of our community, economy, or environment is going: improving, deteriorating, or staying the same. Without indicators, we have no objective measures of our progress towards sustainability. Indicators can help us gauge what we should do more of, less of, or what issues we need to rethink. Indicators that are carefully designed, watched, and interpreted can help us create sustainable communities."

Baltic Sea Region

In general this report follows the guidelines of the Baltic 21. According to the Baltic 21 the following countries belong to the Baltic Sea Region: Denmark, Germany, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, Poland, Russia and Sweden. Chapter 1 gives an overview of the structure of tourism in all of these countries. However, the analysis of data availability (phase 3) and the participation at the international workshop was limited to stakeholders of the nine countries directly adjacent to the Baltic Sea. Norway and Iceland were disregarded in these steps.

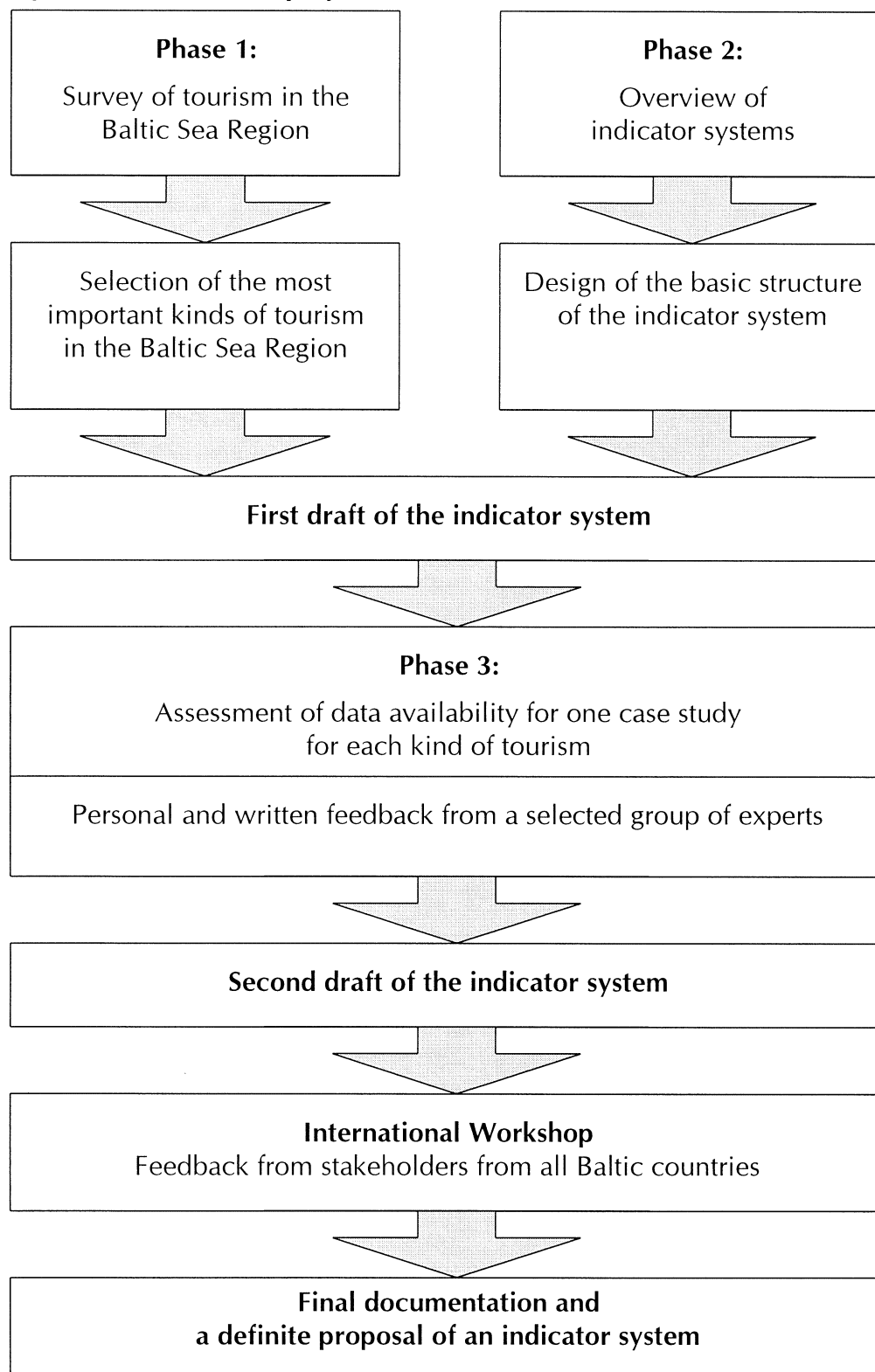
1 Concept of this project

The project is divided into the following phases:

Phase 1	Survey of the current structure of the tourist market and the volume of tourist demand in the Baltic Sea Region by destinations.
Phase 2	Summarisation of already existing systems of indicators that can serve as models for this project.
Phase 3	Assessment which data are available on a local or regional level or can be readily obtained.
Phase 4	Proposal of a practical system of indicators on the basis of the first three phases of this project.
Phase 5	Presentation and discussion of the proposed indicators at an international workshop. Discussion of subsequent steps for the continuation of the process.
Phase 6	Presentation of the results at the working group on tourism of the Baltic 21 process (Tourism Task Force).
Phase 7	Writing of a final report with recommendations for the implementation of the results in practice.

Fig. 1 shows the temporal scheme of the various phases of this project.

Fig. 1: Schedule of the project



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2 Results of the various phases of this project

2.1 Overview of tourism in the Baltic Sea Region

Survey of the current structure of the tourist market and the volume of tourist demand in the Baltic Sea Region by destinations

A summary of the most important aspects of the structure and development of the littoral states of the Baltic Sea is given below. The first part contains current data relating to the economy, social structure, infrastructure, and tourism in general for each country in the Baltic Sea Region. Data from national tourist statistics were hardly used in order to achieve maximum comparability. The second part consists of selected data and facts relating to tourism in these countries in particular. In this part data from national sources are more widely used. The final part focuses on trends in the development of tourism in the Baltic Sea Region in the near future.

Starting point for data research was the Biennial Report 2000 (Baltic 21 Series No. 1/2000) and the Indicator Report 2000 (Development in the Baltic Sea Region towards the Baltic 21 Goals – an indicator based assessment, Baltic 21 Series 21 No. 2/2000) of the Baltic 21 secretariat (www.ee/baltic21). Data presented in these reports were not repeated in detail in this report. Only data were used that were of importance to the development of tourism. For details on other data, especially traffic statistics, please refer to the original sources mentioned above.

Additionally many national and international sources were evaluated. It was the main goal of this phase not only to gather current information about the importance and the conditions of tourism in each of the countries in the Baltic Sea Region but also to point out characteristic kinds of tourism for each country. This information serves as a basis for a useful choice of case studies for phase 3.

A summary of the results of this research is documented below. More information can be found at the sources listed among the References at the end of this report.

2.1.1 General data on the countries of the Baltic Sea Region

Population data

The following table contains data of population size and distribution. As expected, the population density varies considerably between the countries of the Baltic Sea Region.

population

Iceland has the lowest population density (3 inhabitants per square kilometre), Germany has the largest (230 inh. / sq. km). The variation between the three Baltic states is small. Of these three countries Lithuania is most densely populated (57 inh. / sq. km), followed by Latvia (38 inh. / sq. km) and Estonia (32 inh. / sq. km).

population density

Another interesting variable is the share of the urban population among the entire population of a country. The rural population is largest in Poland and Finland (on a relative scale) where only 64% of the population live in cities. The urban population is largest in Iceland (more than 90%). There is practically no variation of this variable among the three Baltic states (compare Tab. 1).

urban population

Tab.1: State of development – population and GDP

	population		urban pop. in % of the entire population	per capita GDP in US \$ (1997)	growth rate p. cap. GDP in % (1996-97)	real per capita GDP in PPP-\$ (1997)
	millions	per km ²				
Denmark	5.3	122	85* ³	34,890	3.6	23,450
Germany	82.1	230	87	28,280	1.7	21,170
Estonia	1.5	32	74	3,360	8.6	5,090
Finland	5.1	15	64* ³	24,790	5.9	19,660
Iceland	0.3	3	90	16,180	n/a	n/a
Latvia	2.5	38	74	2,430	7.7	3,970
Lithuania	3.7	57	73	2,260	4.1	4,140
Norway	4.4	14	74* ³	36,100	2.8	24,260
Poland	38.7	124	64* ²	3,590	6.7	6,510
Russia	147.3	9	77* ¹	2,680	0.6	4,280
Sweden	8.9	20	83	26,210	1.3	19,010

Source: Fischer Weltalmanach 2000

*¹ 1995 *² 1996 *³ 1998

* PPP-\$: Currency unit after the adjustment of differences in purchasing power between the various currencies n/a = not available

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National value added

Also, Tab. 1 shows data on per capita GDP in US \$ and the real per **gross** capita GDP in PPP-\$ (purchasing power parity) which means that the **domestic** buying power that the number of currency units is taken into **product** consideration that is necessary to obtain the same amount of goods or services as US \$ 1 in the United States. It is worth mentioning that the differences of the real per capita GDP in PPP-\$ between the countries are much smaller than the differences of the GDP in US \$. E.g. Norway has a GDP of US \$ 36,100 per person while it is only US \$ 2,260 per person in Lithuania. If the real per capita were considered, the difference would decrease (PPP-\$ 24,260 for Norway and PPP-\$ 4,140 for Lithuania). The economic differences between the countries can be much better quantitatively assessed if buying power is normalised.

The following table compares the importance of each of the three **net product and** main economic sectors in all countries based on the entire value **employees by** added and the number of employees in each sector. Significant **economic** differences between some of the countries in the Baltic Sea Region **sector** do exist. Please note that the proportion of employees working in the primary sector exceeds 10% only in the three Baltic states, Russia and Poland (compare Tab. 2).

Tab. 2: Comparison of economic sectors by net product and number of employees in % (1997)

	primary sector		secondary sector		tertiary sector	
	net product	employees	net product	employees	net product	employees
Denmark	3.3	3.7	25.4	26.4	71.4	69.7
Germany	1.1	2.9	33.1	34.3	65.8	62.8
Estonia	7	10.0	28.0	34.0	65.0	56.0
Finland	3.9	7.1	34.8	27.4	61.3	65.3
Iceland *1	4.0	2.4	38.0	19.5	58.0	n/a
Latvia	8.0	18.0	30.0	26.0	62.0	56.0
Lithuania	11.3	13.9	27.9	n/a	60.8	n/a
Norway	2.2	4.7	35.9	23.4	61.9	71.7
Poland	5.6	20.5	37.5	31.9	56.9	47.5
Russia	7.0	15.7	39.0	33.7	54.0	46.7
Sweden	1.9	2.8	30.3	26.0	67.8	71.2

Source: Fischer Weltalmanach 2000

*1 1996

n/a = not available

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Land use

The following two tables about the structure of the landscape, land use and the size of protected areas in the Baltic countries give you an impression about the environment in which the development of the tourist industry takes place.

Tab. 3: Land use and physical structure of the landscape

	area km ²	surface area of bodies of water in km ²	length of coastline in km	agricultural land in % of the entire area	share of forests in % of the entire area
Denmark	43,094	700	7,314	60	10
Germany	357,020	7,390	2,389	33	31
Estonia	45,227	2,015	3,794	25	44
Finland	338,144	31,560	1,126	8	76
Iceland	103,000	2,750	4,988	n/a	1
Latvia	64,589	n/a	531	27	46
Lithuania	65,301	n/a	99	35	31
Norway	323,759	16,360	21,925	3	27
Poland	312,685	8,173	491	47	29
Russia	17,075,400	79,400	37,653	8	46
Sweden	449,964	39,036	3,218	7	68

Source: CIA World Factbook 2000

n/a = not available

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Since a sound nature and environment is extremely important as a basis for tourism, the second table focuses in detail on the extent and status of protected areas in the countries of the Baltic Sea Region.

The differences can be attributed to variances in the natural environment (varying shares of nature worth being protected) and to varying standards in environmental policy among the Baltic countries. A large share of strongly protected areas is easier to obtain in countries with a low population than in countries with a high population density.

Additionally it has to be noted that a classification of protected areas according to the categories of the IUCN is only possible for areas greater than 1000 ha. Smaller areas are therefore listed among "Other areas" regardless of the necessity to protect them.

Tab. 4: Protected areas in 1000 ha

	Total area in km ²	Total of protected areas	IUCN total	IUCN areas by category					other areas
				I	II	III	IV	V	
Denmark	43,094	22,470	13,790	200	-	6	11,560	1,970	8,680
Germany - coastal area	38,941	6,520	3,710	-	800	-	390	3,320	2,810
Estonia	45,227	1,566,360*	4,920	760	1,670	-	1,620	870	1,561,440*
Finland	338,144	30,830	26,520	1,630	4,230	-	20,650	-	4,320
Latvia	64,589	8,080	8,030	390	-	3	810	6,800	50
Lithuania	65,301	6,470	6,400	280	1,400	-	1,010	3,710	70
Norway	323,759	19,740	18,720	1,250	13,780	-	140	3,540	1,020
Poland	312,685	27,290	26,270	-	1,500	-	770	24,000	1,020
Russia	17,075,400	30,840	-	21,740	6,840	3	1,720	530	-
Sweden	449,964	36,910	29,970	8,990	6,350		13,340	1,290	6,940

Source: www.grida.no

Category I - Nature Reserve, wilderness area: Management only for research or to protect the wilderness.

Category II - National Park: Protection of ecosystems and recreation are the main goals of this kind of management.

Category III - Natural Monument: Management mainly to preserve a special natural landmark.

Category IV - Protected biotopes and areas for endangered species: Protection mainly by a few selected measures.

Category V - Protected landscape: Management is based on the goal of protecting a certain part of the environment or a coastal area and on recreational possibilities for the population.

Germany coastal area: Schleswig-Holstein, Mecklenburg-West Pomerania

* incl. protected marine areas

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Infrastructure of traffic

Besides attractiveness and amenities it is important for the **traffic system** development of tourism at a destination to be accessible. Since the automobile is the preferred means of transportation of tourists in the EU countries among the countries of the Baltic Sea Region, accessibility is mainly related to the existing road network. Often there are only few alternatives or they are only scarcely used. On the other hand: The car is preferred as means of holiday transportation since most destinations cannot be reached any other way and the mobility at the destination is also restricted without a car at hand.

In the Baltic States, Poland and Russia, public transportation is of greater importance. This is mainly true for buses, trains are used less often. Reasons for this cannot only be attributed the density of the railroad network. Also lack of comfort, a long duration of travel and the low frequency of operation play an important role.

Tab. 5 Road and rail networks - length in km

	roads			railroad	waterways	for comparison: land area in km ²
	total	paved	motorways			
Denmark	71,437	71,437	843	3,323	417	43,094
Germany	656,140	650,891	11,400	40,826	7,500	357,020
Estonia	49,480	10,935	75	1,018	320	45,227
Finland	77,895	49,853	473	5,859	6,675	338,144
Iceland	12,689	3,439	n/a	n/a	n/a	103,000
Latvia	59,178	22,843	n/a	2,412	300	64,589
Lithuania	71,375	64,951	417	2,002	600	65,301
Norway	90,741	67,602	128	4,012	1,577	323,759
Poland	381,046	249,966	268	24,313	3,821	312,685
Russia	948,000	336,000	n/a	150,000	101,000	17,075,400
Sweden	210,907	163,453	1,439	13,415	2,052	449,964

Source: CIA World Factbook 2000

n/a = not available

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Buses are an inexpensive means of transportation even over long distances. There is a daily bus connection from Berlin to Riga, Tallinn and Kaunas. Connections also exist between Riga and Warsaw and St. Petersburg, between Vilnius and Gdansk, Kaliningrad, St. Petersburg and Warsaw. In Sweden and Finland there are connections that include ferries, too.

There are only few railroad connections within the Baltic Sea Region. **railroad connections** They are of secondary importance for tourism and are only used frequently in areas with several departures per day and with trains operating that offer at least some standard of comfort. Extensive investments will be necessary if trains are to become more attractive for holiday travel.

Tab. 6 Daily railroad connections (without changes of trains)

	Tallinn									
Riga		Riga								
Vilnius		1	Vilnius							
Helsinki				Helsinki						
Warsaw			1		Warsaw					
Kaliningrad			3			Kaliningrad				
St. Petersburg	1	1	1	4		1	St. Petersburg			
Berlin					4		1*	Berlin		
Stockholm								Stockholm		
Oslo								2	Oslo	
Hamburg									Hamburg	
Copenhagen								5	4	

Source: www.bahn.de

* twice per week

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Aeroplanes are much more commonly used in holiday travel than **air traffic** trains. Transcontinental connections exist from Stockholm, **network** Copenhagen and Helsinki. Many European destinations outside the Baltic Sea Region can be reached from the airports of Hamburg, Gdansk, Riga, Tallinn, Vilnius, Palanga and St. Petersburg. From the Baltic states and Russia there are ten daily connections to Germany. Within the Baltic states there are six daily connections and from the Baltic states to Poland there are three daily flights.

Table 7 shows the air traffic infrastructure in the Baltic countries on which the airline connections are based.

Tab. 7: Airports

	no. of airports	with paved runways	with runways >2438 m	<i>airports</i>
Denmark	118	28	9	
Germany	615	320	76	
Estonia	5	5	2	
Finland	157	68	29	
Iceland	86	12	5	
Latvia	50	36	8	
Lithuania	96	25	5	
Norway	103	66	12	
Poland	123	85	33	
Russia	2,517	630	256	
Sweden	256	147	14	

Sources: CIA World Factbook 2000, Fischer Weltalmanach 2000

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Boat traffic on the Baltic Sea has increased significantly over the last **ferry** years. Additional ferry lines have been created and sometimes **connections** discontinued. More ferry connections are planned. New and faster ships are to be used. Some ferry connections are only operated seasonally or offer only limited departures in winter. All in all there currently is a strong transition taking place regarding ferry connections.

Ferries are often regarded as a positive alternative to automobile traffic in terms of environmental protection. Their environmental balance with respect to air pollution and energy use however varies extremely depending on the kind of ship that is used. Insufficient filtering, fuel with a high load of pollutants, deficits in security standards and high energy use especially of high velocity ferries diminish their advantage.

With respect to tourism ships are not only important as a means of transportation but also as part of the vacation or as type of holiday. Trips on ferries as short cruises, shopping trips or one-day excursions attract many thousands of guests each year. Also, the Baltic Sea is the destination of many cruises that usually visit the large cities of the Baltic Sea Region. Table 8 shows the number of regular ferry connections between the countries of the Baltic.

Tab. 8: Passenger ferry connections across the Baltic Sea, April 2001

from	to										total
	DK	S	FIN	N	RUS	LAT	LIT	EST	PL	D	
DK		8	-	9	-	-	1	-	2	4	24
S	8		6	3	1	1	2	2	6	5	34
FIN	-	6		-	-	-	-	1	1	3	11
N	9	3	-		-	-	-	-	-	1	13
RUS	-	1	-	-		-	-	-	-	1	2
LAT	-	1	-	-	-		-	-	-	2	3
LIT	1	2	-	-	-	-		-	-	3	6
EST	-	2	1	-	-	-	-		-	1	4
PL	2	6	1	-	-	-	-	-		1	10
D	4	5	3	1	1	2	3	1	1		21

Source: Internet, personal compilation

ferry connection = the connection between two ports counts as one even if it is served by more than one operator

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Use of resources

Germany has the smallest natural water supply but at the same time **use of water** the most extensive consumption of water. All other countries except **and energy** for Poland have not yet used as much of their water resources. One reason for this is the lower population density in these countries as compared to Germany. The per capita water consumption is much higher in the Western European countries than in the Baltic States, Russia or Poland.

A look at the general use of energy yields a similar distribution. The use of energy is particularly high in the Northern countries due to the increased necessity of heating because of the colder climate.

Tab. 9: Use of water and energy

	use of water in litres per capita and day	use of water in % of all resources (1998)	per capita use of energy (kg oil-equivalents) (1997)
Denmark	139 ¹⁾	9.2	3,994
Germany	127 ¹⁾	26.0	4,231*
Estonia	163 ³⁾	1.3	3,811
Finland	145 ¹⁾	2.2	6,435
Iceland	n/a	0.1**	8,566
Latvia	147 ³⁾	0.8	1,806
Lithuania	123 ³⁾	1.0	2,376
Norway	260 ²⁾	0.5	5,501
Poland	158 ¹⁾	19.2	2,721
Russia	n/a	1.7	4,019
Sweden	191 ¹⁾	1.5	5,869

Sources: World Bank 2000; *1998; **1997

1) www.isa.rwth-aachen.de/ww/lehre/umdrucke/siwawi/wasser1/was11.pdf

2) NUS Energieberatungsgesellschaft, NUS Deutschland

3) Baltic State of the Environment Report, 1998

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The use of electric energy in the Scandinavian countries except **production and use of electric power** Denmark is significantly higher than in the other countries. In Scandinavia electric power is readily available from hydroelectric power plants and is used extensively for heating due to the cold climate. In Lithuania, Latvia, and Poland the per capita energy consumption is lowest.

In most countries the energy supply relies on fossil fuels. Iceland, Norway and Latvia are able to support most of their energy use from water-power.

Sweden supplements water-power by nuclear energy. This source of energy is almost exclusively used in Lithuania.

Renewable energy resources are only of limited importance. However, their share in the energy supply increases steadily. In Denmark a relatively large part of the energy supply can be attributed to power from wind and biomass.

Tab. 10: Use and supply of electric power (1998)

	in billions of kWh (1998)	per capita in kWh (1998)	production of electric energy by source in %			
			fossil fuels	water-power	nuclear energy	other sources
Denmark	33.0	6,252	90.8	0.07	0	9.13
Germany	488.0	5,946	65.77	3.2	29.06	1.97
Estonia	7.6	5,198	98.8	0.02	0	0
Finland	79.3	15,427	41.62	19.59	27.59	11.2
Iceland	5.7	21,121	0.06	89.88	0	10.6
Latvia	4.8	1,980	29.58	70.42	0	0
Lithuania	7.8	2,112	13.09	4.3	82.16	0
Norway	111.0	25,227	0.58	99.16	0	0.26
Poland	121.9	3,154	96.47	3.18	0	0.35
Russia	702.7	4,770	67.77	19.49	12.74	0
Sweden	135.1	15,260	6.9	46.49	45.16	2.26

Sources: CIA World Factbook 2000, Fischer Weltalmanach 2000

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The introduction of environmental management systems in the **environmental management systems (EMS)** countries around the Baltic Sea has proceeded to various degrees. The number of certified businesses continues to increase (compare Baltic 21 indicator report). Sometimes environmental management and quality management are interlinked since the requirements for both systems show many similarities.

The practical requirements of EMAS or ISO 14001ff on the businesses or certifiers and the costs involved in this process limit the number of companies in the Baltic States, Russia and Poland that are able to obtain such a certification. Regardless, some businesses are already certified in these countries as well.

Unfortunately, specific data on tourist enterprises are not available in a useful way.

Biodiversity

The number of endangered species reflects to a certain extent how **endangered** much the ecosystems in the Baltic countries have come under **species** anthropogenic pressure. High values make it necessary to assess why such a development could take place and what measures need to be taken in order to prevent additional losses of biodiversity. Among others, tourism is one potential factor for the loss of species.

The number of extinct or endangered species is least in the Baltic States. In contrast, in Germany and Poland these numbers are relatively high.

Tab. 11: Endangered species

absolute values	mammals		birds		reptiles		vascular plants	
	extinct or nearly extinct	endangered, scarce or in need of protection	extinct or nearly extinct	endangered, scarce or in need of protection	extinct or nearly extinct	endangered, scarce or in need of protection	extinct or nearly extinct	endangered, scarce or in need of protection
DK	0	19	7	74	15	2	55	247
D S-H**	6	32	18	87	15	7	47	622
D M-V*	6	24	12	94	18	5	53	551
EST	0	18	9	39	2	1	18	139
FIN***	2	14	7	33	1	0	17	216
FIN****	3	6	3	n/a	n/a	1	n/a	147
IS	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LAT	1	23	9	74	4	3	38	264
LIT	1	16	3	63	5	2	20	183
N	0	9	n/a	n/a	n/a	n/a	n/a	n/a
PL	1	35	23	75	5	4	37	378
RUS*****	0	15	11	108	2	3	51	358
RUS*****	1	21	17	64	15	0	30	112
S	2	21	9	83	8	4	64	386

Sources: Ingelög, T., Andersson, R. & Tjénberg, R., 1993; World Resources Institute, 1996

* = Mecklenburg-West Pomerania only; ** = Schleswig-Holstein only; *** = without Åland; **** = Åland only; ***** = Oblast St. Petersburg only; ***** = Oblast Kaliningrad only; n/a = not available

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2.1.2 Data relating to tourism in particular

In order to get an impression of the economic importance of tourism **share of tourism in GDP** in the countries of the Baltic Sea Region, the share of the tourist industry in the Gross Domestic Product (GDP), the income from tourism and the number of people employed in the tourist industry are subsequently listed (compare Tab. 12). An interesting quantity for comparison is the world-wide share of tourism in the entire GDP. **employees in tourism** According to the Organisation for Economic Co-operation and Development (OECD) 12-13% of all value added can be attributed to tourism and 12% of all employees work in the tourist industry.

Tab. 12: Economic importance of tourism

	income from tourism		relative share of GDP	employees in tourism (in 1000s)
	in millions of US-\$	per arrival (US-\$)		
Denmark	3,036	1,460	3.7 *5	72.0 *5*2
Germany	15,859	960	8.0 *5	2,600.0 *5*2
Estonia	499	605	15.0 *6	70.0 *5
Finland	1,972	1,060	1.5 *5	53.6 *4*1
Iceland	202	871	n/a	7.6 *5*1
Latvia	211	872	2.6 *6	60.0 *3
Lithuania	505	357	5.6 *6	76.0 *5
Norway	2,212	780	4.0 *6	65.0 *4
Poland	8,000	425	n/a	211.3 *5
Russia	7,107	450	n/a	n/a
Sweden	4,107	1,600	3.3 *3	136.0 *3

Sources: Bar-On (1999); Baltic 21, Eurostat, WTO (1999); national tourism statistics

*1 in hotels and restaurants

*2 in HOREGA Sector

*3 1996

*4 1997

*5 1998

*6 1999

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Tab. 13 lists the number of international arrivals among overnight **international arrivals** guests in the countries of the Baltic Sea Region.

Almost all countries show increases, however, in absolute terms only the increase in Russia seems significant. In this case (but also in Germany) it has to be considered that only a small fraction of tourism actually relates to the Baltic Sea Region.

Tab. 13: International arrivals in millions

	1991	1992	1993	1994	1995	1996	1997	1998	change 1993/98 in %
Denmark	1.4	1.5	1.6	1.6	2.1*	2.1*	2.2*	2.1**	+31
Germany	15.7	15.9	14.4	14.5	14.9	15.2	15.8**	16.5**	+15
Estonia	0.4	0.4	0.5	0.6	0.5	0.6	n/a**	n/a**	n/a**
Finland	1.5	1.5	1.6	1.8	1.8	1.7	1.8	1.9**	+19
Iceland	n/a*	n/a*	n/a*	n/a*	0.2*	0.2*	0.2*	0.2*	n/a*
Latvia	0.04	0.04	0.1	0.1	0.2**	0.2**	0.2**	0.2**	+100
Lithuania	0.3	0.3	0.3	0.2	0.2	0.3**	0.3**	0.3**	+/-0
Norway	2.1	2.4	2.6	2.8	2.9	2.8	n/a**	4.5**	+73
Poland	n/a**	n/a**	n/a**	n/a**	3.6**	3.8**	4.1**	3.7**	n/a**
Russia	n/a	3.0	5.9	5.8	9.3	14.6	15.4*	15.8*	+168
Sweden	1.4	1.6	1.7	2.0	2.3	2.4	n/a**	n/a**	n/a**

Sources: WTO 1998, * WTO 2000a, ** WTO 2000b

n/a = not available

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Tab. 14 compares overnight stays of domestic guests and visitors **overnight stays** from abroad for all Baltic countries. For Poland and Germany the coastal areas are listed separately which makes it possible to estimate the importance of coastal tourism. In the other countries the majority of the tourist centres is located in coastal areas anyway.

Tab. 14: Overnight stays in 1998

	total of overnight stays in 1000s	domestic guests		guests from abroad	
		in 1000s	in %	in 1000s	in %
Denmark	25,170	14,882	59	10,288	41
Germany	273,466	236,371	86	37,095	14
Germany: coastal areas	33,763	32,748	97	1,015	3
Estonia	1,286	379	29	907	71
Finland	15,203	11,526	76	3,677	24
Iceland	1,496	506	34	990	66
Latvia	1,441	708	49	733	51
Lithuania	3,893	2,859	73	1,034	27
Norway	24,514	16,645	68	7,869	32
Poland	58,998	51,161	87	7,837	13
Poland: coastal areas	20,884	19,008	91	1,876	9
Russia	n/a	n/a		n/a	
Sweden	37,497	29,468	79	8,029	21

Source: Eurostat Statistische Berichte des Landesamts Schleswig-Holstein; Statistische Berichte des Landesamts Mecklenburg Vorpommern
 *1 Mecklenburg-West Pomerania and Schleswig Holstein *2 Provinces of Pomorskie, Warminsko-Mazurskie, Zachodniopomorskie

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In almost all Baltic countries domestic tourism is much more important than international tourism. It is especially important in Poland, in the coastal zones of Germany, and in Sweden.

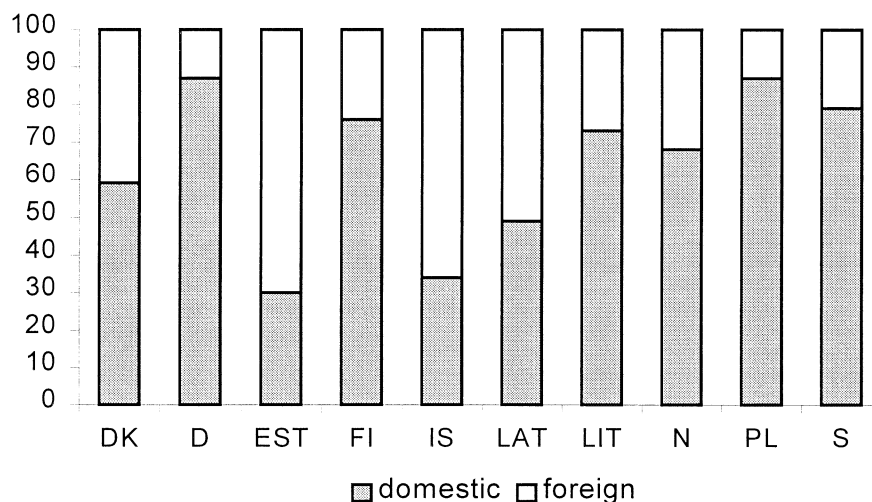


Fig. 2: Overnight stays with respect to origin in % of the total number of overnight stays

Fig. 2 again documents that domestic travel within the Baltic rim is of **domestic tourism** extraordinary importance. It is striking that the share of overnight stays of domestic guests is relatively low in the three Baltic States. One reason for this phenomenon is the large share of overnight stays during visits of friends and relatives. These private stays are not included in the official statistics. Therefore it cannot be concluded by these figures that domestic tourism is only of secondary importance in these countries.

Besides tourism within the own country, visits of other Baltic **tourism within the Baltic Sea Region** countries are an important part of tourism in the Baltic Sea Region (compare Tab. 15). If the number of foreign overnight stays in a certain country is put into perspective with the number of overnight stays of guests from the other Baltic countries (if data are available), it becomes obvious that a large part of tourists travels within the Baltic Sea Region. Therefore the Baltic Sea Region is also of importance as source of tourism for the countries around the Baltic Sea and not only as destination.

Tab.15: Foreign overnight stays or arrivals (in 1000s) , 1998

in:	Country of origin											total in 1000s	from Baltic countries	
	DK	S	FIN	N	IS	RUS	LAT	LIT	EST	PL	D		in 1000s	% of total
DK* ¹		1,921	138	1,350	n/a	n/a	n/a	n/a	n/a	67	3,958	10,287	7,434	72
S * ¹ * ³	853		416	1,540	n/a	79	11	16	19	58	1,941	7,702	4,933	64
FIN* ¹	85	570		168	7	540	25	13	95	44	458	3,700	2,005	54
N* ¹	390	581	111		11	n/a	n/a	n/a	n/a	36	1,287	4,538	2,416	53
IS* ²	23	21	5	20		0.6* ⁵	0.2	0.3	0.4	1	32	232	104	45
RUS* ²	26	54	1,260	32	1.3		209	752	271	803	316	15,805	3,453	22
LAT* ¹	20	65	61	20	n/a	115		35	39	10	66	733	431	59
LIT* ¹	9	11	19	5	0.3	54	19		11	29	45	638	202	32
EST* ²	18	108	1,813	18	0.9	232	325	83		17	45	2908	2,660	91
PL* ²	152	234	78	63	1	2,061	533	1,720	395		51,573	88,592	56,810	64
D* ¹	1,359	1,151	341	424	50	704		193		907		31,245	5,129	16

Source: WTO 2000

*¹ overnight stays of foreign guests in accommodations

*² arrivals of foreign guests at the border

*³ 1996

n/a = not available

*⁴ Sum of data available

*⁵ data for 1997

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Since data on overnight stays of foreign guests at the various kinds of accommodation by country of origin is not available for Estonia, Iceland, Poland and Russia, the number of international arrivals at the borders were used for these countries.

Tab. 16 informs about the supply of accommodation in the Baltic **hotel capacities and utilisation** countries including the average business size and its utilisation. The data give an impression of the structure of the supply side of the tourist market.

Tourist businesses in Scandinavia are usually larger than in most other Baltic countries, averaging more than 100 beds per business. The average size is smallest in Germany. The best utilisation is reached by hotels in Denmark and Poland. In contrast, the utilisation of tourist enterprises is lowest in Lithuania and Latvia.

In Poland hotels in the coastal areas are of less importance as compared to the countrywide average since many guests use campgrounds for their overnight stays at the Baltic Sea during the summer months.

Tab. 16 Hotel capacities and utilisation (1998)

	no. of beds in hotels	no. of hotels	average no. of beds per hotel	utilisation in %
Denmark	59,339	467	127	41.6
Germany	1,547,542	38,913	40	32.1
Germany: coastal areas	116,680	3,352	35	n/a
Estonia	11,856	204	58	34.0
Finland	112,289	987	114	37.8
Iceland	12,030	253	48	32.8
Latvia	13,613	148	92	25.8
Lithuania	11,714	201	58	27.2
Norway	137,188	1,176	117	37.9
Poland	120,589	1,576	77	46.0
Poland: coastal areas	22,166	211	105	n/a
Russia	n/a	n/a	n/a	n/a
Sweden	184,545	1,819	101	33.1

Sources: Eurostat, Polish Institute of Tourism, Statistische Berichte des Landesamts Schleswig-Holstein; Statistische Berichte des Landesamts Mecklenburg-Vorpommern

*1 hotels and similar businesses; *2 Mecklenburg-West Pomerania and Schleswig-Holstein;

*3 Provinces of Pomorskie, Warminsko-Mazurskie and Zachodniopomorskie

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2.1.3 Trends of tourism in the Baltic Sea Region

The political changes in the Baltic Sea Region during the last decade have led to certain expectations for growth of the tourist industry. Despite some gaps the available data concerning the development of tourism (compare Tab. 13) show that

Tourism in the Baltic Sea Region has increased.

- ➔ the expectations with respect to the general trend have been fulfilled and that
- ➔ significant growth rates were only achieved in countries that only have a relatively small volume of international guests to start with (e.g. Latvia) or in countries that belong to the Baltic Sea Region with only a small fraction of their entire territory (e.g. Russia).

Current data by the WTO (2001) show that the world-wide growth of the tourist industry has continued in 1999 and 2000. However, the growth rates for Europe were below average. Looking at the Baltic countries, only the Russian Federation and Germany belong to the 15 most important destinations world-wide. Pronounced growth rates from 1999 to 2000 were achieved in Iceland (+19%), Estonia (+16%) and Finland (+10%).

Of course not all guests in the Baltic countries are holiday guests at the Baltic Sea. Lohmann (1998) estimates that only about 25% of the international arrivals can be actually attributed to the Baltic Sea Region. The remaining 75% visit e.g. the North Sea coasts of Denmark and Norway or the inland areas of Russia, Poland and Germany.

In order to enable the development towards sustainable tourism, the expected future trend is very important: Is the development of the 1990s going to continue? The expected changes in the boundary conditions and in tourism in general have to be considered if such an estimate is attempted.

How will tourism develop in the Baltic Sea Region?

The following general trends have become evident (compare Lohmann & Aderhold, 2000):

- /// Tourism remains a growing market world-wide but it experiences slower growth in Western Europe due to saturation. The limits of growth are within reach.

future boundary conditions for tourism

- (2) So there will not be many more holiday trips
but changes in the way of travelling: new preferences among the destinations, more trips by plane, different patterns of decision making and booking. The reasons for this transition are not just related to the travellers but also to the development of economic and social conditions as well as to changes in the supply side of the tourist market.
- (3) Changes in the structure of economy and society:
a decreasing real income, political integration and co-operation in Europe, a change in the age distribution of the people (more older people, fewer children), a more flexible structure of work hours, a more distinct division within society between people with a lot of time and little money and those with little time and a lot of money
- (4) Supply in the tourist market: **global competition**
The growing number of offers for holiday travel (domestic and abroad), i.e. an increase in the number of destinations as well as an increase in the capacities at the destinations, leads to a more severe competition based on a stagnation of the demand side. New customers need to be taken from other suppliers. Global competition in the tourist industry will often be decided by price.
- (5) Trends in the demand:
Travel experience leads to more competent customers, resulting in an increased differentiation of the expectations of the holidays. Due to the demographic transition numerous small target groups developed. The desires of these groups tend to differ significantly.
- (6) Changes in travel motives:
The trend leads away from expectations concerning certain services and towards expectations with respect to experiences. Many Germans do not go on holiday because of their desire of physical activity or adventure but because they want to relax, get away from stress, be free and have time at their own disposal. Besides these basic travel motives there has been an interesting development with regard to travel motives: a more intense travel experience and more pleasure are the most important expectations that the Germans have of their holidays.

Holiday trips are supposed to bring about new experiences. High quality service itself is no longer sufficient, unique experiences with personal participation are sought.

For the entire tourist industry life is going to be more difficult and will involve more risks: Differentiated orientation towards customers is necessary, on the other hand travel volume is the only thing promising economic success. But even masses of tourists expect cost-intensive high standards of the offers.

(7) Destinations

There will be only slow development concerning the travel destinations. In most (larger) countries domestic tourism will retain its significance. But the general direction is clear: Destinations in great distance will increase their market share which corresponds to an increase in the number of holiday trips by plane.

Considering these general trends it is obvious that a continued growth of tourism in the Baltic Sea Region is not self-evident. It will continue if the destinations around the Baltic Sea are able to maintain their position in the global competition and if the economic and political situation allows potential customers to travel.

Tab. 17: Destinations and travel interests of the Germans in the Baltic Sea Region

in % Destination	experience with destinations (during the previous three years)			interest in destinations (during the following three years)		
	Jan.1996	Jan.2000	Jan.2001	Jan.1996	Jan.2000	Jan.2001
Baltic coast of Germany: Schleswig-Holstein	5.8	5.0	5.1	14.0	13.2	14.7
Baltic coast of Germany: Mecklenburg-West Pomerania	7.4	7.0	7.5	15.1	13.5	16.0
Poland	2.1	2.2	2.4	2.6	3.2	3.7
Soviet Union / CIS	0.8	0.8	1.0	1.7	1.6	2.2
Estonia, Latvia, Lithuania	0.3	0.3	0.2	1.3	1.6	1.8
Denmark	6.3	4.7	5.2	14.2	11.0	13.3
Norway	2.4	1.7	1.8	9.4	8.1	9.4
Sweden	2.6	1.7	2.1	8.7	7.2	9.1
Finland	0.9	0.4	0.6	5.2	3.9	5.4

Source: Reiseanalyse (Forschungsgemeinschaft Urlaub und Reisen e.V.: Die Reiseanalyse RA 1996/2000/2001)

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The past and the current interest e.g. of the Germans in destinations around the Baltic Sea is reflected in the results of the Reiseanalyse of the Forschungsgemeinschaft Urlaub und Reisen (F.U.R). Neither the actual travel behaviour during the past three years nor the interest of the interviewees in possible trips to the Baltic Sea Region show any dramatic development (Tab. 17).

The WTO (1999; compare Handszuh, 1998) expects that world-wide tourism will continue to grow during the next two decades. For the Baltic Sea Region about 61 million international arrivals are estimated for the year 2020. Of these roughly 15 millions would actually visit the area around the Baltic Sea. Compared to today's values this would indicate only a moderate growth. It has to be considered that this is only an estimate that could be passed by reality. But chances for an actual development that is much better than the estimates do not seem to be too good.

***Growth of
tourism in the
future will
only be
moderate.***

On the other hand something else becomes evident: There is potential for tourism in the future, leaving room for individual arrangements economically, socially and ecologically. There will only be a small margin between chances and risks. Factors for future success in the Baltic Sea Region (and in other destinations) include realistic objectives, a pronunciation of strengths and a precise management of capacities. Relying on the advent of a strong increase in tourism around the Baltic Sea carries the risk of creating more capacities than necessary, causing severe economic, social and ecological problems.

***A precise
management
of capacities is
key to success.***

In summary, tourism in the Baltic Sea Region will remain stable at today's (high) level. Growth will only occur on very long time scales and will be only moderate in effect. However, there will be a further differentiation of offers and target groups.

2.2 Survey of existing systems of indicators

Summarisation of already existing systems of indicators that can serve as models for this project

The idea of using indicators for the assessment of certain developments has already been known for quite a while. Established and frequently used indicators are for instance the Gross Domestic Product (GDP), the unemployment rate or the share of illiteracy in a given country. Indicators are used with varying subjects and geographic extent. They can be used for the analysis of particular aspects of a certain region (e.g. the number of people using ski-lifts in an alpine community) or for global developments (e.g. the world-wide debt per capita).

Also in order to project sustainable development indicators have been described and used for quite a while. There are proposed systems designed to be used throughout the world (e.g. indicator systems of the UN Commission on Sustainable Development (UNCSD)) as well as local initiatives that focus on regional problems (e.g. Indicators for a sustainable environmental development in Leipzig (Stadt Leipzig, 2000)). Due to the complexity of the discussion about sustainability indicators are often used only to describe thematically well-defined segments of the sustainable development.

This project focuses on such a thematically well-defined and geographically limited use of indicators by only assessing tourism and using the indicators only at local or regional levels of planning.

In view of the variety of already existing systems of indicators it made sense not to develop an entirely new set of indicators for this project but to use the work of other protagonists and to check which indicators are currently under discussion. On the basis of this survey useful single indicators or even whole sets of indicators sets of existing systems could be chosen for re-use.

Therefore it was analysed in a first step whether there already exists a system of indicators that points to key variables of sustainable development of tourism on a local level which could be used in practice in the Baltic Sea Region according to the requirements of this project. There are some suggestions for indicators that describe sustainability in tourism on various levels of planning (Seiler, 1989; WTO, 1995; Albowitz, 1998; Pils et Eltschka-Schiller, 1999) and some proposals for indicators describing local sustainability (Zukunftsrat Hamburg 1999; European Commission, 2000). However, none of the systems combined both required characteristics.

A table showing the results of this analysis is given in Appendix B. It lists a selection of the most interesting systems of indicators. The contents of the sources that were sometimes quite different in structure were extracted and the information was fit into a standardised

matrix. This scheme allows an easy comparison of the various sources. Additional systems of indicators were analysed but not included in the table. These additional systems do not contain any basically different approach as compared to those systems included. Consequently their omission does not lead to any loss of significant information.

The following two tables contain summaries of all analysed systems. Some of the systems entirely consist of environmental indicators. By using them it is not possible to describe all dimensions of sustainability. These indicators were included anyway since they are valuable as a basis for use in a more general approach as well.

Our suggestion for a system of indicators for the development of sustainable tourism in the Baltic Sea Region (refer to chapter 2.5) uses indicators from many of the listed indicator sets. A few indicators were additionally developed since adequate examples could not be found during the survey of the other systems. The source of each indicator is listed in the final column of the detailed list of indicators in Appendix D.

2.2.1 Tab. 18: General indicators of sustainable development

title	level	number	authors, editors, place	year	reference address
Indicators of Sustainable Development for the United Kingdom	national (UK)	21	The Department of the Environment, Transport and the Regions (DETR), London	1997	www.environment.detr.gov.uk/epsim/indics/isd.htm
Baltic State of the Environment Report – based on Environmental Indicators	national (Baltic States)	50	Fammler, H. et. al. Baltic Environmental Forum, Riga	1998	www.bef.lv
ökoBudget	local	10	The International Council for Local Environmental Initiatives (ICLEI), Freiburg	1998	ICLEI European Secretariat Eschholzstr. 86 D-79115 Freiburg Tel. +49 761-36892-0 Fax. +49 761-36892-59 environmental.management@iclei-europe.org
Sustainability Indicators – A Compass on the Road Towards Sustainability	international	6	Spangenberg, J.H. & Bonniot, O. Wissenschaftszentrum Nordrhein-Westfalen; Institut Arbeit und Technik; Wuppertal Institut für Klima, Umwelt, Energie, Wuppertal	1998	Wuppertal Institut für Klima, Umwelt, Energie Döppersberg 19 42004 Wuppertal www.wupperinst.org
Indikatoren für eine zukunftsfähige Entwicklung Hamburgs	local (Hamburg)	12	Zukunftsrat Hamburg, Hamburg	1999	Zukunftsrat Hamburg Osterstraße 58 20259 Hamburg
Towards a Local Sustainability Profile – European Common Indicators	local	10	European Commission Directorate General Environment, Brussels	1999	European Commission Directorate General Environment Rue de la Loi 2000 B-1049 Brussels
Arbeit – Wirtschaft – Umwelt (Wuppertal Papers)	national	6	Hinterberger, F. et. al. Wissenschaftszentrum Nordrhein-Westfalen; Institut Arbeit und Technik; Wuppertal Institut für Klima, Umwelt, Energie; Kulturwissenschaftliches Institut	1999	Wuppertal Institut für Klima, Umwelt und Energie Döppersberg 19 42004 Wuppertal www.wupperinst.org

Tab. 18 continued ...

title	level	number	authors, editors, place	year	reference address
Sustainability Counts Developing Local Sustainability Indicators for Cumbria – Report of the 8 th Conference	regional (Cumbria)	32	Pippa Hyam, County of Cumbria (UK)	1999	via International Institute for Sustainable Development 161 Portage Avenue East – 6 th Floor, Winnipeg, Manitoba, Canada, R3B OY4 www.iisd.ca oder http://iisd1.iisd.ca/
Development of Institutional Indicators	international	130	Spangenberg, J.H. Wuppertal Institute and Sustainable Europe Research Institute, Vienna Pfahl, S., Wuppertal Institute and Ecologic Ltd., Berlin Deller, K., HU Berlin für: Umweltbundesamt, Berlin	2000	Sustainable Europe Research Institute Schwarzspanierstr. 4/7 A-1090 Wien www.seri.at
Indikatoren für eine nachhaltige Umweltentwicklung in Leipzig 2000	local (City of Leipzig)	24	Stadt Leipzig Der Oberbürgermeister Amt für Umweltschutz, Leipzig	2000	Stadt Leipzig Amt für Umweltschutz Nonnenstraße 5c Tel. (0341) 123-1629
Nachhaltigkeitsbericht Kreis Ostholstein Agenda 21 - Zukunft gestalten in Ostholstein	regional (County of Ostholstein)	21	Kreis Ostholstein, Eutin (Germany)	2000	Kreis Ostholstein Amt für Planung und Nachhaltige Entwicklung Dipl.-Ing. Silke Mählenhoff Lübecker Straße 41 23701 Eutin
Leitfaden Indikatoren im Rahmen einer lokalen Agenda 21	local	24	Ministerium für Umwelt und Verkehr Baden-Württemberg (UVM); Bayerisches Staatsministerium für Landesentwicklung und Umweltfragen (STMLU); Hessisches Ministerium für Umwelt, Landwirtschaft und Forsten (MULF); Thüringer Ministerium für Landwirtschaft, Naturschutz und Umwelt (MLNU)	2000	Forschungsstätte der Evangelischen Studiengemeinschaft e.V. Schmeilweg 5 69118 Heidelberg

Tab. 18 continued ...

title	level	number	authors, editors, place	year	reference address
Nachhaltige Entwicklung in Deutschland – Ausgewählte Problemfelder und Lösungsansätze	national	44	Hillebrand, B. et. al. Rheinisch-Westfälisches Institut für Wirtschaftsforschung	2000	Rheinisch-Westfälisches Institut für Wirtschaftsforschung ISSN 0939-7280 ISBN 3-928739-59-X
Sustainable Seattle: A National Model - Indicators for Sustainable Community	local	40	The International Institute for Sustainable Development (IISD), Winnipeg Für Town of Seattle, Washington	2000	International Institute for Sustainable Development 161 Portage Avenue East – 6 th Floor, Winnipeg, Manitoba, Canada, R3B OY4 www.iisd.ca oder http://iisd1.iisd.ca/
The indicators of the third TEPI project year	national	60	Rodrigo Jiliberto Herrera, Director Gerente TAU Consultora Ambiental, Madrid, Spain (TEAM LEADER)	2000	TAU Consultora Ambiental, Santa Matilde, 4, 1a planta E-28039 Madrid Tel: ++34.91.4502093, Fax: ++34.91.4594382 admin@taugroup.com oder www.e-m-a-l-l-nu/tepi/indicat.htm
Environmental signals 2000 – European Environment Agency regular indicator report	national		European Environment Agency (EEA), Copenhagen	2000	EEA, Information Centre, Kongens Nytorv 6, DK-1050 Copenhagen K Phone: +45 33 36 71 00/68/65 Fax: +45 33 36 71 99 information.centre@eea.eu.int www.eea.eu.int
Makroindikatoren des Umweltzustands	national		Projektverbund, Berlin, Christian- Albrechts-Universität zu Kiel, Statistisches Bundesamt Wiesbaden F&E-Projekt „Hochaggregierte Umweltzustandsindikatoren auf Basis naturwissenschaftlicher Modelle, statistischer Aggregationsverfahren und gesellschaftl. Entscheidungsprozesse“	2000	www.ecology.uni-kiel.de

Tab. 18 continued ...

title	level	number	authors, editors, place	year	reference address
Nachhaltigkeitsindikatoren der UN-Commission on Sustainable Development (CSD)	international	134	UN-Commission on Sustainable Development (UNCSD)	2001	www.umweltbundesamt.de/csd/
DUX – Der deutsche Umweltindex	national	6	Umweltbundesamt Postfach 330022 14191 Berlin	2001	www.umweltbundesamt.de/dux/dux.htm
2001 Environmental Sustainability Index	international	22 core indicators 67 variables assessed	Global Leaders of Tomorrow Environment Task Force, World Economic Forum	2001	Global Leaders of Tomorrow Environment Task Force, World Economic Forum 91-93 route de la Capite CH 1223 Cologny/ Geneva
Core indicators – CEROI core set	local	29	Cities Environmental Report on the Internet (CEROI), Arendal	2001	CEROI Secretariat UNEP/GRID-Arendal Longum Park Service Box 706 N-4808 Arendal Fax: +47 37 03 50 50 E-mail: ceroi@grida.no http://ceroi.net

2.2.2 Tab. 19: Indicators of sustainable development of tourism

title	level	number	authors, editors, place	year	reference address
Sanfter Tourismus in Zahlen Kennziffern einer harmonisierten touristischen Entwicklung Berner Studien zu Freizeit und Tourismus, 24	local/ regional (seven destinations in Bern)	31	Seiler, B. & Müller, M. Forschungsinstitut für Freizeit und Tourismus (FIF) der Universität Bern (Hrsg.)	1989	Universität Bern, FIF Monbijoustraße 29 CH-3011 Bern
Indicators for the Sustainable Management of Tourism Report of the International Working Group on Indicators of Sustainable Tourism to the Environment Committee World Tourism Organization (WTO)	local national	35 national 29 local 73 addi- tional	International Working Group on Indicators of Sustainable Tourism (Hrsg.) Für: World Tourism Organisation (WTO)	1993	International Institute for Sustainable Development 161 Portage Avenue East – 6 th Floor, Winnipeg, Manitoba, Canada, R3B 0Y4 www.iisd.ca oder http://iisd1.iisd.ca/
What Tourism Managers Need to Know A Practical Guide to the Development and Use of Indicators of Sustainable Tourism	international	52	Manning, T. et. al. Consulting and Audit Canada (Hrsg.) Für: World Tourism Organisation (WTO)	1995	World Tourism Organisation (WTO) www.world-tourism.org
Sanfter Tourismus in Ostfriesland – Erarbeitung einheitlicher Kennziffern zur Bewertung des Fremdenverkehrs auf kommunaler Ebene mit dem Ziel der Sicherung und Förderung der nachhaltigen regionalen Entwicklung	local/ regional (32 East Frisian towns and communi- ties)	61	Albowitz, J. Diplomarbeit am Geographischen Institut der Universität Göttingen, Abt. Kultur- und Sozialgeographie	1998	Jens Albowitz Dornenstraße 20 26529 Upgant-Schott

Tab. 19 continued ...

title	level	number	authors, editors, place	year	reference address
Die Touristische Umweltbilanz Leitfaden und Erfassungsbogen	local	82 among them 12 key indicators	Dr. Heinz Walter Kierchhoff Institut für Tourismus und Bäder- forschung in Nordeuropa (N.I.T.), Kiel <i>Für:</i> Tourismusverband Schleswig- Holstein e.V., Kiel (Hrsg.)	1998	Tourismusverband Schleswig-Holstein e.V. Niemannsweg 31 24105 Kiel
Indikatoren für Nachhaltigkeit im Tourismus	global, regional, local	3 global 5 regional 23 local	Pils, M. & Eltschka-Schiller, G. Naturfreunde International (Hrsg.), Wien	1999	Naturfreunde International Generalsekretariat Diefenbachgasse 36 A-1150 Wien www.nfi.at
Sustainable Tourism as a Development Option Practical Guide for Local Planners, Developers and Decision Makers	international	39	Steck, B. Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ GmbH), <i>Für:</i> Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ)	1999	Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH Dag-Hammarskjöld-Weg 1-5 65760 Eschborn www.gtz.de
Joint Final Report of the Sectoral Infrastructure Project Tourism	international	75	Cammarota, M. & Constantino, ISTAT (Hrsg.) <i>Indicators</i> Fängström, I. Statistics Sweden (Hrsg.) <i>Basic data</i> <i>Für:</i> Generaldirektion XI der Europäischen Kommission	2000	www.eu.int

2.3 Analysis of data availability

Assessment which data are available throughout the Baltic countries on a local or regional level or to be obtained with a reasonable effort

An important prerequisite for the system of indicators to be developed was that the data of the chosen variables should be directly accessible at the destinations or possibly obtained with a reasonable effort. If it is difficult to obtain data relating to the variables of the indicators the probability that the indicators are used in practice is reduced. Lack of data could even make the whole indicator useless. For reasons of practicability the effort for data collection should be as small as possible.

At various destinations the availability of selected data was analysed in order to estimate which data could be easily obtained at the locations..

The locations selected for this test were supposed to represent the most important kinds of tourism around the Baltic Sea. A special focus was to be placed on the Baltic States, Russia and Poland as requested by the commissioner of this study.

In a first step information relevant to tourism in the countries of the Baltic Sea Region was collected. It became evident that the structure of tourism varies among the different countries and sometimes even within the same country. However, it was possible to identify some kinds of tourism that could be found relatively frequently throughout the Baltic Sea Region. Six kinds of tourism were extracted that represent all the characteristics of tourism in the Baltic Sea Region. The mixture between these kinds of tourism is unique for each country.

The following kinds of tourism and locations were selected:

Tab. 20: Kinds of tourism and locations used in the analysis of data availability

kind of tourism	region / location of analysis	country
city breaks	Riga St. Petersburg	Latvia Russia
sailing holidays	Mariehamn Hanko	Åland Islands Finland
vacations in holiday homes	Isle of Møn	Denmark
nature tourism	Soomaa National Park	Estonia
bathing holidays	Grömitz Nida	Germany Lithuania
camping tourism	eba	Poland

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Corresponding to the goal of this project to focus on indicators suitable for the lowest level of planning, those kinds of tourism were selected that are supervised by local or regional stakeholders. Tourist activities that are mainly conducted by national or international actors were neglected. One example of the latter is cruise tourism. Since the system of indicators that is to be developed is supposed to be an aid in planning on a local or regional level, it will not refer to such comprehensive kinds of tourism. However, the requirements for cruises are taken into account indirectly e.g. by city tourism.

The following criteria were considered in the selection process:

1. The analyses should take place in as many different countries as possible.
2. A main focus should be on the Baltic States, Poland and Russia.
3. The various kinds of tourism should be well developed in the selected destinations/regions.

Choosing only one destination per country satisfies the first criterion. All countries adjacent to the central part of the Baltic Sea are included except Sweden. This is done to assess the data availability in countries with quite different political and social boundary conditions.

Tab. 21 shows which thoughts led to the selection of the various destinations with respect to the second and third criterion.

Tab 21: Reasons for the selection of the case studies

suggested case study	criterion 2: The Baltic States, Russia and Poland should be preferred.	criterion 3: The various kinds of tourism should be well developed in the selected destinations/regions.
city tourism: Riga and St. Petersburg	fulfilled	City tourism occur in all countries of the Baltic Sea Region. Considering criterion 2, a city in one of the Baltic States and St. Petersburg was chosen. Riga is the city with the greatest importance for tourism in Latvia. 248,186 of the 393,466 guests that visited Latvia in 1999 travelled to Riga. St. Petersburg is one of the most renowned European destinations for tourism in metropolitan areas.
vacations in summer cottages: Isle of Møn	Vacations in summer cottages are relatively scarce in these countries. Therefore they do not come into account for this case study (see criterion 3).	In Finland and Sweden there are a lot of summer cottages as well. However, these are mostly used privately or given to friends during visits. Denmark has the largest share of summer cottages that can be booked for vacations. The Isle of Møn has worked out specific criteria for particularly environmentally sound summer cottages. Consequently this Danish location was chosen for this case study.

Continued on next page ...

Tab. 21 continued ...

suggested case study	criterion 2: The Baltic States, Russia and Poland should be preferred.	criterion 3: The various kinds of tourism should be well developed in the selected destinations/regions.
sailing holidays: Mariehamn or Hango	Sailing holidays do not occur too often in these countries. Therefore other countries should be preferred (see criterion 3).	Sailing holidays are of special importance at the selected destinations because of their geographic location and the extensive length of coastlines in the vicinity. There are harbours with large capacities for yachts and the corresponding infrastructure for sailing holidays in both places.
nature tourism: Soomaa National Park	fulfilled	Especially the Baltic States and Poland rely on an attractive environment as asset for tourism outside the metropolitan areas. There already is a visitor information centre in the Soomaa National Park. The park is one centre of marketing activities with regard to tourism of the entire region.
beach tourism: Grömitz and Nida	Nida satisfies this criterion. Grömitz was selected additionally since this form of tourism is especially pronounced at this destination. The resulting special requirements for sustainable tourism become particularly evident there.	The country with the by far greatest tourist intensity of beach tourism in the Baltic Sea Region is Germany. Grömitz is one of the leaders among the holiday destinations at the Baltic coast of Schleswig-Holstein. Nida is a traditionally important destination of beach tourism inside and outside of Lithuania. Recently Nida tries to attract more guests from abroad. Also, Nida is located within a National Park.
camping tourism: eba	fulfilled	Among the Baltic countries camping tourism is most frequent in Sweden. It is of little importance in the Baltic States and Russia. On the other hand there are some areas in Poland with a high density of campgrounds along the coast. Referring to criterion 2 the destination of eba at the Polish Baltic coast was chosen. There are seven large campgrounds located directly in eba.

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A questionnaire was prepared to assess the availability of data. It was designed in tabular form to be filled out with check marks so that the questionnaire could be answered quickly. This was done to increase the probability that the questions would be answered. The questionnaire was supplemented by a manual that gives background information about the survey. Additionally the addressee of the questionnaire was contacted at the destination if possible in order to announce the survey and to offer help for the answering of the questions.

Questions were asked about the availability of data for a selected set of indicators that was developed from the analysis of the current systems of indicators back in phase 2 of the project. In general this preliminary set uses individual indicators from the existing systems and is supplemented with proposals for subjects for which no suitable variables could be found. The first draft was discussed before its use in the assessment of data availability within the *N.I.T.*, with experts from the scientific advisory committee of the *N.I.T.* and from the Wuppertal Institute of Climate, Environment and Energy in order to obtain additional input. The first draft was designed in such a way that it satisfied the scientific requirements of this project.

The analysis of data availability was supposed to show whether the first draft which was developed in theory required data that would be hard to obtain in practice. The addressees of the questionnaire were asked to state for each of the indicators if corresponding data were ...

- ☒ ... directly accessible at the location,
- ☒ ... to be obtained with reasonable effort and without external help,
- ☒ ... to be obtained with external help
- ☒ ... not to be obtained at all.

In case no data was accessible it should be noted whether other data about the subject in question were available instead and what kind of data this would be. Seven of the nine locations analysed returned some answers. Already during the early stages of the survey Mariehamn cast doubts on their ability to answer the questionnaires due to heavy workload on their part. This was one of the reasons why Hanko was selected as alternate location for that specific case study. Unfortunately there was no answer from eba despite repeated enquiries.

Tab. 22: Data availability at selected locations

Data for indicators (no. of cases)	Riga	Møn	Hanko	Grömitz	Soomaa	Nida
1. directly available	10	-	18	7	29	2
2. to be obtained with reasonable effort and without external help	5	44	6	7	0	0
3. to be obtained with external help	1	1	14	20	3	32
4. not accessible	27	-	7	11	12	6
5. similar data available	2	-	-	-	-	3
6. no answer	-	-	-	-	-	2
Sum of 1-3 = available (%)	16 (36%)	45 (100%)	38 (84%)	34 (76%)	32 (73%)	34 (76%)

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Except for St. Petersburg all other locations returned the answered questionnaire. St. Petersburg returned a general discussion of the proposed indicators. Most of the proposals were regarded as suitable. The returned questionnaires showed a similar picture. Of the 45 indicators in question data was available for at least three out of four indicators at all locations except Riga (Tab. 22).

According to additional consultations, the results from the Latvian capital reflect the currently very restricted capacities of the tourist industry in Latvia with respect to money and staff. Data could be gathered with substantial investments. However, these investments cannot be realised in the current situation. Other locations in Estonia, Lithuania, Germany and partly in Finland also state that they need external help in the acquisition of data for many variables. This help will vary in extent and kind (money, expertise) depending on the location. Only the Isle of Møn had already worked on the subject of sustainable development of tourism before during its participation in the project Destination 21. Consequently it had a definitive advantage which was helpful in this project.

The introduction of indicators to recreational planning is most likely not going to happen all by itself. Additional external support is necessary. It is hard to say whether such support was no longer needed if alternative indicators were used. Fact is that the proposed variables are generally not entirely astray due to possibly limited availability. They are a useful starting point for work with indicators for the development of tourism on a local or regional level.

Another result of the assessment yields information about the structure of a useful system of indicators. None of the indicators was inaccessible in every location. There always were some locations in which data were available for a given variable. This suggests that the structure of a set of indicators should consist of a core system (core indicators) and additional variables that could be included if the destination and the structure of tourism at that specific location permit. However, these supplementary indicators do not have to be used everywhere (please refer to chapter 2.5, Structure of the system of indicators).

2.4 Results of the international workshop

Presentation and discussion of the developed indicators during an international workshop lasting three days. Discussion of the following steps to continue the process.

A first draft of a possible set of indicators was developed on the basis of phases 1 and 2 of this project. For this set the availability of data was surveyed. Then the set of indicators was discussed in detail by experts and generally considered as useful with respect to data availability.

The proposed set of indicators was then discussed once again by 40 stakeholders of the tourist industry during an international workshop that took place in January 2001 (phase 5). In this phase the set of indicators was evaluated and updated. The main focus of discussion was on the practicability and the relevance of the proposed indicators. For this reason most of the participants of this conference were people who are in charge of the development of tourism at a local or regional level.

Just like the selection of locations for the case studies in the assessment of data availability it was tried to make sure that the invited people's expertise covers different kinds of tourism and a variety of regions in their countries of origin. Consequently it was surveyed which people from the various countries seemed to fit the desired profiles. The actors were finally chosen on the basis of third party references or contacts of the N.I.T.. It was intended not to offer public invitations to this workshop.

Since there is a connection between this project and the implementation process of the Baltic 21, the members of the Baltic 21 Tourist Task Force (TOUTF 21) were invited as well. This working group also used the opportunity of this conference to hold a meeting of its own. Further details of this meeting can be found in chapter 2.6.

The international workshop took place at the Ostseeakademie (www.ostseeakademie.de) in Travemünde near Lübeck (Germany) from January 17 until January 20, 2001. Travel costs and costs for lodging and meals of the participants were paid for by this project. This method of organisation was definitely necessary to ensure the desired composition of attending stakeholders. Without a reimbursement of the costs the number of people available for this conference would have been much smaller and the ability to pay for travel costs would have been a limiting factor. Trips by plane were not sponsored for reasons of climate protection. The schedule and the minutes of this conference are given in the appendix of this report.

The minutes contain a documentation of the discussion. After an introduction of the entire system the participants debated all proposed indicators in three working groups. The working groups focused on the different dimensions of sustainability: "ecology", "economy" and "society".

For each variable of the indicator system it was discussed and decided whether the indicator in question should be

- ☒ disregarded completely,
- ☒ modified or
- ☒ retained without change

... as ...

- ☒ core indicator or as
- ☒ supplemental indicator based on the local form of tourism or as
- ☒ supplemental indicator based on the availability of data at the location

Comments from the discussion were collected in writing on charts and are included in the minutes of the workshop.

The version of the set of indicators that arose from the discussion at the workshop was only slightly modified afterwards. The resulting set is the final proposal for a system of indicators as sought in this project. It will be described in detail in chapter 2.5.

At the end of the conference all participants stated what requirements need to be fulfilled in order to ensure a successful introduction of the system of indicators in their respective countries. As in phase 3 of this project (analysis of data availability) it became clear during this discussion at the workshop that the use of the proposed set of indicators in practice seems generally possible. However, the introduction of the indicators is bound to a series of conditions by the stakeholders. These conditions are listed below and are not equally important at all locations. Most of the conditions should be valid for the majority of the countries of the Baltic Sea Region.

The following conditions for use of the indicators in practice were stated:

- ☒ **advice** from scientists and experienced stakeholders,
- ☒ **resources** such as time, money and scientific competence,
- ☒ **co-ordination** on a national and international level,
- ☒ a **help desk** assisting the participating destinations,
- ☒ a **network** with other locations that work in the same or in a similar field (e.g. in the Agenda 21 process) and with politics,
- ☒ a **manual** in all languages of the Baltic Sea Region that explains how to work with indicators and what advantages such work offers.

Besides the assessment and correction of the proposed set of indicators this workshop provided valuable information for the subsequent introduction of the indicators. Chapter 2.7 will cover the resulting conclusions for the processes following this entire project.

In general a distinct interest of the stakeholders in the work with the indicators was evident. During the final discussion (as listed in the minutes) many participants expressed their intention to use the resulting set of indicators in their own countries in various ways immediately after the conference or to attempt to gather the necessary support and help for the use of the indicators according to the conditions mentioned above.

Actually, the workshop itself was the first step towards an introduction of the indicators into practice. New contacts that developed during the conference were used afterwards to exchange experience and information and as starting point for further co-operations.

Finally the network of stakeholders resulting from the workshop provides a motivated and well informed basis for the possible test of the indicators in practice.

2.5 Proposal of a practical system of indicators for the development of sustainable tourism in the Baltic Sea Region

Compilation of a practical system of indicators on the basis of the results of the previous phases of the project

The proposal of a system of indicators for the development of sustainable tourism in the Baltic Sea Region as described in this chapter is the main result of the entire project. It is based on the previous phases of the project and is also the starting point for the considerations necessary in conjunction with the introduction of the indicators into practice. In order to ease the understanding of the reasoning behind the selection of indicators not only the chosen variables will be subsequently discussed. Also the scope of the indicators and the structure of the system of indicators will be described.

Scope of the system of indicators

As already stated in chapter 2.2 the existing systems of indicators differ considerably with respect to their spatial area of validity and their content. The indicators are designed specifically for a given area of use. When a new set of indicators is developed the desired scope needs to be defined clearly before the selection of individual variables so that all indicators can be adapted accordingly.

As outlined in the description of this project the range of validity of the developed proposal of indicators can be characterised as follows:

Validity with respect to ...	
... the area of planning	Baltic Sea Region, coastal areas
... the level of planning	local, regional
... the definition of a subject or sector	tourism
... a focus of the content within the given sector	sustainability

Since the indicators should be used at a local or regional level, the area of use should consist of single communities (e.g. Timmendorfer Strand as an example for the local level), cities (e.g. Tallinn) or groups of communities (e.g. the area of the Gauja National Park as an example for the regional level). The given local practice of planning is of prime importance for the definition of the spatial range of validity. If tourist planning is conducted at a local level the focus should be on individual communities. However, if planning does not occur for a single community but for a group of communities, the region that these communities comprise should be used as area of applicability. This area is described by the lowest level of tourist planning at hand.

The decision on the local or regional reference level also has consequences for the exact definition with respect to content. Activities that are not organised by stakeholders at a local or regional level are disregarded. For instance, traffic is generally particularly important when it comes to tourist activities. In this field tourism has the greatest impact on the environment especially due to the use of resources and emissions from traffic to and from the destinations. Despite its great importance for the global assessment of sustainability in tourism, traffic volume will be disregarded in this set of indicators since traffic is generally not considerably influenced by individual communities or regions. Also it is not planned to include a survey of national or international transportation politics in this system of indicators. On the other hand, problems of public transport and the impact of traffic at the destinations will be addressed by these indicators.

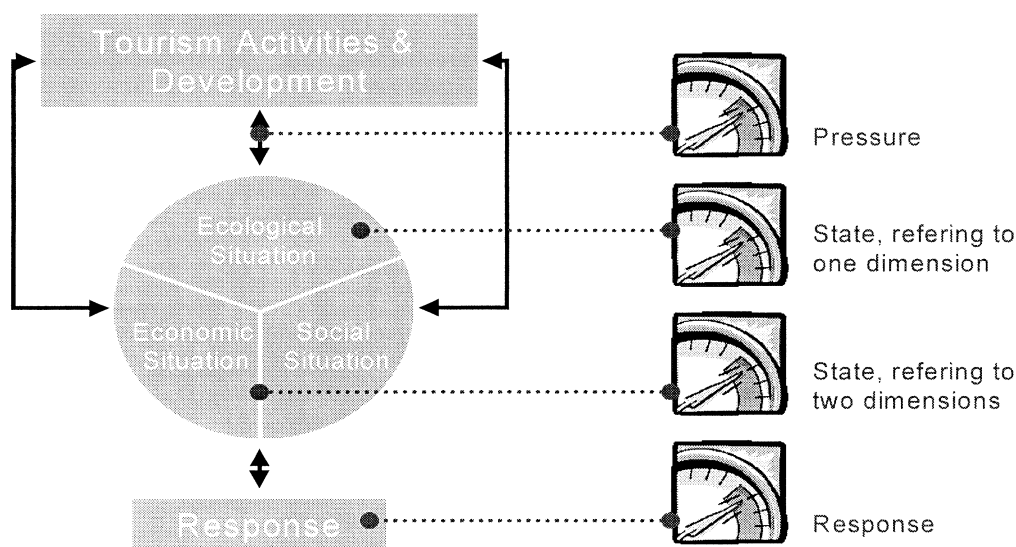
More information about large scale flows of traffic in general, including those that can be attributed to tourism, can be found in special studies and indicator sets pertaining particularly to traffic and transportation. Without doubt tourism politics and transportation politics overlap in many areas. The similarities with respect to content should bring about a close co-operation between these two fields. Also it is proposed to discuss and to analyse problems regarding tourism and traffic together as part of the future work in the Baltic 21 process.

Differentiation between different types of indicators

Examples of currently used systems of indicators of sustainable development in general and in tourism in particular that were collected in phase 2 of the project (Summarisation of existing systems of indicators) show distinct differences with regard to their internal structure. The number of indicators used, their level of aggregation, their thematic definition, their kind, and the desired field of use vary significantly depending on the starting points and the attempted goals of the indicator sets. The number of proposed indicators extends from a manageable ten (EU, Core and additional common indicators) to more than one hundred variables that are differentiated with regard to content (WTO). So far, no specific form of organisation has been acknowledged as common standard.

Many systems differentiate between three to five kinds of indicators in order to ease the orientation within the system. Usually indicators are categorised as “**P**ressure”, “**S**tate” or “**R**esponse” indicators. Sometimes additional “**D**riving force” or “**I**mpact” indicators are defined (DPSIR model, e.g. European Environmental Agency, 2000). This systematic categorisation refers to the area in which the specified indicator has its starting point (Fig. 3). Other systems of indicators do not use such a categorisation.

Fig. 3: Starting points for various kinds of indicators



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In this report the various models for the categorisation of indicators will not be discussed in greater detail since they seem to be only of secondary importance for the practically oriented goal of this project. However, the proposed indicators will be classified according to the DPSIR model in the list of selected analysed systems of indicators (Appendix B) and in the summary of our proposed indicator set (Appendix D) to increase the comparability with other indicator systems.

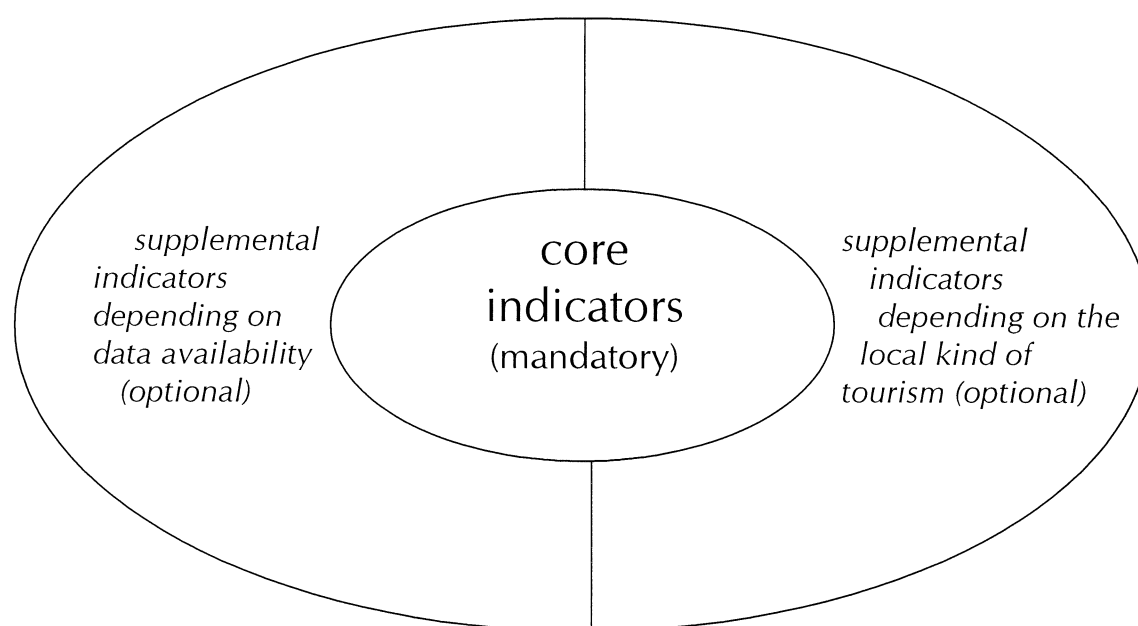
Structure of the system of indicators

Phase 1 of this project proved that tourism in the Baltic Sea Region is extremely heterogeneous. Therefore different destinations can only be compared in a very limited way. This holds true for the requirements for the development of tourism particular to a certain location and for differences in data availability.

However, it is at least attempted to assess interesting aspects of a sustainable development of tourism where it is possible or where data are available. Therefor the selected core indicators were supplemented by 15 additional indicators that were categorised as generally useful. Not for all of them data are available throughout the Baltic Sea Region and their use does not make sense in all tourist destinations of the Baltic Sea Region because of structural reasons. But locations that could use some or all of these additional variables and that have the necessary data at their disposal can expand or complete their set of indicators with such supplemental indicators.

Fig. 4 shows the structure of the system of indicator developed in the process of this project which is based on the survey of the various indicator systems in phase 2 of this project.

Fig. 4: Structure of the system of indicators



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This differentiation between core indicators and supplemental indicators was initiated to provide stakeholders with a basic set of variables that can be used throughout the entire Baltic Sea Region. On the other hand it should be possible to consider very specific aspects of individual kinds of tourism even though they might not be of importance elsewhere. Also it became evident that large differences exist between the various parts of the Baltic Sea Region with respect to data availability, too. This system makes it possible to regard other variables in addition to the core indicators if information for them is available at the particular location.

Selection of indicators

Guideline of the process of choosing the indicators was, generally speaking, to identify those variables that a local or regional stakeholder should attend to if he or she wants to develop tourism at the particular location in accordance with the principles of sustainability. It was attempted to describe different aspects of sustainability in tourism as accurately as possible and at the same time to keep the number of indicators at a manageable small size. Also only those variables were to be selected for which data could be obtained with a reasonable effort. The core indicators should fulfil all these requirements at destinations throughout the Baltic Sea Region.

None of the indicator sets of the already existing systems of indicators that were analysed in phase 2 of this project could be re-used completely. Therefore individual indicators were extracted from the analysed sets. These selected indicators fulfil the general requirements of these project. Then they were put together to form a new set of indicators (phase 3). This process occurred based on the following criteria:

The selected indicators should be ...

- ☒ **relevant** with respect to sustainable development,
- ☒ **available** with regard to data; data should be accessible or readily obtainable,
- ☒ **suitable** for local and regional levels of planning,
- ☒ **clearly** understandable and
- ☒ **feasible**; i.e. that there is a realistic chance of finding target values for the indicators for which a consensus among the stakeholders in tourism can be reached.

These criteria were used in the preparation of the first draft as well as in the revision during the workshop.

Comparable criteria for indicators relating to specific fields are used in other research projects, too, e.g. in the environmental report for the Summit of the Commission of the European Union in Helsinki 1999 (Commission of the European Union, 1999).

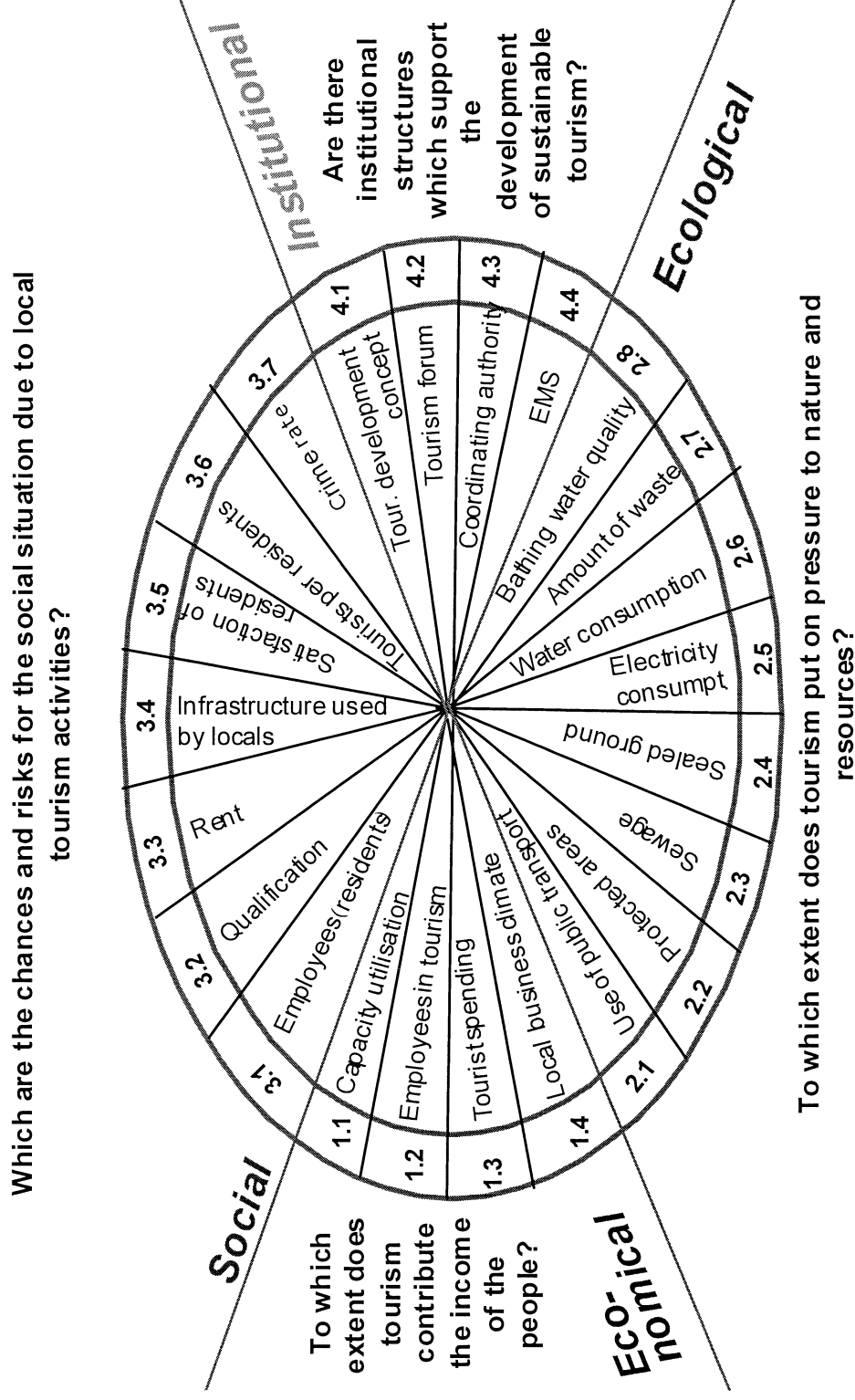
Additional input was provided by the discussion of the first draft of the set of indicators with the scientific advisory board of the *N.I.T.*

At the end of the workshop the indicator set that was developed by the *N.I.T.* and optimised during this project contained 23 core indicators. Fig. 5 shows that the indicators are distributed into four categories: "economic indicators", "ecological indicators", "social indicators" and "institutional indicators". This categorisation is based on the four dimensions of sustainability as used by the UN Commission on Sustainable Development (United Nations, 1996).

A system of indicators should contain variables from all four dimensions in order to describe a sustainable development appropriately. Some of the indicators could very well have been placed in a different category than indicated in Fig. 5. This shows that the four dimensions are strongly interrelated. It has to be noted that any type of categorisation is a tool for the structuring of the indicator set but it is hardly possible to properly reflect the complexity of the actually existing interactions. Consequently, the indicators may not be used individually and isolated from each other or only with the focus on one specific category. Instead, they are all to be used together as a composite system.

Fig. 5 lists only short titles of the indicators. The complete wording of the core indicators is given in Tab. 23.

Fig. 5: Categories of indicators



Tab. 23: Core indicators for the development of sustainable tourism in the Baltic Sea Region

1 st category: economic indicators	2 nd category: ecological indicators	3 rd category: social indicators	4 th category: institutional indicators
1.1 average utilisation of capacity of tourist enterprises 1.2 number of people employed in the tourist industry 1.3 Tourist spending at the destinations 1.4 local business climate	2.1 share of tourists using public transportation in the area of their holiday destination 2.2 share of protected areas in accordance to the national legislation 2.3 share of tourist enterprises with a connection to a sewage plant 2.4 share of area sealed for tourist purposes among the entire area 2.5 ** water quality at beaches used by tourists 2.6* use of electric power attributed to tourism per overnight stay 2.7* use of water attributed to tourism per overnight stay 2.8* amount of waste produced by tourism per overnight stay	3.1 number of resident employees in tourism relative to the total number of employees in tourism during high season 3.2 ** number of possibilities for further qualification in tourism per inhabitant 3.3 rent for permanent residency relative to the average rent in the surrounding area 3.4 use of tourist infrastructure by locals 3.5 influence of tourism on satisfaction of the local population 3.6 number of tourists relative to the number of local inhabitants during high season 3.7 crime rate during high season in relation to crime rate during off-season	4.1 existence, continuous further development and implementation of a tourism concept following the principles of sustainability 4.2 existence and continuous work of a forum for tourism in which all interest groups participate and that convenes on a regular basis 4.3 existence of a regional agency for the co-ordination of the sustainable development of tourism 4.4 share of tourist enterprises with environmental management systems at least meeting the requirements of ISO 14001/ EMAS

* are supposed to become core indicators as soon as data for these variables are available

** additional proposal by N.I.T. after the workshop on the basis of the workshop discussion

N.I.T., 2001

A detailed list with comments on the categorisation according to the DPSIR scheme and by subject can be found in Appendix D. The last two columns of the list contain information about the units in which the respective variables should be measured and a reference to sources in which the indicator has already been used. Some of the indicators are no quantitative variables but ask for the existence of specific measures. In such cases it is only important whether the services in question exist or not. So the unit is “yes/no”.

The methodology of use of the indicators is described in Appendix E. It lists details about the goals of the individual indicators and defines the most important terms used. Additionally, suggestions for the gathering of data are given.

As described before, the core indicators are supported by supplemental indicators. Tab. 24 and 25 give an overview over these variables. As for the core indicators, detailed descriptions of the supplementary indicators (summary with comments, methodology) can be found in Appendices D and E.

Tab. 24: Supplemental indicators depending on the local kind of tourism

A	share of streets within the settlement closed to automobiles
B	number of days in which defined limits for air pollution and noise are exceeded
C	number of days in which defined limits of traffic volume (density) at selected sites are exceeded
D	development of the number of endangered and extinct species during the last 30 years
E	water consumption in relation to the natural ground-water renewal
F	existence of shipping rules for ecologically sensitive marine areas
G	existence and continuous development of a visitor information and guidance system
H	share of coastal areas in which Integrated Coastal Zone Management (ICZM) is implemented according of the corresponding HELCOM recommendation
I	number of visitors per m ² of beach at intensively used beaches during high season
J	share of year-round full-time jobs in the tourist industry
K	share of tourist enterprises offering pre-dominantly regionally produced food

Tab. 25: Supplemental indicators depending on the availability of data at the destinations

L	ratio of utilisation of capacity during high season and average utilisation
M	number of arrivals as compared to the number of overnight stays
N	share of renewable energy among the entire energy supply for tourist enterprises
O	share of tourist businesses including summer cottages and apartments that are owned by the local population

N.I.T., 2001

2.6 Feedback of information to the Baltic 21 Tourism Task Force

Presentation of the results to the working group on tourism of the Baltic 21 process

The sixth phase of this project consisted of co-ordination and feedback of information to the Baltic 21 Tourism Task Force (TOUTF) which is responsible for tourism in the Baltic 21 process.

For this reason it was agreed with the current chairman of the working group, Mr. Ingvar Mattsson, to invite the working group to a meeting in conjunction with the international project workshop at Travemünde. The members of the working group could combine their meeting with a participation at the workshop. This enabled them to follow the discussion of the proposed draft of indicators directly. At the same time the tourist experts of the TOUTF provided valuable input for the continued development of the draft of the set of indicators.

N.I.T. and TOUTF also used this workshop to assess possibilities for the integration of the results of this project into the implementation of the Baltic 21. Due to uncertainties with regard to financing of the work of the TOUTF no final decisions could be reached. However, it became evident that the workgroup desires to test the system of indicators that was developed in this project at several pilot locations as part of a project which is possibly funded by the European Union.

The chairman of the TOUTF announced to prepare a corresponding application for the INTERREG IIIb fund of the European Union and, if necessary, to publish a public address when the working group is seeking participating pilot locations for such a project. If the application is successful the projected start of that project will be in early 2002.

2.7 Advice for the practical implementation of the results

The development of the set of indicators in this project intentionally includes feedback from stakeholders practically working in the tourist industry on the proposed indicators. The potential users of the indicators were included in the development process not only during the analysis of data availability but also in the discussion of the first draft of the indicator set during the international workshop. This was done to make the proposed set of indicators as practically oriented as possible. At the same time the co-operation with people practically involved in tourism provided a variety of new insights about the possible introduction of the indicators into the practice of tourist planning. This input is discussed below.

First of all it is suggested to test the indicators in practice at the beginning of implementation. Then aspects of the definition of target values are covered and finally the possibilities for combining the indicators with the concept of Integrated Coastal Zone Management (ICZM) will be discussed.

A practical test to gain experience and to optimise routines

Feedback from stakeholders of the tourist industry from all regions of the Baltic Sea Region during the workshop and during the analysis of data availability showed a general interest in the idea to work with indicators. An important reason is the desire to obtain guidelines for the own development of tourism. Simultaneously the discussion with practitioners showed that only a few locations will be able to use indicators as a tool without support from outside. As stated before, a number of requirements were formulated at the workshop. These requirements need to be fulfilled if tourist destinations want to start their working with indicators. The locations need:

- ☒ **advice** from scientists and experienced stakeholders,
- ☒ **resources** such as time, money and scientific competence,
- ☒ **co-ordination** on a national and international level,
- ☒ a **help desk** assisting the participating destinations,
- ☒ a **network** with other locations that work in the same or in a similar field (e.g. in the Agenda 21 process) and with politics,
- ☒ a **manual** in all languages of the Baltic Sea Region that explains how to work with indicators and what advantages such work offers.

Experience shows that the task of using indicators without help from outside will be hardest for those locations that are first to implement such a new instrument. If indicators are to become important for the development of sustainable tourism along the coasts of the Baltic Sea it will be necessary to support destinations interested in using them financially and thematically, at least during the initial phase of use.

In order to ease the introduction of the indicators it is suggested to generate a situation in which the requirements mentioned above are fulfilled in selected model destinations as part of a practical test with funds of the project. Locations that follow at a later point in time can then build on the experience and the information of the pioneers. This will make it easier for them to work with indicators by themselves.

Also it would be possible in such a practical test to assess the practicability of the proposed indicators at the destinations and to optimise the set of indicators at the end of the test phase.

During the practical test it would also be necessary to evaluate how well

- ☒ the indicators are able to clearly describe trends in the development of tourism,
- ☒ they can be adapted to processes of political decision making,
- ☒ they can be used as orientation and monitoring device for decisions in tourist planning with respect to their sustainability.

When the results are presented they should be prepared in an appealing way with regard to contents and layout so that the advantages and chances that arise from the use of indicators become clear. During the practical test the model destinations should get some support in this respect as well. This way the results of the tests could be used subsequently as stimulus for other locations.

Regarding the implementation process of the Baltic 21, perhaps the practical test could be used to assess whether the selected indicators might be useful in part or as a whole in a report system of the state of sustainable development of tourism in the Baltic Sea Region.

During the project workshop at Travemünde it was considered whether it was possible to realise such a practical test as activity of the working group TOUTF as part of a larger project to be financially supported by the European Union. Many participants of the conference were interested in this idea. Therefore stakeholders participating in the workshop could be addressed as possible members of a project team for such a project.

Definition of target values

So far this report viewed indicators mainly as instrument to monitor the development of tourism. The indicators actually show which aspects the stakeholders in charge need to consider if they want to assess whether and to what degree a development is sustainable. Once data are obtained, the figures yield an image of one particular point in time. If they are obtained over a longer period they describe a development and help identify possible trends. Therefore they introduce a control mechanisms. However, it is the responsibility of political decision makers to draw the appropriate conclusions from the data.

In practice it can be expected that a political discussion about the desired development of the data of the various variables will arise. This will happen at the latest when data and time series for the indicators are presented. It is possible that even the decision about the use of the variables and the choice of supplementary indicators specific to the location in question will lead to controversial discussions. Different social groups with differing values and attitudes will tend to contribute their own views by influencing the choice and the definition of the indicators. Fact is that already during the definition and compilation of the indicators political and social values are integrated either consciously or unconsciously (normative loading). This circumstance should be acknowledged and openly discussed by all people involved.

It is more obvious that the discussion about target values for the indicators is not merely an assessment of arguments concerning the subject itself but that personally sought future developments are considered to a larger degree. In the interest of a broad approval of the selected target values it should be attempted to include all relevant groups in society in this discussion. This approach of including large parts of the population when working with indicators at a local level is also recommended for example by Carlin and Weinstein (1998) and by Valentin and Spangenberg (2000).

The complete introduction of the indicators including the definition of target values could take place in three phases:

Phase 1: Description of the current situation with help of the indicators

During the first phase the focus lies on the introduction and discussion of the indicators. This phase consists of the following steps:

- ☒ Distribution of information to all local groups of society about the advantages and reasons for the use of indicators
- ☒ Decision of those in charge in favour of the introduction of the indicators
- ☒ Selection of core indicators and additional supplemental indicators based on the characteristics of the location in question
- ☒ Collection of data for the selected indicators
- ☒ Discussion of the results

The first phase does not yet contain any measures to influence the development of tourism itself. However, it is preparing corresponding decisions about such measures and is increasing the awareness of the whole issue among local stakeholders. As many different groups in the local society as possible should be included in the processes of this phase in order to promote transparency and a general approval of the entire project.

Phase 2: Definition of target values

During this second phase target values for the selected indicators are set based on the experience gained in the first phase. In this step it is especially important to include as many of the stakeholders as possible who are responsible for the local development. The entirety of all target values points to the direction that the development of tourism at the destination should take. As in phase 1 the work with the indicators increases the awareness of relevant questions among the participating persons which is the foundation for the third phase.

Phase 3: Measures to reach the target values

During the third phase a catalogue of measures needs to be developed that enables the development from the status quo as determined in phase 1 towards the desired goal as defined by the target values determined in phase 2. The success of the measures taken can always be monitored by a comparison of the current values and the target values of the indicators. Should some measures turn out to be impractical or useless, a re-assessment of the catalogue of measures could be initiated.

Integration of this approach using indicators into Integrated Coastal Zone Management (ICZM)

All by themselves, indicators and the supply of corresponding data are no measures that lead to a specific goal such as a sustainable development of tourism. The use of indicators relies on a framework of planning and development processes in which these variables could be used as tools.

A particularly useful framework for the work with indicators is the concept of Integrated Coastal Zone Management. The proposal described earlier to attempt to include the local population in the process of defining the target values is particularly easy to achieve by ICZM since this concept itself is based on broad participation.

Consequently it seems reasonable to integrate projects for the testing and introduction of the indicators described in this report into appropriate projects on Integrated Coastal Zone Management.

3 Summary

In conjunction with the implementation process of the Baltic 21, the Agenda 21 for the Baltic Sea Region, the Umweltbundesamt in Berlin has asked the Institute for Tourism and Recreational Research in Northern Europe (N.I.T.), Kiel, to develop a system of indicators for the development of sustainable tourism that could be used by local and regional levels of planning. To achieve this goal it was necessary to analyse the current situation of tourism in the Baltic Sea Region, to survey already existing systems of indicators and to use this information as a basis for the development of the desired set of indicators. During an international workshop the first draft of this system of indicators was discussed with stakeholders and optimised afterwards. This final report contains the results of all phases of this project including a proposed set of indicators and advice for the introduction of this set into practice.

This project consisted of seven phases. In the first two phases of this project it was attempted to obtain an overview of the current situation of tourism in the Baltic Sea Region and of already existing systems of indicators for sustainable development in tourism. First of all data about the structure of tourism and general core data about tourism in the countries of the Baltic Sea Region were collected as background information. The situation of tourism varies considerably among the Baltic countries. Neither the supply nor the demand of tourism emphasise the same aspects throughout the entire Baltic Sea Region. Also there are no important structural similarities throughout the whole area. The state of the current development of tourism is extremely heterogeneous in different countries. Therefore the development of sustainable tourism starts from very different conditions depending on the location which makes it necessary to apply a variety of different measures.

All countries of the Baltic Sea Region have in common that they have to adapt to a more fierce global competition in the tourist industry. In general, tourism in the Baltic Sea Region is expected to remain relatively stable on the current level which is already quite elevated. Long-term rates of increase will be moderate but the differentiation of offers and target groups will increase. It is dangerous to rely on a coming boom of tourism in the Baltic Sea Region since this could lead to the creation of excess capacities with many economic, social and last but not least environmental risks. Important factors for future success of the Baltic Sea Region will be (just as anywhere else) realistic goals, a clear focus on own strengths and a precise management of capacities.

During the second phase of this project already existing systems of indicators of sustainable development in tourism and sustainability in general were surveyed. It was assessed whether there already is a system of indicators that contains the variables for the description of sustainable tourism on a local level which could be used in practice in the Baltic Sea Region as required by the goal of this project.

Analysed proposals for indicators were either useful for describing sustainability in tourism at different levels of planning (e.g. Seiler, 1989; WTO, 1995; Albowitz, 1998; Pils and Eltschka-Schiller, 1999) or for the description of sustainability at a local level in general (e.g. Zukunftsrat Hamburg, 1999; European Commission, 2000). A total of more than 30 systems of indicators was surveyed. However, none of the analysed systems of indicators contained a combination of both characteristics mentioned above. So it was not possible to transfer one of these sets of indicators completely to the first draft of our desired system of indicators.

For this reason individual indicators were extracted from the analysed systems. These selected indicators that generally satisfied the requirements of this project were put together to form a new set of indicators (phase 3). The following criteria were used in the process of selecting the indicators:

The selected indicators should be ...

- ☒ relevant with respect to sustainable development,
- ☒ available with regard to data; data should be accessible or readily obtainable,
- ☒ suitable for local and regional levels of planning,
- ☒ clearly understandable and
- ☒ feasible; i.e. that there is a realistic chance of finding target values for the indicators for which a consensus among the stakeholders in tourism can be reached.

Comparable criteria for indicators relating to a specific sector are also formulated e.g. in the Environmental Report of the Summit of the Commission of the European Union in Helsinki (Commission of the European Union, 1999).

The fourth phase consisted of an analysis of the availability of data for the indicators included in the first draft. This survey was carried out at eight tourist destinations in different countries that all differ quite significantly with regard to the predominant structure of tourism. The destinations were St. Petersburg (Russia), the Soomaa National Park (Estonia), Riga (Latvia), Nida (Lithuania), Iba (Poland), Grömitz (Germany), the Isle of Møn (Denmark), and Hanko (Finland). Feedback from selected experts of sustainable development and indicators yielded additional input that was combined with the experience from the analysis of data availability to revise the first draft of the system of indicators.

The second draft was discussed, evaluated and revised again by 40 stakeholders in tourism from all Baltic countries during an international workshop in early 2001 (phase 5). The discussion focused on the question of practicability and relevance of the proposed indicators. For this reason mainly those people were invited to the conference who are responsible for the development of tourism on a local or regional level. At the end of the conference all participants identified the requirements necessary to be fulfilled in order to enable a successful introduction of the system of indicators in their respective countries.

The sixth phase consisted of co-ordination and feedback of information to the working group which is responsible for tourism in the Baltic 21 process (Baltic 21 Tourism Task Force). The best possible use of the project results within the framework of the Tourism Task Force work schedule was debated.

After the workshop the indicator set that was developed by the *N.I.T.* and optimised during this project contained 23 core indicators. The indicators are distributed into four categories: "economic indicators", "ecological indicators", "social indicators" and "institutional indicators". This categorisation is based on the four dimensions of sustainability as used by the UN Commission on Sustainable Development (United Nations, 1996). A system of indicators should contain variables from all four dimensions in order to describe a sustainable development appropriately. Some of the indicators could very well have been placed in a different category than indicated in Fig. 5. This shows that the four dimensions are strongly interrelated. It has to be noted that any type of categorisation is a tool for the structuring of the indicator set but it is hardly possible to properly assess the complexity of the actually existing interactions. Consequently the indicators may not be used individually and isolated from each other or only with the focus on one specific category. Instead, they are all to be used together as a composite system.

A further complication of the process of selecting the indicators lies in the requirement to produce an image of the different aspects of sustainability in tourism that is as accurate as possible on one hand. On the other hand the number of indicators should be kept at a manageable level. Furthermore only those variables should be selected for which data could be obtained at a reasonable effort. At least the core indicators should satisfy these requirements for tourist destinations throughout the Baltic Sea Region.

From the first phase of this project it became evident that tourism in the Baltic Sea Region is extremely heterogeneous. Different destinations can therefore be compared only in a very limited way. This holds true for requirements for the development of tourism relating to specific locations as well as for differences in data availability.

In order to assess interesting aspects of a sustainable development of tourism where it makes sense and where data are available despite the difficulties mentioned above, the core 15 additional indicators that were categorised as generally useful. Not for all of them data are available throughout the Baltic Sea Region and their use does not make sense in all tourist destinations of the Baltic Sea Region because of structural reasons. But locations that could use some or all of these additional variables and that have the necessary data at their disposal can expand or complete their set of indicators with such supplemental indicators.

The final part of this report (phase 7) contains suggestions for the practical implementation of the indicators based on experience from this project.

Feedback from stakeholders in tourism from the entire Baltic Sea Region at the workshop and the assessment of data availability revealed a general interest in the idea to work with indicators. It is fuelled by the wish to obtain guidelines and suggestions for the own development of tourism. Important motives are related to economic (increase of the economic success and improvement of competitiveness), ecological (conservation of nature and a functioning environment) and social (preservation and improvement of the conditions of living for the local population) aspects.

Simultaneously it also became evident from the discussion with practitioners that only a few locations will be able to use indicators as a tool by themselves without any support from outside. The following requirements for the use of indicators in practice were stated:

- ☒ **advice** from scientists and experienced stakeholders,
- ☒ **resources** such as time, money and scientific competence,
- ☒ **co-ordination** on a national and international level,
- ☒ a **help desk** assisting the participating destinations,
- ☒ a **network** with other locations that work in the same or in a similar field (e.g. in the Agenda 21 process) and with politics,
- ☒ a **manual** in all languages of the Baltic Sea Region that explains how to work with indicators and what advantages such work offers.

If indicators are to play a role in the development of sustainable tourism along the coasts of the Baltic Sea in the future it will be necessary to set up a program to support locations interested in using them. A first step in this direction could be a practical test of the proposed set of indicators in selected model destinations. During such a pilot project the indicators could be tested and optimised. The experience gained by the model locations could additionally be available as instruction for subsequent destinations. Since the distribution of information and the participation of the population are fundamental aspects of projects of Integrated Coastal Zone Management the integration of the use of indicators into such projects seems reasonable.

The debate about the practicability of the indicators has shown that indicators can be a valuable contribution as tools in the process of reaching political decisions about tourism in the Baltic Sea Region if local stakeholders receive appropriate support during the initial period. However, the indicators do not replace the process of reaching political decisions itself and they are no means that creates sustainability. They are just tools that make it easier to reach a certain goal but they are not the goal itself.

Fundamental political decisions will be necessary when target values are to be selected for the indicators. That way indicators can serve as a catalyst for political decisions at the local and regional level. If all parts of society participate in the selection of the indicators and especially in the definition of the target values, the work with the indicators will increase public awareness with regard to a sustainable development in the Baltic Sea Region. And finally it also can help to structure the discussion about a common sustainable future.

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Useful internet sites

www.alandadresse.com

www.bahn.de

www.cia.gov: CIA World Factbook

www.dst.dk: Data on Denmark

www.ecotourism.ee

www.ecotours.org

www.ee/baltic21: Baltic 21 web site

www.fvw.de: Zeitschrift Fremdenverkehrswirtschaft, Marktberichte

www.grida.no

www.internat.environ.se : Swedish Environmental Protection Agency, National Parks

www.intur.com.pl: Institute of Tourism Poland: Statistics

www.Copenhagen.com

www.mek.fi: Finnish Tourist Board Market information service

www.ntr.no: Norges Turistråd, tabeller

www.tourism.ee : Estonian Tourist Board, development of tourism in Estonia

www.tourist.se: Fakta om svensk tourism

www.worldbank.org: Country data tables

5 Appendices

The appendices contain the following documents:

- A. Summary of ferry connections across the Baltic Sea
- B. Schematic listing of selected indicator systems
- C. Minutes of the international workshop at Travemünde
- D. Summary of the proposed indicators
- E. Methodology sheets for all suggested indicators

Appendix A:

Summary of ferry connections across the Baltic Sea

Listing by country of origin (compilation in April 2001):

<u>Germany</u>	<u>Finland:</u>	<u>Denmark</u>	<u>Norway</u>	<u>Sweden</u>
Puttgarden – Rødby Sassnitz – Rønne Kiel – Langeland Kiel – Gothenburg Sassnitz – Malmö Rostock – Trelleborg Sassnitz – Trelleborg Travemünde – Trelleborg Kiel – Oslo Lübeck/Travemünde – Helsinki Rostock – Hanko Sassnitz – Gdansk Kiel/Sassnitz – St.Petersburg Lübeck/Travemünde – Klaipeda Kiel – Klaipeda Sassnitz – Klaipeda Rostock – Liepaja Lübeck/Travemünde – Riga Rostock – Tallinn Rostock – Gedser Lübeck – Abo	Helsinki – Lübeck/Travemünde Hanko – Rostock Turku– Stockholm Helsinki– Stockholm Grissleham – Eckeroe Mariehamn– Stockholm	Gedser – Rostock Rødby– Puttgarden Rønne – Sassnitz Helsingør – Helsingborg Frederikshavn – Gothenburg Copenhagen – Malmö Copenhagen – Landskrona Copenhagen – Helsingborg Grenå – Varberg Rønne – Ystad Grenå – Halmstad Hirtshals – Kristiansand Frederikshavn – Oslo Copenhagen – Oslo Hanstholm – Bergen Frederikshavn – Larvik Frederikshavn – Moss Hirtshals – Oslo Hirtshals – Moss Skagen – Larvik Copenhagen – Swinemünde Rønne – Swinemünde Aarhus – Klaipeda	Oslo – Kiel Kristiansand– Hirtshals Oslo – Frederikshavn Oslo – Copenhagen Bergen – Hanstholm Larvik –Frederikshavn Moss – Frederikshavn Oslo – Hirtshals Moss –Hirtshals Larvik –Skagen Sandefjord – Strömstad Kristiansand – Gothenburg Oslo – Helsingborg	Gothenburg– Kiel Malmö –Sassnitz Trelleborg – Rostock Trelleborg – Sassnitz Trelleborg – Travemünde Helsingborg – Helsingør Gothenburg – Frederikshavn Malmö –Copenhagen Landskrona – Copenhagen Helsingborg – Copenhagen Varberg – Grenå Ystad – Rønne Halmstad – Grenå Strömstad – Sandefjord Gothenburg – Kristiansand Helsingborg – Oslo Stockholm – Turku Stockholm – Helsinki Eckeroe – Grissleham Stockholm – Mariehamn Kappelskär – Mariehamn Nynäshamn – Gdansk Gdynia – Karlskrona Malmö – Swinemünde Ystad – Swinemünde Oxelsönd – Gdansk Stockholm – Tallinn Stockholm – St.Petersburg Karlshamn – Liepaja Kappelskär – Paldiski Kappelskär – Turku Ahus – Klaipeda Karlshamn – Klaipeda

Internet sites about ferry lines

http://www.scandlines.de	http://www-ger.njl.fi
http://www.visit.pl	http://www.campingfreunde.de
http://www.colorline.no	http://www.dfo.de
http://www.fahrticket.de	http://www.stenaline.de
http://www.dasan.de	http://www.ocean24.com
http://www.trollpage.de	http://www.hanstholmhavn.dk
http://www.mek.fi	http://www.hhferries.se
http://www.silja.com	http://www.dfsseaways.de
http://www.loglink.net	http://www.tt-line.de
http://www.travelindex.ch	http://www.kaliningrad.de
http://www.rostock-airport.de	http://www.faebrhafen-sassnitz.de

N.I.T., 2001

Appendix B:

Indicators for the development of sustainable tourism in the Baltic Sea Region

Schematic listing of selected indicator systems

This appendix contains a selection of systems of indicators that were analysed in the process of this project with respect to their usefulness as indicators for the development of sustainable tourism in the Baltic Sea Region on a local or regional level of planning.

First of all the sets of indicators on sustainable development in general from the following sources are given:

European Environmental Agency (2000): Environmental signals 2000	Page B 2 - 7
European Commission (2000): Towards a local sustainability profile – European common indicators	8
Zukunftsrat Hamburg (1999): Indikatoren für eine zukunftsfähige Entwicklung Hamburgs	9
Cammarota, M and Costantino, C (2000): Joint Final Report of the sectoral infrastructure project Tourism. ISTAT	10 -16
OECD system of environmental indicators; citation based on: Umweltbundesamt (1995): Umweltforschungsplan, Texte 43/95, p. 28	17

These are followed by indicators on sustainable development in tourism:

Steck, B (1999): Sustainable tourism as a development option. GTZ GmbH	18 - 21
Pils, M. & Eltschka-Schiller, G. (1999): Indikatoren für Nachhaltigkeit im Tourismus. Naturfreunde International	22 - 25
Albowitz, J. (1998): Sanfter Tourismus in Ostfriesland	26 - 29
Seiler, B. (1989): Kennziffern einer harmonischen Entwicklung. Sanfter Tourismus in Zahlen	30 - 33
Tourismusverband Schleswig-Holstein (1998): Die Touristische Umweltbilanz	34
WTO (1995): What a tourism manager needs to know - a practical guide to the development and use of indicators for sustainable tourism	35 - 41

European Environmental Agency (EEA) - Environmental Signals 2000- Indicators (I)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
energy intensity	X								energy use	Does economic growth still require additional use of energy?
energy supply		X							energy use	Have we been successful in reducing total energy use?
renewable energy share in energy supply		X							energy use	Is the share of renewable energy increasing?
energy prices	X								energy use	Are prices developing in a direction that stimulates less use of energy?
taxes on energy					X				energy use	Are taxes developing in a direction that stimulates less use of energy?
thermal power plant energy efficiency			X						energy sector	Has the sector improved the overall efficiency of its main process?
energy sector emission intensity		X							energy sector	Has the sector succeeded in de-linking emissions from its economic activity?
electricity supply by source		X							energy sector	Has the sector become less dependent on fossil fuels?
share of renewable resources used in electricity generation		X							energy sector	... and increased the share of renewable energy?
CHP (Combined Heat and Power) share in electricity generation		X							energy sector	... and explored all possibilities for combined heat and power?
transport eco-efficiency		X							transportation	Has the sector been successful in becoming more environmentally efficient?
passenger transport demand	X								transportation	Has the modal split developed towards more environmentally friendly modes?

European Environmental Agency (EEA) - Environmental Signals 2000- Indicators (II)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
Freight transport demand	X								transportation	Has the modal split developed towards more environmentally friendly modes?
price of transport fuels	X								transportation	Are fuel prices developing in a direction stimulating less use of road transport?
eco-efficiency in agriculture			X						agriculture	Has the sector made progress?
livestock numbers		X							agriculture	What have been the developments in environmental aspects of agriculture; with regard to eutrophication?
fertiliser consumption per ha		X							agriculture	- " -
irrigated land		X							agriculture	with regard to water stress
pesticide consumption per hectare		X							agriculture	with regard to water quality
area with organic farming			X						agriculture	with regard to less environment- burdening farming systems
emission of greenhouse gases		X							climate change	Are the Kyoto Protocol targets within reach?
carbon dioxide emissions		X							climate change	How are the emissions of each of the gases developing, and which sectors contribute?
methane emissions		X							climate change	- " -
nitrous oxide emissions		X							climate change	- " -
fluorocarbon emissions		X							climate change	- " -
global and European average temperatures				X					climate change	Is the development of average temperature staying below provisional 'sustainable targets'?

European Environmental Agency (EEA) - Environmental Signals 2000- Indicators (III)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
average ozone column in March			X						stratospheric ozone depletion	Any improvements already?
total potential chlorine and bromine concentrations in the troposphere			X						stratospheric ozone depletion	Any improvements already?
increase in UV radiation				X					stratospheric ozone depletion	Public interest indicator: How serious is the problem?
radiative forcing of ozone- depleting substances				X					stratospheric ozone depletion	What is the remaining effect of ozone-depleting substances on climate change?
production of ozone-depleting substances	X								stratospheric ozone depletion	Depleting substances phased out according to the schedule? Is discouraging the use of HCFCs successful?
contribution to multilateral developing fund to assist developing countries to implement the Montreal Protocol					X				stratospheric ozone depletion	Can we ensure that countries meet their targets?
multiple effects:										
area in which critical loads for acidity and eutrophication are exceeded			X						air pollution	How much have we protected the environment against acid precipitation?
number of days in which the limit values for tropospheric ozone are exceeded			X						air pollution	Are we protecting the population effectively against exposure to photochemical substances?
exposure of crops and forests to atmospheric ozone			X						air pollution	How much have we protected the environment against the effect of photochemical substances?
number of days in which limit values for particulate matter are exceeded			X						air pollution	Are we protecting the population effectively against exposure to particulate matter?

European Environmental Agency (EEA) - Environmental Signals 2000- Indicators (IV)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
multiple pollutants:										
emissions of acidifying gases		X							air pollution	will policy targets be reached?
emissions of ozone precursors		X							air pollution	- „ -
emissions of sulphur dioxide		X							air pollution	- „ -
emissions of nitrogen oxide		X							air pollution	- „ -
emissions of ammonia		X							air pollution	- „ -
emissions of non-methane volatile organic compounds (NMVOCs)		X							air pollution	- „ -
waste and economic activity	X								waste	Is de-linking occurring?
municipal waste generation and disposal		X							waste	Is the 5EAP target being met?
biodegradable waste landfills			X						waste	Is the Landfill Directive target being met?
extra costs of incineration compared with landfill tax			X						waste	Are taxes being used to correct the relatively low price for landfills?
packaging waste management					X				waste	Is the treatment of packaging waste developing according to targets?

European Environmental Agency (EEA) - Environmental Signals 2000- Indicator (V)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
exploitation index		X							water quantity	How much of the available water do we consume anyway?
water use by sector		X							water quantity	How do various sectors contribute to water quantity problems?
irrigated area			X						water quantity	How does agriculture contribute to water quantity problems?
public water supply	X								water quantity	How does public water supply contribute to water quantity problems?
nitrogen and phosphorus concentrations in rivers			X						eutrophication	Do we see the results of nutrient policies in rivers?
nitrogen run-off		X							eutrophication	What have been the main contributions to the total load of nitrogen?
nitrogen balance			X						eutrophication	Has agriculture balanced its inputs and outputs of nutrients?
phosphorus load		X							eutrophication	What have been the main contributions to the total load of phosphorous?
discharge of phosphorus from urban wastewater treatment plants		X							eutrophication	What has been the result of the urban wastewater directive and national measures?
wastewater treated					X				eutrophication	- „ -
nitrate concentrations in groundwater			X						eutrophication	How often are groundwater quality aims for nitrogen exceeded?
phosphorus concentrations in lakes			X						eutrophication	Do we see the results of a decrease in phosphorus emissions?
phosphate concentrations in coastal waters			X						eutrophication	Do we see the results of nutrient policies in coastal waters?

European Environmental Agency (EEA) - Environmental Signals 2000- Indicators (VI)	indicators					scale		subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national		
nitrate concentrations in coastal water			X					eutrophication	Do we see the results of nutrient policies in coastal waters?
designated area under the Ramsar convention					X			wetlands	How much wetland is protected from damage or loss?
land cover in and around Ramsar areas		X						wetlands	What are the pressures on wetlands?
proximity of transport infrastructure to Ramsar areas		X						wetlands	- " -
wintering water birds			X					wetlands	How are pressures influencing the existence and distribution of flora and fauna?
Total Material Requirement (TMR)		X						Total Material Requirement (TMR)	decrease burden to global environment due to resource extraction
domestic TMR		X						Total Material Requirement (TMR)	decrease burden to domestic environment associated with resource extraction
foreign TMR		X						Total Material Requirement (TMR)	decrease burden to environment in foreign countries
Direct Material Input (DMI) versus GDP			X					Total Material Requirement (TMR)	improve materials productivity (processed materials only)
environmental taxes compared with total tax revenue					X			environmental taxes	any progress in the use of environmental taxes?

European Common Indicators core indicators	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
Zufriedenheit der Einwohner mit den verschiedenen Einrichtungen der Gemeinde		X							Zufriedenheit der Einwohner mit ihrer Gemeinde	
CO ₂ Emissionen (längerfristig, nach Entwicklung einfacherer Berechnungsmethoden, soll hier der ökologische Fußabdruck als Indikator im Mittelpunkt)		X							lokaler Beitrag zur globalen Klimaveränderung	
Tägliche Personenkilometer und Transportmittelwahl			X						lokale Mobilität und Personenverkehr	
Erreichbarkeit von nahegelegenen Grünflächen und Möglichkeiten der Grundversorgung für die Einwohner			X						Vorhandensein von lokalen öffentlichen Grünflächen und örtlichen Dienstleistungen	
Anzahl der Tage mit guter und gesunder Luft				X					Qualität der Außenluft am Ort	
supplementary indicators										
Verkehrsmittel, die Kinder für ihren Schulweg nutzen	X								Schulweg der Kinder	
Anteil der öffentlichen und privaten Organisationen, der Umweltmanagement- und Sozialmanagementsysteme eingeführt hat			X						Nachhaltiges Management der kommunalen Behörden und der Unternehmen in der Gemeinde	
Anteil der Bevölkerung, der schädlichem Lärm ausgesetzt ist				X					Lärmbelastung	
Nachhaltige Entwicklung, Wiederherstellung und Schutz von Landschaft und Sehenswürdigkeiten in der Gemeinde					X				Nachhaltige Flächennutzung	
Anteil der Produkte aus fairem Handel oder ökologischen Anbau am Gesamtverbrauch			X						Die Nachhaltigkeit fördernde Produkte	

Indikatoren für eine zukunftsfähige Entwicklung Hamburg	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/ regional	national	international		
Jährlicher Schuldenstand in DM pro Kopf der Bevölkerung			X						Verschuldung der Stadt	
a) Markttage pro Woche in den Stadtteilen b) Einwohnerzahl pro Markttag			X						Versorgung mit Lebensmitteln aus der Region	
Ausgaben in der entwicklungslandelevanten Forschung und Studienplatzkosten für Ausländer aus Entwicklungsländern im Vergleich zu dem BIP Hamburgs					X				Entwicklungshilfeleistungen	
Jugendarbeitslosenquote (16-25-jährig)			X						Jugendarbeitslosigkeit	
Absolute Zahl von Sozialhilfeempfängern bis 15 Jahre			X						Kinderarmut	
Gewaltstraftaten im HVV-Bereich (Verkehrsmittel, Haltestellen und Bahnhöfe)		X							Sicherheitsgefühl im öffentlichen Raum	
CO ₂ -Emissionen in Hamburg berechnet aus dem Verbrauch zur Verbrennung vorgesehenen Primärenergien		X							Klimaschutz	
Versiegelte und nicht versiegelte Fläche in ha			X						Bodenschutz, Flächennutzung	
Grünfläche pro Einwohner in km ²			X						Urbane Lebensqualität, nahegelegene Erholungsflächen	
Personenkilometer im HVV bezogen auf die Einwohnerzahl			X						Nutzung öffentlicher Verkehrsmittel, Reduzierung des PKW-Verkehrs	
Abfallaufkommen und -zusammensetzung aus den Hamburger Haushalten in kg pro Einwohner			X						Abfallvermeidung, Abfallreduzierung	
Wahlbeteiligung bei Hamburger Bürger-schaftswahlen					X				Interesse für gesellschaftliche Belange	

ISTAT Indicators (I)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
emissions of NO _x due to tourist transportation		X							air pollution/ climate change/ ozone layer depletion	
emissions of NO _x due to energy used for tourist accommodation		X							air pollution/ climate change/ ozone layer depletion	
emissions of NMVOC due to tourist transportation		X							air pollution/ climate change	additional Pressure indicator for climate change
emissions of NMVOC due to energy used for tourist accommodation		X							air pollution / climate change	additional Pressure indicator for climate change
emissions of SO ₂ due to tourist transportation		X							air pollution	
emissions of SO ₂ due to energy used for tourist accommodation		X							air pollution	
emissions of particles due to tourist transportation		X							air pollution / climate change	
emissions of particles due to energy used for tourist accommodation		X							air pollution / climate change	
emissions of CO due to tourist transportation		X							air pollution	
emissions of CO due to energy used for tourist accommodation		X							air pollution	
number of air conditioned rooms in hotels (for emissions of chlorofluorocarbons (CFCs) and halons)		X							air pollution / climate change / ozone layer depletion	additional Pressure indicator for air pollution
number of refrigerators in hotels (for emissions of chlorofluorocarbons (CFCs) and halons)		X							air pollution / climate change / ozone layer depletion	additional Pressure indicator for air pollution
emissions of CH ₄ due to tourist transportation		X							climate change	
emissions of CO ₂ due to tourist transportation		X							climate change	

ISTAT Indicators (II)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
emissions of CO ₂ due to energy used for tourist accommodation		X							climate change	
emissions of N ₂ O due to tourist transportation		X							climate change	
emissions of N ₂ O due to energy used for tourist accommodation		X							climate change	
emissions of CO due to tourism transportation		X							climate change	additional Pressure indicator for climate change
emissions of CO due to energy used for tourism accommodation		X							climate change	additional Pressure indicator for climate change
percentage of area occupied by tourist establishments in relation to total land area within certain types of land, e.g. mountain area, beaches		X							loss of biodiversity	
percentage of area changed for tourism purposes (time series of the previous one)				X					loss of biodiversity	
no. of visitors per km ² in protected areas		X							loss of biodiversity	
area occupied by roads, railways, ports, airports, with regard to the total area of a given country		X							loss of biodiversity	
percentage of animals killed through hunting by tourists in relation to all animals killed through hunting				X					loss of biodiversity	additional Pressure indicator
percentage of fish catch of certain valuable species taken by tourists				X					loss of biodiversity	additional Pressure indicator
percentage of nutrients (N and P) discharged through sewage water attributable to tourism		X							marine environment and coastal zones	

ISTAT Indicators (III)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
percentage of coastal zones occupied by tourist establishments in relation to total land area in coastal zones		X							marine environment and coastal zones	
change in the percentage of coastal zones		X							marine environment and coastal zones	
percentage of coastal zones covered by roads, railways, ports, airports in relation to total land area in coastal zones		X							marine environment and coastal zones	
total no. of tourists arriving into the country by sea in relation to total no. of sea passengers		X							marine environment and coastal zones	
total no. of yachts and other pleasure boats arriving to countries		X							marine environment and coastal zones	
amount of waste discharged from the increased no. of ships during the tourist season		X							marine environment and coastal zones	
discharge of sewage water to coastal water by type of treatment		X							marine environment and coastal zones	
percentage of organic substances (BOD) discharged through sewage water attributable to tourism		X							marine environment and coastal zones	
no. of boats, yachts rented by tourists		X							marine environment and coastal zones	
percentage of certain fish and other marine species caught by tourists (e.g. lobster, salmon)				X					marine environment and coastal zones	additional Pressure indicator for marine environment and coastal zones
no. of tourist ports		X							marine environment and coastal zones	additional Pressure indicator for marine environment and coastal zones

ISTAT Indicators (IV)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
water abstraction due to tourism in relation to total water abstraction for household purposes, divided by groundwater and surface water				X					water pollution and water resources	
total no. of tourists arriving into the country by inland boat in relation to total no. of inland boat passengers		X							water pollution and water resources	
discharge of sewage water to lakes and rivers attributable to tourism, by type of treatment		X							water pollution and water resources	
total no. of yachts and other pleasure boats arriving at inland ports		X							water pollution and water resources	additional Pressure indicator
amount of waste discharged from the increased no. of ships during the tourist season		X							water pollution and water resources	additional Pressure indicator
percentage of organic substances (BOD) discharged through sewage water attributable to tourism		X							water pollution and water resources	additional Pressure indicator
percentage of nutrients (N and P) discharged through sewage water attributable to tourism		X							water pollution and water resources	additional Pressure indicator
annual use of mineral oil or natural gas as a fuel attributable to tourism		X							resource depletion	
water abstraction due to tourism in relation to total water abstraction for household purposes, divided by groundwater and surface water				X					resource depletion	
percentage of area occupied by tourist establishments in relation to total land area within certain types of land, e.g. mountain area, beaches		X							resource depletion	additional Pressure indicator
percentage of area occupied by tourist establishments in relation to total residential area		X							resource depletion	additional Pressure indicator

ISTAT Indicator (V)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
percentage of area changed for tourism purposes (e.g. ski centres, golf courses, beach areas owned by hotels, pleasure ports, etc)		X							resource depletion	additional Pressure indicator
no. of visitors per year and per km ² in protected areas		X							resource depletion	additional Pressure indicator
percentage of area occupied by roads, railways, ports, airports, with regard to the total area of a given country		X							resource depletion	additional Pressure indicator
percentage of fish catch of certain valuable species taken by tourists		X							resource depletion	additional Pressure indicator
percentage of animals killed through hunting by tourists in relation to all animals killed through hunting		X							resource depletion	additional Pressure indicator
annual use of energy attributable to tourism		X							resource depletion	additional Pressure indicator
percentage of batteries in municipal wastes during tourist seasons in comparison to other periods of the year		X							dispersion of toxic substances	no core Pressure indicators. Proposal for additional Pressure indicators
amount of petrol containing lead sold per month during tourist seasons in relation to the same amount outside tourist seasons		X							dispersion of toxic substances	no core Pressure indicators. Proposal for additional Pressure indicators
emissions of lead from the transport sector due to tourism		X							dispersion of toxic substances	no core Pressure indicators. Proposal for additional Pressure indicators
percentage of waste attributable to tourism		X							waste	

ISTAT Indicators (VI)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
amount of sludge from sewage treatment plants attributable to tourism		X							waste	additional Pressure indicator
emissions of CH ₄ due to the percentage of waste attributable to tourism		X							waste	additional Pressure indicator
emissions of NO _x due to the percentage of waste attributable to tourism		X							waste	additional Pressure indicator
discharge of sewage water within "tourist urban areas" attributable to tourism, by type of treatment		X							urban environmental problems	
water supply to the sector tourism within "tourist urban areas"		X							urban environmental problems	
percentage of waste attributable to tourism within "tourist urban areas"		X							urban environmental problems	
emissions of air pollutants due to tourist transport in "tourist urban-area"		X							urban environmental problems	additional Pressure indicator
road traffic density during the tourist season in relation to road traffic density during other periods of the year (for noise) within "tourist urban-areas"		X							urban environmental problems	additional Pressure indicator
air traffic density during the tourist season in relation to air traffic density during other periods of the year within "tourist urban-areas" (for noise)		X							urban environmental problems	additional Pressure indicator
railways traffic density during the tourist season in relation to railways traffic density during other periods of the year within "tourist urban-areas" (for noise)		X							urban environmental problems	additional Pressure indicator

ISTAT Indicators (VII)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
boat traffic density during the tourist season (for example: Venice, Amsterdam) in relation to boat traffic density during other periods of the year within "tourist urban-areas" (for noise)		X							urban environmental problems	additional Pressure indicator
number of discotheques in open spaces within "tourist urban-areas"		X							urban environmental problems	additional Pressure indicator
number of water based theme parks within "tourist urban-areas"		X							urban environmental problems	additional Pressure indicator
number of air conditioned rooms in hotels (for emissions of chlorofluorocarbons (CFCs) and halons)		X							ozone layer depletion	core Pressure indicator
number of refrigerators in hotels (for emissions of chlorofluorocarbons (CFCs) and halons)		X							ozone layer depletion	
emissions of NO _x due to tourist transportation		X							ozone layer depletion	
emissions of NO _x due to energy used for tour- ist accommodation		X							ozone layer depletion	

OECD Environmental Indicator System		indicators					scale			subject	comment
		Driving force	Pressure	State	Impact	Response	local/ regional	national	inter- national		
CO ₂ Emissionen			X							Klimaänderung	
Konzentration von Treibhausgasen in der Atmosphäre				X						Klimaänderung	
Energieintensität	X									Klimaänderung	
FKKW Verbrauch			X							Ozonschichtzerstörung	
Konzentration von ozonstörenden Substanzen in der Atmosphäre				X						Ozonschichtzerstörung	
Verbrauch von Mineraldüngern			X							Eutrophierung	
Konzentration von Schadstoffen in ausgewählten Flüssen				X						Eutrophierung	
Anzahl von Kläranlagen in Bezug zur Bevölkerung						X				Eutrophierung	
SO _x -, NO _x Emissionen				X						Versauerung	
pH-, SO ₂ , NO ₃ Konzentration im Niederschlag				X						Versauerung	
Ausgaben Luftreinhaltung						X				Versauerung	
Sondermüll (Volumen)			X							Verschmutzung	
Konzentration von Schwermetallen in ausgewählten Flüssen				X						Verschmutzung	
Konzentration von SO ₂ , NO _x -Partikeln in ausgewählten Städten				X						städtische Umweltqualität	
Anzahl bedrohter Arten im Verhältnis zu bekannten Arten				X						Artenvielfalt, Vielfalt von Ökosystemen, Landschaften	
Menge städtischer Abfalls, radioaktiver Abfall, Industrieabfall			X							Abfall	
Recyclingrate (Papier, Glas)						X				Abfall	
Ressourcennutzung, Nutzungsintensität			X							Wasserressourcen	
Ressourcennutzung, Nutzungsintensität			X							Waldbestände	
Fischfang			X							Fischbestände	
Änderung der Landnutzung			X							Bodenzerstörung	

GTZ-Sustainable Tourism	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
landscape utilisation		X							environmental compatibility	all infrastructure facilities
energy consumption	X								environmental compatibility	share of renewable energy sources
water consumption	X								environmental compatibility	competition with the local population; often a very limited resource
waste water disposal	X								environmental compatibility	often not centrally; little tolerance for decentralised waste water treatment
avoidance of garbage, recycling, dumping					X				environmental compatibility	
noise, exhaust		X							environmental compatibility	depends on means of transportation, energy consumption, etc.
trophy collecting, photo hunting and other activities such as rafting, climbing, mountain biking, trekking, bird watching, etc.		X							environmental compatibility	protected species, driving out of reclusive fauna
damage to the ecological balance				X					environmental compatibility	
exacerbation of social inequities				X					socio-cultural compatibility	
acculturation through demonstration effect				X					socio-cultural compatibility	increasing or lessening prejudice on both sides?
change of value system within society	X								socio-cultural compatibility	destruction of social system?
social uprooting through migration				X					socio-cultural compatibility	exodus or immigration after the region is opened to tourism?
increase of prostitution and crime?				X					socio-cultural compatibility	
improvement or worsening of women's social situation?				X					socio-cultural compatibility	

GTZ-Sustainable Tourism	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
study, renovation and protection of historic sites, or destruction?					X				socio-cultural compatibility	
strengthening of the national identity or sell-out of cultural treasures?			X						socio-cultural compatibility	
revival of handicrafts				X					socio-cultural compatibility	financial dependence on cartels or independent marketing?
traditional celebrations			X						socio-cultural compatibility	commercialisation of folkloric shows?
amount of tourist currency leakage				X					benefits for the host communities	distribution of operators, increase in import for luxury and consumer items, energy carriers, etc.?
vertical and horizontal distribution of growth in earnings				X					benefits for the host communities	for whom: women, men, youths?
creation of long-term jobs with work all year round if possible				X					benefits for the host communities	for whom: women, men, youths?
How high should investments be for job creation?					X				benefits for the host communities	
creation of vocational and further training possibilities					X				benefits for the host communities	for whom: women, men, youths?
prevention of an exodus from peripheral regions to economic centres /creation of new centres for immigrants?					X				benefits for the host communities	
sharp wage inequity between management (often foreign) and (usually local) wage groups?		X							benefits for the host communities	
strengthening or weakening of the local economy				X					benefits for the host communities	construction industry, trade, transportation, crafts, agriculture, fishing, etc.?

GTZ-Sustainable Tourism	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
strengthening of the informal sector				X					benefits for the host communities	General increase in the job possibilities, but by the same token increase in uncertain sources of income that are not very productive for the national economy?
improvement / worsening of the infrastructure used by the local communities				X					benefits for the host communities	impact on women, men, youths?
price increase for consumer goods for the local population?				X					benefits for the host communities	
increase in communal / state tax revenue?				X					benefits for the host communities	
increase of one-sided dependency on the tourism business				X					benefits for the host communities	Local, public and private economy becomes dependent on the conception of investment, behaviour, price and supply
income generated by tourism also used locally for nature conservation in broadest sense, or rededicated locally/ nationally?					X				support of nature conservation, (partial) financing of conservation areas	local conservation area administration, national conservation agency, central fiscal authority, local communities, NGOs?
collection of fees and use transparent? Tourist/company being informed of how fees are to be used?					X				support of nature conservation, (partial) financing of conservation areas	
earnings from tourism exceed the tourism-specific infrastructure/management costs? User fees been set too low?					X				support of nature conservation, (partial) financing of conservation areas	

GTZ-Sustainable Tourism	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
other subsidies/funds being cut because of revenue from tourism?					X				support of nature conservation, (partial) financing of conservation areas	
level of acceptance for nature and resource conservation measures growing along with tourism development?				X					building awareness for nature and resource conservation	
equitable joint ventures developed between companies and the local population?				X					building awareness for nature and resource conservation	
awareness of a link between income from tourism and nature conservation?			X						building awareness for nature and resource conservation	
tourists / companies participating in promotion of sustainable tourism?					X				building awareness for nature and resource conservation	visitor payback, sponsorships, etc.?

Naturfreunde Report (I)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local /regional	national	international		
Relative Aufteilung der Reisen auf Inland/ kontinental/ interkontinental	X								Verkehr	Die Entwicklung der Fernreisen sind wesentlich für die Zunahme der Treibhausgase durch den Flugverkehr
Schätzung der zurückgelegten Personenkilometer (errechnet aus den durchschnittlichen Entfernungen Ursprungsland/ Zielland)		X							Verkehr	Die Anzahl der Personenkilometer in Verbindung mit der Modalität sind wesentlich für die Beurteilung des Anteils des touristischen Verkehrs an der Klimaveränderung.
Modalität: Reisen Auto, Bus, Bahn, Flugzeug, Schiff)	X								Verkehr	Modalität auf regionaler Ebene läßt Rückschlüsse auf die regionale Verkehrssituation sowie auf die Quellen des jeweiligen Tourismusverkehrs zu Lokal: s. u.
Anzahl Urlaube pro Jahr		X							Verkehr	Da der An- und Abreiseverkehrsanteil bei Tourismusaktivitäten sehr hoch ist, kommt es bei mehreren Kurzurlaube zu einer relativen Mehrbelastung
Durchschnittliche Aufenthaltsdauer pro Urlaub			X						Verkehr	
Durchschnittlicher Auslastungsgrad der Betriebe			X						Verkehr	Auf regionaler Ebene geben die durchschnittliche Aufenthaltsdauer in Verbindung mit dem Auslastungsgrad und dem modal split Aufschlüsse über die Verkehrsbelastung des jeweiligen Ortes
Verhältnis Parkplätze zu Gästebetten und Einwohner			X						Verkehr	
Prozentuale Aufteilung der Art der Unterbringung			X						Aufenthalt vor Ort	unterschiedlicher Flächenverbrauch

Naturfreunde Report (II)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local /regional	national	international		
Anzahl der Betten in Ferien- und Zweitwohnungen / durch Betten in der Hotellerie			X						Aufenthalt vor Ort	Art der Unterbringung hat Auswirkungen auf den Flächen- und Energieverbrauch sowie auf den Aufwand an notwendiger Infrastruktur für Ver- und Entsorgung
Gästebetten je Einwohner			X						Aufenthalt vor Ort	Beide Maßzahlen kennzeichnen die zusätzliche Belastung des Ortes durch den Tourismus
Auslastungsgrad der Gästebetten			X						Aufenthalt vor Ort	
Wasserangebot/ touristischer Wasserverbrauch in Spitzenzeiten (inkl. touristische Einrichtungen)		X							Aufenthalt vor Ort	Wasserverbrauch ist gerade in südlichen Ländern ein Problem
Anteil der im Tourismus Beschäftigten an der Arbeitsbevölkerung			X						Aufenthalt vor Ort	Indikator für eventuelle Abhängigkeit des Ortes vom Tourismus
Energieverbrauch der Tourismuseinrichtungen		X							Aktivitäten vor Ort	
Durchschnittliche Besucherzahl pro Tag aller Tourismus Einrichtungen/ Gästebetten und Einwohner			X						Aktivitäten vor Ort	Ergeben zusammen ein gutes Bild über die Belastung der jeweiligen Gemeinde/Region durch Tagesbesucher, bezogen auf die Anzahl der Einwohner und die Fläche
Anzahl der verkauften Eintrittskarten/ Tickets für touristische Anlagen/ Jahr			X						Aktivitäten vor Ort	
Anzahl der verkauften Eintrittskarten/ Tickets für touristische Anlagen je km² Gemeindefläche			X						Aktivitäten vor Ort	
Prozentsatz der geschützter Flächen je Gemeindefläche (Nationalparke, etc.)					X				Aktivitäten vor Ort	

Naturfreunde Report (III)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local	national	international		
Sommer- und Badetourismus										
Gäste je km² Badestrand		X							Aktivitäten vor Ort	
Anzahl der Golfplätze je 1000 km²			X						Aktivitäten vor Ort	
Anzahl motorbetriebener Wassersportgeräte je km Uferlänge		X							Aktivitäten vor Ort	
sonstige motorbezogene Aktivitäten										
Länge der Ausflugsstraßen (km je 10 km² Fläche)			X						Aktivitäten vor Ort	
Monatsreihen der Fahrzeugbewegung auf diesen Ausflugsstraßen		X							Aktivitäten vor Ort	
Anzahl der touristischen Rundflüge welche im Gemeindegebiet starten		X							Aktivitäten vor Ort	
Wintersport und Bergtourismus										
Beschneite Fläche je km² Katasterfläche			X						Aktivitäten vor Ort	
Flächenbezogene Seilbahndichte = Transportkapazität der Haupt- und Kleinseilbahnen sowie Schlepplifte in 1000 Personenhöhenmetern pro Stunde je km² Katasterfläche			X						Aktivitäten vor Ort	
Anzahl der Besucher PKW Parkplätze je km² Gemeindefläche für nicht anlagegebundene Aktivitäten in der Natur			X						Aktivitäten vor Ort	
Anzahl der touristischen Hubschrauberlandungen je 100 km²		X							Aktivitäten vor Ort	

Diploma Thesis Sanfter Tourismus in Ostfriesland (I)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/ regional	national	international		
Sozial & Kulturgeographische Kriterien										
Betten insgesamt + Campinggäste Max./ Einwohner		X							Kulturelle Identität/ Grad der Bereitschaft	mögl. wäre auch zzgl. Tagesgäste, und statt Einwohner Einheimische
Ferienwohnungen im Besitz Einheimischer* 100/ Ferienwohnungen gesamt		X							Selbstbestimmung/ Ferienwohnungen im Besitz Einheimischer	
Einheimische/Zweitwohnsitze Haltende		X							Selbstbestimmung/ Verhältnis Einheimische zu Zweitwohnsitzer	
Sozialhilfempfänger*100/ Einwohner		X							Soziale Integration/ Sozialhilfempfänger	
Zu- & Fortzüge gesamt *100/ Einwohner		X							Soziale Integration/ Wanderungssintensität	
Anzahl Kindergartenplätze/ Einwohner *1000		X							Kindergärten	
Kostenaufwand gesamt/ Gesamt Gemeindehaushalt		X							Kulturarbeit/ Finanzaufwand	
Schuldenstand gesamt/ Einwohner		X							Gemeindehaushalt/ Schuldenstand	
Verkehrsgeographische Kriterien										
Entfernung zum nächsten Bahnhof		X							Erreichbarkeit/ Schienenanschluss	
Zahl der Bushaltestellen		X							ÖPNV	
Länge ÖPNV Netz in km/ km Straßennetz		X							ÖPNV	
km Radwegenetz/ km Straßennetz		X							Radwege	
Anzahl der Leihräder /Anzahl der Gäste		X							Fahrradverleih	
Verkehrsfläche gesamt in ha * 100/ Fläche insgesamt in ha		X							Flächenversiegelung/ Verkehrsanteil	

Diploma Thesis Sanfter Tourismus in Ostfriesland (II)	indicators						scale			subject	comment
	Driving force	Pressure	State	Impact	Response		local/regional	national	international		
Physiogeographische Kriterien											
Überbaute Fläche*100/ Fläche gesamt			X							Landschaftsversiegung	
Unbebaute Fläche/ Einwohner + Betten+Campinggäste Max			X							Freiraumkapazität	
(Bewirt. Fläche Jahr ₁ *100 /Bewirtschaftete Fläche Jahr ₂ + n Jahre) *100 * -1			X							(Kultur-) Landschaftserhaltung	
Ausgewiesene Fläche*100/Fläche gesamt			X							Naturschutzintensität	
Stromverbrauch p.a. *1000 / Überbaute Fläche		X								Energiewirtschaft/ Stromverbrauch pro Fläche	
Alternativ gewonnener Strom / Stromverbr. p.a.		X								Energiewirtschaft/ Ressourcennutzung	
Wasserverbrauch Haushalte p.a./ Einwohner		X								Wasserversorgung/-entsorgung	
Belastung Kläranlage Einwohnerwerte/ Kläranlagen angeschlossene Einwohner		X								Wasserversorgung/-entsorgung	
Hausmüll in kg Sommerquartal/ Hausmüll in kg Winterquartal			X							Öffentliche Abfallbeseitigung/ saisonale Abfallmengen	
Recycling zugeführt in kg *100/ Hausmüll insgesamt in kg					X					Öffentliche Abfallbeseitigung/ Recycling	
Bevölkerungsgeographische Kriterien											
(Geborene - Gestorbene p.a.)*100/ Einwohner			X							natürliche Bevölkerungsentwicklung	
(Zuzüge - Fortzüge p.a.) *100 /Einwohner			X							wanderungsbedingte Bevölkerungsentwicklung	
Einwohner unter 16 / Einwohner über 65			X							Alterstruktur	Tourismus als Altersruhesitz

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	indicators						scale			subject	comment
	Driving force	Pressure	State	Impact	Response		local/regional	national	international		
Diploma Thesis Sanfter Tourismus in Ostfriesland (III)											
Siedlungsgeographische Kriterien											
Anzahl Wohnungen/ Anzahl Einwohner			X							Besiedlungsdichte/ Wohnungsbesatz	
Durchschnittliche Steigerung der Anzahl Wohngebäude in den letzten vier Jahren in Prozent. (Formel Dipl./Arb.S.76)			X							Ortsbildveränderung /Wohnungsbau	
Wohnungen in Gebäuden mit ≥ 3 Whg. * 100/ Wohnungen insgesamt			X							Verstädterungselemente /Wohnungsdichte	
Gemeindefläche/ Zahl der denkmalgeschützten Gebäude			X							Denkmalschutz/ historische Bauten	
Umsatz Gastgewerbe/ Umsatz Handwerk			X							Wirtschaftsstruktur/ Umsatzverteilung	
Arbeitsplätze im Tourismus *100/ Arbeitsplätze gesamt			X							Wirtschaftsstruktur/ Beschäftigtenanteil Gastgewerbe	
Arbeitslose Dezember *100/ Arbeitslose Juni			X							Arbeitslosigkeit /saisonal	
Arbeitslose unter 25 Jahre *100/ Arbeitslose gesamt			X							Arbeitslosigkeit/ Jugendarbeitslosigkeit	
Langzeitarbeitslose *100 /Arbeitslose gesamt			X							Arbeitslosigkeit/ Langzeitarbeitslosigkeit	
((Beschäftigte primärer Sektor Jahr _{t-1} / Beschäftigte primärer Sektor Jahr _t +n)-100)* (-1)			X							Landwirtschaft/ Beschäftigtenentwicklung	
Betriebe über 50 ha Fläche *100/ Betriebe gesamt			X							Landwirtschaft / Betriebsgrößenstruktur	
Anzahl Ökobetriebe/ Betriebe gesamt			X							Landwirtschaft /Ökobetriebe	

Diploma Thesis Sanfter Tourismus in Ostfriesland (IV)	indicators						scale			subject	comment
	Driving force	Pressure	State	Impact	Response		local/regional	national	international		
Fremdenverkehrsgeographische Kriterien											
Angebotsseite											
Sonstige Bettenzahl (Parahotellerie)/ Anzahl der Betten in der Hotellerie		X								Beherbergungsstruktur/ Hotellerie	
Betten: Urlaub auf dem Bauernhof*100/ Betten insgesamt		X								Beherbergungsstruktur/ Urlaub auf dem Bauernhof	
Fläche Campingplatz in qm/ Betten insgesamt		X								Beherbergungsstruktur/ Campingplatzangebot	
Umsatz Gastronomie/ Übernachtungsgäste gesamt pro Tag+ Einwohner *0,2		X								Gastronomie: Umsatz pro Kopf	
Anzahl der Imbisse gesamt/ Einwohner		X								Gastronomie/ Imbissbetriebe	Imbisskultur statt heimischer Küche
Tageshöchstwerte an Touristen		X								(Freizeit-)Infrastruktur allgemein/ Kapazitäten von Einrichtungen	
Spielplatzfläche gesamt/ geschätzte Familien		X								(Freizeit-)Infrastruktur allgemein/ Spielplatzangebot	
Anzahl Liegeplätze/ Einwohner		X								(Freizeit-)Infrastruktur allgemein/ Sportbootliegeplätze	
(FeWo-Betten+Einw.) *160qm + Hotelbetten *30 qm/ überbaute Fläche in ha* 1000		X								Flächenbedarf Infrastruktur/ theoretischer Bedarf	Flächenbedarfsangaben nach Krippendorf, Camping zählt zu unbebauter Fläche
Beschäftigte Beherbergungsbetriebe/ Übernachtungsbetten		X								Tourismusbedeutung/ Arbeitsplatzschaffung	ohne Camping

Diploma Thesis Sanfter Tourismus in Ostfriesland (V)	indicators						scale			subject	comment
	Driving force	Pressure	State	Impact	Response		local/regional	national	international		
Nachfrageseite											
(Übernachtungen p.a./365) *100/ Betten gesamt		X								Auslastung der Beherbergung/ Betten gesamt p.a.	
(Logiernächte Hotellerie/ 365* 100)/ Betten Hotellerie		X								Auslastung der Beherbergung/ Betten Hotellerie p.a.	
Fläche Campingplatz qm *Saisontage/ Über- nachtung Campingplatz p.a.		X								Auslastung der Beherbergung/ Campingplatznutzung	
Übernachtungen insgesamt p.a./ Übernachtungsgäste gesamt. p.a.		X								Aufenthaltsdauer/ Jahreschnitt	
Übernachtungen im Tourismuszentrum/ Übernachtungen insgesamt		X								Gästeverteilung in der Gemeinde	
Geschätzte Tagesgästespitze/ Betten insgesamt		X								Tagestourismus	
Planung/ Organisation											
Gesamthaushalt der Kommune/ Investitions- volumen Tourismus		X								Öffentliche Investition/ Anteil am Kommunalhaushalt	
Betten gesamt+ Campinggäste Max/ Anzahl Mitarbeiter		X								Personalausstattung allgemein/ Gäste pro Mitarbeiter	

Remark: In this catalogue of indicators that consists of two compartments the first part contains 7 key variables and the second part contains a number of additional variables

Seiler key indicators	indicators						scale			subject	comment (target values: green: good chances, no problems yellow: be careful red: Warning! Act immediately!)
	Driving force	Pressure	State	Impact	Response		local/regional	national	international		
Maß für die Landschaftsschonung gemessen durch überbaute Bauzone/ Bauzone insgesamt		X								Umwelt/ Landschaft	Green: > 91 % Yellow: 83 %- 91 % Red: < 83 %
Entwicklung der Landbearbeitung, gemessen an: / % Veränderung der landwirtschaftlichen Nutzfläche in den letzten fünf Jahren		X								Umwelt/ Landwirtschaft	Green: > 0 % Yellow: - 2 %-0% Red: < -2 %
Übereinstimmung Bahnen- Betten, gemessen an: Transportkapazität Beschäftigungsanlagen/ Transportkosten aller touristischen Bahnen			X							Wirtschaft /Beherbergung und Transport	Green: 280 –340 Hm/h Yellow: 250 –280 Hm/h oder 340 –370 Hm/h Red: < 250 Hm/h oder > 370 Hm/h Hm/h: Höhenmeter/Stunde ?
Verhältnis Parahotellerie- Hotellerie gemessen durch: Betten Ferienwohnungen- und Zweitwohnun- gen insgesamt/ Betten Hotellerie			X							Wirtschaft /Beherbergung und Transport	Green: < 2,5 Yellow: 2,5 –3 Red: > 3
Winterauslastung der Bahnen gemessen durch: beförderte Personen /Transportkapazität aller touristischer Bahnen			X							Wirtschaft /Auslastung	Green: > 35 % Yellow: 30 – 35 % Red: < 30 %
Ferienwohnungen im Besitz Ortsansässiger, gemessen durch: - % Anteil Ferien- und Zweitwohnungen im Besitz Ortsansässiger			X							Gesellschaft/ Selbstbes- timmung	Green: > 55 % Yellow: 45 – 55 % Red: < 45 %
Grad der Bereitsheit gemessen durch: Betten insgesamt/ Ortsansässige (Ganzjahr)			X							Gesellschaft/ Kulturelle Identität	Green: < 2,7 Yellow: 2,7 – 3,2 Red: >3,2

Seiler additional variables (I)	indicators						scale			subject	comment
	Driving force	Pressure	State	Impact	Response		local/regional	national	international		
überbaute Bauzone/ Wiesen und Ackerland		X								Umwelt/ Landschaft	
Freiraumindikator: Wiesen+Weide+Waldfläche / Betten insgesamt			X							Umwelt/ Landschaft	
Transportkapazität Beschäftigungsanlagen/ Skipistenlänge		X								Umwelt/ Landschaft/	
Betten insgesamt / Gemeindefläche			X							Umwelt/ Landschaft/	
Saisonale Siedlungsdichte: Betten insgesamt + Ortsansässige (ganzjährig)/überbaute Bauzone			X							Umwelt/ Landschaft/	
Entwicklung der Arbeitskräfte in der Landwirtschaft: % Veränderung der Arbeitskräfte Landwirtschaft insgesamt		X								Umwelt/ Landwirtschaft	
Arbeitnehmer Tourismus/ Arbeitskräfte Landwirtschaft insgesamt			X							Umwelt/ Landwirtschaft	
Arbeitskräfte Landwirtschaft nebenberuflich/ Arbeitskräfte Landwirtschaft insgesamt			X							Umwelt/ Landwirtschaft	
Transportkapazität Beschäftigungsanlagen/ Transportkapazität Zubringeranlagen			X							Wirtschaft/ Beherbergung und Transport	
Transportkapazität Beschäftigungsanlagen / öffentliche Parkplätze			X							Wirtschaft/ Beherbergung und Transport	
Zufahrtskapazität öffentlicher Verkehr/ Zufahrtskapazität Straße			X							Wirtschaft/ Beherbergung und Transport	
öffentliche Parkplätze/ Zufahrtskapazität Straße			X							Wirtschaft/ Beherbergung und Transport	
Arbeitnehmer Tourismus/ Ortsansässige zw. 20- 64 Jahren			X							Wirtschaft/ Grad der Monokultur	

Seiler additional variables (II)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
Auslastung Betten insgesamt: Logiernächte insgesamt/ Betten insgesamt		X							Wirtschaft/ Auslastung	
Auslastung Betten Hotellerie: Logiernächte Hotellerie/ Betten Hotellerie		X							Wirtschaft/ Auslastung	
Sommeranteil Logiernächte Hotellerie Sommer Logiernächte Hotellerie/ Logiernächte Hotellerie		X							Wirtschaft/ Auslastung	
Sommer Anteil Logiernächte Parahotellerie (ohne ZW): Sommer. Logiernächte Parahotellerie/ . Logiernächte Parahotellerie		X							Wirtschaft/ Auslastung	
Maß für die Ungleichverteilung der Einkommensverteilung: Gini Index		X							Gesellschaft/ Selbstbestimmung	
Steuerpflichtige mit Steuereinkommen unter 10.000/ Steuerpflichtige insgesamt		X							Gesellschaft/ Selbstbestimmung	
% Anteil unüberbaute Bauzone im Besitz von Ortsansässigen		X							Gesellschaft/ Selbstbestimmung	
% Anteil amtlicher Wert im Besitz von Ortsansässigen		X							Gesellschaft/ Selbstbestimmung	
% Anteil Gebäudewert im Besitz von Ortsansässigen		X							Gesellschaft/ Selbstbestimmung	
Tourismus Intensität: Logiernächte insgesamt/ Ortsansässige (Ganzjahr)		X							Gesellschaft/ Kulturelle Identität	
Innere Bevölkerungsfuktuation Zuzügler/Jahr + Wegzügler/ Jahr) : 2 +Ausl. Saisonarbeiter/ Ortsansässige (Ganzjahr)		X							Gesellschaft/ Kulturelle Identität	
Zuzügler der letzten 10 Jahre/ Ortsansässige (Ganzjahr)		X							Gesellschaft/ Kulturelle Identität	

Tourismusbilanz key data	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
Müllaufkommen pro Übernachtung (Einwohner- und Touristenübernachtung)		X							Müllaufkommen	
Müllaufkommen durch Tourismus pro Touristenübernachtung		X							Müllaufkommen	
Stromverbrauch pro Übernachtung (Einwohner- und Touristenübernachtung)				X					Stromverbrauch	
Stromverbrauch durch Tourismus pro Touristenübernachtung				X					Stromverbrauch	
Wasserverbrauch pro Übernachtung (Einwohner- und Touristenübernachtung)				X					Wasserverbrauch	
Wasserverbrauch durch Tourismus pro Touristenübernachtung				X					Wasserverbrauch	
Flächen mit besonderer Bedeutung für den Tourismus			X						Flächennutzung	
Geschützte Flächen mit besonderer Bedeutung für den Tourismus			X						Flächennutzung	
Wasserqualität			X						Wasserqualität Trinkwasser	
Fäkalcoliforme Bakterien – Überschreitung im Jahr				X					Wasserqualität Trinkwasser	
Gesamtcoliforme Bakterien- Überschreitung im Jahr				X					Wasserqualität Trinkwasser	

WTO (I)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/ regional	National	international		
sustainable tourism - core indicators										
category of site protection according to IUCN index					X				site protection	
tourist numbers visiting site (p. annum/peak month)		X							stress	
intensity of use in peak period (persons/hectare)		X							use intensity	
ratio of tourists to locals (peak period an over time)		X							social impact	
existence of environmental review procedure or formal controls over development of site and use densities					X				development control	
percentage of sewage from site receiving treatment					X				waste management	Additional indicators may include structural limits of other infrastructural capacity on site, such as water supply
existence of organised regional plan of tourist destination region (including tourism component)					X				planning process	
number of rare/endangered species			X						critical ecosystem	
level of satisfaction by visitors (questionnaire based)			X						consumer satisfaction	
level of satisfaction by locals (questionnaire based)			X						local satisfaction	
proportion of total economic activity generated by tourism only			X						tourism contribution to local economy	
composite indices										
composite early warning measure of key indicators affecting the ability of the site to support different levels of tourism					X				carrying capacity	
composite measure of levels of impact on the site				X					site stress	
qualitative measure of those site attributes that make it attractive to tourism an can change over time			X						attractiveness	

WTO (II)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
coastal zones										
amount degraded in % degraded condition			X						ecological destruction	
levels of erosion in % of beach eroded		X							beach degradation	
reduction in catch - effort to catch fish - fish counts for key species				X					fish stocks depletion	
use intensity: - persons per meter of accessible beach		X							overcrowding	
species count: - number of species - change in species mix - number of key species sightings			X	X					disruption of fauna	
pollution levels: - faecal coliform an heavy metals count			X						diminished water quality	
crime levels - number of crimes reported (theft, assault)			X						lack of safety	
accident level - water related accidents as a % of tourist population			X						lack of safety <	

WTO (III)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
cultural sites - built heritage										
estimated costs to maintain/ restore site per annum				X					site degradation/ restoration	
acidity of precipitation				X					site degradation/ levels of pollutant affecting sites	
traffic vibrations (ambient level)				X					site degradation	
number of incidents of vandalism reported				X					site degradation	
number and type of crime against tourist reported			X						lack of safety / crime rate and type	
use intensity		X							determining tourist capacity	
mountains										
key species counts			X						loss of flora and fauna/reproductive success of indicator species/ continuing presence of wildlife at traditionally occupied sites	
changes in mix of species				X						
number of road kills of specified species				X						
visual inspection and photographic record for some species			X							
erosion caused by tourist in % of surface in eroded state				X					erosion / extent	
visual inspection and photographic record of eroded area			X						erosion / rate of continuing erosion	
length of vehicle line ups:			X						lack of access to key sites	
number of hours spent in vehicle			X						lack of access to key sites	
cost of entry/ lowest average local wage			X						lack of access to key sites	
number of people at peak period (accessible area only)		X							lack of solitude / consumer satisfaction	

WTO (IV)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
questionnaire whether solitude objectives are met			X						lack of solitude/ consumer satisfaction	
visibility of human presence (e.g. litter counts)				X					loss of aesthetic qualities / site attraction	
measure of fecal coliform, heavy metals			X						pollution counts / diminished water quality	
small islands										
% of exchange leakage from total tourism revenues				X					currency leakage /measure of capital flight	
% of foreign ownership of tourism establishments			X						foreign ownership	
use intensity and social impact indicators, may be applied at both local and island wide levels				X					overcrowding	
% of jobs supported by tourism				X					lack of jobs for local population	
% of seasonal jobs			X						lack of jobs for local population	
volume of water used by tourists / volume used by local population on per capita base		X							fresh water availability	
cost to water supply			X						fresh water availability	
cost to supply water/ number of tourists			X						fresh water availability	
estimates of capacity (e.g. volume remaining in reservoir/ aquifer)			X						fresh water availability	
number of brown outs				X					electricity availability	
restriction on use					X				electricity availability	
changes in cost for electricity use				X					electricity availability	
volume of sewage treated/ total volume of sewage			X						sewage treatment facilities	
level of treatment					X				sewage treatment facilities	

WTO (V)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
traditional communities										
<i>violation of social and cultural norms / displacement of members of local population</i>										
% of community speaking a non-local language			X						languages spoken by locals	
average net income of tourists / average net income of local population			X						social impact	
number of retail establishments / number of establishments serving local needs (as opposed to tourists)			X						social impact	
% of local establishments open year round			X						social impact	
number and type of complaints by locals					X				local satisfaction	
unique ecological sites										
species count			X						ecosystem degradation:	local wildlife biodiversity management offices may provide long term records for some species
count of members of key species			X						number and mix of species	
number of tourist sightings of key species			X						- continued presence of key species in traditionally occupied sites	
areas of species occupation (flora and fauna)			X						- reproductive success of key species	
primary floras species as a % of total plant cover			X						- site degradation	
number of outfitters/ guides using sites		X							- changes in flora mix and concentration	
number of boats using site		X								
% of area negatively affected				X						

WTO (VI)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
urban environment										
number of crimes reported (e.g. theft and assault)				X					lack of safety / crime levels, types of crime committed	
traffic injuries as a % of population				X					traffic safety	
counts of levels of waste on site				X					waste / site attraction	
crowding at key urban attributes: - traffic congestion - length of wait			X						use intensity	
- air pollution indices (e.g. sulphur dioxide, nitrogen dioxides, particulates)			X						health threats / air pollution	
- number of days exceeding specified pollutant standards				X					health threats / air pollution	
availability of clean water (e.g. can tap water be consumed on site)			X						health threats / drinking water	
type and extent of communicable diseases from statistics on disease prevalence	X								health threats / diseases	
records on decibel count at key location		X							health threats / noise	
managed wildlife parks										
reproductive rate of key species: - monitoring of numbers for animal groups			X						poor species health	
species diversity: -species count			X						poor species health	
changes in mix of animal species: - key species population count				X					poor species health	
use intensity in numbers of visitors		X							overcrowding	

WTO (VII)	indicators					scale			subject	comment
	Driving force	Pressure	State	Impact	Response	local/regional	national	international		
use intensity: - ratio of people/game animals (peak period)		X							overcrowding	
- number of people within 10 km of boundary			X						human encroachment / human population in park and surrounding area	
- % of park area affected by unauthorised human activity(squatting, wood cutting)				X					human encroachment / activities o people in park and surrounding area	
- % of surrounding land being used for human purpose such as agriculture (10 km radius)			X						human encroachment / activities o people in park and surrounding area	
- number of incidents of poaching reported				X					level of poaching	
- reduction of affected flora and fauna assets				X					level of poaching	
- number of human/ animal interaction				X					lack of safety human / animal interaction	
- crimes against tourists				X					lack of safety	

Appendix C:

Minutes of the international workshop at Lübeck-Travemünde

Indicators for the development of sustainable tourism in the Baltic Sea Region

Minutes of the results of the workshop

January 17-20, 2001
at Lübeck-Travemünde

Institute for Tourism and Recreational Research in Northern Europe (N.I.T.)

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About the workshop

The workshop on indicators for the development of sustainable tourism in the Baltic Sea Region was part of the implementation process of the Baltic 21, the Agenda 21 for the Baltic Sea Region (www.ee/baltic21). Following the Baltic 21 Action Programme the German Federal Environmental Agency (Umweltbundesamt) invited the Institute for Tourism and Recreational Research in Northern Europe (*N.I.T.*) to develop a system of indicators for the development of sustainable tourism in the Baltic Sea Region. This set of indicators should not remain a theoretical approach for selected experts. It is meant to be a profound support for people who have to decide in their daily work whether a development is sustainable or not. Therefore, during an international workshop a draft version was discussed with committed people from the entire Baltic Sea Region who are responsible for the local and regional development of tourism in practice.

Course of the workshop

The programme of the workshop started in the evening of 17th of January with a short introduction by Dr. Martin Lohmann (*N.I.T.*) followed by an opening lecture from the Minister of rural areas, spatial planning, agriculture and tourism of Schleswig-Holstein, Ingrid Franzen, who was patroness of the workshop. The first session finished with a welcome address by Dagmar Larws from the German Federal Environment Agency (Umweltbundesamt, UBA) illustrating the background why the UBA decided to conduct such a project about indicators for the development of sustainable tourism.

The next morning Wolfgang Günther (*N.I.T.*) provided an introduction into the political framework of the project and presented the first draft of a set of indicators for the development of sustainable tourism in the Baltic Sea Region developed by *N.I.T.*.

After his presentation personal knowledge and experience of the participants were the focus of the workshop. In three working groups the participants discussed the draft set of indicators and gave recommendations on how to handle, improve or replace them. In the morning of the third day of the workshop a revised draft of the set of indicators, improved particularly with regard to its applicability in practice, was developed.

The last two plenary sessions dealt with the implementation of the work with the indicators. The participants named preconditions for a successful work with indicators in their respective countries and discussed options how to cope with these requests. At the end of the workshop they set up a comprehensive working plan. Many participants declared that they would start working with indicators immediately after the meeting.

Apart from the main programme the participants used the meeting to discuss their personal experiences and to assess possible fruitful modes of co-operations.

...and last but not least: We had plenty of fun together and a lot of stories to laugh about – perhaps this is one of the most important preconditions for the work with indicators for the development of sustainable tourism not only in the Baltic Sea Region...

Minutes of the results of the workshop

Contents of the minutes

On the following pages you will find ...

- ☒ the schedule of the workshop

... just to remind you.

- ☒ the results of the working groups

... we took the posters with the decisions of the three groups and added the remarks that were noted on the flipcharts for each indicator to provide a true image of the discussion.

The remarks will serve as a basis for the further development of the indicators.

Some aspects remain unsatisfying even in the revised set of indicators. The *N.I.T.* will try to solve the problems outlined in the remarks as thoroughly as possible. In the final report of the project the *N.I.T.* will present an updated version that takes into account the results of this attempt.

- ☒ the outcome of the plenary sessions at the end of the workshop

... here you will find the posters of the last two sessions including the working plan.

- ☒ and the final list of participants

For further information:

If you have any more questions, please do not hesitate to contact the *N.I.T.* (info@nit-kiel.de).

We are looking forward to helping you!

Schedule of the workshop

on Indicators for the development of sustainable tourism in the Baltic Sea Region

January 17-20, 2001, Ostseeakademie Travemünde

Wednesday, 17 th of January	10.00	Meeting of the Baltic 21 Tourism Task Force (TOUTF) (only for members of this group)
	16.00	Registration
	18.15	Introduction - Dr. Martin Lohmann, <i>N.I.T.</i>
	18.30	Conference opening and welcome Ingrid Franzen - Minister for rural areas, spatial planning, agriculture and tourism of Schleswig-Holstein
	19.00	Welcome address Dagmar Larws, Federal Environment Agency (Umweltbundesamt)
	19.30	Dinner
	afterwards	Fireside chat
Thursday, 18 th of January	09.30	Introduction to the programme
	09.45	Indicators for the development of sustainable tourism in the Baltic Sea Region - Background of the project and aims of the workshop
		Indicators: What they are meant for and how to use them
	10.30	Coffee break
	11.00	Introduction of the draft set of indicators
	11.45	Institution of three working groups with focus on ecology, economy and social aspects
	12.30	Lunch
	14.00	First session of the working - Discussion of the draft set of indicators
	16.30	Coffee break
	17.00	Continuation of the working groups
	19.30	Dinner
	afterwards	The Baltic Sea Region - A journey in pictures
Friday, 19 th of January	09.00	Reports from working groups and on the final set of indicators
	10.30	Coffee break
	11.00	Strategies to make the indicators applicable in practice
	12.30	Lunch
	14.00	Outlook and next steps after the workshop
	15.30	Good-bye-coffee and end of the main programme
	afterwards	Bilateral discussions on future co-operation
Saturday, 20 th of January	18.00	Dinner
	9.00 to 18.00	<i>optional:</i> Excursion to tourist places of interest in the Lübeck Bay <i>alternatively:</i> Reisepavillon - Travel market on sustainable tourism, Heidelberg, see also: www.umweltdirekt.de

working group I – focus on economy

working group I – focus on economy

no.	indicator	sector	remarks	stays	modification	replace	delete	core indicator	supplementary → tourism form	supplementary- → availability
1.1	satisfaction of guests		too broad and indirect more important is PROFIT				X			
1.2	average capacity utilisation of tourist enterprises	economic success	already widely used for accommodation – must be expanded (e.g. private accommodation, fun parks, restaurants, museums), difficult to break down to local level (laws), visitor surveys as an additional source of information	X				X		
1.3	ratio of bed capacity utilisation in peak season in relation to average capacity utilisation		Who is going to use it ? Other ratios might be interesting, too.	X						X
1.4	share <i>number</i> of employees in tourism in relation to the total of employees in the examined area	structure of tourism	mere number is sufficient 50% may be to high (e.g. restaurants) availability limited to accommodation		X			X		
1.5	share of year-round full-time jobs in tourism		People can have several part-time jobs – part-time jobs cannot be defined as “negative” (e.g. agriculture + tourism). Availability may be connected with rather high costs.	X					X	
1.6	share of tourist enterprises offering predominantly regional goods-food	regional net production	relevance quite low type of goods has to be defined – BETTER only food ! impact of tourism in this field is not very big must meet the expectations of the customer		X				X	

working group I – focus on economy

no.	indicator	sector	remarks	stays	modification	replace	delete	core indicator	supplementary → tourism form	supplementary- → availability
1.7	share of tourist enterprises offering products from regional ecological agriculture	regional net production	not an indicator for economy – ECOLOGY ecology ≠ sustainability				X			
New	tourist spending	turnover	added value to local economy					X		
New	local business climate		satisfaction, expectations of employees and entrepreneurs; involvement of entrepreneurs; referring to process indicator of the Baltic 21					X		
	institutional indicators									
4.1	existence, continuous development and implementation of a tourist traffic concept following the principles of sustainability		is already included in 4.2 – a tourism concept without traffic is worthless				X			
4.2	existence, continuous development and implementation of a tourism development concept following the principles of sustainability	concept development	“meta-indicator” – the key to work with indicators pulls the tourist stakeholders together includes indicator 4.1 and is closely linked to 4.3. and 4.4 should include the existence of an integrated management plan for protected areas with regard to tourism which is regularly revised, implemented and evaluated should include the existence and continuous development of a visitor information and guidance system	X				X		

working group I – focus on economy

no.	indicator	sector	remarks	stays	modification	replace	delete	core indicator	supplementary → tourism form	supplementary- → availability
	supplementary indicators									
D	share of coastline which a specific form of tourism uses directly		linked to 4.2 – topic is already included in 4.7 coastlines are very important to look at (tourism, environment) – a coastal management is necessary Is it negative to use the beach ?				X			
H	existing environmental management plan in pleasure boat harbours share of tourist enterprises with an existing environmental management plan		CORE INDICATOR for all tourism enterprises to have such a plan Modification from “yes/no” to “%” -> see 4.4			X		X		
J	overnight stays per m ² sealed ground at camp sites / in summer house resorts		important, but not as an indicator For the planning process even more information should be available.				X			
L	existence of an integrated management plan for protected areas which is regularly revised, implemented and evaluated		when it comes to tourism already included in 4.2 linked to M				X			
M	existence and continuous development of a visitor information and guidance system		important – definition should be more precise not limited to nature (culture, ...) should be part of integrated planning (4.2)		(X)				X	

working group I – focus on economy

guidelines:

The group decided on the following guidelines for the work with indicators:

- Comparison with others is desirable for some indicators, but not necessary!
- Indicators should be analysed together (because they are often closely linked)!
- Core indicators indicate a situation / development – to analyse it you have to go into greater detail!
- A small number of indicators (is desirable)!
- Indicators should be applicable by those who “own” the products!
- “visibility” of the indicators – open to the public? Communication? → Motivation?

participants:

1. Martin Lohmann (GER)
2. Anders Nyholm (SWE)
3. Aira Andriksone (LV)
4. Karl-Heinz Stein(GER)
5. Lina Semutulskyte (LIT)
6. Søren Sørensen (DK)
7. Astrid Koch(GER)
8. Ingvar Mattsson (SWE)

working group II – focus on ecology

working group II – focus on ecology

no.	indicator	sector	remarks	stays	modification	replace	delete	core indicator	supplementary → tourism form	supplementary- → availability
2.1	number of arrivals in relation to the number of overnight stays	traffic	not available everywhere guests visiting for only one day should be taken into consideration?	X						X
2.2	annual public investments in the attractiveness of public transport for tourists		covered by indicator 2.3				X			
2.3	share of tourists using public transportation in the region		idea: Add an indicator about non-motorised traffic. Data could be compiled by visitor surveys or by comparing the peak season with the off-season.	X				X		
2.4	days in which a defined volume of road traffic at a selected location is exceeded		In some places impacts of traffic are measured already (pollution). A high number could lead to the building of new roads.	X					X	
2.5	share of ground sealed for tourist purposes in relation to the total ground <i>excluding</i> sea areas	area utilisation	add: excluding sea areas	X				X		
2.6	share of protected areas in accordance to IUCN categories-national legislation		important, but not IUCN categories → only description, no controlling – only applicable for areas bigger than 1000 ha. e.g. for National Parks		X			X		
2.7	electricity consumption due to tourism per overnight stay of tourists	energy	problem: availability → it is necessary to develop appropriated methods, good examples from other projects should be used SHOULD become core indicator as soon as possible	X				(X)		X

working group II – focus on ecology

no.	indicator	sector	remarks	stays	modification	replace	delete	core indicator	supplementary- tourism form	supplementary- availability
2.8	share of regeneratively generated electricity <i>renewable energy</i> in relation to total electricity <i>energy</i> consumption in tourist enterprises		problems: availability – no statistics		X					X
2.9	ratio of water consumption in relation to natural ground-water renewal	water	not relevant for every site!	X					X	
2.10	water consumption due to tourism per overnight stay of tourists		problem: availability → it is necessary to develop appropriated methods, good examples from other projects should be used SHOULD become core indicator as soon as possible	X				(X)		X
2.11	amount of waste due to tourism per overnight stay of tourists	disposal	problem: availability → it is necessary to develop appropriated methods, good examples from other projects should be used SHOULD become core indicator as soon as possible	X				(X)		X
2.12	share of sewage from tourist enterprises receiving treatment		definition of treatment is needed EU water directive should be taken account	X				X		
	institutional indicator									
4.6	share of tourist enterprises with environmental management systems, meeting the requests of ISO 14001 ff./ EMAS.	management		X				X		
4.7	share of coast with existing ICZM in accordance to EU HELCOM recommendation		replace EU with HELCOM doubts whether it should be a core or supplementary indicator	X					X	

working group II – focus on ecology

no.	indicator	sector	remarks	stays	modification	replace	delete	core indicator	supplementary → tourism form	supplementary- availability
	supplementary indicators									
E	distance of areas sensitive in accordance to EU FFH/ Bird protection directive to tourist infrastructure not belonging to the management of the area itself		delete BUT keep Indicator L → see working group I - economy				X			
G	existing regulations for boat traffic in sensitive marine areas in accordance to EU FFH/ bird protection directive		not only a problem for FFH/bird protection areas definition needed for what is a sensitive area		X				X	
I	number of summer houses per km² in relation to their distribution pattern		too complex				X			
K	development of number of endangered and extinct species (since 1970) in the last 30 years		development is important What about migrating species?		X				X	

working group II – focus on ecology

more ideas:

In this group some more ideas were mentioned that could be taken in account for the development of other indicators:

- bathing water quality
- concentration of algae (→eutrophication)
- number of rivers with migrating fish that are breeding successfully
- number of migrating fish in a river
- sea level rise
- eutrophication because of dredging for ship traffic

participants:

1. Antonia Wanner (GER)
2. Grzegorz Blaschowski (POL)
3. Kari Salovaara (FIN)
4. Jan Woolhead (DK)
5. Annika Andersson (SWE)
6. Vaiva Bandziene (LIT)
7. Dagmar Larws (GER)
8. Eva Kleinn (GER)
9. Wolfgang Günther (GER)

working group II – focus on ecology

Four more proposals by Jan Woolhead & Kari Salovaara that we received directly after the workshop

no.	indicator	sector	remarks	core indicator	supplementary form → tourism	supplementary- availability
	bathing water quality at water areas used by tourists		Data for this indicator is existing due EU commission/environment is collecting early. Countries in transition should be also included because they ought to develop system to collect data. We think that for Russia this is not difficult either. Further information is available at : http://europe.eu.int/water/water-bathing/index_en.html and especially at http://europe.eu.int/water/water-bathing/tourist.html	X		
	area of red list habitats (defined by HELCOM) comprised by a management plan compared with the whole area of such habitats		The concerned management plans must also include actions related to tourism. This is a vital indicator to all destinations. Data could be quite easily compiled due that all countries are members of HELCOM and thus already taking preparatory actions according to HELCOM resolutions. Reference : http://www.helcom.fi/ . Contact info: Kjell Grip should be the right person.	X	(X)	
	violations of regulations for use of protected areas by tourists compared with the total number of violations in such areas		Staff who is taking care off protected areas is as we know already collecting this kind of information all over the Baltic Sea Region, so it wouldn't cause too much problems. The indicator is quite important but it might be sufficient that it's only a supplementary indicator.		X	
	reductions of flora and fauna assets caused by tourism compared with other causes of such reductions		This is a little tricky indicator, but in many cases reasonable information could be gathered as side effect of planning etc.		X	

working group III – focus on society

working group III – focus on society

no.	indicator	sector	remarks	stays	modification	replace	delete	core indicator	supplementary → tourism form	supplementary- → availability
3.1	share of tourist enterprises (incl. summer cottages/ apartments) belonging to locals	income	size of enterprises is also important to know problem: definition of tourist enterprise (e.g. taxis, shops) tax system has to be regarded, local owners do not necessarily pay local taxes and vice versa. For locals JOBS are more important than ownership of enterprises.	X						X
3.2	number of employees in tourism who are not residents in relation to total number of employees in tourism <i>in peak season</i>		difficulties: measurement of seasonal workers who do not have to register – how to include part time worker into the calculation Measuring is only necessary in peak season because this is the critical time when non-local workers may mean stress for the locals.		X			X		
3.3	number of traineeships in the tourism sector per inhabitant in the examined area	education	It is very important to find an indicator for education BUT the group found no common solution. Educational Systems vary too much between the different countries – traineeships are only common in Germany.				X			
3.4	rent for permanent residency compared to national average <i>in the surrounding area</i>	housing and supply	Surrounding area is a better basis for a comparison as prices differ very much within a country without influences of tourism. problem: definition of surrounding area (possible solution: e.g. "Länder" in Germany, "Region" in Russia) idea: measure change instead of percentage		X			X		
3.5	use of tourist infrastructure by locals		problem: definition of tourist infrastructure in practice (local definition)	X				X		

working group III – focus on society

no.	indicator	sector	remarks	stays	modification	replace	delete	core indicator	supplementary → tourism form	supplementary- → availability
3.6	influence of tourism on the satisfaction of residents	well-being		X				X		
3.7	ratio of tourists in relation to residents in peak season	stress	problem: Overnight statistics in some countries (GER, SWE, DK) are not complete (e.g. only enterprises with 25+ beds). One-day visitors have to be estimated.	X				X		
NEW	crime rate in peak season in relation to crime rate in off-season	crime	measurement of "safe environment"					X		
	institutional indicators									
4.3	existence and continuous work of a tourism forum with the participation of all social interest groups which meets regularly		add existence and continuous work change social into interest groups forum a private public partnership		X			X		
4.4	existence of a regional co-ordinating authority for sustainable tourism development	communication	Is the person from the co-ordinating authority part of the tourism forum? Who has the power of decision The forum? The co-ordinator? → You can have one or the other – or both, as long as it works.	X				X		
4.5	share of population involved in Agenda 21/ Baltic 21 projects in tourism		difficulties in measuring → one person can be as good as ten others – people not officially involved in A21/B21 can also be effective for the aims of those processes idea of this indicator is already integrated in 4.3				X			

working group III – focus on society

no.	indicator	sector	remarks	stays	modification	replace	delete	core indicator	supplementary → tourism form	supplementary- → availability
	supplementary indicators									
A	share of car-free streets within the settlement			X					X	
B	days exceeding defined standards of air pollution and noise			X					X	
C	share of restored old or historic buildings in relation to the total number of buildings		interesting indicator, but in many places not a focus on sustainable tourism many problems with definitions...				X			
F	pleasure boat moorings per resident		The tourists are the problem, not the moorings – to the locals it doesn't matter where the tourists come from: land or sea. Moorings are no good measurement, because there can be moorings without boats.				X			
N	beach visitors per m ² beach at hot spots in peak seasons		The definition and interpretation of target values is very important. Even at the same location there can be conflicts between the target values for social / economic and ecological calculation – the emphasis on one sector can be very bad for the others.	X					X	

working group III – focus on society

questions:

During the discussion some crucial questions arose which should be considered in the further process:

- What is the point of working together?
- Do you need to find the same definitions?
- Do we need to compare the data?
- Who should use / see the indicators (tourists / tour operators / planners)? → Primarily planners!
→ You have to think of the scale (national / regional / local)

As one important benefit of co-operation when working with indicators e.g. in this workshop it was mentioned that:

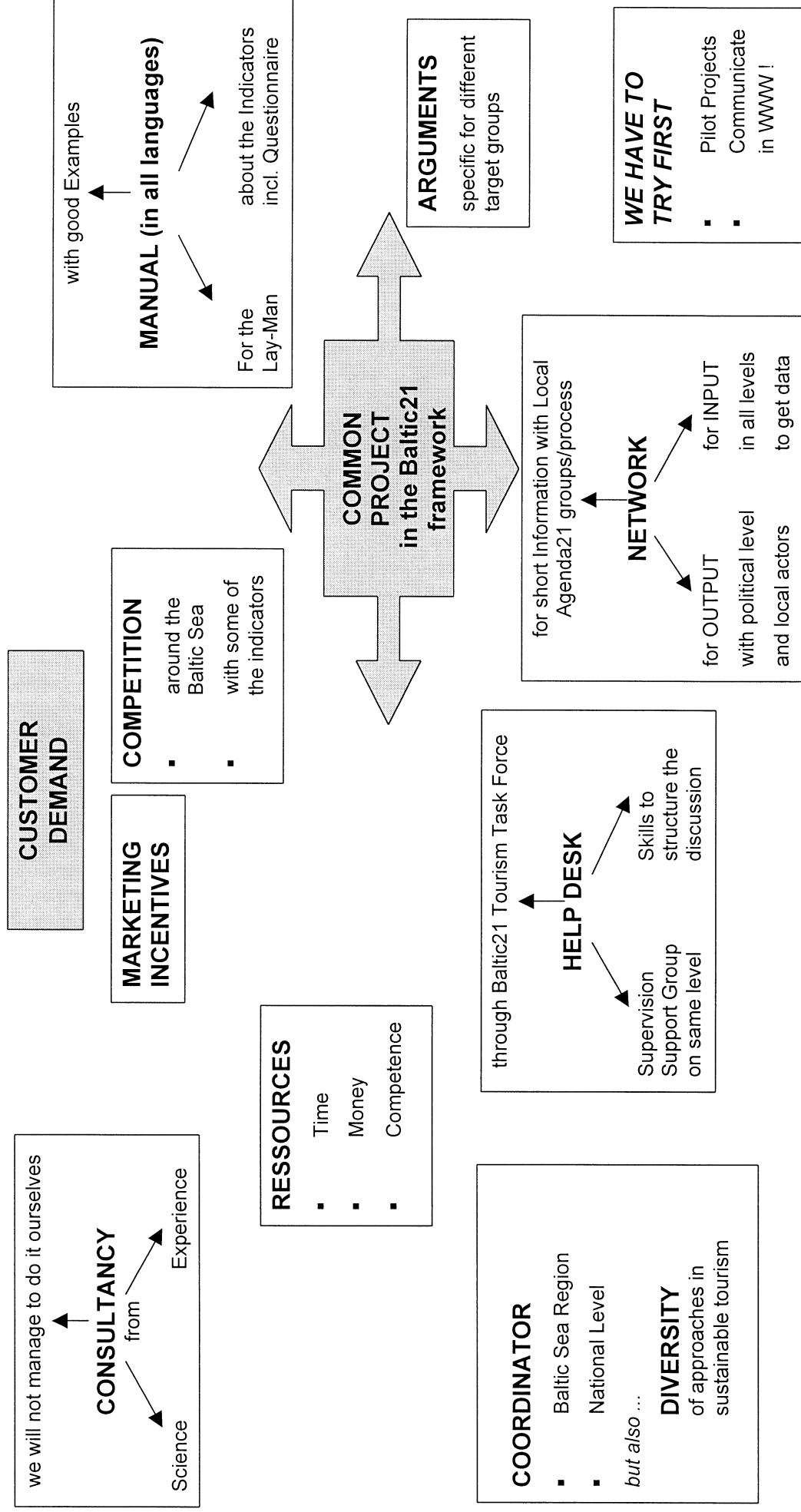
We exchange and learn a lot from each other!!

participants

1. Jens Holmegaard (DK)
2. Daiva Puplėstyte (Lit)
3. Eva Bergstrand (SWE)
4. Arvo Raudsepp (EST)
5. Eve Aas (EST)
6. Monta Krafte (LV)
7. Ieva Gaile (LV)
8. Elena Titova (RUS)
9. Freddie Bijkerk (GER)
10. Rasa Liubinaite (LIT)
11. Ulf Sonntag (GER)
12. Johanna Danielsson (GER)

Poster I

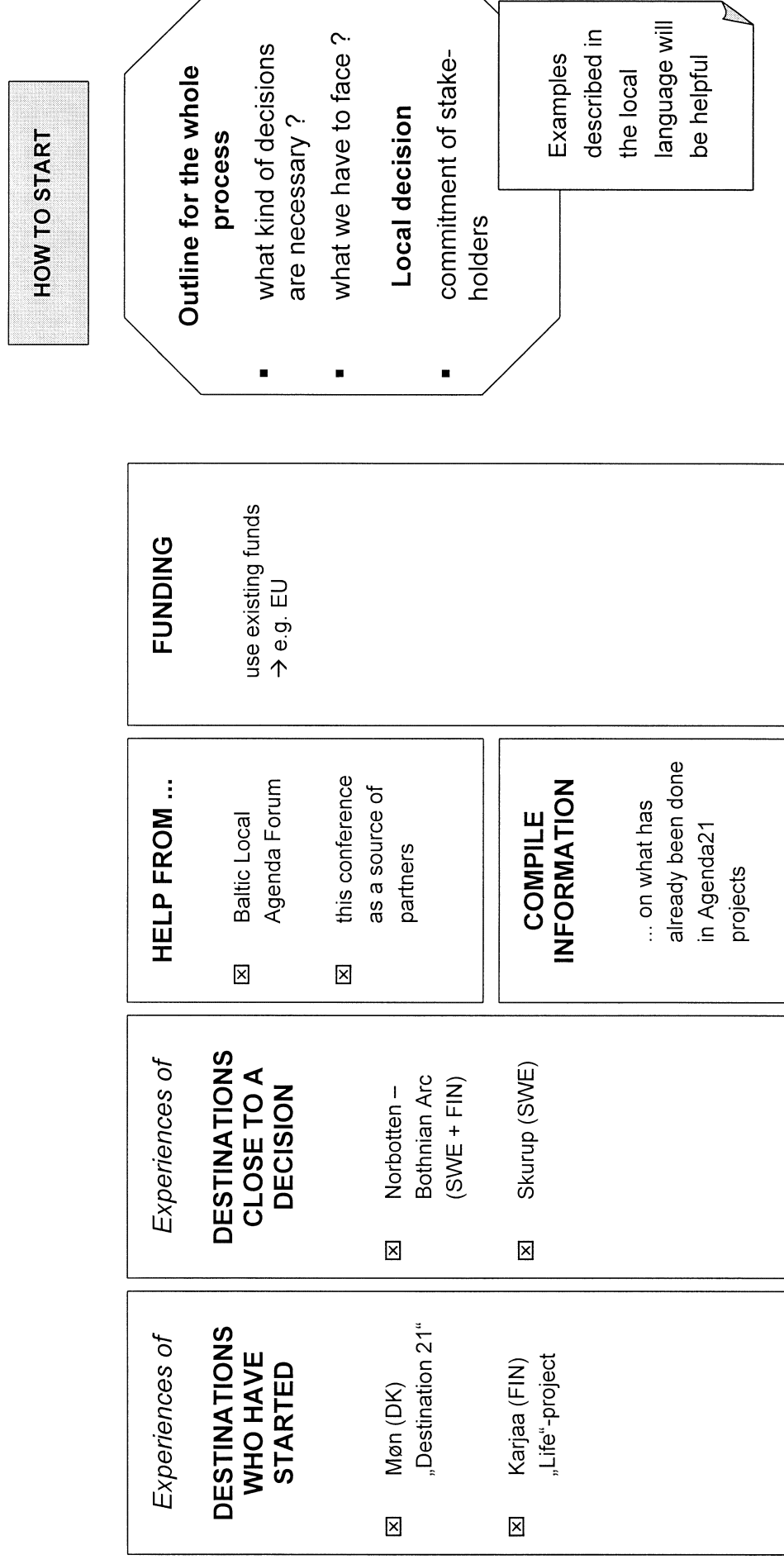
What does it take to work with the indicators ?



final plenary session

Poster II

Ideas to supply you with what you need ...



final plenary session

Poster III Working plan

	WHAT TO DO	BY WHOM	WHEN
1.	- check up of state of tourism with regard to our indicators - presentation to tourism department → marketing of sustainable tourism	Rasa Liubinaite (LIT)	after return
2.	presentation of the project to Nida local authorities and check-up	Lina Semutulskeyte (LIT)	after return
3.	check how "B7 / Best" work with these questions → Check Synergism	Anders Nyholm (SWE)	after reception of the minutes
4.	- send addresses of the national members of the TOUTF to the participants of the workshop - prepare application → funds from EU - call for pilot projects - set up a communication centre	Baltic21 – TOUTF Ingvar Mattsson (SWE)	application until September 2001 decision: December 2001
5.	- check our indicators whether they are feasible for Grömitz - work with them	Karl Heinz Stein (GER)	after reception of the minutes
6.	tell people on the Curonian Spit (Russian side) about the project and keep in contact with Lina Semutulskeyte (Nida)	Eva Kleinn (GER)	after reception of the minutes
7.	outline, write and translate realistic "appetiser" for locals to start the process → information basis	Communication Centre → Application by Ingvar Mattsson (TOUTF), see 4.)	when it is set up
8.	meetings to come together	B21 TOUTF	several times in the coming months
9.	- collection of distribution channels (ECOTRANS, D21) - send project description of Destination 21 to participants of the workshop	Jens Holmegaard (DK)	after getting the minutes

List of Participants

Workshop on indicators for the development of sustainable tourism in Baltic Sea Region,

January 17-20, 2001, Ostseeakademie Lübeck-Travemünde

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continued on the next page ...

List of participants continued ...

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Mr.	Annika	Andersson	County Administration of Norrbotten BTC – Baltic Sea Tourism Commission	annika.andersson@bd.lst.se	Sweden

... and what happened after the workshop

"It is really not that easy, but anyhow we have to start somewhere."

Annika Andersson (Swe)

And so they did:

From *Lina Semutulskyte(Lit)* we received mail on Tuesday , January 23rd. She wrote:

"I am already back from Germany. [...] I presented the idea about indicators of sustainable tourism to several lecturers of the Kleipeda University, Recreation Department. We talked about possibilities to go through the methodology of indicators and adapt them for Lithuanian sustainable tourism. [...] Also I have talked to the director of the Seaside Regional Park and next week he will arrange the meeting with the director of Curonian Spit National Park and I will present the idea of a possible project [...]"

Kari Salovaara(FIN) and *Jan Woolhead(DK)* had an après-workshop meeting in Denmark and sent us the following note:

"Here are the environmental indicators which has the Danish-Finnish Brain Storm Group developed."

We added their proposal to the minutes of the working group with focus on ecology.

Freddie Bijkerk told us he has been in contact with *Eva Kleinn (GER)*, *Arvo Raudsepp (EST)* and *Anders Nyholm (SWE)* since the end of the workshop. Further he mentioned that the outcome of the workshop is of strong interest for the island of Rügen in connection with a video conference carried out by the B7 islands on the 7th of February. Therefore he would postpone the results of the workshop to county government of Rügen soon.

We are sure this story will have a lot of more chapters in future.

Once again we would like to thank you for your participation and your valuable contributions. And we wish you good luck for your work and all the best for you personally as well.

The team of the N.I.T.

Appendix D:

Indicators for the development of sustainable tourism in the Baltic Sea Region

Proposed system of indicators

no.	indicator 1 st category economic indicators	sector	Driving force	Pressure	State	Impact	Response	subject	unit direction max:↑ min:↓ range:()	source
1.1	average utilisation of capacity of tourist enterprises	economic success			X			value added and use of resources per tourist	% ↑	Naturfreunde
1.2	number of people employed in the tourist industry	structure of tourism			X			social and economic importance of tourism	number ()	Baltic 21
1.3	Tourist spending at the destinations	turnover			X			additional value added for the local economy, basis of income for local population	numeric value ↑	workshop
1.4	local business climate	economic development			X			satisfaction and realisation of expectations of employees and entrepreneurs	scale ↑	workshop

no.	indicator 2 nd category Environmental indicators	sector	Driving force	Pressure	State	Impact	Response	subject	unit direction max:↑ min:↓ range:()	source
2.1	share of tourists using public transportation in the area of their holiday destination	traffic			X			attractiveness of public transportation	% ↑	EEA
2.2	share of protected areas in accordance to the national legislation	land use					X	importance of environmental protection	% ()	Umwelt- barometer
2.3	share of tourist enterprises with a connection to a sewage plant	disposal					X	environmental protection	% ↑	WTO
2.4	share of area sealed for tourist purposes among the entire area	land use	X					spatial requirements of tourism	% ↓	adapted from ISTAT
2.5	water quality at beaches used by tourists	water			X			clean environment, nature as valuable resource for tourism	values for parameters ↓	workshop, WTO
	<i>The following three indicators shall become core indicators as soon as useful data for these variables become available.</i>									
2.6	use of electric power attributed to tourism per overnight stay	energy		X				use of resources use of electric energy by tourism	kWh ↓	Touristische Umweltbilanz
2.7	use of water attributed to tourism per overnight stay	water		X				use of resources use of water by tourism	litres ↓	Touristische Umweltbilanz
2.8	amount of waste produced by tourism per overnight stay	waste		X				volume of waste produced by tourism	m ³ ↓	Touristische Umweltbilanz

no.	indicator 3 rd category: social indicators	sector	Driving force	Pressure	State	Impact	Response	subject	unit direction max:↑ min:↓ range:()	source
3.1	number of resident employees in tourism relative to the total number of employees in tourism during high season	income			X			tourism as source of income for locals social problems arising from seasonal workers	% ↑ N.I.T.	
3.2	number of possibilities for further qualification in tourism per inhabitant	education				X		possibilities for an improvement of the social situation	number ↑	workshop
3.3	rent for permanent residency relative to the average rent in the surrounding area	living and supply				X		changes in the levels of prices induced by tourism	% ()	adapted from GTZ
3.4	use of tourist infrastructure by locals				X			advantages of investments in tourism for the local population	% () N.I.T.	
3.5	influence of tourism on satisfaction of the local population	well-being			X			quality of life	Value on a scale ↑	based on EU, WTO
3.6	number of tourists relative to the number of local inhabitants during high season	stress		X				intensity of tourism as stress factor	% () WTO	
3.7	crime rate during high season in relation to crime rate during off-season	crime		X				secure environment for guests and locals	% ↓	workshop

no.	indicator 4 th category: institutional indicators	sector	Driving force	Pressure	State	Impact	Response	subject	unit direction max:↑ min:↓ range:()	source
4.1	existence, continuous further development and implementation of a tourism concept following the principles of sustainability	conceptual development					X	development of tourism establishing sustainability as a guideline for daily work	yes/no	adapted from WTO
4.2	existence and continuous work of a forum for tourism in which all interest groups participate and that convenes on a regular basis	communication					X	participation, democracy, co-operation, co-ordination, use of synergies	yes/no	N.I.T.
4.3	existence of a regional agency for the co-ordination of the sustainable development of tourism						X	operational support of the sustainable development	yes/no	adapted from WTO
4.4	share of tourist enterprises with environmental management systems at least meeting the requirements of ISO 14001/ EMAS	management					X	integration of sustainability into economic processes	% ↑	Baltic 21

Supplementary indicators depending on the local kind of tourism

no.	supplementary indicator * s = social, en = environmental, ec = economic, i = institutional	category	Driving force	Pressure	State	Impact	Response	subject	unit direction max:↑ min:↓ range:()	source
A	share of streets within the settlement closed to automobiles	en		X				stress from traffic for locals and tourists	% ↑	N.I.T.
B	number of days in which defined limits for air pollution and noise are exceeded	en				X		air pollution and noise	days ↓	WTO
C	number of days in which defined limits of traffic volume (density) at selected sites are exceeded	en		X				noise and air pollution	days ↓	N.I.T.
D	development of the number of endangered and extinct species during the last 30 years	en			X			environmental protection pressure on the environment	% ↓	adapted from WTO, Baltic 21 leading group
E	water consumption in relation to the natural ground-water renewal	en		X				use of resources, ecologically justifiable use of water	% ↓	adapted from HELCOM, ISTAT
F	existence of shipping rules for ecologically sensitive marine areas	i					X	management, interruptions by tourist activities	yes/no	Examples from plans for National Parks
G	existence and continuous development of a visitor information and guidance system	i					X	management, marketing environmental education and information	yes/no	N.I.T.
H	share of coastal areas in which Integrated Coastal Zone Management (ICZM) is implemented according of the corresponding HELCOM recommendation	i					X	sustainability in planning processes	% ↑	adapted from HELCOM

Continued on next page ...

Supplementary indicators depending on the local kind of tourism continued ...

I	number of visitors per m ² of beach at intensively used beaches during high season	s		X				intensity of tourism. social stress, crowds at the beaches	number ()	Naturfreunde
J	share of year-round full-time jobs in the tourist industry	ec			X			tourism as basis of income for locals	% ()	GTZ
K	share of tourist enterprises offering predominantly regionally produced food	ec			X			regional value-added, use of resources for transportation	% ↑	N.I.T.

Supplementary indicators depending on the availability of data at the destinations

no.	supplementary indicator * s = social, en = environmental, ec = economic, i = institutional	category	Driving force	Pressure	State	Impact	Response	subject	unit direction max:↑ min:↓ range:()	source
L	ratio of utilisation of capacity during high season and average utilisation	ec			X			value-added and use of resources per tourist, seasonality	% ↓	adapted from Seiler
M	number of arrivals as compared to the number of overnight stays	en			X			volume of arriving and departing traffic, use of resources by tourists	number ↓	Naturfreunde
N	share of renewable energy among the entire energy supply for tourist enterprises	en					X	use of resources state of development of sustainable sources of energy	% ↑	EEA, GTZ
O	share of tourist businesses including summer cottages and apartments that are owned by the local population	s			X			tourism as source of income for the local population	% ↑	WTO

Appendix E

Indicators for the development of sustainable tourism in the Baltic Sea Region

methodology sheet

no.	indicator 1 st category: economic indicators	definitions	context	method of data collection and possible sources
1.1	average utilisation of capacity of tourist enterprises	capacity utilisation = percentage of the capacity (e.g. total number of beds) of tourist institutions or enterprises that is actually used by tourists throughout one year tourist enterprise = more than 50% of customers are tourists	A low figure can point to a general excess capacity in tourist enterprises or a very high seasonality of a destination A high figure is desirable because it reduces the material input per visitor which is an advantage for economy and the environment.	assessment of local/regional statistics surveys at tourist enterprises
1.2	number of people employed in the tourist industry	employees in tourism = people working for public or private employers dealing mainly (more than 50%) with tourism (e.g. hotels, fun-parks, tourist-office etc.)	A balanced economic structure avoids a too strong dependency on tourism. A region that mainly relies on tourism will be affected more severely by a recession than regions with a more diverse structure. The social and economic importance of tourism is indicated.	assessment of local/regional statistics
1.3	Tourist spending at the destinations	spending = the entire amount of money spent by tourists at the destination	economic importance of tourism for the local economy	assessment of local/regional statistics if available otherwise: surveys at tourist enterprises
1.4	local business climate	business climate = basic attitude of the local entrepreneurs towards the economic environment	A good economic situation increases the willingness for investments or innovations and their engagement at the destination for its economic development	surveys/interviews among local businesses

no.	indicator 2 nd category: environmental indicators	definitions	context	method of data collection and possible sources
2.1	share of tourists using public transportation in the area of their holiday destination	public transportation = train, minibus, bus, subway, tram but no planes or taxis	This indicator relates to the attractiveness of public transportation to tourists for use during arrival, departure or for excursions. A high value means less pressure on environment and residents due to less individual traffic.	survey of a sample of tourists Sometimes the comparison of the number of people using public transportation during peak season to off-season can yield useful data.
2.2	share of protected areas in accordance to the national legislation	protected = there are legal provisions for the area in question that attempt to protect nature or restore it	On the one hand this indicator refers to the attempts to protect nature and on the other hand to the natural potential of the region to be useful for nature tourism. The local land use needs to occur in a balanced way.	assessment of local/regional statistics and/or analysis of detailed regional land use maps
2.3	share of tourist enterprises with a connection to a sewage plant	tourist enterprise = more than 50% of the customers are tourists connection to a sewage plant = sewage is cleaned at least biologically at centralised or decentralised sewage plants	Sewage that is not cleaned is a threat to nature and the environment, it can pollute ground water and render coastal waters useless for bathing (diminishing the attractiveness of the location). This indicator should attain a high percentage quickly in order to minimise threats to the environment.	surveys at tourist enterprises or an assessment of local/regional statistics
2.4	share of area sealed for tourist purposes among the entire area	sealed = built-up area, buildings and traffic infrastructure tourist purpose = buildings or traffic infrastructure used mainly (more than 50%) for tourism	This indicates the land utilisation for tourism i.e. the tourist demand for land and thus the environmental impact of tourism. Target values have to be defined according to the ecological carrying capacity and the aims for the development of local tourism Marine areas are excepted since their inclusion would cause misleading values	assessment of local/regional statistics or/and analysis of detailed small scale local development plans
2.5	water quality at beaches used by tourists	beaches used by tourist = beaches that are mentioned in publications (such as maps or catalogues) as sites for bathing	A good water quality is vital for the attractiveness of a location with a beach. This indicator is an impulse for the protection of water from which the environment can profit as well. More information is available at http://europe.eu.int/water/water-bathing/index_en.html and http://europe.eu.int/water/water-bathing/tourist.html	The EU assesses the water quality for bathing throughout Europe based on selected parameters and gives limit values for these. It is suggested to adopt these parameters.

<i>The following three indicators shall become core indicators as soon as useful data for these variables become available.</i>				
no.	indicator 2 nd category: environmental indicators	definitions	context	method of data collection and possible sources
2.6	use of electric power attributed to tourism per overnight stay	attributable to tourism = caused by the presence of tourists	Electricity consumption due to tourism can be considerably above average because of the use of non-sustainable technology used at tourist enterprises. The value should be kept as low as possible to avoid additional pressure on the environment / resources and to reduce costs at the same time.	Average electricity consumption in the month with the highest consumption (A) minus the average electricity consumption in the month with the lowest consumption (B) divided by the difference between the average number of overnight stays in the month with highest number of overnight stays (C) and the average number of overnight stays in the month with the lowest number of overnight stays (D): $X = (A-B) / (C-D)$ <i>Alternatively:</i> Survey at tourist enterprises
2.7	use of water attributed to tourism per overnight stay	attributable to tourism = caused by the presence of tourists	additional water utilisation due to tourism The value should be kept as low as possible to avoid additional pressure on the environment / resources and to reduce costs at the same time.	Average water consumption in the month with the highest consumption (A) minus the average water consumption in the month with the lowest consumption (B) divided by the difference between the average number of overnight stays in the month with highest number of overnight stays (C) and the average number of overnight stays in the month with the lowest number of overnight stays (D): $X = (A-B) / (C-D)$ <i>Alternatively:</i> Survey at tourist enterprises
2.8	amount of waste produced by tourism per overnight stay	attributable to tourism = caused by the presence of tourists	additionally produced waste due to tourism The value should be kept as low as possible to avoid additional pressure on the environment / resources and to reduce costs at the same time.	Average water consumption in the month with the highest consumption (A) minus the average water consumption in the month with the lowest consumption (B) divided by the difference between the average number of overnight stays in the month with highest number of overnight stays (C) and the average number of overnight stays in the month with the lowest number of overnight stays (D): $X = (A-B) / (C-D)$ <i>Alternatively:</i> Survey at tourist enterprises

no.	indicator 3 rd category: social indicators	definitions	context	method of data collection and possible sources
3.1	number of resident employees in tourism relative to the total number of employees in tourism during high season	residents = people who are permanent residents of the examined area	Often many people are employed in tourism during peak season who are not residents of the area in question. This can lead to social problems with local residents and adversely affects local social structures.	assessment of local/regional statistics
3.2	number of possibilities for further qualification in tourism per inhabitant		This indicates whether a tourist destination is investing in local human capital and thus into its own future and how important tourism is for the education and continued qualification of people	assessment of local/regional statistics; additional surveys at tourist enterprises.
3.3	rent for permanent residency relative to the average rent in the surrounding area	Permanent residency = house or flat used for permanent living	This indicates the tourism related differences between of the local and the national average price level. The price level can increase considerably due to tourism with the consequence that locals can no longer sustain themselves.	assessment of local/regional statistics
3.4	use of tourist infrastructure by locals	tourist infrastructure = buildings, sports facilities, public pools, traffic infrastructure that has been constructed for tourist purposes	This indicates to which extent locals benefit from investments in tourist infrastructure.	survey of a sample of locals
3.5	influence of tourism on satisfaction of the local population	satisfaction = general well-being the local population at tourist destination	This indicates the social amicability of tourism i.e. the degree to which tourism affects the quality of life of the local population	survey of a sample of tourists satisfaction measured on a scale of e.g. "very satisfied" (1) to "not satisfied" (5)
3.6	number of tourists relative to the number of local inhabitants during high season	tourists = one-day guests and overnight stays high season = the six weeks of a year with highest number of guests	This indicates the degree to which tourism can serve as potential stress factor for the local population The goal is to define a range that ensures that the benefits from tourism to the entire local population exceed the stress caused by tourism.	assessment of local/regional statistics
3.7	crime rate during high season in relation to crime rate during off-season	high season = the six weeks of a year with highest number of guests	The presence of tourists can attract criminals who expect lucrative victims among the guests. Also social tension between locals and guests can lead to crime. This indicators shows whether tourism has such an effect.	assessment of local/regional statistics

no.	indicator 4 th category: institutional indicators	definitions	context	method of data collection and possible sources
4.1	existence, continuous further development and implementation of a tourism concept following the principles of sustainability	tourism concept = comprehensive description of how tourism shall be developed in the short and in the long run worked out together by all local stakeholders	This indicates if and to which extent a tourist destination is willing to let its development of tourism follow the principles of sustainability. A guidance system for guests and aspects relating to tourism in integrated management plans for protected nature should be included in this concept. It aims to establish sustainability as a defined standard for tourist development.	There has to be a concept. This concept has to be updated at least once every three years and there have to be suitable activities attempting to reach the goals defined in the concept and to evaluate the measures.
4.2	existence and continuous work of a forum for tourism in which all interest groups participate and that convenes on a regular basis	forum for tourism = a circle of local stakeholders discussing the local tourism development	It is important to offer possibilities for participation to the different local interest groups to ensure that all interests are considered during the development of tourism. Participation, democracy, co-operation, co-ordination and use of synergies are important elements of a sustainable development that can be strengthened by a tourism forum.	The participants have to come from different origin and represent at best all relevant groups dealing with tourism in a broader sense
4.3	existence of a regional agency for the co-ordination of the sustainable development of tourism	regional agency for co-ordination = at least one person responsible for co-ordinating and stimulating activities aiming at a sustainable development of tourism	This indicates whether the principle of sustainability in a tourist destination is already institutionalised. Co-ordination increases the chance for a successful implementation of a tourism concept	The co-ordinating authority can be part of public administration or can be organised privately e.g. as a part of an association. It needs to have a broad support among local stakeholders of the tourism sector
4.4	share of tourist enterprises with environmental management systems at least meeting the requirements of ISO 14001/ EMAS	environmental management system = refer to requirements of ISO 14001 or EMAS, tourist enterprise = more than 50% of customers are tourists	This indicates to which extent the tourist industry is able or willing to apply sustainable strategies to resources, processes, products and services. The indicator serves as an incentive to make environmental management a standard for tourist enterprises.	survey at tourist enterprises

Supplementary indicators depending on the local kind of tourism

no.	supplementary indicator	definitions	context	method of data collection and possible sources
A	share of streets within the settlement closed to automobiles	closed to automobiles = pedestrian precinct or similar regulations	This indicates the effort a destination puts into reducing the stress on the population and the environment due to noise and air pollution.	evaluation of the local traffic development plan
B	number of days in which defined limits for air pollution and noise are exceeded		This indicates the state of the environment at a destination, the efficiency of potential measures against air pollution and noise in order to enhance the quality of life of locals and tourists.	evaluation of existing measurements or/and additional measurements of selected parameters
C	number of days in which defined limits of traffic volume (density) at selected sites are exceeded	traffic density = motorised vehicles per unit time selected sites = local locations with an exceptionally high traffic volume	This indicator shows the stress imposed by traffic on the environment, the local population, and tourists at peak hours with respect to noise and air pollution. A target value of zero should be achieved. In case the values of this indicator increase measures for the reduction of traffic need to be intensified.	traffic counts of automobiles at main junctions during peak hours
D	development of the number of endangered and extinct species during the last 30 years	endangered = in danger to be extinct e.g. according to red lists of endangered species	A declining number of species indicates pressure on the environment. Tourism should put no additional pressure on the environment, because unspoilt nature is a precondition in particular for nature tourism.	assessment of environmental statistics, e.g. the red lists of endangered species, expert interviews, additional research/monitoring, if necessary
E	water consumption in relation to the natural groundwater renewal	water consumption = entire amount of water used in the examined area groundwater renewal = the amount of water that is added to the resource on a regular basis e.g. by precipitation	This indicator shows how groundwater is used in the long run. In some regions the consumption of water increases drastically in summer due to tourism, sometimes above the natural groundwater recharge. In coastal areas this can lead to saltwater intrusion into aquifers. An annual average value of 1 should not be exceeded for an ecologically acceptable use of water.	assessment of local/regional statistics and data Groundwater recharge can be estimated with a geological formula if the necessary data about water reservoirs are not available.
F	existence of shipping rules for ecologically sensitive marine areas	ecologically sensitive = for environmental reasons especially sensitive to certain distractions	The marine flora and fauna can be impacted and threatened by boat traffic. Regulations relating to this subject shall minimise these risks.	International environmental agreements (e.g. HELCOM, MARPOL) contain criteria for sensitive marine areas. They also list such areas in the Baltic Sea.

no.	supplementary indicator	definitions	context	method of data collection and possible sources
G	existence and continuous development of a visitor information and guidance system	visitor information and guidance system = visitors are informed about special interesting (cultural, ecological etc.) aspects by signs or guides and are led in specific way so that they can experience these attractions without being a risk to them	A guest has to be able to find and understand the attractions of the destination. A visitor information and guidance system focuses the awareness of the guest on the attractions and the tourist highlights of the region. Simultaneously it allows tourists to be guided to regulate the pressure imposed by tourism on the environment. Ecologically or socially sensitive areas can be protected from impacts from tourism.	Such a system should be designed by experts from various fields of expertise (e.g. urban construction, culture, environmental protection) together with stakeholders in tourism. It should be integrated into the tourist marketing concept.
H	share of coastal areas in which Integrated Coastal Zone Management (ICZM) is implemented according of the corresponding HELCOM recommendation	ICZM = Integrated Coastal Zone Management HELCOM = Helsinki Commission for the protection of the Baltic Sea	This indicator shows to which extent a co-ordinated and integrated process of (economic, environmental, social) planning and management has already been implemented by a destination. An inclusion of the entire coastal area is desirable.	The standards of Integrated Coastal Zone Management are listed in the corresponding HELCOM proposal. Additional information is available in the results of the ICZM demonstration programme of the EU covering 35 case studies.
I	number of visitors per m ² of beach at intensively used beaches during high season	high season = the six weeks of the year with highest number of guests	This indicates the intensity of tourism an its potential pressure on environment, residents and other guests at the beach. A high density can cause concerns that guests and locals are disturbed and that the attractiveness of the beach decreases.	counting the number of people at the beach in peak seasons at highly frequented places This indicator is only useful at destinations with a very high intensity of tourism.
J	share of year-round full-time jobs in the tourist industry	year-round full-time jobs = positions with a weekly work time of about 38 hours that is filled throughout the year without interruption	This indicator shows to which extent tourism is important as single source of income. Limited employment depending on season and demand is only partly useful as basis of income. This holds true not only for groups that use seasonal part-time jobs as addition to regular income.	evaluation of local/regional employment statistics
K	share of tourist enterprises offering pre-dominantly regionally produced food	predominantly = more than 50% of the food produced regionally = from within a certain defined radius (e.g. 100 km)	A high value indicates a potentially larger regional value added. Also a reduced air pollution and a reduced energy consumption can be expected due to shorter distances of transportation.	surveys at tourist enterprises

Supplementary indicators depending on the availability of data at the destinations

no.	supplementary indicator	definitions	context	method of data collection and possible sources
L	ratio of utilisation of capacity during high season and average utilisation	high season = the six weeks of the year with highest number of guests	This indicator describes the seasonality of tourism at the destination. A high seasonality points to a relatively high consumption of (economic and ecological) resources per overnight stay since tourist infrastructure has to be maintained throughout the year but is used only during a short period of time and to the advantage of only a few.	assessment of local/regional statistics and, if necessary, in combination with additional surveys at tourist enterprises
M	number of arrivals as compared to the number of overnight stays	arrival = arrival of a guest at an accommodation at the destination	Each arrival and departure is connected with corresponding traffic. The longer a guest stays the smaller the relative use of energy and therefore the smaller the corresponding air pollution. Short trips consequently have a worse environmental balance than longer trips. Also the micro-economic expenditures are relatively lower for guests staying longer than for guests with shorter duration of stay.	assessment of local/regional statistics and, if necessary, in combination with additional surveys at tourist enterprises
N	share of renewable energy among the entire energy supply for tourist enterprises	tourist enterprise = more than 50% of the customers are tourists	In regions in which renewable sources of energy are available this indicator refers to the attitude of tourist enterprises with respect to environmentally sound energy supply. A high share of renewable sources of energy is desired in order to minimise the consumption of energy from non-renewable sources to reduce the emission of carbon dioxide.	surveys at tourist enterprises In some regions/countries renewable energy sources cannot be used by individual enterprises or regions. In this case the percentage of renewable sources of energy of the energy supplier in charge should be used.
O	share of tourist businesses including summer cottages and apartments that are owned by the local population	tourist enterprise = more than 50% of the customers are tourists local population = people with their main location of residency in the examined area	A low value could indicate that the local population profits from tourism in only a limited way. The idea is to keep the profits from tourism in the area of the destination.	assessment of local/regional statistics and, if necessary, in combination with additional surveys