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INDICATORS FOR THE APPROPRIATE DEVELOPMENT OF NEW TOURIST INFRASTRUCTURE: THE CASE OF SME AND SUSTAINABLE TOURISM

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Tourism can help attain high levels of social and economic development, as witnessed in southern Europe. To reach those levels, tourism development requires proper planning and management, failing which the benefits can change to exert negative impact on man and the environment. In particular, the uncontrolled speculative development of tourism impedes proper exploitation and protection of natural and cultural resources.

The countries most vulnerable to misconceived tourism are those with the most visitors, whether industrialised or industrialising. These are often the countries that experience the greatest difficulty in integrating tourism socially, economically and environmentally. Such tourism development may well prove unsustainable. In effect, the host population may reject tourism when tourism has insufficient economic impact and too many negative effects.

Thus sustainable tourism has now become a key factor of tourism planning. The concept of sustainable tourism stems from that of sustainable development, i.e. development that does not undermine the social and natural environment. It is development that associates the ideas of duration and renewability for natural resources (water, air, soils, biodiversity) and social/human structures. Sustainable development aims for compatibility between the improvement of living standards through development and the safeguarding of development potential for future generations.

The concept of sustainable tourism stems directly from sustainable development. It is a form of tourism development that responds to the needs of tourists while safeguarding options for the future in places where tourism is often a new economic activity. Thus it concerns not only established destinations that must combat deterioration of the natural environment caused by projects to develop tourism infrastructures but all regions of the world as well, including those still off the beaten track of international tourism.

The concept of sustainable tourism is a major challenge in the context of economic development policymaking at regional level and for vulnerable areas. The role of planning in the design of sustainable development for international tourism raises the following questions:

- Why is sustainable development essential to tourism development?
- What are the criteria for sustainable tourism development?

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• What is the impact and limitations of sustainable tourism in tourism development?

1. RELEVANCE OF SUSTAINABILITY TO TOURISM DEVELOPMENT

Sustainable development can be considered essential to tourism development since adoption of Agenda 21 at the Rio and Johannesburg Conferences. It is important to tourism for four reasons.

1.1 International Tourism Trends

Despite the actual crisis, international tourism has been booming since the 1970s and seems set to accelerate over the next 20 years according to the World Tourism Organisation. International arrivals went from 165 million in 1970 to 657 million in 1999 and should exceed 1.6 billion in 2020. Growth is even steeper in cash terms. Tourism income went from USD 17 billion in 1970 to USD 477 billion in 2000 and should reach 2 trillion by 2020.

INTERNATIONAL TOURISM 1970-2020

Year	Arrivals (000,000)	Income (in USD billions)
1970	165	17
1980	284	103
1990	455	261
2000	697	477
2020	1,600	2,000

Source: W.T.O.

This big jump in international tourism leads many countries to prioritise tourism development in economic planning. Such policy aims to join one of the world's most dynamic sectors and to diversify away from export of raw materials or manufactured goods. Many countries see international tourism as a partial alternative to standard rural development and industrialisation, especially since they possess tourist attractions and comparative or absolute advantages in the export of tourism services.

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However, tourism development has not been of equal benefit to all countries in recent years and has even aggravated economic inequality among a good number of countries.

1.2 Major international imbalances

Current trends in international tourism show a strong concentration of arrivals and spending in the most developed regions. Meanwhile, most industrialising countries are left by the wayside, except the newly industrialised countries which are the new destinations.

Tourist spending and arrivals are concentrated in Europe, North America (USA and Canada) and East Asia/Pacific. These three regions netted 84.3% of arrivals and 87.3% of income. This leaves 15.7% of arrivals and 12.7% of tourist income for Africa, Latin America and the Caribbean.

TOURIST SPENDING AND ARRIVALS BY REGION IN 2000

Region	Arrivals	Arrivals	Income	Income
	(in millions)	(in %)	(USD billions)	(in %)
World	697.6	100	477.1	100
Africa	27.6	3.9	10.3	2.1
Americas	128.9	18.3	137.4	28.8
Asia Pacific	111.7	16.0	82.1	17.3
Europe	402.7	57.6	249.1	48.8
Middle East	20.3	3.3	9.7	1.9
South Asia	6.4	0.9	5.1	1.1

Source: W.T.O.

Examination of trends in arrivals and spending shows that very little goes to industrialising countries. In 2000, these countries only received 30% of total world arrivals. Among these countries, the least developed net a particularly low 0.7% of arrivals while the newly industrialised countries net a particularly high 7.3% (Hong

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Kong, Singapore, Taiwan, South Korea, Indonesia, Malaysia, Philippines and Thailand).

Comparison of spending and arrival shows that figures principally vary with level of economic development. Industrialising countries receive slightly less spending than arrivals (29.3% vs. 30.0%). The biggest differences concern the newly industrialised countries, which earn 10.7% of total spending, proportionally more than arrivals at 7.3% of the total. Meanwhile the least developed countries net merely 0.4% of total spending.

In most countries facing a drop in arrivals, political instability and violence are usual the cause and they deter potential tourists. However, the tourism situation can vary immensely between countries and regions and the state of a national economy is also a big factor.

1.3 Economic and environmental risks of excessive arrivals and spending

Tourism is good for jobs and incomes in many ways. Tourism creates jobs directly and indirectly in most sectors of the economy, especially hotels, restaurants, air & other transport, telecoms and financial services, with spin-off for commerce, farming, handicrafts and industry. In Europe, tourism directly employs an estimated 38+ million people, including 19 million in the E.U. which equals 12.8% of the working population.

However, tourism also often generates negative effects, starting with deterioration of the natural and living environments as well as of the cultural and social heritages of the host countries. This is largely due to overexploitation and excess arrivals at certain destinations.

Under such circumstances, high geographical concentrations of arrivals could jeopardise tourism development and undermine its very foundations. This has already happened at certain destinations which face problems of restructuring due to low-quality habitat, congested traffic, environmental degradation to beaches and seaboards, noise pollution and general environmental pollution.

These downsides even affect countries with few arrivals and they risk rejecting tourism before it begins contributing to economic development. For this reason, one of the key conclusions of the Earth Summit in Rio recommended in 1992 that tourism development should be steered toward sustainable development in order to respond to

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the needs of present generations without compromising the capability of future generations to meet their needs. This will is a key aspect of tourism development today.

Now the key question is upon which criteria to found the planning of sustainable tourism development.

2 CRITERIA FOR SUSTAINABLE TOURISM DEVELOPMENT

Sustainable tourism is fundamental to guaranteeing the integration of tourism activity into the objectives of economic development. Inadequate tourism planning can cause serious prejudice to the natural environment and social stability.

Ill- or unplanned tourism ends up damaging the cultural and natural heritage. Worse still, it can upset traditions and lifestyles in host populations and become unacceptable, especially where tourist and host compete for access to infrastructures and public amenities. Thus it is important to find the factors and criteria of sustainable tourism development.

2.1 Factors of sustainable tourism planning

Planning is essential to sustainable tourism development. Tourism has specific features that distinguish it from other economic sectors. Notably, tourism companies are unusual in that they share traits of both labour-intensive enterprise and heavy industry.

Tourism companies are labour-intensive industries because they belong to the service sector which needs considerable manpower, e.g. hotels and restaurants. However, they also invest on the scale of heavy industry, e.g. hotel investments are amortised over 20 or 30 years.

Most countries suffer from insufficient resources for tourism development that quickly become spread too thinly. This means difficult choices in terms of infrastructures and amenities, especially roads, utilities and telecoms. These choices must be made as part of tourism development planning. And here arises the main problem of adapting tourism planning to the objectives of sustainable development. Standard planning seems out of step with tourism development. It usually just finds a suitable site for concerted tourism development and succeeds when it attracts high volumes of tourists, i.e. the opposite of what sustainable tourism development seeks.

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Tourism development planning must therefore play a new role whereby it promotes sustainable tourism development without concentrating excessive levels of tourism or aggravating environmental nuisances that may ultimately lead the host population to reject tourism. This is the new challenge that involves changing the goals and practises of tourism planning while still allowing for specific problems of financing and profile-raising for a given destination in a context of ever tougher international competition. Two types of sustainability indicators are needed to meet this challenge: environmental and socio-economic.

2.2 Environmental factors

Environmental indicators are the bedrock of sustainable development thinking and they are essential to planning. In many countries, tourism is an economic activity that is the only option for developing local job- and income-generating activities. Research by WTO, UNEP and by Groupe Développement with E.U. backing has identified the following five type of indicators:

:

- Biodiversity and ecosystem vulnerability
- Waste treatment
- Land occupation
- Water consumption
- Atmospheric protection

(1) Biodiversity and ecosystem vulnerability indicator

This indicator is essential to implement tourism amenity policy in environmentally fragile areas such as seaboards. The indicators contain the number of rare or endangered species. Here, the number of species need to be counted along with the following:

- * Fauna
- Number of species
- Populations of species found
- Size of habitat of said species
- Decrease in habitat size
- * Flora
- Number of species
- Populations of species found

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- Share of primitive flora in total plant cover
- Size of habitat of said species
- Decrease in habitat size

Indicators of biodiversity and ecosystem vulnerability must be evaluable, especially that of the damaged surface area to the area used for tourism development.

(2) Waste treatment indicator

This indicator may be the best to evaluate environmental impact of tourism planning. Any tourism development produces waste which poses a threat to sustainable tourism if its environmental impact gets out of hand.

Waste treatment indicators must give an accurate picture of the environmental impact of waste emanating from tourism planning. Both liquid and solid wastes are relevant. Treatment of wastewater is an essential indicator that should give the ratio of treated to total wastewater. For solid waste, onsite waste level is valuable if it measured accurately enough.

The difficulty with waste treatment indicators arises with the need to make a qualitative judgement in addition to a quantitative one. Thus, evaluation of the volume of treated to total waste water should also include a measurement of level of treatment actually performed. The same holds true for the on-site solid waste indicator.

(3) Land occupation indicator

This indicator is essential to sustainable tourism planning. It relates directly to load capacity, i.e. how much tourism a site can withstand. This indicator should give a basic starting figure of load capacity for an intended tourism development site.

There are two main criteria to measure tourist occupation of land:

- The ratio of tourists to residents evaluates the density of tourists, especially in peak season. It takes account of both tourist demand and infrastructures.
- The ratio of tourism infrastructure footprint to total surface area only measures the density of land occupation by infrastructures. It can cover built or unbuilt infrastructures.

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A comparison of the above two factors shows they are complementary. However, the first is more relevant to tourism development based on sustainability. Meanwhile, the second is more significant and convenient for small tourism projects by individuals and small/medium companies.

(4) Water consumption indicator

Water consumption in tourism projects is important because it concerns natural resources and the compatibility of needs between tourists and host populations. This indicator serves to evaluate the impact of tourism planning on water usage both quantitatively and qualitatively. The following all serve that purpose:

Quantitative indicators

- Volume of water used by tourists as a share of that used by host population
- Volume of water used as a share of total available fresh water (e.g. reservoirs)

Qualitative indicators

• Potability index for tourism facilities (is the water drinkable or not?) Pollutants index (bacteria counts and heavy metal levels)

Price indicators

- Cost of supplying water per tourist
- Cost of supplying drinking water per tourist

Where figure are available, these indicators all give a good picture of water consumption. However, this data can be hard to obtain for small-scale projects, especially in industrialising countries.

(5) Air pollution indicator

Air pollution is less important than other environmental indicators if only because tourism investments usually pollute air no more than home building. Still, high

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concentrations of tourists can exert negative atmospheric impact. This indicator measures air pollution and can be extended to include noise and congestion.

Air pollution indicators are of two types as follows:

- Atmospheric indicators
 - Air pollution (e.g. nitric oxide particles)
 - Exhaust gases
 - Number of days pollution levels exceed prescribed levels
- Other indicators
 - Noise pollution (in decibels)
 - Site utilisation (number of visitors)
 - Tourist/host populations ratio

All these indicators require accurate measurement of air pollution. Air pollution is hard to measure, especially for large-scale projects by big companies, but it remains vital to sustainable tourism planning.

2.3 Socio-economic factors

The socio-economic impact of tourism is a key component of sustainable tourism development. Tourism generates incomes but problems too. It destroys lifestyles, raises living costs, sparks real estate speculation and can contribute too little to local economy.

Thus, socio-economic indicators should evaluate how tourism can mesh with local society and lifestyles in order to develop alongside other economic sectors as it makes a direct contribution to local development.

The five basic socio-economic indicators follow:

- Tourist pressure
- Social impact
- Local satisfaction
- Crime
- Public health

(1) Tourist pressure

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The tourist pressure on local populations is the most important social indicator of sustainable tourism development but also the most difficult to obtain. In practise, economic hardship varies greatly with local socio-economic context, e.g. established destinations in industrialised countries such as waterside and new destinations such as Bali, Hammamet Tunisia or Mauritius. This means that this indicator should be applied cautiously, especially in industrialising countries.

The tourist pressure indicator should evaluate the impact of a tourism project in relation to existing tourism facilities and to local aspirations. Tourist pressure is either measured in function of the local population or of tourism resources available to it.

- Crowding indicators
 - Number of tourists vs. locals visiting a site per day

- Site crowding indicators
 - Number of tourists per square meter of beach

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- « « « « « of nature sites
- « « « « « of cultural sites
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These indicators should give ratios of tourists after completion of the tourism project and tourist pressure readings that take account of existing tourism facilities.

(2) Social impact indicator

Social impact is a key feature of sustainable tourism development. It evaluates what improvement or deterioration a tourism project has on local living standards. Social impact should measure the effects of a tourism project on jobs, skills, education and gender equality. There are several suitable indicators of social impact which fall into the categories of social impact and of ratios to the local population.

- Impact indicators
 - Number of new jobs
 - Number of new skilled jobs
 - Number of new women's jobs
 - Number of new skilled women's jobs
 - Boy school attendance rate

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- Girl school attendance rate

Ratios

- Female/male average wages
- Female/make average skilled wages
- Female employee training & education due to project vs. average local level
- Male employee training & education due to project vs. average local level

Social impact indicators should position tourism planning with respect to the local socio-economic fabric. Thus, it is important to apply ratios that give a good picture of what the project contributes to lifting educational and socio-economic levels of the local population.

(3) Local satisfaction indicators

Local satisfaction is a key consideration of sustainable tourism planning and development. All sustainable tourism research notes the importance of local aspirations since the Earth Summit which holds that sustainable tourism should be tuned to local populations, environments and culture such that its development always benefits, and never deteriorates, them. Thus these indicators aim to show how well host populations tolerate tourism. Local satisfaction can be learnt through a survey with questionnaires or ratios that reflect it.

- The best way of evaluating host population satisfaction is through a 'before-and-after' survey with questionnaires. This compares host attitudes at the start of a project with those following completion.
- Ratios of host population satisfaction can be determined from the following:
 - Ratios of hotel infrastructure usage by host population
 - Ratios of restaurant infrastructure usage by host population
 - Ratios of tourism-project sports facility usage by host population
 - Ratios of tourism-project cultural infrastructure usage by host population

The trouble with surveys is that they require substantial resources to yield reliable results. They are therefore unsuited for small-scale tourism projects. In such

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cases, a satisfaction ratio can be based on how much local populations use tourism facilities on the assumption that it reflects satisfaction.

(4) Crime indicator

Law & order affects both tourists and host populations. Tourism causes change and rising crime rates can seriously undermine sustainability. Crime indicators should assess the threat that tourism development poses to host populations.

Crime indicators measure the impact of tourism on law & order.

- Local Population
- Ratio of reported thefts to local population
- Ratio of reported assault & battery to local population
- Ratio of reported crime to local population
 - Ratio of juvenile delinquency to local population
- Tourists
- Ratio of reported thefts to tourist population
- Ratio of reported assault & battery to tourist population
- Ratio of reported crime to tourist population
 - Ratio of juvenile delinquency to tourist population

Crime indicators can be used from the standpoint of either tourists or host populations. A change of standpoint can yield very different results. Moreover, it is important to measure crime trends in order to measure the impact of tourist inflows due to tourism planning.

(5) Public health indicator

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Public health indicators are a key yardstick of social and economic development. They are widely used in planning and reflect government policy first and foremost. Public health indicators help evaluate the impact of tourism development on the health of the host population. They can cover general health or only specific illnesses such as sexually transmitted disease.

- General indicators
 - Mortality rate
 - Physicians per capita
 - Nurses per capita
- Specific indicators
 - Local STD rate
 - Food poisoning rate
 - Other disease rates

Health indicators are hard to evaluate become tourism developers have no way of knowing the impact of their projects on host populations. Still, it is important for sustainable tourism development to have some way of measure this impact.

All these indicators should show up the link between tourism planning and tourism development which is *sustainable*. Therefore, bar/hotel/restaurant growth indicators are not enough to evaluate the sustainability of a tourism project and significant qualitative aspects need to be added into the growth curves.

Thus controlled development is a key feature of sustainable tourism planning. Unfettered development can cause direct environmental damage with added constraints on the host population. This in turn causes locals and tourists to compete for access to tourist and tourism-related facilities. This can gradually undermine global tourism development and it is important to research the impact and limits of planning to sustainable tourism development.

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2.4 Tourism investment evaluation

Research by Groupe Développement using the above indicators has obtained an evaluation grid for the sustainability of public and private tourism projects, as given below.

TOURISM SUSTAINABLE INDICATORS

SUSTAINABILITY	PROJECT	EVALUATION	
INDICATORS	EVALUATION	BASELINES	RESULT
Physical impact			
Liquid waste treatment			
Solid waste treatment			
Water consumption			
Eyesore			
New jobs			
Job training			
Local patronisation			
Crime			
Public health			
Local production impact			
Controlled development			
Cultural tourism			
New technologies			
Child welfare awareness			
Job security			

Evaluation baselines enable the authorities to establish linkage between the objectives of sustainable tourism development and private projects in order that they may be supported or discouraged. The indicator ratios can be weighted to reflect desired degrees of importance for each region or tourism area. The next table gives sustainability ratios for tourism projects.

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TOURISM SUSTAINABLE RATIOS

SUSTAINABILITY	PROJECT	EVALUATION	
RATIOS	EVALUATION	BASELINE	RESULT
Tourism/total surface areas			
Treated/total liquid waste			
Treated/total solid waste			
Water consumption/room			
Average/total building height			
New jobs/room/place			
Share of staff on job training			
Local patronisation (in sales)			
Crimes/tourist			
Distance to nearest physician			
Local/total spending			
Participation in environmental			
action campaigns			
Share of cultural spending			
Internet access			
Child welfare information			
Job security			

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3 IMPACT AND LIMITS OF SUSTAINABILITY TO TOURISM DEVELOPMENT

The role of sustainable tourism development depends on how it is planned. It is essential for planning not to generate added administrative costs as in the past or that it try to replace tourism operators and other private players.

Sustainable tourism development planning aims to provide a decentralised framework that defines sustainable tourism, regroups skills and promotes synergy

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among different players. Thus this planning is based on consensus and appropriate incentives that channel tourism development in the right direction. The three main baselines follow.

- Meshing of tourism in with development of other economic sectors
- Incentives to public/private partnerships and decentralised decisionmaking
- Start-up of training for all tourism development players

3.1 Integration of tourism into overall economic development

Meshing tourism development with that of other sectors is a key prerequisite to ensuring long-term tourism development. It is also one of the most difficult prerequisites to fulfil because integrating international tourism into a local economy runs up against differences of levels of development, of hygiene standards and above all of consumer habits between host and tourist, especially in industrialising countries.

Moreover, tourists will need to adapt to the local milieu, which means properly informing them before and during the trip. Local economic sectors will also need to adapt by offering products that meet tourist demand.

One key measure is to give preferential treatment to local products. Local purchases of food, handicrafts and manufactured goods directly benefits local companies and creates jobs. However, this only works if local products are competitive. Excessive price differentials undermine this objective despite the willingness of tourists to buy more locally.

3.2 Incentives for public/private partnership and decentralised decisionmaking

Sustainable tourism planning can only succeed with public and private cooperation. Sustainable tourism development must be based on the common will of all players, not on constraint.

To this end, public/private partnership should integrate as many criteria of sustainable development as possible into tourism investment projects, especially the following:

• Capping consumption of water and non-renewable energies with a view to cutting it

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- Limiting waste volumes and ensuring recycling
- Cutting traffic pollution by restricting certain areas to non-polluting vehicles
- Organising and channelling visitor access to vulnerable areas
- Helping tourism companies develop an environmental policy
- Co-finance environmental conservation programmes
- Help establish which areas to protect and help enforcement thereof

All these measures should help ensure the success of sustainable tourism development policy through better public/private cooperation and decentralised decisionmaking. This is the goal of international bodies supporting national, regional and local governments as well as the tourism industry.

3.3 Training for tourism development players

Training is a vital way of underpinning sustainable tourism development. It concerns not only tourism company managers but all staff and even the entire local population as well. It includes specific courses to be included in tourism/hotel vocational training but also awareness enhancement sessions for the host population. The main subjects concerning the role of sustainable tourism in vocational training are given below.

- Criteria for sustainable tourism and development
- Environmental awareness and conservation
- Awareness of social and cultural heritages
- Natural dangers
- Endangered species legislation
- Environmental legislation
- International environmental legislation
- Ecology and criteria for awarding 'green' seals of approval

These programmes can play a key role in bringing sustainable tourism into vocational training programmes. This will boost tourism planning through higher awareness in host populations and tourism operators.

International organisations and associations are playing an increasingly important role to publicise and lobby for adoption of the principles of sustainable tourism in tourism planning through training and awareness campaigns.

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Thus new forms of tourism planning have a major role to play in sustainable development by helping focus all the players of economic development on a common goal that enables enhancement of economic impact and guarantees environmental protection.

REFERENCES

- European Commission, DG XXIII: Tourism and the European Union Handbook, Brussels 1997
- European Commission: Commission Report on Community Measures for Tourism, Brussels 1997
- Council of Europe, Tourism and the Environment, Strasbourg, Novembre 1997
- Groupe Développement, Grille de lecture des projets touristiques à partir du développement durable, Paris, 2000
- Vellas F., Economia y Politica del Turismo International, fundacion Gaspar Espuna, CETT, ed. Sintesis, Barcelona, 2004
- World Tourism Organisation, Handbook for Developing and Using Indicators of Sustainable Tourism, Madrid 1999

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- UNEP, United Nations Programme for the Environment, Industry and the Environment Various codes of ethics for tourism, Paris 1995
- WTTC World Travel and Tourism Council and W.T.O., Earth Council: Agenda 21 for the

Travel and Tourism Industry - Towards Environmentally Sustainable Development, 1996