

Quality review of EIS Non-Technical Summaries in Portugal

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Abstract. The non-technical summary (NTS) is a key element of the Environmental Impact Study (EIS) according to the European Union Environmental Impact Assessment (EIA) directive, as well as in other jurisdictions. Although listed as one of the structural elements of the EIS, NTS are usually presented as separate documents to facilitate its function: to provide the public and stakeholders an easy and non-technical access to the relevant information, thus helping and facilitating the active public participation in the decision-making process.

NTS should be considered, above all, a communication tool. As such, and given its purpose, it is clear that its content, structure, language and presentation characteristics are fundamental quality criteria in its preparation and review. In 1998 the Portuguese Ministry of the Environment, together with the main stakeholders, has undertaken a process towards the adoption of Good Practice Criteria for the Preparation and Review of NTS. In 2007, APAI [Associação Portuguesa de Avaliação de Impactes], the Portuguese IAIA affiliate, took the initiative, supported by the Portuguese Environmental Agency [APA - Agência Portuguesa do Ambiente], to review the existing criteria. The revised version was launched in 2008.

The presentation aims to discuss the Good Practice Criteria for NTS and the results of a quality review of a sample of NTS. Some major problems in the preparation of NTS – including ethical issues – are also discussed.

1. Introduction

The NTS of EIS had not been subject of detailed quality criteria. The Review Checklist including in the EIS Review Guidance of the European Commission (EC, 2001) includes a short section on the NTS with 6 quality criteria. The only detailed checklist for NTS is the “Good Practice Criteria for the Preparation and Review of NTS”, published in 1998 by the Portuguese agency responsible for the promotion of public information and public participation in environmental matters (Jesus *et al.*, 1999), reviewed in 2008.

In 2007, APAI took the initiative, supported by the Portuguese Environment Agency, of reviewing the existing “Good Practice Criteria for the Preparation and Review of NTS”. The reviewed version, approved after discussion with main stakeholders, was published in 2008 (APAI/APA, 2008; for a presentation of the process of preparing and reviewing the Criteria see Jesus *et al.*, 1999 and Jesus, 2009).

This paper intends to evaluate how the new Criteria are met through a sample of the NTS of EIS. Sections 2 and 3 refer to the methodology and the results, respectively; conclusions are presented in section 4.

2. Methodology

The universe for the analysis was the EIS submitted to the Portuguese EIA process that obtained a favourable decision (EID - Environmental Impact Declaration / DIA - Declaração de Impacte Ambiental) between 1st of January and 22nd of August, 2010.

From a total of 83 EIS registered at the database of the APA website, a sample of 29 NTS was built, using as first criterion the EIA Authority (APA and the five regional authorities) and maximizing the diversity of project type as second criterion. The sample is detailed in Jesus, 2010.

The distribution of the sample by the different EIA Authorities is as follows: APA: 14 (48,3%); Regional Development and Coordinating Commission (CCDR - Comissão de Coordenação e Desenvolvimento Regional) Algarve: 0 (0,0%); CCDR Alentejo: 3 (10,3%); CCDR Center: 5 (17,2%); CCDR of Lisbon and Tagus Valley: 5 (17,2%); and CCDR North: 2 (7,2%).

The types of projects were quite diversified:

- Quarries (6, 20,7 %);
- Urban and tourism developments (5, 17,2 %);
- Roads and highways (3, 10,3 %);

- Railways (2, 6,9 %);
- Power transmission lines and substations (2, 6,9 %);
- Wind farms (2, 6,9 %);
- Dams (2, 6,9 %);
- Industry (2, 6,9 %);
- Others (irrigation, livestock, golf course, flood-relief works) (4, 13,8 %).

The EIS and its respective NTS were prepared for developers by 22 different consultants.

The size of the sample did not allowed to investigate the relations between the quality of NTS and the types of the projects or the consultants responsible for the EIS (and the NTS).

Each NTS was read and classified according to the “Good Practice Criteria for NTS”, using a simple scale:

- 3, meaning the criterion was fulfilled;
- 2, meaning a partial fulfilment of the criterion;
- 1, when the criterion was not fulfilled;
- NA, for the situations not applicable.

Note that a 3 just means the fulfilment of the criterion and not an excellent example. Different NTS show a classification of 3 in several criteria, although some are quite better than others.

The application of the “Good Practice Criteria for NTS” to the sample led to the subdivision of the *Criterion 2.7 - Description of residual impacts, monitoring and difficulties encountered* in three sub-criteria.

The analysis of the sample revealed that cumulative impacts were not addressed in the NTS and that no criteria applied to this issue. A great number of NTS showed a poor writing and cartography with deficient legibility. These findings let to the introduction of three new criteria:

- *Description of cumulative impacts;*
- *Proper and understandable writing;*
- *Legibility of cartography.*

The criteria used can be seen in the first column of the table included in the appendix.

The most important limitation of this methodology is the subjectivity of the evaluation, done by a single

person. This limitation could be overcome by the use of a panel.

3. Results

The results of the application of the “Good Practice Criteria for NTS” (APAI/APA, 2008), including the three additional criteria, to the sample of 29 NTS are presented in Table 1.

The criteria can be grouped into five categories, according to the degree they were met by the sample of NTS (see Table 1):

- Group A: criteria met by all NTS;
- Group B: criteria met by more than 85 % of the NTS;
- Group C: criteria met by more than 50 % of the NTS;
- Group D: criteria met by less than 50 % of the NTS;
- Group E: criteria not met by all the NTS.

The analysis of the sample shows that frequently the criteria were not fulfilled by a NTS due to minor details, e.g. absence of graphic scale on the maps.

Table 1 - Good practice criteria for NTS according to the compliance by the sample of NTS

Criteria group	Criteria
A - 100% compliance	1.3 / 1.6 / 1.8 / 4.1 / 4.2 / 4.4 / 4.5 / 4.6 / 4.7
B - Compliance > 85%	1.5 / 1.7 / 2.1 / 2.2 / 2.3 / 2.4 / 3.1 / 3.4 / 4.9
C - Compliance between 50 and 85%	1.1 / 1.2 / 1.4 / 2.5 / 2.7b / 2.8 / 2.9 / 3.2 / 3.2B / 3.3 / 4.8B
D - Compliance < 50%	2.6 / 2.6B / 2.7c / 4.3 / 4.8 / 4.10
E - No compliance	2.7a

The main issues found are related to the use of technical language (see Box 1), to the consideration of cumulative impacts and of the impacts remaining after mitigation, and also to poorly understandable writing. The later issue shows a clear lack of final review, not fully explained by time constraints, as a great number of NTS were a second revision, submitted after a request from the EIA Authorities.

Box 1 - Examples of technical language in NTS (EIA numbers available in Jesus 2010)

"The adoption of mitigation and control measures of the fugitive atmospheric emissions" (EIA no. 2147 - Coal storage installation)

"The noise produced (...) although presenting many fluctuations with components of impulsive noise (...)" (EIA no. 2161 - Wind farm)

"The *Maciço Calcário Estremenho* - designation proposed by F. Martins (Lobo Ferreira, 1993) – is cut by faults (...): The depression of Mendiga, aligned NNE-SSW, separating the hill of Candeeiros (W of the plateau of Sto. António), while fractures NW-SE that define the *poljes* of Alvados and Mira-Minde separate the referred plateau from the plateau of S. Mamede and Serra d'Aire (Manupella e Balacó, 1974)" (EIA no. 2162 - Quarry)

"The [road] junction has a 'diamond' configuration"; "The materials to be obtained in the dredging will be silty sandy gravels (Soils A-2-4 and A-1 of the AASHTO classification), and soil-rock mixtures" (EIA no. 2166 - Highway)

"The processes of soil formation had not been active for the time needed to originate horizons clearly differentiated" (EIA no. 2176 - Dam for hydropower)

"The study area is characterized, from a geological point of view, by the domination of Hercynian granites"; "(...) the presence of Litholic Humic and Non-Humic Soils" (EIA no. 2217 - Quarry)

The analysis of this sample of NTS raised other issues, not directly related to the Good Practice Criteria, such as:

- The description as "positive impacts" of the project proposed mitigation measures to avoid negative impacts (e.g. the "conservation of half of the area with natural vegetation", EIA no. 2192 - Golf course);
- The use of cover sheets with publicity to the EIA consultant, with more emphasis than the identification of the project subject to EIA or even ignoring the identification of the developer (e.g. EIA no. 2107 - National road);
- The inclusion of favourable opinions about the project, without proper grounds, thus jeopardizing the impartiality of the EIS (see Box 2).

Box 2 - Examples of opinions about the project included in the NTS (EIA numbers available in Jesus 2010)

"Intensive olive tree culture is an environmental innovative solution that opens wide perspectives of a balanced environmental integration, and that has a potential of increase value in the region; it is on line with the current concerns to mitigate the evolution of climatic changes, to favour the sustainability of the fauna and flora and to enhance the landscape and the most fragile ecosystems" (EIA no. 2232 - Small dam for the irrigation of intensive olive tree culture)

"In order to present the objectives intended for the project under analysis, it is relevant to explain why the conditions of the estate make it ideal for the present [tourism] project" (EIA no. 2271 - Tourism resort)

"This project represents locally an indisputably added value to the social and economic dynamic" (EIA no. 2274 - Intensive livestock installation)

4. Conclusions

The analysis of a sample of 29 NTS (from an universe of 83 EIS with favourable EID between 1 January and 22 August, 2010) shows a remarkable number of no compliance or inadequate compliance with the "Good Practice Criteria for NTS", published by APAI and APA in 2008. The main issues are related to the use of technical language, to the consideration of cumulative impacts and of the impacts remaining after mitigation.

This situation means, on one side, lack of care in the preparation of the NTS by the EIA consultants and, on the other, a loose attitude by the EIA Authorities that review the EIS, including the NTS. Being the NTS an important tool for the promotion of public participation, the importance of its quality control should be strengthened.

This research showed the need to introduce three new criteria:

- *Description of cumulative impacts;*
- *Proper and understandable writing;*
- *Legibility of cartography.*

The criterion 1.7 (*Avoidance of indexes of tables and figures*) should be reviewed as, in some situations, it could be useful to have such indexes.

The research also showed evidence of several NTS expressing favourable opinions about the projects analysed in the EIS, undermining the impartiality of

the EIA consultants. This issue should be discussed, preferably in a forum like APAI, in order to reinforce the ethical commitment of EIA consultants.

Guidance for the review of NTS, with detailed quality criteria, is an important tool for enhancing the quality of the EIA process and of public participation. The “Good Practice Criteria for NTS” published by the Portuguese Environment Agency and the Portuguese Association for Impact Assessment could be adapted to other jurisdictions.

5. References

APAI (Associação Portuguesa de Avaliação de Impactes) / APA (Agência Portuguesa do Ambiente) 2008. *Critérios de Boa Prática para o RNT*. Available online at www.apai.org.pt and www.apambiente.pt.

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<http://ec.europa.eu/environment/eia/eia-guidelines/g-review-full-text.pdf>

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Jesus, J, M R Partidário and B Valadas 1999. Good Practice Guide for the Preparation and Quality Review of Non Technical Summaries, *19th Annual Meeting of the International Association for Impact Assessment (IAIA'99)*, Glasgow (Scotland, UK).

Appendix - Application of the “Good Practice Criteria for NTS” to a sample of 29 NTS

Criteria	Score			
	3	2	1	NA
1. Structure				
1.1 Structure. The NTS should have a logic and coherent structure. The actions of the project that cause the impacts, the impacts, the mitigation measures, the remaining significant impacts and the monitoring should be described in a integrated and balanced way.	19	10	0	
1.2 Autonomy. The NTS should constitute a separate document; it should be written by its own and avoiding to be the result of a “cut and paste” from the EIS report.	25	4	0	
1.3 Annexes and addenda. The NTS should be a single document, without being split in several pieces (except for maps or drawings) and without any annexes or addenda.	29	0	0	
1.4 Size. The NTS should be synthetic, with its size related to the type, complexity and size of the project. As a general rule, the NTS should not exceed 20 pages, excluding maps.	20	6	3	
1.5 Credits of the authors of the EIS. The NTS should not include the detailed credits of the team responsible for the EIS.	28	0	1	
1.6 Table of contents. The table of contents, if existent, should be simple and related to the size and structure of the NTS.	29	0	0	
1.7 Indexes of tables and figures. The NTS should not include these indexes.	28	0	1	
1.8 Glossary. The NTS, as a document of non-technical language, should not include a glossary. However, whenever adequate, it should include the explanation of some unavoidable technical terms.	29	0	0	
2. Contents				
2.1 Reference to the EIS. The NTS should make a clear and explicit reference to the EIS.	28	0	1	
2.2 Period of preparation of the EIS. The NTS should include the indication of the period of preparation of the EIS, as part of the reference to the EIS (cf. 2.1).	26	0	3	
2.3 Background information. The description of the project's background, when existing and relevant, should be brief.	25	4	0	
2.4 Objectives of the project. The objectives of the project should be clearly stated.	26	3	0	
2.5 Project description. The project description should include a reference to: project elements, location, time-horizons and phasing, relevant environmental loads and alternatives considered.	24	5	0	
2.6 Description of the affected environment, and the foreseen impacts and mitigation. The NTS should contain an integrated description of the environmental elements significantly affected, their predicted evolution without the project, the main actions of the project that could have significant impacts, the main foreseen impacts and the measures adopted to prevent, reduce or compensate the negative impacts or foster the positive impacts.	14	15	0	
2.6B (*) Description of cumulative impacts	5	0	24	
2.7a (**) Description of the remaining impacts. The NTS should refer the effectiveness of the measures adopted to prevent, reduce or compensate the negative impacts or foster the positive impacts and identify the remaining impacts.	0	0	29	
2.7b (**) Description of the monitoring. The NTS should describe the proposed monitoring.	21	6	2	
2.7c (**) Description of the technical deficiencies or lack of know-how. The NTS should identify the main technical deficiencies or lack of know-how.	2	0	27	
2.8 Conclusions. The conclusions should reflect the balance of the alternative comparison, when existent, or the balance of the significant impacts – positive and negative.	17	0	12	

Criteria	Score			
	3	2	1	NA
2.9 Maps and drawings. The maps and drawings included in the NTS should contain the location of the project, including its framing at national and regional levels, and the main features of the project, at adequate scales, depending on the type and size of the project.	21	8	0	
3. Language				
3.1 Language. The NTS should be written in Portuguese; bilingual editions are admissible in particular cases, namely on transboundary projects.	28	1	0	
3.2 Style. The NTS style should be simple, clear, concise, non repetitive and without technical terms.	18	13	0	
3.2B (*) Careful and comprehensible writing	17	10	2	
3.3 Impact classification. A simple language should be used on classifying impacts, e.g. important or non-important, much or less negative (or positive); preference should be given to the explanation of the impact.	23	6	0	
3.4 Acronyms and abbreviations. All acronyms and abbreviations should be explained the first time they are used.	25	4	0	
4. Presentation				
4.1 Size of the written document. The NTS written document should presented in a maximum size of A4 or A3 folded to A4.	29	0	0	
4.2 Size of the maps and drawings. The NTS maps and drawings should facilitate its handling and reproduction. It is recommended the A4 size or A3 folded to A4; exceptionally, the size could be superior to A3, but always folded to A4.	29	0	0	
4.3 Cover sheet. The cover sheet or header of the NTS should contain the following information: - Clear identification of the developer; - Clear identification of the entity responsible for the EIS; - Date of edition (month and year); - Identification: "Non-technical Summary of the Environmental Impact Study of [project designation]"; - Project's phase, according to the phases considered in the EIA law.	11	14	4	
4.4 Technical codes. Eventual technical codes or reference numbers should be little intrusive.	29	0	0	
4.5 Page numbers. The NTS should have page numbers.	29	0	0	
4.6 Graphic design. The graphic design of the NTS should be enough simple and attractive. The text format should allow a perfect legibility and inviting its reading. Colour should be used whenever adequate.	29	0	0	
4.7 Impact synthesis. The NTS should not include impact matrices, a very technical way of presentation, often complex and not always clearly understandable. It may, however, include tables of easy perception and/or a map with a synthesis of the impacts.	29	0	0	
4.8 Maps. Maps in the NTS should contain references, include structural features (namely roads, rivers, settlements) and graphic scale, orientation and legend. Different maps at the same scale should have, whenever possible, the same cartographic basis.	13	15	1	
4.8B (*) Legibility of the cartography.	19	7	3	
4.9 Cartographic or graphic presentation of alternatives. Whenever possible, alternatives should be presented in a cartographic or other graphic form.	6	2	0	22
4.10 Photos, aerial photos and visual simulations. Whenever adequate, photos, aerial photos and visual simulations should be used. Those images should be referred in the text and placed, whenever possible, close to the respective text.	8	10	11	
4.11 Electronic version. An electronic version of the NTS should be prepared according to the "Standards for the preparation of EIA documents to be disseminated on the Internet".				29

(*) Criteria introduced in this research. (**) Subdivision introduced in this research.