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**ENVIRONMENTAL AWARENESS AND
TOURISM IN THE CAPARICA COAST
AND SETUBAL PENINSUL,
PORTUGAL**

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Abstract

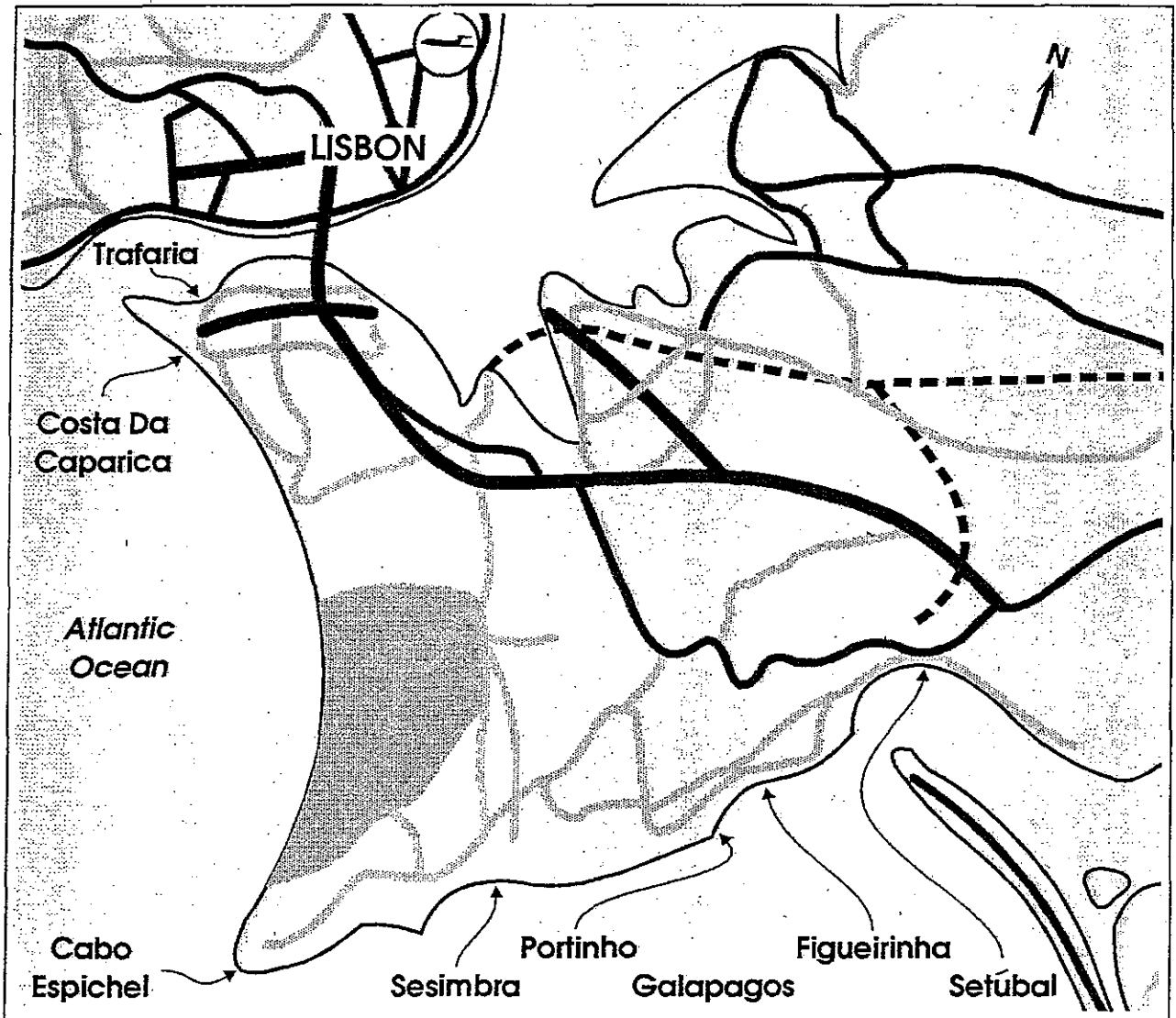
Portugal is a country with a population of around 10 million and can be regarded as one of Europe's poorest nations. Similarly to other Mediterranean countries, tourism is an economic activity of prime relevance to Portugal and of a vital aspect of its economy. The relevance of tourism is particularly conspicuous in Caparica Coast and Setubal Peninsul, an area located approximately 30 km south of Lisbon, the country's capital. With a 40 km long coastline which extends itself from the City of Trafaira to Setubal, the area of Setubal Peninsul is visited by hundreds of thousand of Portuguese and foreign tourists. This paper presents the experience gathered through a survey on the levels of awareness regarding the environmental impact of tourism seen in the areas of Caparica Coast and Setubal Peninsul in Portugal. The study involved a sample of school children from local schools. It identified the fact that there are significant problems in the ways children perceive the local environment, and that the degree of awareness and perception about some of the environmental problems caused by tourism is sometimes relatively low. Recommendations on how to address the problems identified in this study, including information materials prepared with a view to addressing the information needs identified in the survey, are presented.

Introduction

The relevance of tourism to a country's economy has been extensively described in many occasions (Erbes 1973, de Kadt 1979, Fletcher 1985, Edington & Edington 1986). Portugal is no exception to the role and, in the country, the importance of tourism is particularly conspicuous in areas such as the Algarve (in its southern region), Alentejo and Minho, as well as in coastal areas such as Caparica Coast and Setubal Peninsul. The latter is an area located approximately 30 km south of Lisbon, the country's capital. With a long coastline which extends itself from the City of Trafaira to Setubal, composed by various different beaches (Figure 1), the area -partly due to its short distance from Lisbon and easy road access- is visited by substantial numbers of Portuguese and foreign tourists each year. The area contains sites which, according to the Portuguese legislation, are subject to various stages of environmental protection. These are:

- protected landscapes (areas where visitation is possible, but where no new buildings or changes in the current architectural profile are allowed);
- integral reserves (sites, mostly woodlands, in which visitation is not allowed);
- protected areas (sites where no hunting or fishing is allowed, although visitation is permitted).

Fig. 1 Schematic view of the site investigated



Despite the relevance of tourism and the perceived environmental value of the site, there are various problems related to its conservation, which are matters of concern to both researchers and local tourism authorities. The root of the problem is the fact that the systematic integration of environmental considerations in the context of tourism development in Portugal is still to be fully concretised. According to Costa (1993), President of the Regiao de Turismo da Costa Azul (attached to the Municipality of Setubal), the statutes (blueprint) of sustainable tourism to the various tourist regions have not yet been publicised and this hinders long-term planning. In addition, the Portuguese Council for the Coordination of Tourism Promotion has not, to date, defined a policy for sustainable tourist growth for the coming years. This also represents a barrier for further developments. Finally, the issue of a taxation system for tourism (called in Portuguese IPVA Para Turismo) has not been decided yet. Other issues concerning environment and tourism and which are matters for concern in Portugal as a whole are:

- the Ministry of Trade and Tourism (MTT), which should liaise with the Ministries of Culture, Planning, Transport and Communications, Environment and Ministry for the Sea in order to systematise the development of environmentally-sound tourism in the country. Portugal would benefit a great deal if such a type of integration policy is put into place.
- to date, the MTT has the "State Secretariat for Tourism" as its operational branch, which on its turn relies on the "General Directorate for Tourism" for practical operations. The latter is supposed to take care of the planning, licensing, monitoring, data collection and investigation into specific problems of the tourism industry, in addition to environmental considerations, but does not fulfil all these duties. The quality of tourism in Portugal suffers as a result. This raises the issue of whether the regions of tourism themselves would not be able to fulfil these tasks more efficiently.
- Portugal as yet has no Confederation of Tourism Companies or a general representative body which can act on behalf of the tourism industry at Governmental level. Environmental considerations are therefore made on an 'ad hoc' basis by different institutions.

As earlier stated, the area of the Setubal Peninsula encompasses a number of different ecosystems, habitats and population profiles. Around 10,000 beds are available for visitors in the region of Costa Azul (the tourism area where the site is located) and further hotels and other facilities are being built. There are also substantial provisions for camping, although such a modality of tourism is not well seen by local populations, which describe camping parks as "cheap accommodation for low-class tourists" and as being "sites of bad taste".

Among some environmentally - related trends and data seen in the region, one should mention the fact that new enterprises such as "Comporta" and "Quinta do Peru" are matters of concern, although they are seen as great properties of touristic interest. Golf courses are also a popular attraction in the site: three of them are already fully operational and two more have been approved.

All the above suggest that research should be undertaken to identify not only the physical aspects of the link environment-tourism in Portugal, but also the level of

All the above suggest that research should be undertaken to identify not only the physical aspects of the link environment-tourism in Portugal, but also the level of awareness among the Portuguese population, on the impact tourism has on the country's environment and its natural resources. Based on previous works where appraisals of tourism in costal areas were performed (Leal Filho 1993a, Leal Filho 1994), it would seem particularly useful to look at the relationship environment-tourism in specific sites and this motivated a study focusing on the Caparica Coast and Setubal Peninsul area.

Due to the relevance of tourism in the area, to the perceived contribution by both local and foreign visitors to environmental degradation in the site and the impact of those in the area's ability to economically benefit from tourism, a study on the extent to which environmental problems are being caused by tourism was undertaken. This study also took into account the need to assess the level of information of school children as representatives of the public, about the impact of human behaviour on the environment, a procedure acknowledged as an important component of works aimed at catalysing long-term action in the environmental field (Leal Filho 1993, Leal Filho 1995).

Methodology

School children or the "future citizens" are often excluded from investigations on environment and tourism. Yet, the levels of information of tomorrow's decision makers needs to be taken into account, with a view to enabling action aimed at addressing possible information deficiencies. On the basis of this perceived need, a survey involving school children living in the area of the Setubal Peninsul was undertaken.

The study was undertaken over the period between October 1992 to September 1993. It consisted of a questionnaire survey, complemented by interviews held at schools, involving a sample of students (11 to 16 years old) from schools distributed in the area. Questionnaires were prepared and tested prior to reproduction, using a sample of 10 teachers and 10 schoolchildren randomly chosen from the local schools, whose opinions and comments were taken into account in the preparation of the final version (Appendix 1).

The questionnaire employed in the study contained questions which would enable the drawing of a profile of a) the current levels of information and awareness of the sample on the environmental resources and problems in the site and b) their awareness on the impact of tourism on the environment.

The final questionnaire was reproduced and distributed to 1000 students in 6 local schools. Questionnaires were distributed to school children by individually selected teachers who were asked to act as collaborators, and collected after completion. The collection of the questionnaires was made in person in some schools. In the cases where questionnaire completion was not possible within a few days, collaborators were issued with pre-paid and pre-addressed envelopes, which would enable them to forward the questionnaires back to the researcher at no cost.

From the sample of 1000 questionnaires circulated, 720 were returned and formed the basis of the subsequent assessment.

Results And Discussions

Sex and Age Distribution of the Sample

From the 720 pupils sampled, 52% were male and 48% female. From the total, 42% were 11 to 13 years old, 47% were in the range of 14 to 16 years old and 11% were over 16 years old.

Meaning of the Expression "Protected Area"

When asked to choose, among a number of options, the one which would better describe the meaning of the expression "protected area", the majority of respondents replied that it is "an area dedicated to the conservation of the environment" (Table 1), whilst six per cent said they did not know. The fact that the majority of the respondents are aware of the fact that the site is in fact a protected area represents a positive trend. However, it was also seen that lack of awareness in relation to what a protected site is, seen among some respondents, indicate that they have not been properly informed about neither the concept nor the ecological value of protected areas.

Table 1
Expressions which Better Describe
a "Protected Area" according to Pupils

| | |
|---------------------------------|-----|
| Conservation of the environment | 72% |
| Area protected by police | 14% |
| Do not know | 6% |
| Area surrounded by fences | 4% |
| No reply | 3% |
| Other answer | 1% |

Whether there is a Protected Area where Pupils Live

Over half of the sample (57%) replied positively when asked whether there is a protected area where they live, whilst 11% said 'no'. Interestingly, over a quarter (29%) of the sampled pupils said they "did not know" while 3% did not reply. When asked to provide the name of the protected area they live in, only 22% of the children replied correctly.

Why is the Area Protected

Question four was an open question, aimed at identifying whether there was awareness, among the sample, on the reasons why the site is a protected area. Over 60% of the sampled pupils replied positively, i.e. listed the existence of unique and

valuable environmental resources as the reasons why the site is protected. From the 37% who provided inaccurate answers or were undecided, it could be seen that some confusion as to why the site is protected is still seen.

Favourite Sites in the Region

When asked to state their favourite sites in the region, beaches came first, followed by the Arrabida Hills. A Franciscan Temple, also seen in the site, was among the least favoured sites, probably because it is partly abandoned and in decay (Table 2).

Table 2
Favourite Sites in the Region

| | |
|--------------------|-----|
| Beaches | 48% |
| The Arrabida Hills | 24% |
| Woodlands | 19% |
| Medo Reserve | 5% |
| Franciscan Temple | 3% |
| Others | 1% |

Importance of Environmental Quality for Pupils

The survey identified the fact that most of the sampled pupils seem to regard environmental quality as very important (Table 3), while only a few (i.e. 2%) disagree with this. Various responses to the reasons for that were given, varying from the 'need for a healthy environment to live on', to the fact that 'environmental quality means that we have clean air to breath'.

Table 3
Pupils' Opinion on the Importance of Environmental Quality

| | |
|----------------------|-----|
| not important | 2% |
| a little important | 2% |
| reasonably important | 8% |
| important | 16% |
| very important | 72% |

Opinion of Pupils about Tourism in the Region

With regards to their opinion on what tourism does to the region, around 40% of the sample said that the impact of tourism is positive, while 14% stated it is negative. A considerable amount of the pupils who took part in the survey were neutral or did not know (Table 4).

Table 4
Pupils' Opinion of Tourism
in the Region

| | |
|-------------|-----|
| positive | 37% |
| negative | 14% |
| neutral | 13% |
| undecided | 34% |
| do not know | 2% |

Pupils' Evaluation of the Relevance of Tourism to the Region

In terms of the relevance of tourism to the region, most pupils regard it as important or reasonably important (Table 5). Slight differences were seen among those who regard environmental education as very important or reasonably important. Less than 5% of the sampled pupils did not regard tourism as important.

Table 5
Pupils' Evaluation of the Relevance of
Tourism in the Region

| | |
|----------------------|-----|
| not important | 4% |
| a little important | 9% |
| reasonably important | 24% |
| important | 41% |
| very important | 22% |

Reasons why Tourism is Important

If the reply to question 8 was either 'd' or 'e', pupils were asked to explain why they regard tourism as so important. The reasons behind pupils' comments, taking into account the total of responses provided (i.e. 630 replies) were:

- i. it generates jobs (44%)
- ii. it brings foreign currency (17%)
- iii. it improves infra-structure (29%)
- iv. it promotes environmental conservation (7%)
- v. other reasons (3%)

Pupils' Opinion on the Reasons why Visitors Come to the Region

When asked to list the reasons why tourists visit the site (a multiple choice and cumulative question), the quality of beaches and the site's natural beauty received

most replies (Table 6). The weather, the food and the local culture were also perceived by some pupils as reasons for visitors' attendance to the site.

Table 6
Pupils' Opinions on the Reasons
why Visitors come to the Region

| | |
|---------------------------|-----|
| good weather | 19% |
| good food | 11% |
| friendly people | 7% |
| good beaches | 59% |
| the area's natural beauty | 22% |
| different culture | 14% |
| other answer | 3% |

Whether Someone of the Family or a Friend's Job is Related to Tourism

In terms of familiar links with someone working in the tourism business, only 15% of the sampled children stated that someone in their family work in this field. In addition, around 24% of the school children stated that they have a friend working in the tourism sector.

Whether the Area has Environmental Problems

Around 60% of the pupils stated that the site has significant environmental problems, while 26% said 'no' and 13% were undecided. The fact that a significant proportion of pupils, i.e. around one quarter of the sample, stated that the site has no environmental problems is a reason for concern, as there are various conspicuous matters affecting the site which virtually all pupils should be aware of.

Environmental Problems Caused by Local People and Tourists

When asked to state the environmental problems which were caused by local people themselves and by tourists, pupils' response implied that local inhabitants are involved with water pollution and fire in the forests, while visitors are associated with or generate problems with traffic, water pollution and, to a considerable extent, fire in the forests (Table 7). Interestingly, fire in the forests is seen as caused by locals as well as by tourists.

Table 7
Environmental Problems Caused
by Local People and Tourists as Perceived
by Pupils (%)

| Item | Local people | Tourists |
|-----------------------|--------------|----------|
| Water pollution | 33 | 41 |
| Traffic congestion | 18 | 42 |
| Water shortage | 24 | 33 |
| Noise pollution | 5 | 13 |
| Garbage/litter excess | 15 | 33 |
| Fire in the forests | 44 | 42 |
| Population excess | 10 | 33 |
| Dunes' destruction | 11 | 16 |
| Other | 3 | 2 |

Opinions on the Fires often Seen in the Region

Forest fires are regarded as a serious problem by around 70% of the sample. In explaining why this is so, most pupils indicated that forest fires lead to forest destruction (mentioned by 76% of the sampled children), followed by the killing of animals (stated by 14%) and pollution (10%), respectively.

Whether the Link Environment-Tourism has been Approached at School

When asked whether the link environment-tourism has been approached at school, around 37% replied positively. Others were undecided (42%) or denied by 21%. This is a crucial component of the study, as schools are acknowledged as being among the main providers of environmental information (Leal Filho 1993). The disciplines in the context of which the approach of environmental issues has been made, according to pupils were:

- Geography (26%)
- Science (16%)
- Arts (10%)
- History (8%)
- Maths (6%)
- Chemistry (4%)
- Physics (2%)
- Biology (24%)
- Portuguese (4%)

Conclusions

Although the size of the sample does not warrant definitive conclusions to be made, the study identified various issues of interest and some matters for concern in the ways tourism is practised and seen in Portugal.

The first conclusion that can be drawn is that not all pupils living in the site are aware of its status as a protected area. There also seems that there are some problems regarding the understanding of the reasons why the site is protected. A degree of knowledge of a site's status and value is seen as important, due to the fact that it implies in greater motivation to conserve it.

Secondly, it was seen that although on the one hand the concept of 'protected area' is seen as correctly understood by a significant proportion of the sample, it was seen, on the other hand, that over a quarter of the pupils do not fully understand its meaning and that a significant proportion of them (i.e. 40% altogether) did not know why the site is a protected area. This matter is also seen as a reason for concern, as awareness on the status of the site is seen as associated with awareness on the need to conserve its resources. In connection with this trend, it was noted that less than a quarter of the sample provided the correct name of the protected area they live in.

Thirdly, the research identified the fact that beaches are the most popular tourism resorts according to pupils, followed by the Arrabida Hills and the woodlands. The welcoming beaches and the natural beauty of the site were acknowledged as being the reasons, as perceived by pupils, why visitors come to the area. The fact that these sites are seen as attractive by local people and that they contain so many different attractions may also be connected with their level of popularity with visitors, a fact ascertained by the author during field visits to the site. It is thus clear that attempts to promote sustainable touring development in the region will need to take into account this fact.

In addition, environmental quality is regarded by most pupils as very important, although for a small proportion of them, such consideration is not too strong. With regard to the impacts of tourism in the region, there seems to be a divergence in the sample: forty per cent of the children said it is positive, but over half of the school children surveyed stated it is either negative or they were not sure. Despite this fact, tourism is regarded as important or very important for over half of the sample, which have shown a considerable degree of awareness on the benefits of tourism to the local economy. The link between tourism and the generation of jobs and improvements in infrastructure was pointed out by around three quarters of the sample, although only a small proportion of them have a family member or a friend working in this sector.

Finally, in terms of the environmental problems of the site, it was seen that various pupils have not shown to be fully aware of the fact that the area does face environmental problems, although fires were seen as a serious issue. The majority of the sample has also shown that current provisions for the approach of the link tourism-environment in schools are not sufficient and that so far, Geography, Biology and Science are the main contributors to the provision of information in this field.

Some recommendations to address the reality seen in Caparica Coast and Setubal Peninsul, which also apply to other sites in Portugal and indeed in other Mediterranean regions facing similar problems are:

- i. provisions for information on the links between environment and tourism at schools should be made. If school children are to be made aware of the environmental value of the area they live and the influence of tourism to the local economy, such matters need to be approached at school level. In this context, the contribution of subjects which have traditionally played a role in providing information on environmental matters (e.g. Science, Biology and Geography) as well as others (e.g. Maths, History, Chemistry or Physics) should not be ignored and ought to be more widely used. An 'eco-guide' has recently been prepared as part of attempts to reverse the current lack of materials on the links environment-tourism at school level, but further initiatives in this field are needed.
- ii. fire prevention campaigns need to be implemented, as fires are seen as both common and intensive in the region. Campaigns aimed at preventing fires may be complemented by campaigns aimed at catalysing action in case fires happen, so that both 'fronts' may be covered.
- iii. local tourism authorities need to undertake action with a view to explaining aspects related to the site to local populations -including school children- so that they can be informed of both the value of the site and the need to conserve it. The fact that school children are not aware of the site's status as a protected area is symptomatic of the current lack of information. This need to be reversed in order to enable sustainable tourism growth to be implemented in the area.

It is hoped that the experience gathered through this project in Portugal would be of use in other Mediterranean countries where tourism plays a key role in the economy and where there is an interest in employing environmental education techniques to minimise the impact it may cause to the natural environment.

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APPENDIX 1 - SAMPLE OF COMPLETED QUESTIONNAIRE EMPLOYED IN THE STUDY

TURISMO E MEIO AMBIENTE.
QUESTIONARIO PARA ALUNOS

Este questionário é parte de uma pesquisa sobre o turismo e o meio ambiente. Ficaríamos muito gratos com a sua colaboração. Por favor responda às questões abaixo. Muito obrigado.

Sexo: () Masculino (x) Feminino

Idade:....15.....

1. Quais das expressões abaixo descreve melhor o significado da palavra AREA PROTEGIDA ?

Uma área observada pela polícia () Uma área rodeada por cercas ()
Uma área dedicada à conservação ambiental (x) Não sei ()
Outra resposta (especifique).....

2. Existe uma área protegida na região onde reside ?

(x) Não () Sim Não tem certeza () Não sabe ()

3. Caso a resposta tenha sido positiva, qual é o nome dessa área ?

.....

4. E por que é que acha que a área acima descrita é uma área protegida?

.....

5. Qual é a sua área favorita na região da Costa da Caparica e Arrábida ?

(x) Serra da Arrábida (x) As praias () Os bosques
() Reserva do Medo () O Templo Franciscano
() Outra área (especifique).....

6. Qual é a importância da qualidade do ambiente local para si? Por favor descreva a sua opinião utilizando uma escala de 1 a 5, na qual 1 é o menos importante e 5 é o mais importante:

1 não é importante () 2 pouco importante ()
3 razoavelmente importante () 4 importante
5 muito importante (x)

Por favor explique a sua resposta. *A qualidade do ambiente local é importante em todos os aspectos e em qualquer sítio*

7. Qual é a sua opinião sobre o turismo na Costa da Caparica?

() positiva (x) negativa () neutra () indecisa () não sabe

Por favor explique a sua resposta. *o turismo é bastante importante em*

qualquer sítio desde que esse turismo não prejudique o meio ambiente e é isso que acontece na Costa da Caparica.

8. Como você avaliaria a importância do turismo na Costa da Caparica em uma escala de 1 a 5, onde 1 corresponde a "sem importância" e 5 corresponde a "muito importante"?

1 não é importante () 2 pouco importante () 3 razoavelmente importante ()
4 importante (x) 5 muito importante ()

9. Se respondeu aos itens 4 ou 5, por que razão você considera o turismo importante?

Cria empregos () Traz divisas estrangeiras (x) Melhora infra-estruturas ()
Promove a conservação ambiental ()
Outras razão (especifique).....

10. Por que razão acha que os turistas visitam a área da Costa da Caparica e Arrábida?

- Tempo bom Boa comida Pessoas amigáveis Boas praias
 A beleza natural da área Uma cultura diferente
 Outra resposta (especifique).....

11. Existe um membro da sua família cujo trabalho está associado ao turismo (direta ou indiretamente)? Sim Não Não tem certeza

12. Existe um amigo(a) seu ou da sua família cujo trabalho está associado ao turismo (direta ou indiretamente)? Não Sim Não tem certeza

13. Acha que a região da Costa da Caparica e Arrábida possuem problemas ambientais?

- Sim Não Não tem certeza

Se a resposta for afirmativa, quais são os problemas que acha que essas regiões enfrentam, causados pela população local:

- poluição da água congestão do tráfego poluição do ar
 falta de água poluição sonora excesso de população lixo
 destruição das dunas fogos nas florestas
 outra resposta (especifique).....

14. Por favor marque os problemas, dentre a lista fornecida abaixo, causados pelo turismo:

- poluição da água congestão do tráfego poluição do ar
 falta de água poluição sonora excesso de população lixo
 destruição das dunas fogo nas florestas
 outra resposta (especifique).....

15. Considera os fogos vistos com frequência na Costa da Caparica...

- ... um problema sério ... um problema ... não é problema
um problema

Por favor explique a sua resposta. *um fogo... é sempre impactante no ambiente*

16. A ligação entre o tema "meio ambiente e turismo" já foi abordada na escola?

- Sim Não Não sabe

Se a resposta for positiva, em que contexto:

- ensino de Geografia ensino de Ciências ensino de Artes
 ensino de História ensino de Matemática ensino de Física
 ensino de Química ensino de Português ensino de Biologia
 ensino de outra(s) disciplina(s) (especifique).....

MUITO OBRIGADO POR TER PARTICIPADO NESTA PESQUISA. POR FAVOR DEVOLVA OS QUESTIONÁRIOS PARA QUE OS MESMOS SEJAM REPASSADOS PARA A COORDENAÇÃO DO PROJETO.