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Tourism Indicators for Monitoring the SDGs

Session 6. Tourism Indicators for Monitoring the SDGs

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Summary

There is a growing need recognizing that tourism development has an impact on the social, economic and ecological environment since tourism destinations have sensitive and fragile environments which might be threatened by the tourism industry itself.

In many regions and countries sustainable tourism policies are more or less well developed; however, there is still a lack of guidance and information on how to monitor this progress. Considering this fact the development of indicators measuring the economic, social and ecological sustainability applicable to the tourism industry has been initiated by various national and international organizations.

On 25 September 2015, the United Nations General Assembly formally adopted the 2030 Agenda for Sustainable Development, along with a set of 17 SDGs and 169 associated targets.

Targets 8.9, 12.b and 14.7 directly concern tourism which are – after general considerations related to “Measuring Sustainable Tourism” - discussed in the present document. Nevertheless, tourism is relevant in many more goals and targets beyond those that explicitly mention sustainable tourism which are analyzed and for which respective indicators are proposed.

However, building on additional indicators, further work has to be done related to clarifying concepts, developing agreed measurement definitions, establishing measurement boundaries and limits, describing potential measurement techniques and supporting ongoing implementation and training.

Keywords: Tourism, Sustainability, Indicators

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Abbreviations

| | |
|--------------|--|
| 10YFP | 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns |
| EC | European Commission |
| ETIS | European Tourism Indicator System |
| EU | European Union |
| EUROSTAT | Statistical Office of the European Union |
| FAO | Food and Agriculture Organization of the United Nations |
| FTE | Full-Time-Equivalents |
| GDP | Gross Domestic Product |
| GHG | Green-House-Gas |
| IAEG-SDGs | Inter-agency and Expert Group on Sustainable Development Goal Indicators (UN) |
| IRTS 2008 | International Recommendations for Tourism Statistics 2008 |
| LDC | Least Developed Countries |
| MDG | Millenium Development Goals |
| MST | Measuring Sustainable Tourism |
| OECD | Organisation for Economic Cooperation and Development |
| SCP | Sustainable Consumption and Production |
| SDGs | Sustainable Development Goals (UN) |
| SEEA | System of Environmental-Economic Accounting |
| SF-MST | Statistical Framework for Measuring Sustainable Tourism |
| SIDS | Small Island Developing States |
| SNA | System of National Accounts |
| STP | Sustainable Tourism Programme |
| STS | System of Tourism Statistics |
| TBoP | Travel Balance of Payments |
| TDGDP | Tourism Direct Gross Domestic Product |
| TOR | Terms of Reference |
| TSA | Tourism Satellite Accounts |
| TSA:RMF 2008 | Tourism Satellite Accounts: Recommended Methodological Framework 2008 |
| UN | United Nations |
| UNEP | United Nations Environment Programme |
| UNEP-WCMC | United Nations Environment Programme – World Conservation Monitoring Center |
| UNSC | UN Statistical Commission |
| UNSD | UN Statistical Division |
| UNWTO | UN World Tourism Organisation |

Preliminaries

Attracting tourists mainly depends on – apart from the necessary tourism infrastructure facilities – an intact and unsoiled nature and picturesque landscapes. Therefore, a high quality of the **natural and social environment** is one of the most **important production factors** of tourism industry, as tourists want to move to attractive and unpolluted places which are one of the main travel purposes itself.

In many regions and countries sustainable tourism policies are more or less well developed; however, there is still a **lack of guidance and information** on how to monitor this progress. Given its economic, social and environmental implications and its potential for growth, tourism plays, and will continue to play, a major role in our societies.

Considering this fact, the development of **indicators measuring the economic, social and ecological sustainability** applicable to the tourism industry was initiated by various (national and international) organizations and proposed for implementation.

In 2012 at the **Rio+20 Conference**, the international community decided to establish a High-level Political Forum on Sustainable Development to subsequently replace the Commission on Sustainable Development. The High-level Political Forum on Sustainable Development held its first meeting on 24 September 2013. At the Rio+20 Conference, Member States also decided to launch a process to develop a set of **“Sustainable Development Goals”** (SDGs), which were to build upon the **“Millennium Development Goals”** (MDG) and converge with the **“Post 2015 Development Agenda”**.

The process of arriving at the post 2015 development agenda was member state-led with broad participation from major groups and other civil society stakeholders. On 25 September 2015, the United Nations General Assembly formally adopted the universal, integrated and transformative **2030 Agenda for Sustainable Development**¹, along with a set of 17 SDGs and 169 associated targets².

Three targets directly concern tourism which will be – after general considerations related to **“Measuring Sustainable Tourism”** (MST; Chapter 1) - mainly discussed in the present document (Chapter 2). Nevertheless, other targets within the 17 Goals and indicators are relevant and related to tourism, which will be additionally considered in Chapter 3. The conclusions are summed up in Chapter 4.

The document is mainly based – among others - on the **elaboration** done by **UNWTO**³, and the SDG indicators elaborated by the **“Inter-agency and Expert Group on Sustainable Development Goal Indicators”** (**IAEG-SDG**) and adopted by the **“UN Statistical Commission”** (UNSC) in March 2017⁴. Furthermore, statements by the **“UNWTO Committee on Statistics and the TSA”** are considered⁵.

¹ See also:

- UN, Transforming our world: the 2030 Agenda for Sustainable Development, Resolution adopted by the General Assembly on 25 September 2015, New York, 21 October 2015a (http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E).
- UN, Transforming our world: the 2030 Agenda for Sustainable Development, A/RES/70/1, publication, New York 2015b (<https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>).

² See also „Sustainable Development Knowledge Platform“ (<https://sustainabledevelopment.un.org/resourcelibrary>).

³ UNWTO, Tourism and the Sustainable Development Goals, Madrid 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

⁴ UN, Report of the „Inter-agency and Expert Group on Sustainable Development Goal Indicators“, UNSC 48th session, 7-10 March 2017 (<https://unstats.un.org/unsd/statcom/48th-session/documents/2017-2-IAEG-SDGs-E.pdf>).

⁵ UNWTO, Draft response from the Committee to the IAEG on SDG indicators, version 3, Madrid 2017a (http://cf.cdn.unwto.org/sites/all/files/pdf/item_6_0.pdf).

1. Measuring Sustainable Tourism

“Measuring Sustainable Tourism” (MST) involves the **integration of data from different statistical domains**. This requires the development of a respective statistical framework in order to provide a solid methodological basis for investing more in indicators.

However, sustainable tourism **has not yet been defined** through an established or internationally **agreed statistical framework**. Acknowledging the relevance of the concept, and the importance of establishing sound underlying measurement definitions and frameworks, UNWTO has recently launched its **MST-project**, led by the multidisciplinary UNSD-UNWTO Working Group of national and international experts on sustainable tourism.⁶⁾

This project has **three main streams** of work:

1. First, research to integrate the established measurement frameworks of the **“Tourism Satellite Accounts”** (TSA: Recommended Methodological Framework 2008; TSA:RMF 2008)⁷⁾ and the **“System of Environmental-Economic Accounting”** (SEEA)⁸⁾ to provide a platform for the measurement of sustainable tourism.
2. Second, to **engage with the definition and measurement of SDG indicators**, including the development of a complementary set of sustainable tourism indicators.
3. Third, to advance the development of **sub-national** tourism statistics recognizing the importance of location specific information in decision making on tourism.⁹⁾

1.1. What is “sustainable tourism”?

Related to **sustainable indicators** rather a lot of initiatives were started in the past and it is not new, since tourism has been increasingly become a major sector of the world economy, especially as it refers to the international trade in services. The **management of tourism affects** the conditions of destinations and host communities, and more broadly, the futures of ecosystems (such as coasts, mountains, etc.), regions and nations. Informed decisions at all scales are needed so that tourism can be a positive contributor to sustainable development in keeping with its role as a significant source of both benefits and potential stresses.

Therefore, tourism might have **negative and positive impacts** on the environment:

- On the one hand **negative** implications concern **air emissions** through the increasing passenger transport. But tourism is also a relevant factor related to the consumption of energy and the generation of emissions of greenhouse gases, and contributes to fresh water and land use, biodiversity loss, and unsustainable food consumption, with few significant policies currently in place to address this situation at national or international levels.

⁶ See also „Measuring Sustainable Tourism (MST)“ (<http://statistics.unwto.org/mst>).

⁷ UN, UNWTO, OECD, Eurostat, Tourism Satellite Account: Recommended Methodological Framework 2008, Studies in Methods, Series F No. 80/Rev.1, ISBN 978-92-1-161520-3, Madrid, New York, Paris, Luxembourg (http://unstats.un.org/unsd/publication/SeriesF/SeriesF_80rev1e.pdf).

⁸ UN, System of Environmental-Economic Accounting 2012, Central Framework, New York 2014 (https://unstats.un.org/unsd/envaccounting/seeaRev/SEEA_CF_Final_en.pdf).

⁹ UNWTO, SDG Indicators for “Sustainable tourism”. A UNWTO contribution to the IAEG-SDG, 2 March 2016, Madrid 2016a (<http://cf.cdn.unwto.org/sites/all/files/docpdf/unwtosdgtourismindicators02032016.pdf>).

- On the other hand **tourism can raise awareness** for maintaining and restoring cultural identities and protecting nature. Tourism can have a significant positive impact on the environment by pointing out the environmental values and by serving as a tool supporting the finance of the **protection of natural areas** and increasing their economic value and importance.¹⁰

During decades **since the 1992 Rio conference**, planners and academics in many nations and specific destinations have been working to develop indicators suitable for their management needs. These indicators have focused both on issues of impact and sustainability for tourism, and on more traditional management indicators that respond to particular needs at many scales.¹¹⁾

The energizing influence of the 1987 **Brundtland Commission Report**¹²⁾ and the **tremendous growth in tourism activity** during the past 20-30 years are reflected by the definition of sustainable tourism published by UNEP and UNWTO in 2005 (see Box 1). The definition makes clear that **sustainable tourism is a multi-faceted** concept and, depending on one's perspective, different aspects and areas of focus will be relevant.¹³⁾

¹⁰ OECD, Analysing megatrends to better shape the future of tourism, scoping paper, presented at the 99th OECD Tourism Committee, 28-29 March 2017.

¹¹ Already in 2004 a **Guidebook** related to “**Indicators of Sustainable Development for Tourism Destinations**“ has been produced to help tourism managers obtain and use the best information possible in support of better decision-making regarding sustainable development for tourism. Indicators are proposed as key building blocks for sustainable tourism and as tools which respond to the issues most important to managers of tourism destinations. The primary focus of the Guidebook is at the destination level some attention is also given to indicators that focus on issues at a broader scale, such as at the regional or national level, particularly as they may affect destinations. UNWTO, Indicators of Sustainable Development for Tourism Destinations, a Guide book, Madrid 2004 (<http://www.adriaticgreenet.org/icareforeurope/wp-content/uploads/2013/11/Indicators-of-Sustainable-Development-for-Tourism-Destinations-A-Guide-Book-by-UNWTO.pdf>).

¹² Brundtland, G., H., Report for the World Commission on Environment and Development, Oslo 1987 (<http://www.un-documents.net/our-common-future.pdf>).

¹³ UNWTO, Measuring Sustainable Tourism (MST): Developing a statistical framework for sustainable tourism; Meeting of the Working Group of Experts on 20-21 October 2016; Discussion Paper #1, Madrid 2016b (http://cf.cdn.unwto.org/sites/all/files/pdf/mst_issue_paper_1.pdf).

Box 1: UNWTO definition of sustainable tourism

Sustainable tourism development guidelines and management practices are applicable to all forms of tourism in all types of destinations, including mass tourism and the various niche tourism segments. Sustainability principles refer to the environmental, economic and socio-cultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability.

Thus, sustainable tourism should:

- 1) Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural resources and biodiversity.
- 2) Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.
- 3) Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation.

Sustainable tourism development requires the informed participation of all relevant stakeholders, as well as strong political leadership to ensure wide participation and consensus building. Achieving sustainable tourism is a continuous process and it requires constant monitoring of impacts, introducing the necessary preventive and/or corrective measures whenever necessary.

Sustainable tourism should also maintain a high level of tourist satisfaction and ensure a meaningful experience to the tourists, raising their awareness about sustainability issues and promoting sustainable tourism practices amongst them.

Source: UNEP/UNWTO, Making Tourism More Sustainable: A Guide for Policy Makers, Madrid 2005 (<http://www.unep.fr/shared/publications/pdf/DTIx0592xPA-TourismPolicyEN.pdf>).

The “**European Commission**” (EC) states that „the competitiveness and sustainability of the tourism industry go hand-in-hand as the quality of tourist destinations is strongly influenced by their natural and cultural environment, and their integration into the local community. Long-term sustainability requires a balance between economic, socio-cultural, and environmental sustainability. The need to reconcile economic growth and sustainable development also has an ethical dimension.”¹⁴⁾

In 2016 **Eurostat** released a publication related to “**Sustainable development in the European Union**” providing a statistical overview of the developments in the European Union by the 17 SDGs. The publication builds on Eurostat’s long experience in monitoring the EU Sustainable Development Strategy.¹⁵⁾ - Furthermore, Eurostat is publishing data on a regular basis taking into account environmental indicators.¹⁶⁾

Since the measurement of the performance of destinations in relation to sustainability is essential, the European Commission has developed a “**European Tourism Indicators System**” (ETIS). - ETIS is a **Europe-wide system suitable for all tourist destinations**, encouraging them to adopt a more intelligent approach to tourism planning. - It is a management, monitoring and information tool, supporting destinations who want to take a sustainable approach to destination management.¹⁷⁾¹⁸⁾

¹⁴ European Union, Sustainable Tourism (http://ec.europa.eu/growth/sectors/tourism/offer/sustainable/index_en.htm).

¹⁵ Eurostat, Sustainable development in the European Union, a statistical glance from the viewpoint of the UN Sustainable Development Goals, 2016 edition, ISBN 978-92-79-61911-3 (print), Luxembourg 2016 (<http://ec.europa.eu/eurostat/documents/3217494/7745644/KS-02-16-996-EN-N.pdf/ae6b7f9-d06c-4c83-b16f-c72b0779ad03>).

¹⁶ Eurostat, Energy, transport and environment indicators, 2015 edition, ISBN 978-92-79-49471-0, Luxembourg 2015 (<http://ec.europa.eu/eurostat/documents/3217494/7052812/KS-DK-15-001-EN-N.pdf/eb9dc93d-8abe-4049-a901-1c7958005f5b>).

¹⁷ „European Tourism Indicators System” (ETIS) for sustainable destination management (http://ec.europa.eu/growth/sectors/tourism/offer/sustainable/indicators_en).

¹⁸ European Commission, the European tourism indicator system, ETIS toolkit for a sustainable destination management, ISBN 978-92-79-55249-6, Brussels, March 2016 (<http://ec.europa.eu/DocsRoom/documents/15928/attachments/1/translations/en/renditions/pdf>).

1.2. Indicators for MST

Indicators are useful for tracking progress, raising the profile of policy issues, promoting accountability, and supporting policy development by drawing attention to major trends and structural change. Their main audiences are the general public, journalists, private and public sector managers, policy-makers and non-governmental stakeholders.¹⁹⁾

Because this audience is so varied and largely composed of non-experts, indicators need to strike a balance between, on the one hand, **being simple enough to communicate** and adaptable to user needs, and, on the other hand, being **statistically accurate**, analytically sound and scientifically coherent. This is achieved when indicators are summary, fit-for-purpose measures derived from larger information systems.

A **solid proposal** is needed of indicators to form part of the SDG indicator framework. These indicators should be conceptually **rooted in the existing standards** for tourism economic accounting (the TSA) and for economic-environmental accounting (the SEEA). It should also be possible to, ultimately, largely or in part source such indicators from the linking of these accounts.

In order to develop indicators of policy relevance and utility, analytical soundness, and measurability and practicality of measurement, the so-called “Inter-agency and Expert Group on SDGs” (**IAEG-SDG**)²⁰⁾ was established by the UN Statistical Commission at its 46th session to develop an indicator framework for the monitoring of the goals and targets of the “Post-2015 development agenda”²¹⁾ at the global level, and to support its implementation.

Throughout 2015, in consultation with experts in tourism statistics and coordinated by UNWTO and the “UNWTO Committee on Statistics and the TSA”, several tourism related indicators were proposed to cover **three SDG targets** that explicitly mention (sustainable) tourism:

1. Target 8.9: By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products;
2. Target 12.b: Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products;
3. Target 14.7: By 2030, increase the economic benefits to “Small Island Developing States” (SIDS) and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.

On 10 March 2017, at its forty-eighth session, the “United Nations Statistical Commission” (**UNSC**) **adopted the proposed indicators** including also the tourism relevant ones. - However, in order to implement future reviews of the indicator framework

- **annual minor refinements** (including specifying or correcting a unit of measurement, clarification of terms used in the indicator, spelling or other editorial changes and any other minor issues that do not substantively change the meaning of the indicator), and
- **two comprehensive reviews** of the indicator framework, whose results will be submitted for consideration and decision by the Statistical Commission at its 2020 and 2025 sessions

are foreseen.²²⁾

¹⁹ UNWTO, A Statistical Project to Support Mainstreaming Tourism in Sustainable Development, provisional version 16/07/2015; Madrid 2015b (<http://cf.cdn.unwto.org/sites/all/files/docpdf/unwtoproposaljul2015.pdf>).

²⁰ See also TOR of IAEG-SDG ([https://unstats.un.org/files/IAEG-SDGs%20-%20Terms%20of%20Reference%20\(April%202015\).pdf](https://unstats.un.org/files/IAEG-SDGs%20-%20Terms%20of%20Reference%20(April%202015).pdf)).

²¹ See also „Sustainable Development Knowledge Platform“ (<https://sustainabledevelopment.un.org/post2015>).

²² UN 2017 (<https://unstats.un.org/unsd/statcom/48th-session/documents/2017-2-IAEG-SDGs-E.pdf>).

Presently, the **tourism relevant indicators**, for which **UNWTO** is foreseen as the **Custodian Agency** (responsible organization for collecting data related to the SDG indicators from countries), are

- Tier II (**8.9.1**: Tourism direct GDP as a proportion of total GDP and in growth rate),
- Tier III (**8.9.2**: Proportion of jobs in sustainable tourism industries out of total tourism jobs), and
- Tier III (**12.b.1**: Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools)

classified.²³⁾

Related to **14.7.1** (Sustainable fisheries as a percentage of GDP in small island developing States, least developed countries and all countries) the “United Nations Environment Programme – World Conservation Monitoring Center” (UNEP-WCMC) and the “Food and Agriculture Organization of the United Nations” (FAO) are foreseen as the possible Custodian Agencies.²⁴⁾

1.3. Measuring sustainability – challenges

The development of indicators in the tourism industry represents an approach to render sustainable development measurable. What is not measured can neither be managed nor improved. **Monitoring progress implies considering all dimensions of sustainability** and assessing the interactions between tourism and the environment on the one hand and tourism and social conditions on the other hand. The great challenge is to establish a consistent and most notably significant, reliable and practicable set of **ecological** as well as **economic** and **social** indicators, using existing research to the extent possible and limiting the costs of additional data research and collection.²⁵⁾

²³ Before the 4th meeting of the IAEG-SDG in November 2016, the indicator 8.9.2 was named „Number of jobs in tourism industries as a proportion of total jobs and growth rate of jobs, by sex“ and classified as a TIER II indicator (<https://unstats.un.org/sdgs/files/meetings/iaeg-sdgs-meeting-03/Provisional-Proposed-Tiers-for-SDG-Indicators-24-03-16.pdf>).

²⁴ The **Tier classification** classifies the adopted SDGs according to data availability and methodological developments as follows:

- Tier I: Indicator conceptually clear, established methodology and standards available and data regularly produced by countries
- Tier II: Indicator conceptually clear, established methodology and standards available but data are not regularly produced by countries
- Tier III: Indicator for which there are no established methodology and standards or methodology/standards are being developed/tested.

As of 21 December 2016: The updated Tier classification contains 83 Tier I indicators, 59 Tier II indicators and 83 Tier III indicators. In addition to these, there are 5 indicators that have multiple Tiers (different components of the indicator are classified into different Tiers). See also:

- IAEG-SDG, Tier Classification for Global SDG Indicators, as of 21 December 2016
- (https://unstats.un.org/sdgs/files/meetings/iaeg-sdgs-meeting-04/Tier%20Classification%20of%20SDG%20Indicators_21%20Dec%20for%20website.pdf).
- IAEG-SDG, Updated Tier System, 5th meeting Meeting of the Inter-agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs), 30-31 March 2017, Ottawa 2017
- (https://unstats.un.org/sdgs/files/meetings/iaeg-sdgs-meeting-05/5.Updated%20tier%20classification_Plenary.pdf)

²⁵ See also:

- Laimer, P., Weiß, J., Pilot Study „Measuring Sustainable Tourism“ (MST), Austria, Vienna 2016, presented at the 1st Meeting of the Working Group of Experts on Measuring Sustainable Tourism, 20-21 October 2016 (<http://cf.cdn.unwto.org/sites/all/files/docpdf/mstpilotstudyaustralia.pdf>).
- Laimer, P., Öhlböck, P., Indicators measuring the sustainability of tourism several considerations and results from the Austrian perspective, supporting paper, UNECE conference of European statisticians, 13-15 June 2005 (http://www.unece.org/fileadmin/DAM/stats/documents/ces/2005/30_e.pdf).
- OECD, Indicators for the integration of environmental concerns into tourism policies, elaborated by the Working Group on Environmental Information and Outlooks, ENV/EPOC/SE(2001)3/REV1, Paris 2002.

“So far, **sustainable development has been invariably defined as a set of objectives**. These objectives, however, have defied accurate identification and thus process monitoring - a shortcoming which has also entailed problems in the assessment of sustainability. Older indicator systems often just relate to ecological factors. Social, cultural and primarily institutional conditions as well as the concept of quality have been insufficiently analysed and integrated into assessment systems. Most of the time, existing systems get bogged down at the level of indicator development and fail to come up with the methodology designed to make them operational.”²⁶⁾

However, the **following major challenges** related to “Measuring Sustainable Tourism” by indicators have to be taken into account:

- The evaluation of sustainability is **always region/destination-based**, since a sustainable enterprise (hotel, etc.) is part of a region which may support “sustainability”, but it does not determine “sustainability” for a whole region. Nevertheless, at present various grades do exist on enterprise level, but not on region level. Furthermore, the client’s decision of visiting a destination mainly focuses on the region and its diversity and characteristics, but not on the single accommodation establishment. In other words, a “sustainable hotel” is of less interest than a “sustainable region”. - Therefore, sustainability and its measurement is a regional phenomenon; an evaluation of sustainability on higher aggregated (national) level is not feasible since in general the regions are too heterogeneous.²⁷⁾
- **Benchmarking with fixed quantitative target** values for each indicator is **hardly possible since** indicators themselves imply a qualitative evaluation only (e.g. cultural aspects or intraregional quality of life cannot be measured in figures).
- **Interregional comparison by means of quantitative indicators is hardly possible**. As regards the regions’ diverse characteristics and situations the determination of specific target values seems counterproductive. For example a region’s bearing capacity of car-related tourism strongly depends on its geographical location:
 - An alpine mountain valley certainly bears less traffic than a flat and vast region. The indicator’s significance would not be enhanced by referring to the number of local residents’ cars.
 - Holiday activities’ impact on the environment is affected by similar problems, for it cannot be measured by a quantitative indicator.
- Most of the indicators are **quantitative indicators**, expressing mainly the economic and ecological states and developments in figures. Quantitative indicators can be rather easily obtained and are comparable with other regions and nations; this means these indicators can be classified as very practicable and demands little data research and expenses. - Yet, **significance and reliability** is to be questioned:
 - Regions and municipalities may have land use plans developed including local transport plans with visitor management but the indicator does not give any information as regards the plans’ quality.
 - In addition the question is raised if quantitative indicators alone might be sufficient for interpreting the results.²⁸⁾

²⁶⁾ Baumgartner, C., Destination-oriented Assessment of Sustainability in Tourism, Vienna 2016, page 1 (http://www.responseandability.com/images/downloads/artikel/2016_SustAssessment_Tourism.pdf).

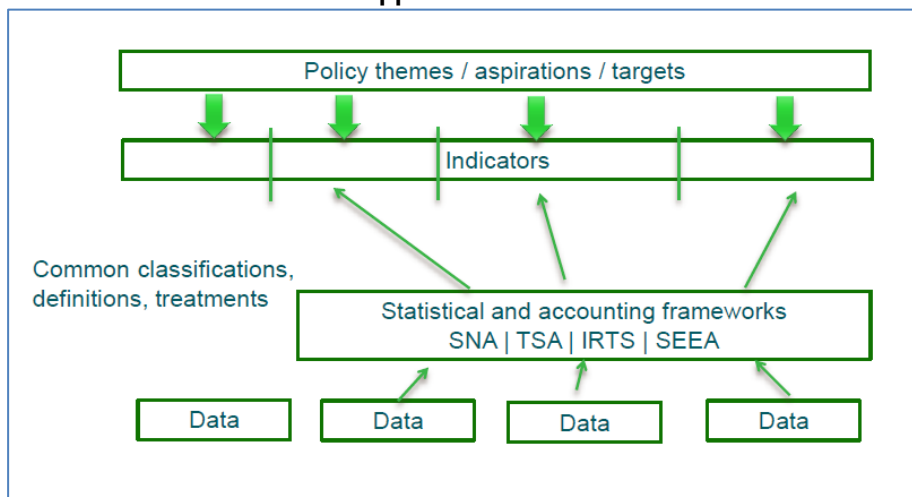
²⁷⁾ See also Baumgartner 2016.

²⁸⁾ **Qualitative interviews** with local experts could back up or, if so, refute the quantitative indicator which cannot fulfill all the features an indicator claims: to be significant, reliable and practicable, and at the same time as little time- and cost-extensive as possible. Nevertheless, such interviews are very expensive and timeextensive; furthermore, local experts’ judgment may tend to be biased and short-sighted simply because they are often involved themselves into municipal politics and tourism related concerns. A combination of qualitative as well as quantitative indicators seems to be meaningful, therefore.

- Tourism within a certain region is hardly spread but **concentrated in small geographical units** around lakes, beaches, valleys or thermal springs etc.:
 - **Each region** has its **particular features** comprising tourism intense municipalities as well as less tourism intense ones. - This points out, that indicators cannot be solely calculated on a **national level**. Those indicators that refer to the national level are designed to be used in an international context.
 - Moreover, particular attention has to be given to **environmentally sensitive areas**, which are characterized by specific environmental conditions and a rich biodiversity: National Parks, managed wildlife and nature parks, mountain regions, and urban areas.
- Significant results are to be **achieved by classifying indicators** for each level (national, regional, municipal level), which reflect the progress of sustainable tourism development in a useful way. Furthermore, **seasonal variations** must be taken into account.

UNWTO is presently working on the development of a “**Statistical Framework for Measuring Sustainable Tourism**” (SF-MST) which is based on the natural evolution of and complement to the standing statistical standards on tourism statistics. A standards-based statistical framework can support the credibility, comparability and outreach of data and various measurement and monitoring programmes pertaining to sustainable tourism, including the SDGs indicators (see [Box 2](#)).

Box 2: Statistical framework approach



Source: Obst, C., Indicators, Statistical frameworks and Data, presentation to UNWTO Expert Group on MST, 21 October 2016, Madrid 2016.

2. SDGs with direct link to tourism

Throughout 2015, in consultation with experts in tourism statistics and coordinated by UNWTO, the UN Statistical Division (UNSD) and the IAEG-SDG, three indicators were proposed to cover three SDG targets that explicitly mention sustainable tourism. During 2016 the proposed indicators were revised and adjusted, a process which will be described in the following chapter; furthermore, proposals from UNWTO are going to be discussed.

2.1. Target 8.9

Overall, **Goal 8** of the SDGs “promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”.²⁹⁾

Tourism is one of the **driving forces of global economic growth** and currently provides for 1 in 11 jobs worldwide. The sector’s contribution to job creation is recognized in Target 8.9 “By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products”.³⁰⁾

Until November 2016, before the 4th meeting of the IAEG-SDGs, Target 8.9 considered the following **two indicators**:

- **8.9.1**: “GDP in tourism: Tourism direct GDP (as a percentage of total GDP and in growth rate)”;
- **8.9.2**: “Jobs in tourism: Number of jobs in tourism industries (as a percentage of total jobs and growth rate of jobs, by sex)”.

Within its 3rd meeting of the **IAEG-SDG**³¹⁾ UNWTO took a position related to the proposed SDG indicators in written form³²⁾ and mentioned that the IRTS 2008³³⁾ provides the methodological framework (concepts, definitions and classifications) for basic tourism statistics, including jobs and employment statistics, while the TSA:RMF 2008³⁴⁾ provides the conceptual framework for linking tourism statistics to the “System of National Accounts” (SNA), enabling the economic measurement of tourism and the generation of aggregates such as **Tourism Direct GDP** and the number **jobs in tourism industries**.

However, in addition a **third indicator** under the Target 8.9 was **proposed** in the frame of the UNWTO note to the 3rd meeting of IAEG-SDGs in order to cover also the environmental dimension which concerns:

- **“Energy use in tourism**: Net domestic energy use by tourism industries” (8.9.3).

The use of this indicator to cover the environmental dimension is based on the general idea that **reductions in energy use** relative to the level of tourism activity would indicate a decoupling of tourism activity from energy use. In turn this would imply a **lower environmental footprint**. Since energy use is a common input to tourism activity in all countries, it provides a meaningful indicator for comparison. Ideally, a range of other environmental aspects would also be measured, e.g. water use and “Green-House-Gas” (GHG) emissions, but these are not proposed at this stage.^{35) 36)}

At a practical level, **both indicators 8.9.1 and 8.9.2** are currently compiled by a number of countries. For the Tourism Direct GDP indicator, about **60 countries** have some form of TSA compilation and data are available, as shown in an international TSA data compilation survey conducted by UNWTO in

²⁹ Sustainable Development Goal 8 (<https://sustainabledevelopment.un.org/sdg8>).

³⁰ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

³¹ See also 3rd meeting of the IAEG-SDG (<https://unstats.un.org/sdgs/meetings/iaeg-sdgs-meeting-03>).

³² UNWTO 2016a (<http://cf.cdn.unwto.org/sites/all/files/docpdf/unwtosdgtourismindicatorsmarch2016.pdf>).

³³ UN, UNWTO 2010 (https://unstats.un.org/unsd/publication/SeriesM/SeriesM_83rev1e.pdf).

³⁴ UN, UNWTO, OECD, EUROSTAT 2010 (https://unstats.un.org/unsd/publication/SeriesF/SeriesF_80rev1e.pdf).

³⁵ UNWTO 2016a (<http://cf.cdn.unwto.org/sites/all/files/docpdf/unwtosdgtourismindicators02032016.pdf>).

³⁶ UNWTO, Report of the World Tourism Organization on tourism statistics, presented at the 48th UN Statistical Commission 7-10 March 2017, Madrid 2017b (<http://unstats.un.org/unsd/statcom/48th-session/documents/2017-17-TourismStats-E.pdf>).

2010³⁷). Eurostat and OECD have been occasionally collecting data on these indicators, currently not compiled into an international dataset (but UNWTO will start this work in the near future).

In its **4th meeting**³⁸) the **IAEG-SDG** proposed a revised indicator related to indicator 8.9.2, namely “Proportion of jobs in sustainable industries out of total tourism jobs”. Unfortunately, the proposed new indicator 8.9.2 holds no clear benefits from the perspective of monitoring the target. The following are the **main likely challenges** in measurement and implementation:

- Since tourism is defined from the demand side the **conceptualization of sustainable industries** is not clear.
- There is **no general statistical definition** of “**sustainable industries**” which could be applied to tourism and no apparent prospect of such a definition in the short term. Ultimately defining sustainability will require the balancing of information on economic, environmental and social factors and hence likely require some sense of weighting of these factors. This has not been successfully undertaken for any industry, especially from a statistical perspective.
- There is **no statistical definition** of “**tourism jobs**” strictly speaking. The TSA:RMF 2008 states: “the measurement of employment is limited to employment in the tourism industries and the variables used to express this volume are the number of jobs and hours worked” (para 4.64). “Direct tourism employment” is the concept employed to describe jobs that can be directly attributed to tourism spending in tourism and non-tourism industries. Thus, the TSA:RMF 2008 concerns jobs in industries classified as tourism ones.
- Even if agreement on definitions for “tourism jobs” and “sustainable industries” can be reached, it still leaves open the question of how these two concepts relate. Conceptually speaking, it could be envisaged that just because a **tourism job** is in a “**sustainable industry**” doesn’t mean that the tourism job itself would necessarily be sustainable.
- There is no particular connection of the proposed indicator with the policy discussion on sustainable tourism, i.e. the **indicator has not been discussed** in that context and hence the motivation for its measurement is unclear.
- The newly proposed indicator is **not based** in any existing or related **statistical frameworks** or statistical infrastructure, even though the Committee understands that a guiding principle in designing the SDG indicator framework was precisely to have a statistically based indicator set following the request by the UN General Assembly.³⁹)

2.2. Target 12.b

Goal 12 of the SDGs concerns in general to “ensure sustainable consumption and production patterns”.⁴⁰)

A tourism sector that adopts “**Sustainable Consumption and Production**” (SCP) practices can play a significant role accelerating the global shift towards sustainability. To do so, as set out in Target 12.b of Goal 12, it is imperative to “Develop and implement tools to monitor sustainable development impacts for sustainable tourism which creates jobs, promotes local culture and products”.

³⁷ UNWTO, TSA data around the world, worldwide summary, Madrid 2010 (http://statistics.unwto.org/sites/all/files/pdf/tsa_data.pdf).

³⁸ See also 4th meeting of the IAEG-SDGs (<https://unstats.un.org/sdgs/meetings/iaeg-sdgs-meeting-04>).

³⁹ UNWTO 2017a (http://cf.cdn.unwto.org/sites/all/files/pdf/item_6_0.pdf).

⁴⁰ Sustainable Development Goal 12 (<https://sustainabledevelopment.un.org/sdg12>).

The “Sustainable Tourism Programme” (STP) of the “10-Year Framework of Programmes on Sustainable Consumption and Production Patterns” (10YFP) aims at developing such SCP practices, including resource efficient initiatives that result in enhanced economic, social and environmental outcomes.⁴¹⁾

The IAEG-SDGs also recognized that the **originally proposed indicator** for 12.b.1 in 2015 (“Residual flows generated as a result of tourism direct GDP (derived from an extended version of the “System of Environmental-Economic Accounting” (SEEA)⁴²⁾ for tourism)⁴³⁾ was **problematic** since it did not relate to a means of implementation, an issue that had been raised by the “UNWTO Committee on Statistics and the TSA” in the various rounds of consultation, and in 2016 it revised this indicator.

The **new and finally proposed** indicator “Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools”, however, **also had some fundamental issues** that were raised by UNWTO and the Committee in a Note to the IAEG-SDGs for its 3rd meeting.

While the proposed indicator duly recognizes the “means of implementation” character of target 12.b, it should be recognized that there are some **fundamental measurement issues**⁴⁴⁾:

- Primarily, there is no internationally agreed (statistical) concept that can be used to **define** a “**sustainable tourism strategy or policy and action plan**”, nor what the relationship/boundary may be between the three different instruments (e.g. a tourism master plan may contain elements of all three - thus would this count as 1 or 3 actions?).
- In addition, there is currently **no international dataset collecting this information**, nor any plans to do so, and it would seem difficult to incorporate into existing statistical infrastructures due to the above mentioned issues.

Given these realities, it is proposed that the most appropriate indicator for target 12.b is one that measures directly the “develop[ment] and implement[ation of] tools to monitor” sustainable tourism in a country. In this context **UNWTO considers** that the relevant monitoring tools are the international statistical standards applicable to the measurement of sustainable tourism, notably the TSA:RMF and the SEEA Central Framework. - Consequently, an appropriate **indicator for Target 12.b would involve assessment** of the

- “Stage of implementation of monitoring tools which are based on the Tourism Satellite Accounts (TSA) and the System of Environmental-Economic Accounting (SEEA)”.

This could be measured by the **number of tables produced**. Alternatively, it could be directly linked to indicators for Targets 17.9.1⁴⁵⁾ and 17.19.3 through definition of an indicator using the “dollar value of resources allocated to implementation of the SEEA and TSA frameworks”.

⁴¹ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

⁴² UN 2014 (https://unstats.un.org/unsd/envaccounting/seeaRev/SEEA_CF_Final_en.pdf).

⁴³ IAEG-SDGs, Results of the list of indicators reviewed at the second IAEG-SDG meeting as of 2 November 2015 (<https://unstats.un.org/sdgs/files/meetings/iaeg-sdgs-meeting-02/Outcomes/Agenda%20Item%204%20-%20Review%20of%20proposed%20indicators%20-%2020%20Nov%202015.pdf>).

⁴⁴ UNWTO 2016a (<http://cf.cdn.unwto.org/sites/all/files/docpdf/unwtosdgtourismindicators02032016.pdf>).

⁴⁵ UN, Report of the Inter-agency and Expert Group on Sustainable Development Goal Indicators, UNSC 48th session, 7-10 March 2017, page 37, Target 17.9 „Capacity Building“ (<https://unstats.un.org/unsd/statcom/48th-session/documents/2017-2-IAEG-SDGs-E.pdf>).

Adopting an **indicator** of this type **could help motivate the necessary** (investments in) **statistical development** in countries towards implementing a SEEA-TSA based statistical framework for sustainable tourism. This, in turn, would support the production of indicators on sustainable tourism itself (such as those necessary to monitor Target 8.9 listed above).

2.3. Target 14.7

Goal 14 of the SDGs concerns in general to “conserve and sustainably use the oceans, seas and marine resources for sustainable development”.⁴⁶⁾

Coastal and maritime tourism, tourism’s biggest segments, particularly for “Small Island Developing States” (SIDS), rely on **healthy marine ecosystems**. Tourism development must be a part of Integrated Coastal Zone Management in order to help conserve and preserve fragile marine ecosystems and serve as a vehicle to promote a blue economy, in line with Target 14.7: “by 2030 increase the economic benefits to SIDS and LDCs from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism”.⁴⁷⁾

According to latest indicators available⁴⁸⁾, the IAEG-SDGs proposed under Target 14.7 the following indicator:

- **14.7.1:** „Sustainable fisheries as a proportion of GDP in small island developing States, least developed countries and all countries“.

The **focus of this target** is on “increase[ing] the economic benefits [...] from the sustainable use of marine resources” and concerns “small island developing states” and “least developed countries” only. The target suggests this should include “sustainable management of [...]tourism”, in addition to fisheries and aquaculture. With this broad notion in mind, it seems very limiting to monitor progress towards the target with a focus solely on fisheries activity. Indeed, increases in the proposed indicator of fisheries as a percentage of GDP may well be negatively correlated with the achievement of sustainable tourism.

Given the potential to develop indicators related to sustainable tourism as evidenced by the discussion under Target 8.9, it is proposed that an additional indicator/s relating to sustainable tourism be incorporated under this target. Ideally, all **the indicators proposed under Target 8.9** would be incorporated here. Since there will be a close connection between tourism and the marine environment for SIDS, this extension would seem appropriate and does not require additional measurement activity.⁴⁹⁾

3. SDGs and their link to tourism

UNWTO and its “Committee for Statistics and the TSA” also consider that tourism may be relevant in many **more goals and targets beyond those that explicitly mention sustainable tourism**. An additional set of indicators around a “tourism theme” could be developed to complement the above indicators in order to support global and national monitoring for the SDGs. This would include indicators

⁴⁶⁾ Sustainable Development Goal 14 (<https://sustainabledevelopment.un.org/sdg14>).

⁴⁷⁾ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

⁴⁸⁾ UN 2017 (<https://unstats.un.org/unsd/statcom/48th-session/documents/2017-2-IAEG-SDGs-E.pdf>).

⁴⁹⁾ UNWTO 2016a (<http://cf.cdn.unwto.org/sites/all/files/docpdf/unwtosdgtourismindicators02032016.pdf>).

to monitor elements not covered in the existing indicators for targets 8.9, 12.b and 14.7 and for monitoring the contribution of tourism in other targets where tourism is not explicitly mentioned but relevant.^{50) 51)}

Therefore, the **proposed indicators should not be limited to the three SDG Targets** that explicitly mention tourism, but should include indicators to inform other Goals or Targets where tourism might be relevant. This is related to the IAEG-SDGs work stream on inter-linkages. This is in line with recent UN discussions to have a “core” global set of indicators applicable to all countries (approximately 100-120 indicators), complemented by a larger “thematic” set from which indicators can be “added on” and reorganized to more closely track national development priorities or certain themes (like tourism). The rationale behind this is to best cater to varying country circumstances and priorities.⁵²⁾

In the following based on the IAEG-SDGs report 7-10 March 2017⁵³⁾, the Sustainable Development Knowledge Platform⁵⁴⁾⁵⁵⁾ and UNWTO⁵⁶⁾ selected tourism relevant indicators are discussed, taking into account thoughts based on ETIS⁵⁷⁾ and Eurostat project related to methodological work on measuring the sustainable development of tourism.⁵⁸⁾ - Furthermore, inter-relations with the existing SDGs 1-17⁵⁹⁾ are presented as well as impacts to other sectors are critically taken into account.

For most **additionally proposed indicators** there is a strong **connection to other types of indicators** recommended in other sustainable tourism processes (ETIS or Eurostat). The difference to these other indicators that will emerge, is that once the statistical framework is developed, the precise definitions of these indicators can be made in such a way as to ensure coherence across indicators and also compatibility between these indicators and similar indicators being developed for other areas of activity.

3.1. Goal 1 - End poverty in all its forms everywhere



“Goal 1 calls for an end to poverty in all its manifestations by 2030. It also aims to ensure social protection for the poor and vulnerable, increase access to basic services and support people harmed by climate-related extreme events and other economic, social and environmental shocks and disasters”.

“As one of the largest and fastest growing economic sectors in the world, **tourism is well-positioned to foster economic growth and development at all levels and provide income through job creation.** Sustainable tourism development, and its impact at community level, can be linked with national poverty reduction goals, those related to promoting entrepreneurship and small businesses, and empowering less favored groups, particularly youth and women”.⁶⁰⁾

⁵⁰ UNWTO 2017b (<http://unstats.un.org/unsd/statcom/48th-session/documents/2017-17-TourismStats-E.pdf>).

⁵¹ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

⁵² UNWTO 2015b (<http://cf.cdn.unwto.org/sites/all/files/docpdf/unwtoproposal16072015.pdf>).

⁵³ UN 2017 (<https://unstats.un.org/unsd/statcom/48th-session/documents/2017-2-IAEG-SDGs-E.pdf>).

⁵⁴ See also „Sustainable Development, knowledge platform (<https://sustainabledevelopment.un.org/sdg1>).

⁵⁵ UN, Sustainable Development Goals, Guidelines for the use of the SDG logo, including the colour wheel, and 17 icons, New York 2016 (<http://17goals.org/wp-content/uploads/2016/10/UN-Guidelines-for-Use-of-SDG-logo-and-17-icons.October-2016.pdf>).

⁵⁶ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

⁵⁷ Obst, C., Measuring Sustainable Tourism. The policy rationale for a statistical framework, February 2017.

⁵⁸ Eurostat, Methodological work on measuring the sustainable development of tourism, part 2 Part 2: Manual on sustainable development indicators of tourism, Luxembourg 2006, (<http://ec.europa.eu/eurostat/documents/3888793/5834249/KS-DE-06-002-EN.PDF/178f8c9a-4a03-409c-b020-70ff7ef6803a>).

⁵⁹ UN, Sustainable Development Goals 1-17 (<https://sustainabledevelopment.un.org/sdg>).

⁶⁰ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

A direct **connection** between **tourism development** and the **reduction of poverty** might be observed through additional indicators taking into account the positive impacts on the economy and on the overall employment of a country. This could be based on TSA results showing the economic and employment impact of tourism by calculating the following indicators:

- **“Tourism Direct Gross Domestic Product”** (TDGDP), including the respective share related to overall economy;
- **persons employed** (expressed by “Full-time equivalents”; FTE) in the tourism industries, including the respective share related to overall employment.⁶¹⁾

However, it has to be mentioned that

- a **sub-national perspective** would be reasonable to take into account since tourism related the impacts are very much related to regional circumstances and conditions;
- the positive economic impact will also influence the **social circumstances** for **part of the population which concern the improvement of living conditions** for some people while for others this might remain rather the same; however, regionally wealth differences might increase, therefore, which needs to be analysed by social oriented indicators.

3.2. Goal 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture



“Goal 2 aims to end hunger and all forms of malnutrition by 2030. It also commits to universal access to safe, nutritious and sufficient food at all times of the year. This will require sustainable food production systems and resilient agricultural practices, equal access to land, technology and markets and international cooperation on investments in infrastructure and technology to boost agricultural productivity”.

“**Tourism** can spur **agricultural productivity** by promoting the production, use and sale of local **produce in tourist destinations and its full integration in the tourism value chain. In addition, agro-tourism**, a growing tourism segment, can complement traditional agricultural activities. The resulting rise of income in local communities can lead to a more resilient agriculture while enhancing the value of the tourism experience”.⁶²⁾

The promotion of **sustainable agriculture and organic farming** could be essentially influenced by tourism since visitors expecting high quality food as in their home countries. Related to the proposed indicators a direct link to tourism could be drawn by using additional indicators such as

- **share of tourism intermediate consumption** by hotels, restaurants etc. from domestic agriculture;
- **share of agricultural income** from agro-tourism activity.

However, a clear **definition of agro-tourism** has to be a pre-condition for further investigation in this field, although a **separation of agro-tourism from tourism** in general might be **challenging**; a separation via tourist accommodation might be feasible. Related to income the economic accounts for agriculture might serve as a basis.

⁶¹ See also OECD, Measuring the Role of Tourism in OECD Economies. The OECD Manual on TSA and Employment, part II, OECD Manual on TSA: Employment Module, Paris 2000 (<https://www.oecd.org/cfe/tourism/2401928.pdf>).

⁶² UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

Through tourism development production factors such as work, capital and soil might be taken away from agriculture which let rise – among others - land use conflicts. A careful and prudent acting tourism policy is indispensable, therefore, which can be based on the respective indicators.⁶³⁾

3.3. Goal 3 - Ensure healthy lives and promote well-being for all at all ages



“Goal 3 seeks to ensure health and well-being for all, at every stage of life. The Goal addresses all major health priorities, including reproductive, maternal and child health; communicable, non-communicable and environmental diseases; universal health coverage; and access for all to safe, effective, quality and affordable medicines and vaccines. It also calls for more research and development, increased health financing, and strengthened capacity of all countries in health risk reduction and management”.

“Tourism’s contribution to economic growth and development can also have a **knock-on effect on health and well-being**. Foreign earnings and tax income from tourism can be reinvested in health care and services, which should aim to improve maternal health, reduce child mortality and prevent diseases, among others”.⁶⁴⁾

The **data** might be **represented** through

- “Tourism Direct Gross Domestic Product” (**TDGDP**),
- total **international receipts** and taxation from international visitors,
- share of **health tourism** related to total tourism.

Therefore, tourism could have indirectly a **positive impact on mortality rates** such as maternal or children (under five) mortality due to a better coverage of essential health services; related to the latter, regional disparities in that area have to be prevented as much as possible.

3.4. Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



“Despite progress, the world failed to meet the Millennium Development Goal of achieving universal primary education by 2015. In 2013, the latest year for which data are available, 59 million children of primary-school age were out of school. Estimates show that, among those 59 million children, 1 in 5 of those children had dropped out and recent trends suggest that 2 in 5 of out-of-school children will never set foot in a classroom. The Sustainable Development Goals clearly recognize that this gap must be closed, even as the international community more explicitly addresses the challenges of quality and equity”.

“A **well-trained and skillful workforce** is crucial for **tourism to prosper**. The sector can provide **incentives** to invest in **education** and **vocational training** and assist labor mobility through cross-border agreements on qualifications, standards and certifications. In particular youth, women, senior

⁶³ See also Vorlauffer, K., *Tourismus in Entwicklungsländern, Möglichkeiten und Grenzen einer nachhaltigen Entwicklung durch Fremdenverkehr* (Tourism in developing countries, the possibilities and limitations of sustainable development through tourism), ISBN 3-534-11156-7, Darmstadt 1996.

⁶⁴ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

citizens, indigenous peoples and those with special needs should benefit through educational means, where tourism has the potential to promote inclusiveness, the values of a culture of tolerance, peace and non-violence, and all aspects of global exchange and citizenship”.⁶⁵⁾

In this respect, the following indicators might be useful:

- **change in average skills** (years of training) of tourism workers;
- proportion of employed persons in tourism industries **with school education** compared to the share of overall population.

Apart from general education and particular training for tourism purposes, it has to be taken into account that there is a strong need for the local people of various tourism sites to learn **foreign languages** which is the prerequisite for communicating with non-resident tourists. Therefore, giving lectures in languages within the countries’ education systems is crucial.

3.5. Goal 5 - Achieve gender equality and empower all women and girls



“Gender equality and women’s empowerment have advanced in recent decades. Girls’ access to education has improved, the rate of child marriage declined and progress was made in the area of sexual and reproductive health and reproductive rights, including fewer maternal deaths. Nevertheless, gender equality remains a persistent challenge for countries worldwide and the lack of such equality is a major obstacle to sustainable development”.

“**Tourism can empower women in multiple ways**, particularly through the provision of jobs and through income-generating opportunities in small and larger-scale tourism and hospitality related enterprises. As one of the sectors with the highest share of women employed and entrepreneurs, tourism can be a tool for women to unlock their potential, helping them to become fully engaged and lead in every aspect of society”.⁶⁶⁾

Within tourism industry **women of less education** may find jobs which might help to think over the traditional role of women in many parts of the world. The importance of women in the tourism industry might become obvious through the measurement of the

- **share of women in tourism jobs** (compared to the overall economy);
- **share of women in tourism management roles**.

Estimating the role of tourism for the overall employment in particular for women, TSA:RMF 2008 might serve as basis since **TSA-Table 7** represents the measurement of employment in the tourism industries; the variables used express the number of jobs and the hours worked broken down by status of employment and gender. Because the flows of visitors are characterized by **seasonality**, countries are encouraged to measure employment at least twice a year, at peak and low tourism seasons.⁶⁷⁾

Within tourism **informal employment** occurs in many countries of which women are in particular concerned (i.e. family members). Statistically this part of tourism employment can hardly be measured; however, estimates might be useful in this respect.

⁶⁵ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

⁶⁶ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

⁶⁷ See UN, UNWTO, OECD, Eurostat 2010, para 4.62-4.69 (http://unstats.un.org/unsd/publication/Seriesf/SeriesF_80rev1e.pdf).

3.6. Goal 6 - Ensure availability and sustainable management of water and sanitation for all



“Water and sanitation are at the very core of sustainable development, critical to the survival of people and the planet. Goal 6 not only addresses the issues relating to drinking water, sanitation and hygiene, but also the quality and sustainability of water resources worldwide”.

“Tourism can play a critical role in achieving water access and security, as well as hygiene and sanitation for all. The **efficient use of water in the tourism sector**, coupled with appropriate safety measures, wastewater management, pollution control and technology efficiency can be key to safeguarding our most precious resource”.⁶⁸⁾

Target 6.4 of the SDGs on improving water efficiency across all sectors is clearly related to tourism. Related to water, the **amount of using of water** and the **treatment of waste water** has to be considered, taking into account the following:⁶⁹⁾

- Indicators related to the **tourism use of water** might be seen also as a benchmark compared to the local populations’ use of water, which might be generally less. Having this kind of indicators is of high relevance since the **demand of water is tremendous during the warm seasons**, for the local population, for the growing crops and for the visitors. However, in a worldwide view visitors’ use of water at tourist destinations should be reduced by the water consumption they would have in their home countries in order to receive the correct balance of water consumption. These indicators can be a key measure of physical carrying capacity for water-poor destinations and can also provide a warning of potential limits or stresses on the supply system.
- **Water used by tourists** as well as by the resident people will have to be returned to the environment. This water is contaminated in various ways, depending on the type of use. Sewage water might be treated through mechanical, biological and chemical processes. The total amount of water returned to the environment will give a rough estimate of this degradation of water bodies in the environment. It should be possible in the future to present sewage water released to the environment divided by type of treatment. The higher the degree of treatment, the better this would be for the environment. This is one example of how tourism and possibly increased expenditures on tourism consumption could support to arrive at a better environmental situation.

However, such indicators can be a key measure of physical carrying capacity for water-poor destinations and can also provide a warning of potential limits or stresses on the supply system. - The **following indicators** could be useful in this respect:

- **final water use** / TDGDP,
- **share of treated waste water** from tourism businesses,
- **waste water** per visitor for accommodation industry,
- **sewage water** per day and capita for tourists.

The use of natural resources through tourism activities is limited through a **bearing capacity limit** which marks the borderline until which a use of natural resources is possible without a comprehensive resource devastation and the economic benefit is still obvious. Finding **indicators to mark these borderlines** is possible, but they are different from region to region.

⁶⁸ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

⁶⁹ See also Eurostat 2006.

3.7. Goal 7 - Ensure access to affordable, reliable, sustainable and modern energy for all



“Energy is crucial for achieving almost all of the Sustainable Development Goals, from its role in the eradication of poverty through advancements in health, education, water supply and industrialization, to combating climate change“.

“As a sector that requires substantial energy input, **tourism can accelerate the shift toward renewable energy** and increase its share in the global energy mix. Consequently, by promoting sound and long-term investments in sustainable energy sources, tourism can help to reduce greenhouse gas emissions, mitigate climate change and contribute to innovative and new energy solutions in urban, regional and remote areas”.⁷⁰⁾

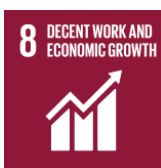
Results related to energy use with **particular view on renewable energy sources** might reveal the penetration and acceptance of renewable energy sources in countries. Although fuel oil and gas are still widespread and represent the most important energy sources, tourism might be a motor for supporting renewable energy sources (e.g. wood chips, pellets etc.) or alternative heating (through solar energy for instance) gaining ground in tourism facilities.

The **following indicators** might be useful in this respect:

- **share of final energy use** related to Tourism Direct GDP (TDGDP),
- **share of renewable energy** in total tourism energy use.

From a global perspective the question might arise whether the **tourism related air traffic** associated with high energy consumption and thus also high pollutant emissions will still be justifiable, both ecologically and economically. The increase in CO₂ emissions and the resulting GHG effects with increasing air traffic could jeopardize the sustainability of tourism; and with appropriate indicators and methods of measurement (such as CO₂ footprint), the monitoring of the relevant developments could be carried out.⁷¹⁾

3.8. Goal 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all



“Sustained and inclusive economic growth is necessary for achieving sustainable development. The global annual growth rate of real GDP per capita increased by 1.3 per cent in 2014, a significant slowdown compared to 2010 (2.8 per cent growth) and 2000 (3.0 per cent growth). Developing regions grew far faster than developed regions, with average annual growth rates in 2014 of 3.1 per cent and 1.4 per cent, respectively”.

“**Tourism** is one of the driving forces of **global economic growth** and currently provides for 1 in 11 jobs worldwide. By giving access to decent work opportunities in the tourism sector, society - particularly youth and women – can benefit from increased skills and professional development. **The sector's contribution to job creation** is recognized in Target 8.9 “By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products”.⁷²⁾

⁷⁰ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

⁷¹ See also Vorlauffer 1996.

⁷² UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

Within Target 8.9 **two indicators** related to “Tourism Direct GDP” (TDGDP) and employment in the tourism industries have been proposed. These two indicators are intended to provide an indication of an economic dimension of sustainable tourism and partly the social dimension. – Taking into account these considerations the **following indicators** might be used:

- **growth** in TDGDP,
- **share tourism employment** related to total employment,
- **share of seasonal jobs** related to total tourism jobs.

3.9. Goal 9 - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation



“Goal 9 encompasses three important aspects of sustainable development: infrastructure, industrialization and innovation. Infrastructure provides the basic physical systems and structures essential to the operation of a society or enterprise. Industrialization drives economic growth, creates job opportunities and thereby reduces income poverty. Innovation advances the technological capabilities of industrial sectors and prompts the development of new skills”.

“Tourism development relies on good public and privately supplied infrastructure and an innovative environment. The sector can also **incentivize national governments to upgrade their infrastructure** and retrofit their industries, making them more sustainable, resource-efficient and clean, as a means to attract tourists and other sources of foreign investment. This should also facilitate further sustainable industrialization, necessary for economic growth, development and innovation”.⁷³⁾

Increasing the occupancy of bed-places and the number of high quality tourist accommodation are – among others - the main objectives of guaranteeing economic sustainability. - However, it has to be considered that an increased use of tourist accommodation means the increasing production of household waste, of emissions as well as of consumption of certain natural resources (e.g. drinking water). This means an increased pressure on the physical environment.

The **transport sector** is an integrating part of the tourism industry and the improvement of the transport infrastructure, in particular related to environmental friendly modes of transport (in general public transport), should be an important for national and regional tourism policy. Therefore, estimating the number of trips made by mode of transport to and from tourist destinations might be a basis for investigating the actual pressure caused by transport.

The **following indicators** might be relevant:

- **occupancy rates** for accommodation industry,
- **share of investment in transport infrastructure** related to total infrastructure investment,
- **number of trips made by mode of transport** to and from the tourist destination.

⁷³ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

3.10. Goal 10 - Reduce inequality within and among countries



“Goal 10 calls for reducing inequalities in income as well as those based on age, sex, disability, race, ethnicity, origin, religion or economic or other status within a country. The Goal also addresses inequalities among countries, including those related to representation, migration and development assistance”.

“Tourism can be a **powerful tool for community development** and **reducing inequalities** if it engages local populations and all key stakeholders in its development. Tourism can contribute to urban renewal and rural development and reduce regional imbalances by giving communities the opportunity to prosper in their place of origin. Tourism is also an effective means for developing countries to take part in the global economy. In 2014, Least Developed Countries (LDCs) received US\$ 16.4 billion in exports from international tourism, up from US\$ 2.6 billion in 2000, making the sector an important pillar of their economies (7% of total exports) and helping some to graduate from the LDC status”.⁷⁴)

Nevertheless, it might be taken into account that **tourism can be seen as an issue of increasing or decreasing of spatial disparities**:

- **Tourism** on the one hand shows a **tendency towards the periphery** because the peripheral location of tourist-relevant destinations itself is of interest to travelers. Thus, tourism is proving **to weaken disparate structures**, apart from the large economic and population agglomeration in urban and suburban areas.
- On the other hand, **tourism fosters** economic and socio-spatial disparities, as regions benefiting from location and tourism use show over-average economic, income and population developments, mainly at the expense of regions affected by emigration. Furthermore, the expansion of general and tourist infrastructure might increasingly shifted to tourist-attractive regions, while in other regions infrastructure expansion is kept to a minimum.

Data showing regional disparities due to tourism might be useful.

Providing data related to **wealth and income**, the following statistics might be considered, taking into account the sub-national level:

- The **“Travel Balance of Payments”** (TBoP) compares the expenditure of the resident population for trips abroad and the income from incoming tourism and provides an indication of the macroeconomic importance of tourism in a country.
- **Annual personal income** statistics generally shows the distribution of gross and net annual income at the level of the individual for employees, by age group and for retired persons.
- Data related **earnings** show results by economic activity and gender: gross hourly earnings, gross monthly and annual earnings, each for full-time and part-time employed persons jointly and also for full-time employed persons and part-time employed persons separately. Respective estimates based on tourism industries (related to TSA) compared to the overall economy might show the differences between tourism and the rest of the economy.

The **following indicators** might be relevant in this respect:

- **net tourism exports**,
- **average earnings** in tourism compared to national average,
- **share of tourism exports** related to total service exports,
- **average income** of persons working in tourism industries compared to residents (by region).

⁷⁴ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

3.11. Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable



“More than half the world’s population lives in cities. By 2030, it is projected that 6 out of 10 people will be urban dwellers. Despite numerous planning challenges, well-managed cities and other human settlements can be incubators for innovation and ingenuity and key drivers of sustainable development”.

“A city that is not good for its citizens is not good for tourists. Sustainable tourism has the potential to **advance urban infrastructure** and universal accessibility, promote regeneration of areas in decay and preserve cultural and natural heritage, assets on which tourism depends. Greater investment in green infrastructure (more efficient transport facilities, reduced air pollution, conservation of heritage sites and open spaces, etc.) should result in smarter and greener cities from which not only residents, but also tourists, can benefit”.⁷⁵⁾

However, the “**net tourist pressure**” might be calculated on the basis of nights spent or number of visitors related to resident population. The so-called “**tourism intensity**” of a country/destination is the quotient of the overnight stays/the number of visitors/the number of beds and the number of inhabitants of the country/destination.

The **intensity of tourism** is also used as an indicator of the **social stress** associated with tourism; e.g. values above 200 might be seen as a sign of a tourist monoculture with the well-known negative impacts due to increased traffic, over-average price level, conflicts between tourists and the resident population.⁷⁶⁾

Indicators related to

- the **accessibility of tourism facilities**,
- the **number of visitors per 100 residents**, and
- the **number of beds** in tourist accommodation facilities **per 100 residents**

might be considered as useful in this respect.

3.12. Goal 12 - Ensure sustainable consumption and production patterns



“Economic growth and development require the production of goods and services that improve the quality of life. Sustainable growth and development require minimizing the natural resources and toxic materials used, and the waste and pollutants generated, throughout the entire production and consumption process”.

“A tourism sector that adopts “**Sustainable Consumption and Production**” (SCP) practices can play a significant role in accelerating the global shift towards sustainability. To do so, as set in Target 12.b of Goal 12, it is imperative to “Develop and implement tools to monitor sustainable development impacts for sustainable tourism which creates jobs, promotes local culture and products”. The “Sustainable Tourism Programme” (STP) of the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP) aims at developing such SCP practices, including resource efficient initiatives that result in enhanced economic, social and environmental outcomes”.⁷⁷⁾

⁷⁵ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

⁷⁶ Taking into account overnight tourists, the weakness of the tourism intensity indicator becomes obvious since same-day visitors, whose amount might be higher than that of overnight tourists, are not taken into account.

⁷⁷ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

Within Target 12.b one tourism related indicator was proposed which concerns the “Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools”. – This does not make a careful **waste management and policy** obsolete, because waste water and waste disposal is typical for many tourist areas. Above all, the waste disposal on small islands quickly reaches their limits and disposal into the sea ultimately undermines the primary basics of a tourist development and stability.⁷⁸⁾

Additionally, the **following indicators** might be used, therefore:

- **share of solid waste** generated by tourism industries related to total solid waste,
- share of solid waste **recycled**,
- **sewage** produced per tourist compared to sewage produced per resident.

3.13. Goal 13 - Take urgent action to combat climate change and its impacts



“Climate change presents the single biggest threat to development, and its widespread, unprecedented impacts disproportionately burden the poorest and most vulnerable. Urgent action to combat climate change and minimize its disruptions is integral to the successful implementation of the Sustainable Development Goals“.

“**Tourism contributes to and is affected by climate change.** It is, therefore, in the sector’s own interest to play a leading role in the global response to climate change. By lowering energy consumption and shifting to renewable energy sources, especially in the transport and accommodation sector, tourism can help tackle one of the most pressing challenges of our time”.⁷⁹⁾

Air pollutants, mainly caused by transport and other types of energy use, have many different effects, e.g. on **human health**, on the natural and built physical environment and possibly on **climate change**. Impacts on the built up environment may be especially serious in the case of cultural buildings and the historical heritage. High emissions of air pollutants may affect the vegetation (e.g. through acidification of rain due to emissions of sulfur and nitrogen oxides).

An indicator should measure **how tourism affects the quality of air** in the surroundings in comparisons to other sources of air pollution. The origin of air pollutions within the tourism sector is transport activities and all other types of energy use depending on consumption of fossil fuels.

The statistics can be represented in **relation to the total emissions** of GHG or CO₂, caused by the total society, including households, industrial emissions and emissions caused by transport of goods.

Emissions to air due to transport activities are regarded as more important, but the part due to tourism transport may at present be **difficult to distinguish** from other types of e.g. goods transport. However, **it’s rather severe to separate emissions from tourist facilities from emissions originally from other sources**. An alternative may be to calculate the % of the total emissions from the region instead. - Emissions due to energy use from the transport sector are difficult to calculate.⁸⁰⁾

⁷⁸ See also Vorlauffer 1996.

⁷⁹ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

⁸⁰ See Eurostat 2006.

Taking into account the above mentioned considerations:

- the “**Green-House-Gas**” (GHG) emissions from tourism industries compared to total economy, and
- **indicators** proposed under **Goal 7** (related to energy)

could be taken into account.

3.14. Goal 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development



“Oceans, along with coastal and marine resources, play an essential role in human well-being and social and economic development worldwide. They are particularly crucial for people living in coastal communities, who represented 37 per cent of the global population in 2010. Oceans provide livelihoods and tourism benefits, as well as subsistence and income. They also help regulate the global ecosystem by absorbing heat and carbon dioxide from the atmosphere and protecting coastal areas from flooding and erosion. In fact, coastal and marine resources contribute an estimated \$28 trillion to the global economy each year through ecosystem services. However, those resources are extremely vulnerable to environmental degradation, overfishing, climate change and pollution. The sustainable use and preservation of marine and coastal ecosystems and their biological diversity is essential to achieving the 2030 Agenda, in particular for small island developing States”.

“Coastal and maritime tourism, tourism’s biggest segments, particularly for “Small Island Developing States” (SIDS), rely on healthy marine ecosystems. **Tourism development must be a part of Integrated Coastal Zone Management** in order to help conserve and preserve fragile marine ecosystems and serve as a vehicle to promote a blue economy, in line with Target 14.7: “by 2030 increase the economic benefits to SIDS and LDCs from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism”.⁸¹⁾

As already mentioned under Goal 12 the **waste management** in particular on small islands quickly reaches their limits. **Garbage disposal into the sea** means an extreme threat not only for the quality of the beach and water (the main reasons for tourists to come), but also for the fragile ecosystem of the coral reefs and thus a first step towards the destruction of an important tourist resource. Wild landfill sites, an unsolved garbage disposal problem, do not contribute to the attractiveness of a tourist destination.

For Target 14.7 it is proposed to apply indicators mentioned under Target 8.9. - However, the **following indicators** might be additionally used:

- **growth** in TDGDP for SIDS and LDCs,
- **change in coastal ecosystem condition**, including reef and beach condition.

⁸¹ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

3.15. Goal 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss



“Preserving diverse forms of life on land requires targeted efforts to protect, restore and promote the conservation and sustainable use of terrestrial and other ecosystems. Goal 15 focuses specifically on managing forests sustainably, restoring degraded lands and successfully combating desertification, reducing degraded natural habitats and ending biodiversity loss”.

“Majestic landscapes, pristine forests, rich biodiversity, and natural heritage sites are often main reasons why tourists visit a destination. **Sustainable tourism** can play a major role, not only in **conserving and preserving biodiversity**, but also in respecting terrestrial ecosystems, owing to its efforts towards the reduction of waste and consumption, the conservation of native flora and fauna, and its awareness-raising activities”.⁸²⁾

The co-existence between built-up human societies and natural landscapes and species is regarded as an important goal in the continuous development process towards a sustainable environment. One method to achieve this has been the designation of legally protected areas. Such areas are of special importance for endangered species and fragile ecosystems. At the same time they are an attraction point for visitors, both for tourists and local residents. An **increase of the area of protected land in relation to build up areas** indicates better possibilities for survival of specific species as well as for a sustainable total environment.

A **well-functioning nature conservation management** is of great importance for sustainable conservation. This can on the one hand mean the restoration of the original fauna and flora, on the other hand also a strict restriction of the number of visitors. Corresponding data can be used to monitor compliance with the established limits.

An increased **share of protected land** is both positive for the environment and biodiversity but at the same time positive in the way that it attracts tourist to these kind of areas.⁸³⁾

The **following indicators might** be additionally used:

- **change in protected areas** in tourism destinations,
- **contribution of national parks** to “TDGDP”,
- **share of protected areas** related to total area of a country.

3.16. Goal 16 - Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels



“Peace, justice and effective, accountable and inclusive institutions are at the core of sustainable development. Several regions have enjoyed increased and sustained levels of peace and security in recent decades. But many countries still face protracted armed conflict and violence, and far too many people struggle as a result of weak institutions and the lack of access to justice, information and other fundamental freedoms”.

⁸² UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

⁸³ See also Eurostat 2006.

“As tourism revolves around billions of encounters between people of diverse cultural backgrounds, **the sector can foster multicultural and inter-faith tolerance and understanding**, laying the foundation for more peaceful societies. Sustainable tourism, which benefits and engages local communities, can also provide a source of livelihood, strengthen cultural identities and spur entrepreneurial activities, thereby helping to prevent violence and conflict to take root and consolidate peace in post-conflict societies”.⁸⁴⁾

The **assessment of trends in crime** and criminal justice has been a permanent concern of public and a major source of interest and debate for policy makers. **Data on crime** - divided by **low and peak season** - on homicide offences and victims, assault, sexual violence, rape, robbery and kidnapping offences and theft, motor vehicle theft and burglary offences recorded by police could be an indication of the level of tourism’s value for supporting peaceful societies.

In this respect the **following indicators** might be used:

- number of **visitors registering complaints** with police,
- **change in rates of crime** in tourism destinations,
- number offenses according to seasons,
- **rates of crime** in tourism destination compared to the ones in non-tourism regions.

3.17. Goal 17 - Strengthen the means of implementation and revitalize the global partnership for sustainable development



“Achieving the ambitious targets of the 2030 Agenda requires a revitalized and enhanced global partnership that brings together Governments, civil society, the private sector, the United Nations system and other actors and mobilizes all available resources. Enhancing support to developing countries, in particular the least developed countries and the small island developing States, is fundamental to equitable progress for all”.

“Due to its **cross-sectorial nature tourism has the ability to strengthen private/public partnerships** and engage multiple stakeholders – international, national, regional and local – to work together to achieve the SDGs and other common goals. Indeed, public/public cooperation and public/private partnerships are a necessary and core foundation for tourism development, as is an increased awareness in the role of tourism in the delivery on the post-2015 Development Agenda”.⁸⁵⁾

Regarding the advance of the sustainable agenda in tourism, **government measures play a key role**. The degree of government intervention varies from country to country and is – among others - depending on the regulatory and regional policy ideas and conceptions or goals and the financial possibilities. The **range of government instruments** is broad, ranging from the creation of regional and national development plans to infrastructure investments. - The latter might include also the statistical infrastructure related to the measurement of sustainable tourism.

In this respect the **following indicators** might be used:

- number of countries **advancing implementation** of the “Statistical Framework on Measuring Sustainable Tourism” (SF-MST),
- number of countries **implementing TSA and SEEA** based frameworks,
- **share of budget available** for statistical tools for MST related to total statistical budget/total tourism budget.

⁸⁴ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

⁸⁵ UNWTO 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

Conclusions

It is obvious that tourism is of great significance for the economy of many countries. Receiving a more detailed or concrete answer for policy makers related to its **sustainability**, **additional measures** have to be introduced getting more information on the ecological and social agreeableness of the tourism development. This is a prerequisite of tourism, its development and success in the (near) future.

Relevant indicators and measures would help to understand the size of tourism, its structure and its **interrelation** with the **ecological, social and economic environment**; furthermore, they support to manage tourism components and their relationship to the environment. They permit decision makers (on local, regional, federal as well as national level) a broader view of the whole tourism system moving away from the traditional, one-sided economic approach.

Building on indicators beyond those already considered for tourism within the scope of the 17 SDG goals (8.9, 12.b, 14.7), more and additional work has to be done to

- clarify concepts,
- develop agreed measurement definitions,
- establish measurement boundaries and limits,
- describe potential measurement techniques, and
- support ongoing implementation and training.

Related to indicators the following has to be **considered**:

- **Sustainability can never be measured by indicators alone** (regardless of qualitative or quantitative or both): Profound knowledge of the whole region, its resources, geographic circumstances, economic pillars, (tourism) infrastructure, the cultural and historical framework etc. is necessary to interpret the figures and draw reasonable conclusions from them. Therefore, a solid group of experts is demanded in order to gain feasible results.
- **Goals need to be established by each region**: As the results reveal, a general benchmark-system does not seem reasonable. The indicators should not only monitor and display developments but encourage regional policy-makers to establish a set of target-values and a catalogue of measures that should be taken in order to achieve satisfactory results.
- **Establishment of a regular monitoring system**: Doing analysis based on sustainable indicators requires a regular monitoring system which provides information on continuous basis revealing trends over time. Based on indicators' results which signal unacceptable levels of impact or stress to the environment, standards governing tourism activities have to be developed.

Thus, the **development of indicators** should be built on a range of **existing statistical frameworks**, standards and classifications across the economic, social and environmental dimensions of sustainable tourism. - There is no doubt this is an ambitious project; nevertheless, it can be counted on the **international tourism statistics network** of official statistics, guided by the UNSD and UNWTO, who have a long track record in facilitating the measurement of coherent pictures of economic, environmental and social change around the world.

Information society demands more and more data in shorter intervals than ever. In particular related to tourism for which nature and social stability is doubtless the prerequisite of tourism, MST is an important initiative to gain reliable information on tourism in its wider context.

Bibliography

- Baumgartner, C., Destination-oriented Assessment of Sustainability in Tourism, Vienna 2016 (http://www.responseandability.com/images/downloads/artikel/2016_SustAssessment_Tourism.pdf).
- Bruntland, G., H., Report for the World Commission on Environment and Development, Oslo 1987 (<http://www.un-documents.net/our-common-future.pdf>).
- European Commission, the European tourism indicator system, ETIS toolkit for a sustainable destination management, ISBN 978-92-79-55249-6, Brussels, March 2016 (<http://ec.europa.eu/DocsRoom/documents/15928/attachments/1/translations/en/renditions/pdf>).
- Eurostat, Methodological work on measuring the sustainable development of tourism, part 2 Part 2: Manual on sustainable development indicators of tourism, Luxembourg 2006, (<http://ec.europa.eu/eurostat/documents/3888793/5834249/KS-DE-06-002-EN.PDF/178f8c9a-4a03-409c-b020-70ff7ef6803a>).
- Eurostat, Energy, transport and environment indicators, 2015 edition, ISBN 978-92-79-49471-0, Luxembourg 2015 (<http://ec.europa.eu/eurostat/documents/3217494/7052812/KS-DK-15-001-EN-N.pdf/eb9dc93d-8abe-4049-a901-1c7958005f5b>).
- Eurostat, Sustainable development in the European Union, a statistical glance from the viewpoint of the UN Sustainable Development Goals, 2016 edition, ISBN 978-92-79-61911-3 (print), Luxembourg 2016 (<http://ec.europa.eu/eurostat/documents/3217494/7745644/KS-02-16-996-EN-N.pdf/eae6b7f9-d06c-4c83-b16f-c72b0779ad03>).
- IAEG-SDGs, Results of the list of indicators reviewed at the second IAEG-SDG meeting as of 2 November 2015 (<https://unstats.un.org/sdgs/files/meetings/iaeg-sdgs-meeting-02/Outcomes/Agenda%20Item%204%20-%20Review%20of%20proposed%20indicators%20-%202%20Nov%202015.pdf>).
- IAEG-SDGs, Provisional Proposed Tiers for Global SDG Indicators, as of March 24, 2016 (<https://unstats.un.org/sdgs/files/meetings/iaeg-sdgs-meeting-03/Provisional-Proposed-Tiers-for-SDG-Indicators-24-03-16.pdf>).
- IAEG-SDGs, Tier Classification for Global SDG Indicators, as of 21 December 2016 (https://unstats.un.org/sdgs/files/meetings/iaeg-sdgs-meeting-04/Tier%20Classification%20of%20SDG%20Indicators_21%20Dec%20for%20website.pdf).
- IAEG-SDG, Updated Tier System, 5th meeting Meeting of the Inter-agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs), 30-31 March 2017, Ottawa 2017 (https://unstats.un.org/sdgs/files/meetings/iaeg-sdgs-meeting-05/5.Updated%20tier%20classification_Plenary.pdf).
- Laimer, P., Öhlböck, P., Indicators measuring the sustainability of tourism several considerations and results from the Austrian perspective, supporting paper, UNECE conference of European statisticians, 13-15 June 2005 (<http://www.unece.org/fileadmin/DAM/stats/documents/ces/2005/30.e.pdf>).

- Laimer, P., Weiß, J., Pilot Study „Measuring Sustainable Tourism“ (MST), Austria, Vienna 2016, presented at the 1st Meeting of the Working Group of Experts on Measuring Sustainable Tourism 20-21 October 2016 (<http://cf.cdn.unwto.org/sites/all/files/docpdf/mstpilotstudyaustria.pdf>).
- Obst, C., Indicators, Statistical frameworks and Data, presentation to UNWTO Expert Group on MST, 21 October 2016, Madrid 2016.
- Obst, C., Measuring Sustainable Tourism. The policy rationale for a statistical framework, February 2017.
- OECD, Indicators for the integration of environmental concerns into tourism policies, elaborated by the Working Group on Environmental Information and Outlooks, ENV/EPOC/SE(2001)3/REV1, Paris 2002.
- OECD, Measuring the Role of Tourism in OECD Economies. The OECD Manual on TSA and Employment, part II, OECD Manual on TSA: Employment Module, Paris 2000 (<https://www.oecd.org/cfe/tourism/2401928.pdf>).
- OECD, Analysing megatrends to better shape the future of tourism, scoping paper, presented at the 99th OECD Tourism Committee, 28-29 March 2017.
- UN, System of Environmental-Economic Accounting 2012 (SEEA), Central Framework, New York 2014 (https://unstats.un.org/unsd/envaccounting/seeaRev/SEEA_CF_Final_en.pdf).
- UN, Transforming our world: the 2030 Agenda for Sustainable Development, Resolution adopted by the General Assembly on 25 September 2015, New York, 21 October 2015a (http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E).
- UN, Transforming our world: the 2030 Agenda for Sustainable Development, A/RES/70/1, publication, New York 2015b (<https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>).
- UN, Sustainable Development Goals, Guidelines for the use of the SDG logo, including the colour wheel, and 17 icons, New York 2016 (<http://17goals.org/wp-content/uploads/2016/10/UN-Guidelines-for-Use-of-SDG-logo-and-17-icons.October-2016.pdf>).
- UN, Report of the Inter-agency and Expert Group on Sustainable Development Goal Indicators, UNSC 48th session, 7-10 March 2017 (<https://unstats.un.org/unsd/statcom/48th-session/documents/2017-2-IAEG-SDGs-E.pdf>).
- UN, UNWTO, International Recommendations for Tourism Statistics 2008, Studies in Methods, Series M No. 83/Rev.1, ISBN 978-92-1-161521-0, New York 2010 (http://unstats.un.org/unsd/publication/SeriesM/seriesm_83rev1e.pdf).
- UN, UNWTO, OECD, Eurostat, Tourism Satellite Account: Recommended Methodological Framework 2008, Studies in Methods, Series F No. 80/Rev.1, ISBN 978-92-1-161520-3, Madrid, New York, Paris, Luxembourg 2010 (http://unstats.un.org/unsd/publication/Seriesf/SeriesF_80rev1e.pdf).

UNEP/UNWTO, Making Tourism More Sustainable: A Guide for Policy Makers, Madrid 2005 (<http://www.unep.fr/shared/publications/pdf/DTIx0592xPA-TourismPolicyEN.pdf>).

UNWTO, Indicators of Sustainable Development for Tourism Destinations, a Guide book, ISBN 92-844-0726-5, Madrid 2004 (<http://www.adriaticgreenet.org/icareforeurope/wp-content/uploads/2013/11/Indicators-of-Sustainable-Development-for-Tourism-Destinations-A-Guide-Book-by-UNWTO.pdf>).

UNWTO, TSA data around the world, worldwide summary, Madrid 2010 (http://statistics.unwto.org/sites/all/files/pdf/tsa_data.pdf).

UNWTO, Tourism and the Sustainable Development Goals, Madrid 2015a (http://cf.cdn.unwto.org/sites/all/files/pdf/sustainable_development_goals_brochure.pdf).

UNWTO, A Statistical Project to Support Mainstreaming Tourism in Sustainable Development, provisional version 16/07/2015, Madrid 2015b (<http://cf.cdn.unwto.org/sites/all/files/docpdf/unwtoproposal16072015.pdf>).

UNWTO, SDG Indicators for „Sustainable tourism“. A UNWTO contribution to the IAEG-SDG, 2 March 2016, Madrid 2016a (<http://cf.cdn.unwto.org/sites/all/files/docpdf/unwtosdgtourismindicatorsmarch2016.pdf>).

UNWTO, Measuring Sustainable Tourism (MST): Developing a statistical framework for sustainable tourism; Meeting of the Working Group of Experts on 20-21 October 2016; Discussion Paper #1, Madrid 2016b (http://cf.cdn.unwto.org/sites/all/files/pdf/mst_issue_paper_1.pdf).

UNWTO, Draft response from the Committee to the IAEG on SDG indicators, version 3, Madrid 2017a (http://cf.cdn.unwto.org/sites/all/files/pdf/item_6_0.pdf).

UNWTO, Report of the World Tourism Organization on tourism statistics, presented at the 48th UN Statistical Commission 7-10 March 2017, Madrid 2017b (<http://unstats.un.org/unsd/statcom/48th-session/documents/2017-17-TourismStats-E.pdf>).

Vorlauffer, K., Tourismus in Entwicklungsländern, Möglichkeiten und Grenzen einer nachhaltigen Entwicklung durch Fremdenverkehr (Tourism in developing countries, the possibilities and limitations of sustainable development through tourism), ISBN 3-534-11156-7, Darmstadt 1996.

Internet Sources:

3rd meeting of the IAEG-SDGs: <https://unstats.un.org/sdgs/meetings/iaeg-sdgs-meeting-03>

4th meeting of the IAEG-SDGs: <https://unstats.un.org/sdgs/meetings/iaeg-sdgs-meeting-04>

“European Tourism Indicators System” (ETIS) for sustainable destination management: http://ec.europa.eu/growth/sectors/tourism/offer/sustainable/indicators_en

“European Union, Sustainable Tourism”:
http://ec.europa.eu/growth/sectors/tourism/offer/sustainable/index_en.htm

“Measuring Sustainable Tourism (MST)”: <http://statistics.unwto.org/mst>

“Sustainable Development Knowledge Platform”: <https://sustainabledevelopment.un.org/resourcelibrary>

“TOR of IAEG-SDG”:

[https://unstats.un.org/files/IAEG-SDGs%20-%20Terms%20of%20Reference%20\(April%202015\).pdf](https://unstats.un.org/files/IAEG-SDGs%20-%20Terms%20of%20Reference%20(April%202015).pdf)

UN, Sustainable Development Goals 1-17: <https://sustainabledevelopment.un.org/sdg>

“United Nations Environment Programme – World Conservation Monitoring Center”: <https://www.unep-wcmc.org/>