The Function of Eco-Lexicons in Conservation News Texts Published in Mass Media

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This research aims at analysing the function of eco-lexicons contained in conservation news texts published in mass media. The research data are in the form of conservation news text fragments presumably containing eco-lexicons. The data are then analysed using eco-linguistic distributional and referential method with an interactive analysis technique. Based on data analysis, the function of eco-lexicons contained in the conservation news texts published in mass media are as follows: (1) instrumental function, such as stating a dynamic movement; (2) representational function consisting of: (a) giving names, (b) describing characters, (c) describing activities (d) referring to a place, (e) stating art diversity, (f) describing situations, and (g) expressing types. The function of eco-lexicons contained in the conservation news texts is to provide a better understanding and knowledge for the society regarding environmental literacy. Thus, the function of eco-lexicons is to provide meaning to the environment.

Key words: function of eco-lexicon, mass media, conservation news text.

Introduction
Conservation news texts published in mass media are considered as linguistic phenomena. Conservation news texts contain ideas or thoughts of conservation-based universities (UNNES) based on arguments related to the vision presented in mass media. Conservation is one of the most important news topics in society. Thus, a study on conservation news texts published in mass media becomes an opportunity to deeper understand the language in interdisciplinary ways and on the other hand, improve an understanding that news is a complex structure of the social construction languages, thoughts, conducts, and results. In fact, it is in accordance with the views given by Halliday and Hasan (1989) stating that a text should be dynamically interpreted. Text is a language performing a specified task in
situational contexts. Thus, the conservation news texts in mass media are related to language and the environment.

Mutual changes between environment and language may be studied through eco-linguistic studies. Eco-linguistics examines that an ecosystem is considered part of human life (ecology) with the language the humans use to communicate with their environment (linguistics). Thus, Sapir (in Fill and Muhlhausler, 2001) states that there are three environmental forms: (1) physical environment, (2) economic environment, and (3) social environment. Trampe (in Fill and Muhlhausler, 2001) mentions that environmental texts (green-speak or green-grammatical) in mass media contain the following aspects: (1) reification: treating living beings as objects with economic values, related to technology and ideology; (2) hiding the facts: utilising euphemisms to replace some avoided words or terms; (3) expressing hatred or resistance against those parties damaging the traditional or customary lands; and (4) creating slogans and elements which deliver ideas and thoughts used to make the environmental and cultural destruction processes committed by a group of people seem to be based on and in accordance with the natural laws.

Furthermore, Alexander and Stibbe (2011) define eco-linguistics as a study of how language use impacts on the sustainability of life bridging the relationship between humans, other organisms, and the physical environment normatively orientating on the sustainable preservation of relationships and life. The research conducted by Mikulik and Babina (2009) states that Higher Education should have environmental awareness to achieve and formulate sustainable development and protection efforts that are greatly needed. Thus, as part of the Indonesian nation, Semarang State University (known as UNNES) strongly asserted itself as a conservation university institution on March 12, 2010. The UNNES Rector Regulation No. 22 of 2009, on UNNES as a conservation university states that conservation university is a university in which education, research, and community service implementations possess the concept referring to the conservation principles, either conservation of values and characters, arts and cultures, or the natural and environmental resources. This is consistent with the research conducted by Mbete (2013) asserting that linguistic changes and dynamics, including lexicons, represent changes in the physical environment.

In addition, the mass media publishing UNNES as a conservation-based university include; UNNESS web page of www.UNNES.ac.id as well as Suara Merdeka and Kompas daily newspapers. The webpage of www.UNNES.ac.id is an official website belonging to UNNES. This page is utilised as one strategy to promote UNNES as a conservation-based university. This web page presumably represents mass media from an internal point of view. Then, Suara Merdeka and Kompas daily newspapers are the common mass media which promote UNNES from an external point of view. Mass media uses a linguistic unit in the form of news texts promoting the conservation-based university. The conservation news texts use eco-lexicons functioning to deliver information to the readers.

Halliday and Hasan (1989) suggest seven functions of language: (1) instrumental function, in which language serves to meet the human needs in managing the environment which may results in certain events to occur. The humans may use language as media to manage anything available in his/her environment; (2) regulative function, in which language acts to
supervise and control the events or individuals; (3) interactional function, in which language serves to guarantee and maintain the sustainability and endurance of communication and social interaction. Language has an important role in maintaining links between languages, cultures, communities and environments; (4) personal function, in which language provides opportunities for individuals to express feelings, personal emotions, and deeper reactions; (5) heuristic function, in which language is used to explore and acquire knowledge as well as to learn the environmental details; (6) imaginative function, in which language allows people to express themselves by creating imaginative systems or ideas; and (7) informational or representational function, in which language is used in creating statements, showing facts and knowledge, informing, explaining or reporting the actual realities, such as directly seen and viewed by an individual. Those seven functions of language support and complete each other instead of differentiating or killing each other. Stubbs (1983) asserts that the functions of language provide meanings to the environment.

A research with the same data source obtained from the mass media is conducted by Al-Sharabi, Ibrahim, and Nor (2011) entitled "The Representation of Early Marriage Phenomena in Yemen Community: A Critical Discourse Analysis on a Yemen English Written Newspaper". They identify the newspaper texts to determine the early marriage representation in Yemen community by using a critical discourse analysis adopted from Fairclough and based on multimodal proposed by Kress and van Leeuwen. The other researchers analysing the news text is Duc Duy Vo (2013) whose research is entitled Language and Ideology in English and Vietnamese written News Texts - A Comparative Study. In addition, Bolted and Keong (2014), also analyse the news texts available in online newspapers. Their research entitled Refugee Exchanging Transactions published in Online News Texts: Ideology and Representation. The news texts are taken from three English-Written Malaysian newspapers, covering The Star, The New Straits Times (NST) and Malaysiakini. This research employs a critical discourse analysis adopted from Fairclough to examine the ideological and contextual representation in forming the discourse. From above explanations, it can be concluded that the news texts may be analysed with various analytical instruments, such as critical discourse analysis and functional system linguistics. This research analyses the conservation news texts published in mass media with an eco-linguistic analytical instrument.

Furthermore, Mbete (2012) in his research on "Verbal Vocabularies as The Representation of Local Knowledge, Preservation Function, and Environmental Conservation in Waijewa and Kodi Language in Southwest Sumba" finds the verbal meanings and vocabularies in the forms of lexicon units contained in Waijewa and Kodi language are rich in meanings and functions, including sociological, biological, and ideological function well associated in both linguistic speeches. Steffensen and Fill (2014) in “Eco-linguistics: the State of The Art and Future Horizons” state that there are four linguistic ecological approaches, covering symbolic ecology (this approach investigates the existence of language or symbol system in a particular area), natural ecology (this approach investigates how language is connected to biology and ecosystems), socio-cultural ecology (this approach investigates how language is connected to social and culture), and cognitive ecology (this approach investigates how language arises due to the dynamic relationship between biological organisms and its environment focusing on cognitive capacities which improve organisms’ flexibility and adaptive behaviours).
Referring to the findings resulting from the research conducted by Steffensen and Fill (2014), the publication of conservation-based university in mass media may be analysed in four ways: symbolic ecology, natural ecology, socio-cultural ecology, and cognitive ecology. This is in accordance with the research study used, that is, eco-linguistics.

In addition, the research conducted by Sedlaczek (2016) entitled "The Representation of Climate Change in Documentary Television: Integrating an Eco-linguistic and Eco-semiotic Perspective into a Critical Discourse Multimodal" concludes that critical discourse analysis and eco-linguistics are two interrelated research paradigms with a critical orientation, language use impact and other semiotic sources in the construction of meaning and ideology. The above studies have similarities and differences with this research. This research aims at analysing the function of eco-lexicons contained in the conservation news texts published in mass media using eco-linguistic theory.

Method

This research employs an eco-linguistic design. There are three research considerations in utilising the eco-linguistic design, covering (1) the demands required by the research object, (2) the relationship of research dimensions within eco-linguistics, and (3) novelty of the specified approach is required to be obtained in eco-linguistic analysis. This is consistent with the opinions stated by Fill and Mühlhäusler (2001) that eco-linguistics is an umbrella of all linguistic study approaches combined with the environment (ecology). The research focus is the function of eco-lexicons contained in the conservation news texts published in mass media. The research data are the conservation news text fragments published in mass media. The research data sources are the conservation news texts taken from www.UNNES.ac.id, Suara Merdeka, and Kompas published starting from March 2010 until March 2017. It is in consideration that since March 2010, UNNES has established itself as a conservation-based university that it is assumed that since 2010 publications on conservation-based university have been published in mass media. The data are collected through listening, documentation, and interview techniques (Sudaryanto, 2015; Mahsun, 2005; Kesuma, 2007; and Mbete, 2013). It is unavoidable that there are lots of data provided as this research also aims at examining the consistency of eco-lexicons contained in the conservation news texts published in mass media. Furthermore, the data are analysed using eco-linguistic distributional and referential techniques with an interactive analysis (Miles and Hubermen, 1992; Mbete, 2013).

Result and Discussion

Instrumental Function

As the instrumental function, language serves as a vibrating instrument which manipulates the environment or causes an event to occur (Halliday and Hasan 1989). This linguistic function may be clearly seen when implemented to circumstances and when someone either directly or indirectly gives a command. Through instrumental function, humans may use language as a medium to manage the environment. The instrumental function found in the conservation news discourse texts is more specifically functioning to state a movement. The description of that eco-lexicon function is as follows.
Stating a Movement

The function of eco-lexicons is to express a movement. The intended movement, in this case, is a movement, effort, or activity in a particular field. The eco-lexicon samples stating a movement, attitude or conduct established by UNNES for all academics are presented as follows.

The value and character pillars aim at sustainably implanting conservation values. The value and character pillar programs include socialisation, training, education, and implementation of activities for all UNNES academics to strengthen understanding, comprehension, and conducts based on conservation. The implementation of these pillars is by planning and performing the movement widely spread for all UNNES academics.

As functioning to state a movement, the eco-lexicons are found to represent a particular activity that should be systematically and sustainably conducted. Data 1 in table 1 shows that UNNES always stands against drugs. In addition, Data 2 in table 2 shows that UNNES also fully supports an anti-corruption movement represented by signing the integrity pact for all university officers and lecturers. An integrity pact is a statement or promise of commitment to one’s self to perform all tasks, functions, responsibilities, authorities and roles in accordance with the legislation of laws and a willingness to avoid corruption, collusion and nepotism. It is expected that by promoting various movements, it may improve the values and characters of all UNNES academics to become better people.

Furthermore, eco-lexicon examples on the natural resource and environmental pillars are functioning to state movement found in the data. The eco-lexicons stating movement are those stating the conducts taken and proclaimed by UNNES for its academics. The eco-lexicons contained in the table include: one man one tree, plastic diet, one billion trees planting, green campus movements. These are some eco-lexicons serving as an instrument to motivate the campus community to become more aware of the environment through initiating a more structured and sustainable movement.

Representation Function

Representation function is defined as utilising language to make statements, deliver facts and knowledge, explain, or report something. According to Halliday and Hasan (1989), representation function refers to a language which is generally utilised as an instrument to discuss objects or events within the surrounding environment or culture. At this function, the author or speaker may deliver a statement on how s/he feels and understands the world. In addition, Halliday and Hasan (1989) also explain that representation function is making a statement, delivering facts, explaining or reporting actual realities based on what people have seen. Instrumental function explains what is commonly known as news. In other words, instrumental function describes actual realities or something which may be directly seen.

In conservation news texts, seven types of representational function are found, including (a) giving names, (b) describing characters, (c) describing activities, (d) referring to a place, (e)
stating art diversity, (f) describing situations, and (g) expressing types. The explanations of those seven types of function are as follows.

**Naming Function**

One eco-lexicon function within the value and character pillar is giving names. Eco-lexicon is used to name activities or those representing the value and character pillar’s conservation activities. The examples of eco-lexicon found in the data and functioning as giving names are as follows. Data shows that there is a compulsory course named Environmental Education for the students of Semarang State University. However, the course is recently renamed into Conservation Education. In addition to the value and character pillar, eco-lexicons are also found in art and culture pillar functioning as giving names. Those eco-lexicons are utilized to name the activities or others representing the art and culture pillar’s conservation activities. Naming function is also included in art and culture pillar’s eco-lexicon used to name a person who is an expert in a particular field. As mentioned in the following data, there are *dalang* and *sinden* eco-lexicons. *Dalang* is a name for a person performing *wayang* (Indonesian Puppet Show). Meanwhile, a female singer following a *gamelan* or *wayang* (*golek* [a puppet made of a specified wood], *kulit* [a puppet made of a specified animal Skin]) show is called *sinden*.

**Character Description**

One function of the value and character pillar’s eco-lexicons is to describe the characters underlying basis of life. Basically, eco-lexicons function to describe how characters deal with the value and character conservation efforts of UNNES academics. The development guideline of the conservation-based UNNES in 2020 is the realisation of a campus nobly upholding the culture (*kampus yang berbudaya luhur*). Thus, UNNES consistently makes various efforts to achieve its goals through preservation, study, and implementation of values and characters considered necessary by UNNES regarding to the Three Principles of Higher Education (*Tridharma Perguruan Tinggi*: education, research, and community service). These efforts are supported by the conservation of value and character pillar.

Thus, eco-lexicons describe the character of UNNES academics are found in the conservation news discourse texts. Table 6 shows a data example representing the eco-lexicon functioning as the character description. The priority characters of UNNES include inspiring, humanist, caring, innovative, creative, honest, and impartial which are measurable and show the widely spreading achievements starting from the UNNES students to the entire communities, including the managerial and supporting management.

**Describing Activities**

One function of art and culture pillar’s eco-lexicons is to describe activity related to the conservation efforts of arts and cultures. An example of eco-lexicons functioning to describe activities found in the data are as follows: human puppet (*wayang orang*), heirloom service (*penjamasan pusaka*) and sort out (*nguri-uri*).
The eco-lexicons function to describe activities representing the conservation efforts of arts and cultures. In Data 1 table 4, there is an eco-lexicon of Indonesian Human Puppet Shows (known as *pementasan wayang orang*). The next data are the eco-lexicons of heirloom service (*penjamasan pusaka*) and sort out (*nguri-uri*) representing that Indonesia does not only routinely organise cultural activities on campus, but also actively participates in each cultural activity in local areas.

**Referring to a Place**

The next eco-lexicon function refers to place. Within the art and culture pillar’s conservation news texts, there are eco-lexicons stating place and having specified terms. In natural and environmental resource pillar’s conservation news texts, there are eco-lexicons referring to a place and having specified terms, such as garbage bank, that have meaning as a business entity in the field of garbage collection where duties include collecting garbage from society.

**Stating Art Diversity**

In the art and culture pillar’s conservation news texts, there are eco-lexicons stating the traditional art diversity originally from various regions in Central Java and other islands in Indonesia. The art diversity presented in the conservation-based news texts shows UNNES’s efforts to simultaneously conserve the culture. The examples of ecolexicons functioning in stating the art diversity contained in the art and culture pillar are *Barongan, Lembu Kanoko, seni topeng ireng* (Black Mask Art), *Babalu Dancing*, and *Jaran Eblek*, which are all traditional performances in Central Java.

**Describing Activity**

The function of eco-lexicons in the natural resources and environment pillar is to describe activities. Those eco-lexicons are used to describe activities related to the efforts in conserving natural resources and environment. These eco-lexicons describe activities that are found in the data are climate change, air pollution, and global warming.

**Describing Type**

In the natural and environmental resource pillar’s conservation news texts, many ecolexicons have described various types, such as flora, fauna, and others. The examples of eco-lexicons functioning to describe types found in the data are *empon-empon, jati kebon (jabon), sawo kecik*, mahogany, mango, *ketapang*, and *trembesi* as the types of plants easily found in Indonesia.

**Conclusion**

Based on the research analysis and discussion, the conclusions may be drawn as follows. Conservation news texts are texts containing information related to UNNES’s conservation facts or events regarding to the daily life taking place in its environment and society.
presented in mass media. Conservation news texts are the green or green-grammatical texts. Based on the research results, it can be concluded that the functions of eco-lexicons contained in the conservation news texts published in mass media are (1) an instrumental function to state a movement, (2) a representation function consisting of: (a) giving names, (b) describing characters, (c) describing activities (d) referring to places, (e) stating art diversity, (f) describing situations, (g) stating types, and (3) personal function to express compliments.

Table’s of Data

Table 1: The Value and Character Pillar Eco-lexicon functioning in stating a Movement

<table>
<thead>
<tr>
<th>No.</th>
<th>Sentence</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>1</td>
<td>The obligation was even pledged by the Semarang State University new students due to the Semarang State University Student's Pledge simultaneously recited at the opening of PPA on Tuesday (8/19). The pledge for planting trees is pledged along with the others, such as anti-narcotics, not cheating, and obeying the applicable rules (94/WB/ August 19, 2014).</td>
<td>not using narcotics, psychotropic, and illegal drugs</td>
</tr>
<tr>
<td>2</td>
<td>To reaffirm the commitment on duties and functions imposed on the Semarang State University officials that 136 officials signed the integrity pact on Monday (3/17), at the rectorate of Sekaran campus, Gunungpati, Semarang (17/ WB / March 17, 2014).</td>
<td>A self-statement or a pledge on commitment to perform all duties, functions, responsibilities, authorities and roles in accordance with the regulation of laws and willingness to avoid corruption, collusion and nepotism.</td>
</tr>
</tbody>
</table>

Table 2: The Natural Resource and Environmental Pillar’s Eco-lexicons functioning in stating a Movement

<table>
<thead>
<tr>
<th>No.</th>
<th>Sentence</th>
<th>Meaning</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Kusmuriyanto also hoped that the training at the Compost House might increase the students’ awareness and involvement as the conservation cadres in realising the conservation on waste management pillar through REUSE, REDUCE, RECYCLE. (125/WB / November 4, 2016).</td>
<td>The principles to reutilise the used goods; reuse/recycle the consumption goods’ residue or production waste.</td>
</tr>
<tr>
<td>2</td>
<td>The dean of Law Faculty, Sartono Sahlan said that the activity was the follow-up of One Man, One Tree program continuously encouraged by Semarang State University. &quot;We will continuously support the university's conservation programs. This planting activity is a real effort to realize Gunungpati sub-district as one green area and fruit center&quot; he said (37/WB / January 30, 2012).</td>
<td>Regarding to One Man One Tree Movement, it is expected that each Indonesian may support the program by planting one tree in their surrounding environment intended to encourage the communities to continuously plant the trees considered as their</td>
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Table 3: The Value and Character Pillar’s Eco-lexicons functioning as describing Characters

<table>
<thead>
<tr>
<th>No.</th>
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<tbody>
<tr>
<td>1</td>
<td>The activity aimed at developing the social spirit and awareness to society and environment through environmental development activities and a place for building the character, personality, discipline, and independence for mentoring and developing the young generation. (25/WB/June 2, 2011)</td>
<td>The attitudes illustrating awareness to do something related to humanity and social community interests</td>
</tr>
<tr>
<td>2</td>
<td>&quot;Not only planting, but maintaining the trees. Not only maintaining, but please grab the value. Planting trees based on value is planting hopes to strengthen the conservation character&quot; said Prof Fathur through his facebook account briefly after the planting activity of 1750 trees made by the students of Engineering and Economics Faculty registered in 2013 at Semarang State University Sekaran campus on Saturday morning (3/19). (115/WB/March 19, 2016).</td>
<td>The real action may be observed and seen regarding of the utilisation of human resource sustainable management for the present and future generations.</td>
</tr>
<tr>
<td>3</td>
<td>The third, pitulungan means tulung-tinulung (helping each other). Not only working based on their related fields, all conservation-based university lines should also help each other. (40/WB/21 Februari 2012)</td>
<td>Javanese. Helping each other.</td>
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Table 4: The Art and Culture Pillar’s Eco-lexicons functioning as describing Characteristics

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<tr>
<th>No.</th>
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<tbody>
<tr>
<td>1</td>
<td>The head of Wopa Central Java. Drs. H. Supardjo said that wayang orang show portrayed the succession conflicts to fight for Pringgodani kingdom handed over to Arimbi. It arouses a conflict since Arimbi was a mother or woman considered inappropriate to lead the kingdom (29/WB/June 15, 2011).</td>
<td>Process, procedure, conduct in performing wayang on stage.</td>
</tr>
<tr>
<td>2</td>
<td>Kirab started with penjamasan pusaka ritual performed at the Nongkosawit village field led by the village elder, Ki Suparmin. During the ritual, gending sound was gently heard as played by cokekan karawitan which member consisting of Semarang State University students and lecturers. (51/WB/15 Juni 2012)</td>
<td>The cleaning or washing process of the ancestral relics.</td>
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Table 5: The Eco-Lexicons functioning as stating the art diversity

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<th>No.</th>
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<th>Meaning</th>
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<tbody>
<tr>
<td>1</td>
<td>150 students from five different schools and regions in Central Java were involved in the event. SMA Randublatung Blora, SMA 1 Selo Boyolali, SMA 5 Magelang, SMA 1 Batang, and SMA 1 Pringapus Semarang Regency respectively performed Barongan,</td>
<td>Folk art performances in the artificial form of wild animals (lions and so forth) is moved by one or more people</td>
</tr>
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</table>
Lembu Kanoko, seni topeng ireng (Black Mask Art), Babalu Dancing, and Jaran Eblek. (106/WB/April 8, 2015) within those artificial animals.

Table 6: The Eco-Lexicons functioning as Describing Situations

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<tbody>
<tr>
<td>1</td>
<td>He appreciated Semarang State University consistent efforts to green the campus and the surrounding environment. &quot;I am looking forward to obtaining the moral supports to participate in educating people on what to be do in reducing the impacts of climate changes and how to adapt with the changing climates,&quot; he further explained. (72/WB/ March 22, 2013)</td>
<td>Long-term changes in the distribution of weather patterns statistically over a period of time starting from decades to millions of years.</td>
</tr>
<tr>
<td>2</td>
<td>At Semarang State University, there are three developed conservation pillars. First, environmental conservation, including planting trees, maintaining the cleanliness, reducing air pollution, especially at Semarang State University campus. Second, cultural conservation, and the last, character. (111/WB/ December 30, 2015)</td>
<td>Air pollution</td>
</tr>
<tr>
<td>3</td>
<td>“Semarang State University Consistence in making cooperation related to the environmental conservation is one Semarang State University real effort to encourage various institutions to minimize the impacts of global warming”, said Prof. Fathur in his speech while welcoming a visit at the Rector Meeting Room, on Wednesday (5/8). (107/WB/ August 5, 2015)</td>
<td>Global warming is the arising earth surface temperature caused by the increasing emissions of greenhouse gases, such as; carbon dioxide, methane, dinitrooxide, hydrofluorocarbon, perfluorocarbon, and sulfur hexafluoride at the atmosphere.</td>
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Table 7: The Eco-Lexicons Functioning as Describing Types

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<tbody>
<tr>
<td>1</td>
<td>Those plants are sandalwood, <em>empon-empon</em>, bamboo and fruit crops. The trees planting with the topic &quot;With the Spirit of Conservation, We Realize the Green School&quot; was opened by Semarang State University Rector, Prof. Sudijono Sastroatmodjo, attended by Semarang State University officials, students, and Lab-School students accompanied by the parents (62/WB/ November 30, 2012).</td>
<td>Sandalwood or fragrant sandalwood is a tree producing wood and oil. The wood may be used as spices, incense materials, aromatherapy, perfume mixture, and <em>sangkur keris/keris</em> (warangka/case). Excellent wood is able to maintain the aroma for centuries. Bamboo is a type of grass plants with cavities and segments in their trunk. In this world, bamboo is one of the fastest growing plants because bamboo has a unique rhizome-dependent system. Within</td>
</tr>
<tr>
<td>2</td>
<td>For planting in Penerbad area, Prof. Sudijono continued, &quot;it has been surveyed by the team for both land and field. We considered that the area has met the requirements that the cooperation may be made with pusdikpenerbad puspenerbad. So, the vegetations planted in this location are selected. We should adjust them with the existing land conditions here. Those selected plants are jati kebon (jabon), sawo kecik, mahogany, mango, ketapang, trembesi, and more, he said (126/WB/ November 29, 2010).</td>
<td></td>
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|  | Jabon tree is the fastest growing reforestation plant in the world, with an average growth diameter of 10 cm per year, may reach the height up to 25 m, and be harvested at the age of 5 (five) years with the wood volume of + 0.9 m³/tree. Mahogany is a member of Meliaceae family group, including 50 genera and 550 woody plant species. Mahogany is included into a big tree with the height reaching up to 35-40 m with the diameter reaching up to 125 cm. The trunk is straight in cylindrical shape without the spreading roots. The outer skin is a dark-brown, shallow scale-like grooves, while the bark is gray and smooth when still young, turns into dark brown, grooved and peeled off after growing old. Mahogany trees may reduce the air pollution by approximately 47% - 69%. Thus, mahogany is considered not only as a protective tree but also the air filter and water catchment areas. |

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