

# Quality of Writing Techniques of Documents of AMDAL (Environmental Impact Assessment), Case in East Borneo, An Independent Evaluation

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**Abstract:** *The research was conducted in East Borneo Province by assessing AMDAL documents made in 2009 - 2020. The research is intended as an independent assessment outside the official assessment forum conducted by the Amdal Assessment Commission (KPA) Technical Team. The assessment was conducted by comparing the writing technique of 101 AMDAL documents against the rules of scientific writing and Indonesian, because AMDAL is a scientific document. The results showed that the quality of AMDAL document writing techniques was still low. At least 22 types of writing errors were found. Document writing is far from a correct and good rule of Indonesian; similarly viewed from the rules of writing scientific documents. As a result of the many errors, the contents of the AMDAL document in question are feared cannot be fully understood by the public. Even by the initiator of the project though, because the AMDAL document is usually made by a consultant, unless the initiator of the project in question asks for an explanation to the consultant. Furthermore, the environmental management and monitoring plan in the AMDAL document cannot be fully implemented by the initiators of the project.*

**Keywords:** East Borneo Province, EIA/AMDAL document, independent evaluation, quality of writing technique, scientific document

## 1.Introduction

Based on experience as a member of the Technical Team of the AMDAL Assessment Commission (KPA) since 2005s in East Borneo and North Borneo Provinces and several districts, concluded that AMDAL consultants there have been less concerned with the technical rules of scientific writing in writing AMDAL documents. In fact, AMDAL is a form of scientific [1]. This error occurs over and over again, even if the AMDAL document maker is the same. If so who is wrong? the maker of the AMDAL or a member of the KPA Technical Team?" Such is the fact that often arises among members of the KPA Technical Team.

The AMDAL document is a reference for project initiators to carry out environmental management and monitoring. If the technical quality of document writing is not good, the implementation cannot be expected to be better. Kamijo and Huang [2] stated that "the quality of the report is very important for making good decisions". AMDAL document writing techniques must follow the rules of writing scientific documents, because AMDAL is a scientific document [1].

Based on the same experience, it was concluded that the evaluation of documents so far has only been carried out formally through the KPA meeting, which tends to be mechanistic. KPA members lack independence. Therefore, an independent evaluation is needed outside the official forum, as was done through this research in order to improve the quality of the document in the future. Wagner and Suteki [3] convey the need for an independent assessment of: "and are assessment process is perceived as scientific, objective, neutral, and independent". The results

of this research by Wagner and Suteki [3] indicate that the independence of formal assessment by KPA (especially the independent expert team) is only limited to "myths" and "illusions".

Therefore, it is hoped that the publication of the results of this research will influence KPA to make improvements in the future. Based on the background of the problem, it is necessary to assess the technical quality of writing AMDAL documents and the factors associated with them. The results of this study are expected to be a feedback for related parties in order to improve the technical quality of AMDAL document writing; as well as increasing the treasury of knowledge about the technical quality and practice of preparing AMDAL documents.

Apart from being a legal document, the AMDAL is also a scientific document [1], as well as a public document. Similarly, according to Wagner and Suteki [3]: "and its assessment process is perceived as scientific . . . independent". As a result of the work of public institutions, documents must be open to the public [4]. As a scientific document, the technical writing of the document must meet the correct and good rules.

## 2.Literature Survey

There has not been much research on the quality of EIA. Until 2020 there are nine studies on the quality of EIA; but no one has evaluated the writing technique, and only two have been carried out in Indonesia. Seven other studies were conducted in Europe, Africa and other Asian countries.

Research in Indonesia was carried out in the Regency and City of Bogor by Venita et al. [5] and in North Sumatra by Anonymous (no year). Meanwhile, research on the island of Borneo does not yet exist.

The first study by Wood et al. [6] evaluated the performance of the EIA process in eight European countries. Wood and colleagues see EIA as a process. The results show that there is a satisfactory improvement in the quality of EIA documents from 50% to 71% over two time periods, 1990 – 1991 and 1994 – 1996.

The second study was conducted by Jalava et al. [7] who examined the quality of EIA in Finland. Jalava and colleagues view the EIA as a “document” or “report”. The results show that EIA professionals consider the quality of EIA to be good so far. However, they admit that the quality varies, and in certain areas improvements are needed, especially with more in-depth alternative studies.

The third study was conducted by Al Azri et al. [8] who evaluated comparatively the EIA system in the Gulf Cooperation Countries (GCC). The evaluation results indicate that much progress has been made in developing the legal and administrative framework for the EIA system that accommodates national requirements. However, there is still room for further development.

The fourth study by Venita et al. [5], who examined the Quality and Eligibility Criteria of Documents in Bogor Regency and City. Venita et al. see *AMDAL* as a document, by examining the quality of the document. The results of the analysis show that there are still three documents (20%) that are not feasible.

The fifth is researched by Peris-Mora et al. [9], who looked at EIA more than only the process by examining the quality of the EIA process for public road projects in Spain. Based on the results of their research, Peris-Mora et al. recommend the implementation of formal measures to control and monitor the quality of the Environmental Feasibility Statement.

The sixth study was conducted by Wylie et al. [10] who see EIA as a report or document. Wylie et al. evaluated the quality of the Basic EIA Report (BEIAR) for plans to develop tourism infrastructure around the Mpumalanga and Limpopo Protected Areas in South Africa. The results show that 92% of BEIAR has a satisfactory performance in terms of overall quality.

The seventh study was conducted by Aung et al. [11] which evaluates China's EIA performance. The results of the study revealed that there were some omissions and deficiencies in all projects with a large number of Environmental Feasibility Statements that did not have satisfactory quality.

The eighth study was conducted by Kamiyo and Huang [2], who identified the decision factors for measuring the quality of EIA reports, particularly for collaborative projects with Japan. The study also verified the influence of decision factors on report quality. This study concludes

that good alternatives studies and community involvement at the scoping and drafting report stages are benchmarks for a good EIA report. The researcher suggests the need for further verification through comparative studies and case studies to ascertain how these two processes affect the quality of the EIA report.

The last research is by Anonymous (no year) which examines the influence of the human resources on the quality of *AMDAL*. The study was conducted in North Sumatra with the result that there was a significant positive effect on the reliability of the human resources in the compilation and the work procedures of the KPA on the quality of the prepared.

### 3.Problem Definition

Based on the background of the problems that have been submitted in the Introduction and Literature Survey that has been conducted, the research problem is rumored as follows: why do *AMDAL* consultants in Borneo Tmur Province have been less concerned with the rules of *AMDAL* writing techniques as scientific documents?

### 4.Methodology

The research was conducted in 2020 by taking secondary data from the Dinas Lingkungan Hidup (Environmental Service) of East Borneo Province in the form of a document that had been made and approved by the KPA during the period 2009 - 2020. The document in question consisted of documents from various types of projects, both government projects and private projects. The data collection has also been carried out through the presence of writers in the meetings of the Technical Team for the EIA Assessment Commission of East Borneo Province since 2009. Data analysis is mainly carried out by comparing the technique of writing the document against the rules of scientific writing.

### 5.Results and Discussion

Secondary data from the KPA of East Borneo Province shows that there are 101 (EIA) documents and *Adendum ANDAL*<sup>1</sup> (Addendum to Environmental Impact Analysis) documents assessed during 2009 – 2020; consisting of 68 (67.33%) documents and 33 (32.67%) *Adendum ANDAL* documents. Most of them are from the fields of agriculture, forestry, and fisheries (22 pieces or 32.35%). Of the 33 *Adendum ANDAL* documents, the majority is from the mining and quarrying sector (14 pieces or 42.42%), especially coal mining.

#### 5.1. Technical quality of *AMDAL* document writing

<sup>1</sup>ANDAL is one of the documents from the, in addition to other documents, namely the Terms of Reference (KA), Environmental Management Plan (RKL), and Environmental Monitoring Plan (RPL).

From the writing aspect, generally there are systematic errors and indicate a lack of mastery or understanding of the *AMDAL* document makers against the rules of scientific writing. The results of the study which show that in general the mastery and understanding of the makers of *AMDAL* documents in the province of East Borneo on the writing rules are still low is accordance with Rifai's statement (2005: 182) that "many of our scientists' writings do not meet the written rules of the Indonesian language right and good."; whereas as stated by Dirgantara [1] *AMDAL* is a scientific document. Likewise, according to Basuki [12] "The use of Indonesian in scientific articles is not always correct.

Some important errors that often occur in *AMDAL* documents seen from scientific writing techniques are:

#### 1). Unit writing error

An error that often occurs is writing units using capital letters, either partially (the initial letter) or entirely. The unit should be written in lower case, because it is not a name, unless the unit is a person's name, for example Watt as a unit of electrical power or Bell as a unit of sound intensity [13]. Examples of writing the wrong units are "KM<sup>3</sup>", "Ha", and "Kg"; should be "km<sup>3</sup>", "ha", and "kg".

Errors in writing units should not occur because *AMDAL* is classified as a scientific document. In addition, usually the persons, who are making the *AMDAL* documents, including the team leader, mostly have exact science educational backgrounds; except personnel for social and public health experts.

#### 2). Table creation and cutting errors and advanced table creation

The error that often occurs is that the table connection on the next page is not accompanied by the serial number of the table and the table title and column headings anymore. Another error is sometimes only a small part of the table is truncated, for example only one row; as well as the following table. In addition, there are also rows or columns that have no content.

Cutting and creating advanced tables that are not given the table serial number, table title, and column headings are clearly not in accordance with the writing rules. In fact, the table should not be cut and continued on the next page; what more if the truncated and joined table only consists of one row, because it looks ugly. Pringgoadisuryo [14] states that "... usahakan supaya tabel tidak perlu disambung pada halaman berikutnya. Jika ... terpaksa tabel harus disambung pada halaman berikutnya, jangan lupa diulangi lagi judul tabel dan keterangan pada kolom-kolom" ("... try so that the table does not need to be continued on the next page. If ... the table must be continued on the next page, don't forget to repeat the table title and the information in the columns"). Meanwhile, the rows in the table that have no content should be deleted or removed. In the absence of this row, the reader will understand that the data does not exist.

#### 3). Error writing foreign terms

The only error in writing foreign terms is that they are not italicized. Meanwhile, spelling errors or inconsistencies usually occur in loan words, namely foreign words or terms that are commonly used in Indonesian. Examples of these spelling errors are "*efektifitas*" and "*aktifitas*".

Foreign terms that are not italicized are clearly not in accordance with the writing rules. In Universitas Mulawarman [15] for example, it is stated that "Istilah asing dan ... semestinya ditulis miring" (Foreign terms and ... should be written in italics). Similarly, according to the Pusat Pembinaan dan Pengembangan Bahasa, Departemen Pendidikan dan Kebudayaan Republik Indonesia [16]: "Huruf miring di dalam cetakan dipakai untuk: menuliskan . . . atau ungkapan asing . . .". (Italics in print are used to: write . . . or foreign expressions. . . ). Meanwhile, according to the Pustaka IPB [17] "selain istilah asing yang harus dicetak miring adalah nama Latin atau nama daerah tanaman atau hewan" (in addition to foreign proverbs, what should be italicized is the Latin name or the regional name of a plant or animal).

#### 4). Inconsistency in Spelling and Numbering

Mistakes that often occur, for example, are writing *izin* and *ijin*, *persentase* and *presentasi*, *aktifitas* and *aktivitas*. Meanwhile, numbering errors mainly occur if the numbering uses a combination of numbers and letters because many numbers are needed. Inconsistency in spelling writing, apart from not complying with the rules, also indicates that the *AMDAL* document makers are lazy to think. For example, "*aktivitas*" is often written as "*aktifitas*", even though it is clear that the word comes from English "activity", so the spelling in Indonesian is "aktivitas". It would be better if it was replaced with the Indonesian equivalent of "*kegiatan*" because the documents were written in Indonesian.

#### 5). Errors in writing the preposition "di" and the prefix "di"

The error in writing the preposition and the prefix "di" that occurs is that the two are often exchanged or reversed writing it. The preposition "di" is often written connected with an adverb of a place that follows it, for example "*dilokasi*", "*didesa*", "*diwilayah*". On the other hand, the prefix "di" is often written separately with the verb that follows it, for example "*di baca*", "*di tulis*", "*di pantau*".

The preposition "di" which is written connect with the adverb of place that follows it is not in accordance with the rules. According to the rules, the preposition must be written separately from the adverb of place that follows it. In the Pusat Pembinaan dan Pengembangan Bahasa, Departemen Pendidikan dan Kebudayaan Republik Indonesia [16] it is stated "Kata depan di . . . ditulis terpisah dari kata yang mengikutinya. Misalnya "di sini" (The preposition di . . . written separately from the word that follows it, for example "di sini").

Likewise, the word "di" as a prefix which is written separately with the verb that follows it is also not in accordance with the rules. According to the rules, the two words should be written become one, as stated in the Pusat Pembinaan dan Pengembangan Bahasa, Departemen Pendidikan dan Kebudayaan Republik Indonesia [16] that "Prefixes (prefixes, insertions, suffixes) are written in series with the basic words. For example, "*dibiayai*" (financed) and "*diperlebar*" (expanded), not "*di biayai*" or "*di perlebar*".

#### 6). Use of Bullets for Numbering

Bullets that are often used as sequence marks or numbering are bullets that are available in computer applications. The bullets include: (1) ◆, (2) ●, and (3) ■. The use of bullet (■, ●, ◆) to mark a sequence of smaller sections (sub-chapters, sub-chapters, and so on) is unethical and is not recommended, except in handouts. In Universitas Mulawarman [15] it is stated that "bila suatu bab dipecah menjadi bagian-bagian yang lebih kecil, maka digunakan berturut-turut tanda urutan sebagai berikut: A (huruf besar), 1 (angka Arab), a (huruf kecil), 1) (angka Arab dengan satu tanda kurung), a) (huruf kecil dengan satu tanda kurung), (1) (angka Arab di antara dua tandakurung), (a) (huruf kecil di antara dua tanda kurung), dan (i) angka Romawi kecil di antara dua tanda kurung)". ("when a chapter is divided into smaller parts, the following sequential signs are used: A (uppercase letters), 1 (Arabic numerals), a (lowercase letters), 1) (Arabic number with one parenthesis), a) (lowercase with one parenthesis), (1) (Arabic number between two brackets), (a) (lowercase between two brackets), and (i) lowercase Roman numerals between brackets)). So there is no recommendation to use bullets as a sequence sign. The use of this mark for sequence marks also makes it difficult for document assessors. If the rater wants to say or write a suggestion, he had to count the order of the marks starting from the top, so additional time is needed.

#### 7). Most of the of the page is left blank before a chapter ends

This blank page sometimes reaches half a page. These errors usually occur due to differences or shifts in the environmental components under study – physical-chemical components, biological components, social components, and public health components.

Leaving a lot of blanks at the bottom of the page before a chapter ends is not in accordance with the advice on scientific writing, because it makes it unattractive to look at, the reader will think that the chapter has been finished, but not yet, there is still a continuation. The indication is that this error occurred because there was a division of writing tasks among the members of the document drafting team. The writings of each member are then simply combined without being edited or rearranged. A team member's writing that ends in the middle of the page, for example, is immediately combined or connected with the second member's writing on the next page, even though the chapter is still the same. This division of writing tasks is reasonable, considering that in AMDAL documents, the

environment is usually divided into four components: physical-chemical, biological, social, and public health. The assessment of each component requires different experts. The results of their assessment must be combined by editing or rearranging by the head of the drafting team of AMDAL.

#### 8). The list of appendix is not made, even though there are appendixes, and the attachments are not given a page number

Not making a list of attachments (even though there are appendixes) and not giving the serial number of pages of an attachment clearly not in accordance with the rules of scientific writing. In Universitas Mulawarman [15] it is stated that "lampiran-lampiran juga disusun di dalam daftar. . ." ("appendices are also listed in the list. . ."). In the Pustaka IPB [17] it is stated that "Bila lampiran perlu dibagi ke dalam beberapa bagian, maka lampiran dipecah sesuai dengan pembagiannya. Lampiran dapat diberi nomor" ("If the attachment needs to be divided into several parts, then the attachment is divided according to the division. Appendixes can be numbered"). The above error caused members of the Technical Team of the AMDAL Assessment Commission (KPA) to find it difficult to find an attachment, even though the attachment in question was mentioned in the text. This happened probably because the AMDAL document drafting team underestimated it. The mention of the appendix in the text is also often without the serial number of the appendix. The serial number of the first page of each attachment is not written in the Table of Contents as it should be, because the attachments are also not given a page number.

#### 9). Placement of Conjunctions at the Beginning of Sentences and Writing Errors

Conjunction that are often placed at the beginning of sentences include: (1) "*sehingga*" (so), (2) "*maka*" (then), and (3) "*serta*" (and). Example: "*Sehingga selama ada batubara baik itu ditambang atau tidak ditambang maka dampak sulfur tetap akan ada, hanya ada perbedaan di intensitas/potensi bahayanya saja*". Second example: "*Maka umur tambang untuk PT. . . . adalah selama 10 tahun*". The last example: "*Serta unit-unit pengelolaan lingkungan yang meliputi : .....*".

The placement of conjunctions as the beginning of sentences is clearly not in accordance with Indonesian grammar; because the function of the conjunction connects two clauses. The correct sentence form according to the Indonesian for the three sentences above is: ". . . *sehingga selama . . .*" (" . . . *thus* . . . "); "*Jika . . . maka . . .*" ("If . . . , then . . . "); and ". . . *serta* . . . " (" . . . and . . . ").

#### 10). Writing formulas without serial numbers

The writing of the formula which is not given a serial number on the right is not in accordance with the rules of scientific writing. In Universitas Mulawarman [15] it is stated "Agar rumus . . . mudah dirujuk, di sebelah kanan rumus . . . ditempatkan nomor urut di dalam kurung" (In order for the formula . . . easy to refer, to the right of the



formula . . . serial number is placed in brackets. Uses of the serial number of this formula are so that later, at the back of the document, if the formula will be referred to; just mention the serial number, there is no need to rewrite the formula. Based on this rule, the formula is simply written in the AMDAL Frame of Reference (KA) document. If the formula is to be used in the Environmental Impact Analysis (ANDAL) document, it is enough mentions the serial number by adding the information "in the KA document" behind the serial number of the formula referred to. However, what is often done is that the formula is rewritten in full in the ANDAL document. Complete rewriting of the formula in the ANDAL document, apart from not complying with the writing rules, also interferes with the course of the story, description, or text; and inefficient.

11). No mention of illustrations (tables or pictures in the text) and spelling mistakes

Illustrations that are often not mentioned in the text include tables, figures, maps, and photos. Even if it is mentioned in the text, the mention is often wrong, for example: (1) "*tabel di atas*", (2) "*tabel di bawah*", (3) "*tabel berikut*", or (4) "*dapat dilihat pada tabel ...*".

No mention of illustrations (tables or pictures) in the text, even though there are illustrations, is not in accordance with the rules of writing. Illustrations often appear suddenly and stand alone, without mentioning which description the illustration is. In Universitas Mulawarman [15] it is stated "*Semua tabel dan gambar harus dipetik di dalam teks paling sedikit satu kali*" ("All tables and figures must be quoted in the text at least once"). The lack of mention of illustrations in this text made it difficult for the document review team. The rater cannot quickly know which illustration does this relate to which description? Likewise, the title of the illustration is incomplete and only general, causing the title of the illustration to be less informative, making it difficult for the assessor to understand the intent and content of the illustration. While the mention of "table above" or "table below" or "following table" should be "Table . . ." (note letters is must be filled with the serial number of the table; the word "Table" begins with a capital letter "T" because it is followed by the serial number of the table, meaning it is a name). Meanwhile, if it is called "table above" or "table below" or "following table", the position of the table may change without the author being aware of it, due to computer-based writing. The table that was originally located at the top can change to the bottom, and vice versa. In addition, there can be more than one "table above" or "table below", which table is meant? While the mention of the table in the text "can be seen" in the table ..." should be "presented" in the table. . .".

12. Errors in word formation, term formation, and its usage

The errors that often occur are: (1) "*merubah*", (2) "*kelola lingkungan*", (3) "*dihipotesis*", (4) "*kegiatan pertambangan*", (5) "*material keruk*", (6) "*dipergunakan*", (7) "*ruangan*", (8) "*simbiosse mutualisme*", (9)

"*perkeluarga*", (10) "*demo-demo*", and (11) "*kegiatan IUPHHK-HTP*".

The formation of wrong words, not in accordance with the rules, indicates that the AMDAL document makers are lazy to think, pay less attention, don't care, and don't learn the rules. As a drafting consultant whose job is to write documents, he should have to learn the rules of writing and grammar. Word formation errors generally occur because the AMDAL document makers do not know the origin of the word, for example the word "*mengubah*" (derived from the root word "*ubah*" which is given a prefix "*me*"). According to the rules, the basic word must be added with the nasal letter "*ng*" to "*mengubah*"; but it is often written "*merubah*". Meanwhile, "*merubah*" comes from the root word "*rubah*" (not "*ubah*") which gets the prefix "*me*", because there is no "*mer*" prefix. In Indonesian "*rubah*" is the name of a type of wild dog in the forest, not a type of verb. In addition, because "*rubah*" is a type of noun (animal name), it is impossible for the root word to start with "*me*", considering the function of the prefix "*me*" is to indicate an active verb. This means that the prefix "*me*" must be associated with a verb, not a noun.

The word "*kelola lingkungan*" is supposed to be "*pengelolaan lingkungan*" (environmental management), because in the term is meant as an activity. While "*kelola*" is a basic verb which if used to name an activity (as a noun) must be prefixed with "*pe*" and suffixed with "*an*". In addition, the basic verb "*kelola*" can be used as an active verb by prefixing "*me*" to be "*mengelola*" (to manage) and a passive verb by prefixing "*di*" to "*dikelola*". The word shape "*dihipotesis*" should be "*dihipotesiskan*" because "*hypothesis*" is a type of noun which if used as a verb in addition to requiring the prefix "*di*" also requires the suffix "*kan*". The term "*kegiatan pertambangan*" should be "*penambangan*" because "*pertambangan*" is a type of noun, not a type of verb, while what is needed is a verb, because it is to indicate an activity. The word "*kegiatan*" is not necessary, because the word "*penambangan*" already indicate an activity. The term "*material keruk*" should be "*bahan hasil pengerukan*", because "*material*" is a loan word, the Indonesian term "*bahan*", and "*keruk*" is still a basic verb which if used in a sentence must be given an affix like the word "*kelola*" mentioned above.

The word "*dipergunakan*" should be enough "*digunakan*" (used), no need to add the prefix "*per*", because it becomes inefficient. Likewise, "*ruangan*" should be enough "*ruang*" (space), because "*ruang*" is a noun, there is no need to add the suffix "*an*". The term "*simbiosse mutualisme*" is clearly wrong, because the suffix "*isme*" (ism) means "*ajaran*" (or "understanding", derived from the English "ism"). So the correct term is "*simbiosse mutualistis*" (mutualistic symbiosis), meaning "a mutually beneficial life together". The formation of the word "*perkeluarga*" should be "*per keluarga*" (the two words are separated, Pusat Pembinaan dan Pengembangan Bahasa, Departemen Pendidikan dan Kebudayaan Republik Indonesia, 1984: 28). The term "*demo-demo*" should be written as "*demonstrasi*" or "*unjuk rasa*" (demonstration). "*Demo-demo*" is colloquial terms, informal terms, and not

formal written terms. The term “kegiatan IUPHHK-HTI” (Izin Usaha Pemanfaatan Hasil Hutan Kayu-Hutan Tanaman Industri) should be written “kegiatan PHHK-HTI”, without the letter “I” and “U”, because “I” = “Izin” (Permit) which is a type of noun, so it does not can be used to describe an activity; the activity is the “Usaha” (Business), not the “Izin” (Permission). The word “sejauhmana” should be written “sejauh mana” (to what extent) (the two words are separated, because as a combination of two words, see Pusat Pembinaan dan Pengembangan Bahasa, Departemen Pendidikan dan Kebudayaan Republik Indonesia [16].

13). The inclusion of the influence of regional languages into the document

The regional language who’s often included in documents written in Indonesian is mainly is *Banjar* language, which is the language of one of the many tribes living in East Borneo Province. This influence can be seen in the pronunciation and writing of spelling, such as “*sejatrah*”, “*provensi*”.

Although a lot of vocabulary in foreign languages has entered and has become vocabulary and terms in Indonesian, these vocabularies are generally recognized and officially become vocabulary in Indonesian. However, it is different if what is used in the document is regional language vocabulary that has not been officially recognized as vocabulary in Indonesian. Meanwhile, the document is written in Indonesian. This indicates that in addition to not caring and not paying attention to the writing rules. The inclusion of regional words or terms such as “*sejatrah*” and “*provensi*” from the *Banjar* language can make document evaluators and readers difficult; there may be members of the KPA Technical Team who do not understand the meaning. “*Sejatrah*” intended as “*sejahtera*” (prosperous) in Indonesian, the two are quite different in writing and pronunciation; in Indonesian “*sejatrah*” is unknown meaning. As for “*provensi*”, it should be “*provinsi*” in Indonesian.

14). Not replacing foreign terms with their synonyms in Indonesian

Foreign terms that are often used and are not replaced with their synonyms in Indonesian (even if they exist) or are only considered as loan words include: (1) base camp, (2) mess, (3) oil trap, (4) overlapping, (5) material, (6) buffer, (7) update, (8) layout, (9) land clearing, (10) sex ratio, (11) overburden, (12) supply, (13) hauling road, (14) existing, (15) reviews.

It is not mandatory to replace foreign terms with their synonyms in Indonesian; but because the document is written in Indonesian, it is better if foreign terms which have their synonyms in Indonesian are replaced with Indonesian terms; unless there is no synonyms in Indonesian. By using foreign terms, the makers of AMDAL document seem to feel more prestigious, not on the contrary, they are more proud of their mother tongue.

15). Formation and structure of sentences, clauses, or phrases that is less precise and incomplete

Sentences that are incorrectly formed, for example, are: (1) “Transportasi jalan mempunyai peran dalam memperlancar arus distribusi”, (2) “Yang mana prasarana air tersebut mempunyai keterbatasan waktu yaitu dari lamanya waktu tunggu dan waktu tempuh pelayaran barang dan orang”, and (3) “Kegiatan pekerjaan fisik jembatan Pulau Balang sisi Kabupaten Penajam Paser Utara (PPU) untuk main closure atau pengecoran terakhir diperkirakan akan selesai sepenuhnya pada akhir tahun 2020 dan di awal tahun 2021 dilakukan pengecekan, uji laik fisik, perapihan sisa pekerjaan pembangunan”.

Sentences, clauses, and phrases that are incomplete, lacking components indicate that the document maker does not master the standard structure of the sentence. Even though it is clear that the standard structure of active sentences in Indonesian is “SPOK”: “*subyek + predikat + obyek + keterangan*” (subject + predicate + object + description”. It is recommended, that to reduce subjectivity, scientific writing should use passive sentences, namely sentences with predicates using the prefix “*di*”. This means that the subject of the sentence is not placed at the beginning of the sentence. But it does not mean that the sentence components can be reduced, so that it becomes an incomplete sentence.

16). Error mentioning data source

There are several errors in mention data sources that often occur, especially data sources written below the table. These include: (1) “*Data primer*” (“Primary data”), (2) “Nama sumber data ditulis miring” (“Names of data sources in italics”), (3) “Peta Geologi Bersistem, Pusat Penelitian dan Pengembangan Geologi, ...” (“Systematic Geological Maps, Geological Research and Development Center”), and (4) “Informasi masyarakat desa” (“Village Community Information ...”).

Writing errors, the name of the data source, as the name implies, namely “data source” is clearly an object. If the data source referred to is not an object or is not indicated by a noun, it is clearly wrong. So the mention of “Data primer” (Primary data) as a data source is clearly wrong. “Data primer” is indeed a noun, but it is not a source of data, but a type of data that are data comes from the first source. It is also wrong to write Indonesian data sources in italics, because only foreign terms, Latin name or the regional name of a plant or animal according to the rules must be italicized [15] [16] [17]. The mention of the name of the document as a data source is also wrong, even though the document is an object, according to the rules what must be written as the data source is the name of the author, if there is an author; or the name of the institution that issued the document, if there is no author's name.

17). Error writing of reference source

The mistake that often occurs is to write the name of the reference source with his full name and academic title. Writing the full name of the reference source, first name

and last name and academic title is clearly wrong, not in accordance with scientific writing rules; because according to the rules, it is enough to write his last name, and without a title.

#### 18). Documents are not numbered pages

Another error that has occurred is that the page number is not given. Not giving the serial number of pages is clearly wrong, because every page in the document must be numbered, starting from the Preface to the Appendix, although the way of numbering is different between the main body of the document and other pages.

#### 19). Presentation of illustrations (tables or figures) on more than one page in the main body of the document

This error often occurs, both in the presentation of tables and maps. Tables that are consisting more of one page are presented in the main body. This table usually contains the coordinates of the project plan location. While the misrepresentation of maps that often occurs is the presentation of several maps on several pages at once in succession.

The presentation of illustrations (tables or pictures) on more than one page in the main body of the document violates the rules, because according to the rules, illustrations (tables, pictures, and so on) consisting of more than one page are recommended to be used as Appendixes so as not to disturb the concentration of the reader.

#### 20). Formation of non-standard abbreviations or acronyms

Examples are: (1) "PKL" as an abbreviation for "*Pusat Kegiatan Lokal*", (Local Activity Center), (2) "SOP" as an abbreviation for "*Sistem Operasi Penerbangan*" (Aviation Operational System), (3) "T" for an abbreviation "*Tanah Terbuka*" (Open Land), and (4) "TP" as an abbreviation of "*Tidak Menjadi Dampak Penting Hipotetik*" (Not a Hypothetical Significant Impact).

The making of non-standard abbreviations by the consultant AMDAL makers is also not in accordance with the rules of scientific writing. The rules for the formation of abbreviations are made so that people do not arbitrarily make abbreviations. Thus, document readers also have no trouble understanding the abbreviation. In connection with the findings of the use of non-standard abbreviations in this study, for example "PKL" as an abbreviation of "*Pusat Kegiatan Lokal*" (Local Activity Center) it can be explained that the standard abbreviation is usually used to abbreviate "*Pedagang Kaki Lima*" (Street Vendors), not "*Pusat Kegiatan Lokal*". The abbreviation "SOP" everywhere, even internationally is an abbreviation of Standard Operating Procedure ("*Prosedur Operasi Baku*"), not an abbreviation of "*Sistem Operasi Penerbangan*" (Flight Operating System). The letter "T" stands for "*Tanah Terbuka*" (Open Land) even though there is no standard, it would be better if it was replaced with "TT", so that it is in accordance with the standard for making abbreviations, one of which is by using the first letter of each abbreviated word. The use of "TP" as an abbreviation of "*Tidak Menjadi Dampak Penting Hipotetik*" (Not a

Hypothetical Significant Impact) is also not in accordance with the rules for making abbreviations as mentioned above, according to this rule, the correct abbreviation should be TMDPH". But apart from this error, the use of the term is also wrong, because the term comes from the refuted "*Dampak Penting Hipotetik/DPH*" (Hypothetical Significant Impact), so the correct term is "*Bukan Dampak Penting Hipotetik/BDPH*" (Not Hypothetical Significant Impact). The opponent of DPH is *Bukan DPH (BDPH)* (just add the word "Bukan" in front of it), as is the negation operation in Mathematical Logic.

#### 21). Excessive and inefficient use of words

Examples of these errors are: (1) "*hubungan keterkaitan*", (2) "*tenaga pengawas*", and (3) "*fasilitas pagar*". The use of excessive and inefficient words does not completely violate the rules of writing, but a scientific document is recommended to use sentences that are efficient and effective, not wasting words, but hit the target. In accordance with the example of finding errors, namely the use of the word "*hubungan keterkaitan*", it can be explained that "*hubungan*" and "*keterkaitan*" have the same meaning; so it is enough to write one, "*hubungan*" only or "*keterkaitan*" only. Likewise, the use of the word "*tenaga pengawas*" is enough to simply write "*pengawas*", because "*pengawas*" (supervisor) is clearly "*tenaga*"; so the word "*tenaga*" does not need to be written. Similarly, the word "*fasilitas pagar*" (fence facility) should be simply written "*pagar*" (fence), because the "*pagar*" is clearly a facility.

#### 22). Error and incorrect word choice

Examples: (1) "*kriteria*" (criteria) is considered the same as "*kategori*" (category), (2) "*besaran*" (magnitude) is considered the same as "*besar*" (size), (3) "size of impact" is considered the same as "magnitude of impact", (4) "*Pabrik Kaltim 5*". The choice of words that are not right also does not completely violate the rules of scientific writing, but it is recommended that scientific writings must use the right words to express something, because then the sentence becomes effective, the reader can quickly understand the meaning of the sentence. In accordance with the examples of facts found in this study, where "*kriteria*" (criteria) is equated with "*kategori*" (category), it can be explained that the two words have different meanings. "*Kriteria*" = a measure that is the basis for assessing or determining something [18]; while "*kategori*" = part of the classification system (class, type of rank, and so on) [19]. So it can be concluded that "*kriteria*" is a measure used to assess something to determine the class of something. While the "*kategori*" is the result of the assessment carried out using these criteria. Regarding the equating of the word "*besaran*" with "*besar*" it can be explained that "*besaran*" is the same with magnitude; while "*besar*" has more to do with size, relating to the question - "*berapa besarnya?*" (how big?). In Physics it is stated that "*besaran*" (magnitude) is something that has "*besar*" (size); "length" for example is a magnitude. This length has a "*besar*" (size), for example "the length of this line is 30 cm". In AMDAL, "impact" is a "*besaran*", this impact like "*panjang*" (length) also has "*besar*" (size); for



example, the magnitude of the impact of increasing people's income is *Rp. 550/month*; meaning that the income of the people in the study area increased by an average of *Rp. 550/month* compared to their income without project. The mention of "*Pabrik Kaltim 5*" is clearly wrong because Kaltim is abbreviation of *Kalimantan Timur* (East Borneo), which is the name of a province. While the "*pabrik*" in English is the same as the factory. So "*Pabrik Kaltim 5*" means the factory that made the Province of East Borneo 5, which is clearly wrong, because the province cannot be made by the factory. Whereas what is meant is a fertilizer manufacturing factory named "*Kaltim 5*", so the most appropriate and complete name is "*Pabrik Pupuk Kaltim 5*", not "*Pabrik Kaltim 5*".

## 5.2. Factors related to the technical quality of AMDAL document writing

Some of the factors that cause low quality of AMDAL documents in East Borneo Province so far seen from the technical writing are:

- 1). There are no members of the Technical Team of the AMDAL Assessment Commission (KPA) in charge of document writing techniques.
- 2). AMDAL documents that must be corrected by the AMDAL document maker consultants or project initiators because they are "received with repair" by the Technical Team of the AMDAL Assessment Commission through a hearing, are not re-examined whether the document has actually been corrected or not.
- 3). There has never been any coaching by the EIA Assessment Commission of East Borneo Province to the AMDAL consultants.

That there is no members of the Technical Team of the AMDAL Assessment Commission (KPA) in charge of document writing techniques can be proven through the Decree of the Chairman of the AMDAL Commission of East Borneo Province number *KAKT/084/KOMDAL-PROV/III/2020*.

That the AMDAL documents that must be corrected by the consultant maker or initiators of the project are never re-examined by the KPA Secretariat is proven through repeated occurrence of the same error, even though the consultant of the maker is relatively the same. Another proof is a few years ago the KPA once formed a small team consisting of several members of the KPA Technical Team (I include its members) with the intention of being tasked with re-examining AMDAL documents that had been presented by the project's management and assessed by the KPA Technical Team but still had to be re-examined by the project initiators. But this small team was never functionalized.

While the findings that show there has never been coaching to AMDAL consultants by the AMDAL Assessment Commission experienced alone by the main author of this article, who since 1986 became a consultant

AMDAL maker in East Borneo Province (other than as a member of the Technical Team of the AMDAL Assessment Commission since the 2005s). Whereas coaching like this is very necessary in order to equalize perceptions between the KPA Technical Team and AMDAL making consultants. At least this kind of coaching is should be done to local consultants; because it is clearly within reach.

## 6. Conclusion

Judging from the writing technique, the quality of the EIA documents that have been made by the project initiators and presented at the East Borneo Province Assessment Commission (KPA) is generally low. At least 22 types of errors were found in the 101 AMDAL documents studied, as presented in the Results and Discussions. Those are: (1) unit writing errors, (2) table cutting errors, (3) foreign term writing errors, (4) spelling and numbering writing errors, (5) errors in writing the preposition "*di*" and the prefix "*di*", (6) used of bullets for numbering, (7) most of the of the page is left blank before a chapter ends, (9) the list of appendix is not made, even though there are appendixes, and the attachments are not given a page number, (10) writing formulas without serial numbers, (11) no mentioned of illustrations (tables or pictures in the text) and spelling mistakes, (12) errors in word formation, term formation, and its usage, (13) the inclusion of the influence of regional languages into the document, (14) not replacing foreign terms with their synonyms in Indonesian, (15) formation and structure of sentences, clauses, or phrases that is less precise and incomplete, (16) error mentioning data source, (17) error writing of reference source, (18) the document not assigned page sort number, (19) presentation of illustrations (tables or figures) on more than one page in the main body of the document, (20) formation of non-standard abbreviations or acronyms, (21) excessive and inefficient use of words, and (22) errors and incorrect word choice.

The writing technique does not follow correct and good Indonesian grammar; many use sentences that are less effective and less efficient. Thus it also does not meet the category as a scientific document; whereas theoretically-normatively the EIA document is classified as a scientific document. Due to the lack of correct sentences, this document may be difficult to understand by the community, even the project initiators themselves, because the document in question is usually made by consultants, not made directly by the project initiators.

Factors that directly cause the low quality of AMDAL document writing techniques mentioned above are the absence of members of the Technical Team of the AMDAL Assessment Commission (KPA) in charge of technical scientific writing. While indirect factors that cause the low technical quality of AMDAL document writing are: (1) AMDAL documents that have been re-corrected by the initiators have never been examined by the KPA secretariat, whether the document has been repaired or not, and (2) there has never been any coaching carried out by the KPA to AMDAL consultants.



However, the absence of members of the KPA Technical Team in charge of scientific writing techniques was in accordance with “Lampiran II Peraturan Menteri Negara Lingkungan Hidup Nomor 15 tahun 2010 tentang Persyaratan dan Tata Cara Lisensi Komisi Penilai AMDAL” (Appendix II of the Minister of Environment Regulation number 15 of 2010 on the Requirements and Procedures of the AMDAL Assessment Commission License). In Appendix II it is mentioned that the Technical Team consists of human resources certified AMDAL makers (2 people) and AMDAL assessors (3 people). While the experts who must be available are bio-geo-physical-chemical experts; economic, social, and cultural experts; health care professional; and development planning expert.

## 7.Future Scope

Based on the conclusions above, it is recommended that KPA East Borneo Province: (1) Making a breakthrough by involving linguists or scientific writing techniques into the KPA Technical Team, although this is not required by Kementerian Lingkungan Hidup (the Ministry of Life Environment); (2) Thoroughly re-examine the AMDAL documents that must be corrected by the project initiators and consultants of the AMDAL maker after being presented to the KPA Technical Team; and (3) Conducting coaching to AMDAL consultants in East Kalimantan Province. The AMDAL consultants should learn and improve their writing techniques independently. Project initiators who use the services of a drafting consultant should really try to understand the contents of the document by asking for an explanation from the consultant.

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