

How Robust is Executive Summary in an Environmental Impact Assessment Report for Decision-making: An Indian case-study

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Abstract

Executive summary part of an environmental impact assessment report has not received the attention of EIA researchers and professionals even though it is the only part that is often read by most of the stakeholders including decision makers in place of the main report. It is very important that the executive summary is written in a simple non-technical language highlighting the key issues and the findings from the detailed EIA study. Further, an executive summary needs to be crisp considering that the decision makers in the developing countries are under pressure of time because of a large number of development projects proposed for the economic development. Executive summaries of 34 EIA reports of different project sectors prepared by different consultants were evaluated. It is found that these reports have low robustness, are long, incomplete, and do not justify the term 'executive'. Guidelines are proposed for comprehensive, effective and objective executive summary to aid decision making.



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Introduction

Executive summary of a report is defined¹ as a "brief but comprehensive synopsis of a business plan or an investment proposal, which highlights its key points and is generally adapted for the external audience". An executive summary² or "management summary is a short document or section of a document,

produced for business purposes, that summarizes a longer report in such a way that the readers can rapidly become acquainted with the large body of material without having to read it all. It usually contains a brief statement of the proposal covered in the main document, background information, concise analysis and main conclusions". Executive

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summary is construed as an extremely important component of any business plan and is meant to facilitate a manager in making decision on the proposed plan. Unlike 'abstract', "extensively used in academic research, which is a brief summarizing statement read by parties who are trying to decide whether or not to read the main document, 'an executive summary' is a document in miniature² that may be read in place of the longer document". An executive summary is customarily the first portion of a project report or business plan, and is intended to summarize its entire content, while highlighting the crucial aspects. In addition to giving introduction to the report, executive summary should be able to serve as a standalone document giving an overall outline³ of the report. Considering that the reader will only read executive summary part of the report, and then decide whether to read the detailed report, it is extremely important to include an outstanding summarization⁴ of the report.

Executive summary⁵ is a "concise discussion of significant findings and recommended actions". It highlights the key findings⁶ of the environmental impact assessment (EIA) for the proposed project to meet with the EIA regulatory stipulations. The key aspect of the executive summary is that it clearly brings out the action points which are needed for implementation.⁷ In addition to describing the essential features of the project, the executive summary needs to include⁸ the objective of the report, the major potential impacts and the action plan proposed for addressing these impacts. The EIA regulation⁹ in India prescribes that summary of the EIA report, condensed to ten A-4 size pages with project description, description of the environment, anticipated environmental impacts and mitigation measures, environmental monitoring program, additional studies, project benefits, and environmental management plan be prepared and translated in the regional language, and made available in public domain for public consultation.

The major focus of EIA researchers and professionals has been on the key areas of EIA like environmental impact assessment, consideration of alternatives, and EIA follow-up. Executive summary part of an EIA report, which is the only part often read by most of the stakeholders including decision making authorities in place of the main report, has received little attention

in the literature. With this consideration, the present study, possibly the first of its kind, was undertaken to evaluate the robustness of executive summary in EIA reports prepared in India, and to propose guidelines for the preparation of executive summary.

Guidelines for Preparation of Executive Summary in EIA Reports

An executive summary "must describe each significant environmental issue and its resolution in sufficient detail so that the reader can understand its importance and scope, as well as the appropriateness of the approach¹⁰ taken to resolve it along with a clear presentation of the critical facts that make up each issue". The presentation needs to be made more effective with the help of base maps, tables, charts and figures as far as possible. The information should be compressed into compact, but purposeful presentations. The executive summary gives a synoptic description of the main findings and recommendations with a focus on the essential facts and alternatives for decision-making, and is not meant to encapsulate all the contents¹¹ of the EIA report. Since only the executive summary portion of the report is usually read by decision makers and other stakeholders, it should be kept short, preferably less than seven pages¹¹ except for very large projects where it could be little longer. Considering that EIA is used in the decision making process, non-technical summary¹², without including specialized language or complicated figures, should be accessible to the public in such a way that it is understood by the informed lay-person.¹³ "Executive summary should be accessible and understandable¹⁴ to members of the interested and/ or affected community". It should be written in a simple language with an overview of the project, the alternatives considered, the time schedule for construction, the potential environmental impacts, proposed mitigation measures, environmental monitoring, and environmental management program¹⁵ (EMPg). It should conclude by pointing out the residual impacts of the project after the suggested mitigation measures, followed by an overall conclusion on the environmental viability¹⁶ of the project.

The EIA team leader¹⁵ prepares the draft EIA report by compiling and collating the reports received from different functional professionals while ensuring uniformity, consistency, completeness, smooth

flow of the language, and logical sequencing of the contents in each chapter of the EIA report. Thereafter executive summary is prepared, strictly based on the material in the draft EIA report, and is generally placed before the first chapter of the EIA report. The EIA review mechanism^{15, 17} in India consists of review of EIA reports by expert appraisal committees at central and state levels having part-time nominated members with different background and expertise, often not directly related to EIA. These committees get a large number of project proposals for seeking environmental approvals. The committee members are under severe pressure of time and may not be able to review each EIA report thoroughly. As a result, most often, they are likely to be forming opinion on the information contained in the main body of the EIA report based on the executive summary only. Other stakeholders may also be reading this part of the EIA report only. At the same time, considering that a lot of resources¹⁸ go into the preparation of an EIA report, it is necessary that executive summary describes complex contents concisely, simply and accurately¹¹ in a non-technical manner for a wider section of stakeholders with the help of tables, graphs, maps and diagrams, clearly highlighting the key findings of the detailed EIA report, viz.:

- a). Essential project features, critical and unique environmental features of the site and the study area
- b). Alternatives considered¹⁵
- c). Terms of reference
- d). Key environmental issues and how each of these issues are proposed to be resolved¹⁰, and how compliance to the applicable regulations is proposed to be achieved.
- e). Controversial issues and outcome of the public consultation¹⁸
- f). Environmental impact statement in a clear and condensed form containing:
 - i. The existing scenario of various components of the environment in the study area.
 - ii. Significant environmental impacts assessed, corresponding mitigation measures suggested, and management of residual impacts.
 - iii. Gist of the findings of additional/ special

studies, if any.

- iv. Environmental management program including environmental management mechanism, environmental monitoring program for different life cycle phases of the project, compliance management, environmental enhancement, audit and management review.

g). Any other critical matters¹¹ that have bearing on the decision of grant of environmental approval

h). Overall conclusion- impact on environment, residual impacts after mitigation measures, loss of natural resources, long term enhancement of natural resources, etc.

Evaluation of Executive Summary- Case study Methodology

The EIA reports of all the 225 green-field projects (new projects proposed at new locations, generally un-developed/ under-developed), which were granted environment clearance¹⁹ in India in the period October 2016 to March 2018 were segregated sector-wise, viz. airport, cement, chemical, highway, industrial area, metallurgical, mining, oil and gas, petroleum pipeline, port, sugar and distillery, thermal power, and waste management projects. 15% of the EIA reports were then selected randomly from these sectors for evaluation while ensuring that the reports were prepared by different consultants.

The criteria for evaluation of an executive summary, proposed in table 1 consist of the components, viz. introduction, key findings of EIA and action proposed, environmental management program, and general features. The evaluation of each criterion was done in the scale 0-3; 0 being non-inclusion of the criterion in the executive summary; 1- inadequate, 2- reasonably adequate and 3- adequate inclusion. The table also depicts distribution of 34 EIA reports of the green-field projects, prepared by as many consultants, against each criterion. The robustness of an executive summary is determined by aggregating the scores of each criterion and taking the mean, without assigning any weightages for the sake of simplicity. The degree of robustness is considered on the basis of the mean score- 3 being high, 2-3 satisfactory, 1-2 low, and <1 very low.

Table 1. Evaluation of Executive Summary in EIA Reports of Green-Field Projects

S.No.	Executive Summary Features	Distribution of EIA Reports,% Evaluation scale			
		0	1	2	3
Introduction					
1.	Background	6.1	33.3	60.6	0
2.	Site settings	15.2	33.3	48.5	3.0
3.	Environmental settings highlighting unique and critical environmental features of the site and study area	3.0	3.0	93.9	0
4.	Project proposal highlighting resource requirement, and activities having potential environmental impacts in different lifecycle phases of the project	0	27.3	72.7	0
5.	Terms of reference	78.8	21.2	0.0	0
Key Findings of EIA and Proposed Action					
6.	Significant impacts on different environmental components	3.0	9.1	87.9	0
7.	Specific mitigation measures suggested for significant impacts	3.0	9.1	87.9	0
8.	Residual impacts and their management	100	0	0	0
9.	Alternatives considered	89.3	7.1	3.6	0
10.	Outcome of public consultation, and controversies	67.9	10.7	7.1	14.3
Environmental Management Program					
11.	Environmental management mechanism with budget	33.3	51.5	15.2	0
12.	Additional studies	36.4	45.5	15.2	3.0
13.	Environmental monitoring and compliance management	18.2	57.6	24.2	0
14.	Environmental enhancement measures	84.8	12.1	3.0	0
15.	EMPg audit and management review	97.0	3.0	0	0
General Features					
16.	Overall conclusion	45.5	6.1	45.5	3.0
17.	Use of base maps, tables, diagrams, etc. for presentation	18.2	33.3	45.5	3.0
18.	Clear and consistent presentation of the critical facts that make up each environmental issue and resolution of the issues	0	81.8	18.2	0
19.	Concise discussion on key findings of EIA study	0	100	0	0
20.	Simple, non-technical language used without jargon	0	6.1	93.9	0
21.	Stand-alone document	0	3.0	30.3	66.7

0 non-inclusion, 1 inadequate, 2 reasonably adequate, 3 adequate

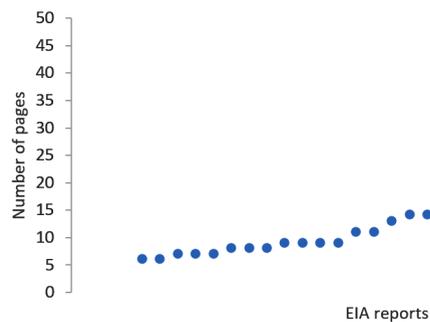
Findings and Discussion

It is observed from the evaluation that executive summary included as part of an EIA report is more of a 'summary' rather than 'executive summary' since it summarizes the report without bringing out the key findings¹¹ of the EIA study. The critical facts¹⁰ that make up each environmental issue and their resolution, and brief discussion on key findings of the EIA study are not highlighted to facilitate decision making. Executive summaries in general dwell more on description of environment, and environmental impacts and impact mitigation and little on a) administrative mechanism and budget for the environmental management program, environmental monitoring and compliance management¹⁸, audit and management review; b) environmental enhancement measures; c) additional studies; and d) areas of controversy.²⁰ Further, most of the executive summaries do not mention about the residual impacts after mitigation and their management, alternatives considered, terms of reference, and outcome of public consultation.¹¹ The date of holding the public hearing meeting, however, finds a mention in some reports. Simple language is used in most of the executive summaries without jargon.¹³ The environmental settings and resource requirements for the proposed project are generally included. Half of the executive summaries described site settings, background and overall conclusion¹⁵, and used tables¹⁰ for presentation, and two-thirds are found to be stand-alone.

The EIA process⁹ in India prescribes the structure of EIA reports whereby 'Executive summary' is required to be included in an EIA report in addition to the chapter 'Summary and Conclusion'. 21% of the

EIA reports evaluated did not contain executive summary though 86% of these included 'Summary and Conclusion' chapter like all the other EIA reports. The executive summaries in EIA reports are described in 5-42 pages; the mean, median and mode number of pages being 13, 11 and 15 respectively. The variations in the size of the executive summary in EIA reports may be observed from fig.1. 55% of the executive summaries, described in more than ten pages did not meet the requirements of EIA regulation.⁹ 24% of the executive summaries were short and described in seven or less pages.¹¹

The range of scores of evaluation may be observed from fig.2; the mean, median and mode scores being 1.12, 1.14 and 1.14 respectively. The evaluation reveals that 18% of the executive summaries had very low degree of robustness and the remaining 82% had low degree of robustness. These findings could not be validated as no similar studies on executive summary are found in the literature. Nevertheless, the findings of the present study are in agreement with that reported²¹ inclusion of 'no or poor' executive summary in EIAs as one of the common problems with EIAs. The evaluation score of EIA reports was reported¹⁵ to be in the range 4.1-5.2 on the scale of 10. The low score of executive summaries in the present study confirms that effectiveness and quality of an executive summary could only be as good as that of a clear and comprehensive EIA report based on rigorous studies, sound data and consistent analysis and interpretation.¹¹ Further, most of the executive summaries do not give perspective²² of the report and equip the reader with a summary of objective, methodology, and findings of the report.



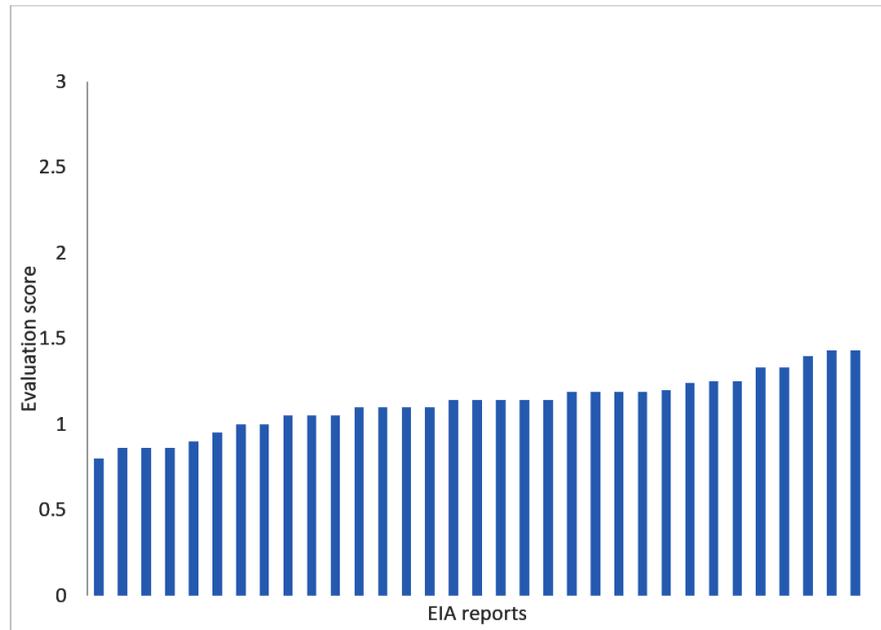


Fig 2. Range of Evaluation Score

Conclusion

Executive summary is an extremely important part of an EIA report since only this part of the EIA report is often read by most of the stakeholders including decision makers. Executive summaries of 34 EIA reports of different project sectors, prepared by different EIA consultants and granted environmental approvals, were evaluated for their robustness. It is found that the degree of robustness of executive summaries is low. Further, the term 'executive' in executive summary is not justified since lengthy summaries of EIA reports are presented without highlighting key findings of the EIA studies. Even though the executive summaries are long, these are incomplete and several aspects considered important for aiding decision making are not covered. Executive summary of an EIA report achieves a great importance especially in the large developing economies where a large number of development projects are proposed and the competent authority is under severe pressure of time for taking decision on the proposals in a time bound manner. However, no effort seems to have gone into improving executive summary part of an EIA report as this aspect has not received attention of researchers, professionals, reviewers and decision makers.

Guidelines are proposed to facilitate the EIA professionals in the preparation of a robust executive summary, which is comprehensive, effective and objective in aiding decision making on grant of the environmental approval to the proposed development projects. Executive summary part of an EIA report needs to summarize and highlight truly the a) key aspects of the settings of the site, b) project description and project-related activities over project lifecycle which have a potential of causing environmental impacts, c) baseline environmental settings including unique and special features, d) significant impacts determined along with the suggested mitigation measures, e) residual impacts after mitigation measures, f) environmental management program, g) loss of natural resources, h) controversial issues, if any, and i) outcome of public consultation. Considering that an executive summary should be able to serve as a stand-alone document for distribution to the stakeholders, it should not contain reference to any of the contents in the body of the EIA report, and should be prepared in a manner that it is easily understood by those who do not possess expertise in preparing EIA studies, with a special focus on the non-technical stakeholders at large. It needs to be duly translated in the regional language, if required so that a larger population is able to read it and participate in public consultation.

References

1. Business Dictionary. Definition of executive summary. <http://www.businessdictionary.com/definition/executive-summary.html>. 1997. (Accessed 15 June 2018).
2. Wikipedia. (2001). Executive summary. https://en.wikipedia.org/wiki/executive_summary. 2001. (Accessed 15 June 2018).
3. Glasgow Caledonian University. Executive summary and conclusion. <https://www.gcu.ac.uk/library/smile/writingandnumeracy/executivesummaryandconclusion/>. 1993. (Accessed 17 June 2018).
4. Bonjour P. How to write an executive summary. <https://www.inc.com/guides/2010/09/how-to-write-an-executive-summary.html>. 2010 (Accessed 15 June 2018).
5. World Bank. Environmental assessment sourcebook. Washington, D.C.: Environment Department, WB, 1999.
6. MTR Corporation. Environmental impact assessment of express rail link. [https://www.epd.gov.hk/eia/register/report/eiareport/eia_1692009/ES/pdf/ES_TOC%20\(eng\).pdf](https://www.epd.gov.hk/eia/register/report/eiareport/eia_1692009/ES/pdf/ES_TOC%20(eng).pdf). 2009. (Accessed 17 June 2018).
7. Department of Environmental Affairs and Tourism. Environmental impact reporting. Integrated environmental management information series 15. Pretoria: DEAT, 2004.
8. Commonwealth of Australia. Environmental management plan guidelines. Canberra: *Department of Environment, COA*, 2014.
9. Ministry of Environment and Forests. Environmental impact assessment notification. New Delhi: MOEF, 2006.
10. Lohani B, Evans J.W, Ludwig H, Everitt R.R, Carpenter R.A, Tu S.L. Environmental impact assessment for developing countries in Asia-overview. Manila: Office of the Environment, *Asian Development Bank*, 1997.
11. Sadler B, McCabe M. Environmental impact assessment training resource manual. *Geneva: Division of Technology, Industry and Economics, UNEP*, 2002.
12. Wood C. Environmental impact assessment: a comparative review. Harlow: Longman Group Ltd., 1995.
13. European Union. Directive 2014/52/EU. European Parliament and the Council, Amendment of the Directive 2011/92/EU. Brussel: EU, 2014.
14. World Business Council for Sustainable Development. Environmental and social impact assessment (ESIA) guidelines. Geneva: WBCSD, 2005.
15. Rathi A. K. A. Evaluation of project-level environmental impact assessment and SWOT analysis of EIA process in India. *Environmental Impact Assessment Review*. 2017; 67 31-39.
16. World Business Council for Sustainable Development. Guidelines for Environmental and Social Impact Assessment. Geneva: WBCSD, 2016.
17. Panigrahi J.K, Amirapu S. An assessment of EIA system in India. *Environmental Impact Assessment Review*. 2012; 35 23-36.
18. Rathi A. K. A. Environmental impact assessment: a practical guide for professional practice. Ahmedabad: Akar Unlimited, 2016.
19. Ministry of Environment and Forests. Online submission & monitoring of environmental clearances. <http://environmentclearance.nic.in/onlineSearch.aspx?pid=ecg>. 2014. (Accessed 20 June 2018).
20. California Government. Environmental impact report. <http://www.dot.ca.gov/ser/vol1/sec5/ch36eir/chap36.htm>. 2018. (Accessed 31 August 2018).
21. Floroiu R. Environmental (and social) impact assessment instruments. Paper presented in World Bank Safeguard Workshop Training held in May/ June 2012. <https://slideplayer.com/slide/8055387/>. 2012. (Accessed 15 March 2018).
22. Smith K. How to write executive summary. <https://blog.pandadoc.com/how-to-write-executive-summary/>. 2017. (Accessed 31 August 2018).