



**FACULTY OF FISHERIES
AND MARINE SCIENCE**

SCIENTIFIC WRITING MANUAL

2012 Edition



**SCIENTIFIC WRITING MANUAL
FACULTY OF FISHERIES AND MARINE
SCIENCES**

2012 EDITION

**FACULTY OF FISHERIES AND MARINE SCIENCES
UNIVERSITAS DIPONEGORO SEMARANG**

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DEAN'S ACKNOWLEDGEMENT

Praise be upon God Almighty for His grace, so that the preparation of scientific writing manual of the Faculty of Fisheries and Marine Sciences, Universitas Diponegoro 2012 edition can be completed.

The 2012 edition of the book refers to previous years' editions, after editing and revising in some parts. This book serves as a guide for the scientific writing such as: field work practice reports (PKL), seminar papers, research reports (diploma thesis), and scientific publication articles, for academicians of the Faculty of Fisheries and Marine Sciences, written in Bahasa Indonesia and English.

The Faculty leaders expressed their gratitude to the original script preparation team and the editing team from 2004 to 2012 who have been working to realize this manual. Hopefully it can be useful.

Semarang, May 2012

Dean,

Prof.Dr.Ir. Huhammad Zainuri, DEA.

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FOREWORD

Scientific writing manual is necessary especially for students preparing field work practice reports (PKL), seminar papers, diploma thesis, and scientific publication articles, both written in Bahasa Indonesia and English. This manual was revised by the Editorial Team of the Scientific Work Writing Guide FPIK-UNDIP based on the Letter of Assignment of the Dean of the Faculty of Fisheries and Marine Sciences, Universitas Diponegoro No...- J07. I.36/AK/2012 dated 2012.

FPIK-UNDIP Scientific Writing Manual 2012 edition contains a more informative and communicative description of the concept or theory of writing and presenting scientific works in more detail and complete, so that it is easier to understand, present information more systematically, regularly, and straightforwardly while maintaining consistency of presentation. There are also examples of case-based writing techniques that often appear during the process of scientific writing in this edition, thus reducing usage errors and facilitating reader understanding.

Hopefully this guide can be useful for all academics.

Editorial Team

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I. INTRODUCTION

1.1 Background

Writing scientific papers is one of the skills that must be possessed by university academics. Scientific works have several models, but this manual will explain the procedures for writing scientific papers related to assignments in the context of completing the study of a student in the undergraduate program (S1) at the Faculty of Fisheries and Marine Sciences, Universitas Diponegoro.

The limitations or definitions of **scientific works** referred to in this manual include:

a. Field Work Practice (PKL) Report.

PKL is an activity carried out through internship, observation, information collection, observation of various work processes or procedures, to provide opportunities for students to obtain information, insight, understanding, and practical experience, so as to be able to compare theory and practice in the field in various aspects in the field of Fisheries and Marine Sciences. PKL can be carried out at state-owned Office or Agency, private entrepreneurs or business groups related to fishery or marine activities. PKL should not be an independent activity as in research. Guidance from someone or a group of people who are experienced or competent in their field are indispensable for the implementation of PKL in the field.

b. Seminar Papers

Seminar is the presentation of part or all of the research results and/or student experiments, or research proposals (UP) in a scientific forum attended by supervisors, examiners, seminar committees, and students taking seminar courses. Students are required to write a short and concise seminar paper, as directed by the seminar committee.

c. Diploma Thesis.

Diploma Thesis is a scientific paper resulting from research and/or experimentation prepared by students under the guidance of a diploma thesis supervisor and is accounted for in a **Program Final Exam Defence** to fulfil the requirements for obtaining a bachelor's degree (S1). There are no special provisions for the number of diploma thesis pages.

d. Scientific Publications.

Scientific publication is an activity of rewriting research results in the form of article manuscripts to be published in a certain scientific journal.

1.2 Objectives and Benefits

This manual is prepared to provide direction for writing PKL reports, seminar papers, diploma thesis, and scientific publications at the Faculty of Fisheries and Marine Sciences, Universitas Diponegoro. Hopefully, the ability of students in writing scientific papers will increase with the publication of this manual, so that the time period required to complete studies, especially with regard to writing scientific papers, can be shortened.

II. SCIENTIFIC WRITING RULES

2.1 Principles of Scientific Work

There are always differences in the basic rules or concepts of scientific writing for each field of science and university, although in essence there are many similarities. Writing research-based scientific papers, such as diploma thesis, needs to consider research principles, including the originality (authenticity of ideas), factuality, interrelationships in the field of science, management (useful and applicable) and the actuality or current of the material being studied. There is a clear and close relationship (common thread) between the titles – background – problems – objectives – materials and methods – results and discussion to the conclusion of the research results.

2.2 General requirements

Writing scientific papers, whether for PKL reports, seminar papers, diploma thesis, or scientific publications, is printed on 70 – 80-gram HVS paper size 29.7 x 21.5 cm² (A4). The left margin is 4 cm, while the upper, lower and right margins are 3 cm. Manuscripts are typed in 1 column. Each paragraph begins with a tabulation indented 1 cm apart. Each paragraph contains more than 1 sentence.

Scientific papers are recommended to be written using Times New Roman font 12 for the text. Title for the front page (cover) using letters with fonts 16 – 18 or adjusted to the number of words in the title. Chapter titles use letters with font 14. Headings of sub-chapters and subsections use letters with the same font as for the text (font 12). All titles, both for covers, chapters, sub-chapters, and sub-sub-chapters, are in bold.

The entire manuscript is typed with double spaces, except for the summary and abstract, which are typed using single spaces. Preface, table in the text at the main part, explanation of formula notation (in the material and method chapter, if arranged in descending order), statement of authenticity of the scientific work, and curriculum vitae are typed using semi-double spaces (1,5).

Similarly, the spaces between chapters in the table of contents, while between sub-chapters and sub-sub-chapters are typed with single spaces. Preface, list of tables, table of figures, and list of appendices are typed using double spaces. The text as in the titles of Tables, Figures, and Appendices is typed with single spaces and is not bold. The title text is still typed with a single space in the list of tables, table of figures, or list of appendices; but the text is double spaced. The margin between the chapter and the next sub-chapter in the main section is typed using 4 spaces, as well as the margin between sub-chapters. The margin between the sub-sub-chapters is typed using double spaces, as for text in general.

2.3 Initial Part

The initial part of a scientific paper, especially a diploma thesis, is composed of: (1) title, (2) *ringkasan* or summary, or (3) *abstrak* or abstract, (4) preface, (5) table of contents, (6) list of tables, (7) table of figures, and (8) table of appendices. Other types of scientific works such as PKL reports or seminar papers are composed of some of the 8 components mentioned above.

2.3.1 Title

The title is written with the right choice of words (accurate) and describes the scientific work as a whole. The word choice in the title is suggested to be informative and interesting. The number of words in a research title is often limited, so the title must be concise and clear. Every word in the title has a meaning. If there are word(s) in the title that are omitted but do not change the description or substance of the research, the title is considered not concise.

The titles of PKL reports, survey results, and laboratory experimental research have fundamental differences. The title of the PKL report is more general and comprehensive. The location of the PKL implementation is important, so the name of the PKL location needs to be included in the title. Titles in survey research are more specific than the PKL reports. The characteristics of the survey locations differ from one another, so the name of

the location is important and needs to be included in the title. Title on Laboratory experimental research is very specific, and in this case the research location applies universally. Research conducted using the same methodology for the same study topic and research object will produce similar phenomena or conclusions even though they are carried out in different laboratories. "Location" in this type of research is not important, so the name of the place does not need to be included in the title.

2.3.2 Author's statement

The author's statement is an honest statement by the author academically that the scientific work he has compiled is his own original work, has never been published by another person or used to obtain an academic degree at another university. The author must also honestly acknowledge the work of others, so that all sources or information used have been given an academic appreciation, for example by including the name of the author of the cited scientific work. The contents of the scientific work written are the full responsibility of the author, so it is necessary to affix the author's signature on stamp, as an affirmation that the author is legally responsible for his work.

2.3.3 Ringkasan and Summary

Ringkasan (written in Bahasa Indonesia) and summary (in English) are presented in separate pages. Summary page is presented after the *ringkasan* page. The summary has the same substance as the *ringkasan*, but it does not mean that it is a word for word translation. The *ringkasan* or summary describes the overall information from the scientific work, especially the main part, which is presented briefly and contains only important or main information. *Ringkasan* or summary is not the same as a conclusion or abstract. Summaries are presented with more words, sentences, or paragraphs than conclusions or abstracts.

2.3.4 *Abstrak* and abstract

Abstrak or abstract is a "summary" of *ringkasan*, and generally consists of one paragraph. *Abstrak* and/or abstract are usually used in manuscript publications for journals. The content of the *abstrak* (in Bahasa Indonesia) must match or be the same as the abstract (in English), but it does not mean that it is a word for word translation. The contents of the *abstrak* or abstract explain comprehensively but concisely about the most relevant theoretical foundations, research objectives, research results that have been achieved, as well as conclusions or conjectures.

2.3.5 Preface

The preface contains writing that leads the reader to know briefly and quickly about the topic, basic concept, theoretical basis, or the important side of the research. Contents as well as editorial preface is the authority of the author. The preface generally begins with vertical thanking and continues with the theoretical basis or the importance of the research being carried out. The preface also contains acknowledgments to the supervisors and people (or agencies) who were actually directly involved in the research, either during data collection or who contributed financially and provided facilities. The final part of the preface ends with a sentence that shows the openness of the author academically to criticism and suggestions for improvement of writing. The number of pages should not exceed one page.

2.3.6 Table of contents

The table of contents must be able to describe the overall contents of the scientific work presented in the form of chapters and sub-chapters consistently. This means that the words in the chapters and sub-chapters in the table of contents must be exactly the same as those written in the scientific paper, including the pages.

2.3.7 List of Tables

The list of tables is a collection (compiled) of all table titles arranged according to the order in which they are presented in the scientific papers. The table title text in the list of tables must be typed exactly as the text in the scientific paper. The serial number of tables and pages must also be the same as those in the scientific papers. All tables in scientific papers must be confirmed to have been listed in the list of tables, and vice versa.

2.3.8 Table of Figures

The explanation and writing rules for the table of figures are the same as for the list of tables.

2.3.9 List of Appendices

The explanation and writing rules for the list of appendices are the same as for the list of tables

2.4 Main Part

The main part is the primary, most important, and largest part of a scientific paper. The core is also known as the body. The main part of a scientific work such as a diploma thesis is generally composed of 5 components, namely: (1) introduction, (2) literature review, (3) materials and methods, (4) results and discussion, and (5) conclusions and suggestions. Literature reviews which are presented as separate sub-chapters are uncommon in scientific publication articles.

2.4.1 Introduction

The introduction generally includes: (1) background, (2) approach and problem formulation, (3) objectives and benefits, and (4) location and time of the research. The introduction needs to be supported by various statements from several relevant and up-to-date research, especially from reputable journals. Textbooks, secondary references, or popular science should be avoided.

a. Background

The background contains the importance of the research being carried out, namely by providing a "justification" explicitly and clearly why the research is important and needs to be done. The explained "justification" is a series or summary of statements and estimates based on a very specific literature review and is related to the problems to be studied. Between the background and the research problem and the formulation of the problem, there is a clear common thread or connection. The topic, theme, or problem to be studied should be focused on the help of utilizing various keywords as mentioned in the title. The background begins with a statement or information that is more general in nature, then narrows down to be more specific related to the problem to be studied. Commonly known statements need to be avoided even though 1-2 sentences at the beginning of the first paragraph are still allowed. The sentence needs to be related to the research topic being studied.

b. Approach and problem formulation

The research problem must be factual (not making it up) based on the state-of-the-art topic of study. The "problem" is the difference or gap (delta) between expectations and reality. Research topics based on the selected problem, may support, continue, or question previous research. The "problem" can be found as the result of a critical, in-depth, and comprehensive study of the researcher on various literatures that are relevant to the research topic. The "problem" becomes an important part of research and the solution will be studied. The "problem" needs to be followed up with an approach and problem formulation.

The approach and formulation of the problem are described and formulated based on the theoretical basis or framework of thinking that is relevant and supports the process of solving the problems being studied. The theoretical basis or framework of thinking that will be used to solve the problems in the research is prepared based on an in-depth and comprehensive literature review, so that the state of the art of the study topic that will be presented as a problem becomes clear, which is in accordance with the flow of framework or the formulation of the problem-solving process. (Figure 1).

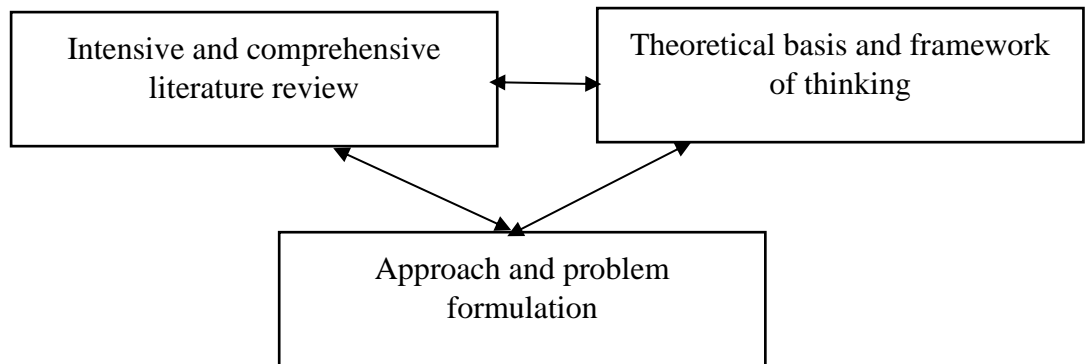


Figure 1. Relationship between Theoretical Foundation and Framework of Thinking with Approaches and Problem Formulation.

Figure 1 shows that the approach and formulation of the problem can only be found and arranged appropriately if the researcher understands the state of the art of the problem to be studied. Expressing the sentences in the form of statements or arguments in the approach and formulation of the problem accompanied by the method of solving it, is not similar or identical to a literature review. The problems raised are based on the real and actual problems of the subject or object of the study, and not the problem of "the researcher".

The approach and formulation of the problem is usually followed by a "scheme or diagram of the problem approach and formulation of the solution". The schematic model or diagram depends on how deep the study will be (indicated by the number of variables measured or the black box opened) and the level of understanding of the researched topic.

The approach and formulation of the problem is a theoretical framework that is systematically arranged for the problems being studied to the procedures for solving them. Approaches and formulation of problems are usually also presented in the form of schematics or diagrams based on the system of input - process - output, not based on procedures or sequences of research implementation. The scheme or diagram reflects and aligns with the text on the approach and problem formulation presented schematically based on a systemic approach (input – process – output). Various variables or variables included in the "process" is an indication

that helps in testing the hypothesis. One simple way to formulate an approach and problem formulation is by using the help of 3 questions as shown in Figure 2 below.

c. Objectives and benefits

The purpose of the research is described in order to obtain empirical knowledge that can be used to answer the problems raised in the background. The objectives should be stated clearly, concisely, and in line with the main variables or parameters to be taken or discussed, and therefore there is a link between the objectives and the methodology. The objectives must also be in line with the title, background, and research problem. The word "study" in purpose is better than "knowing".

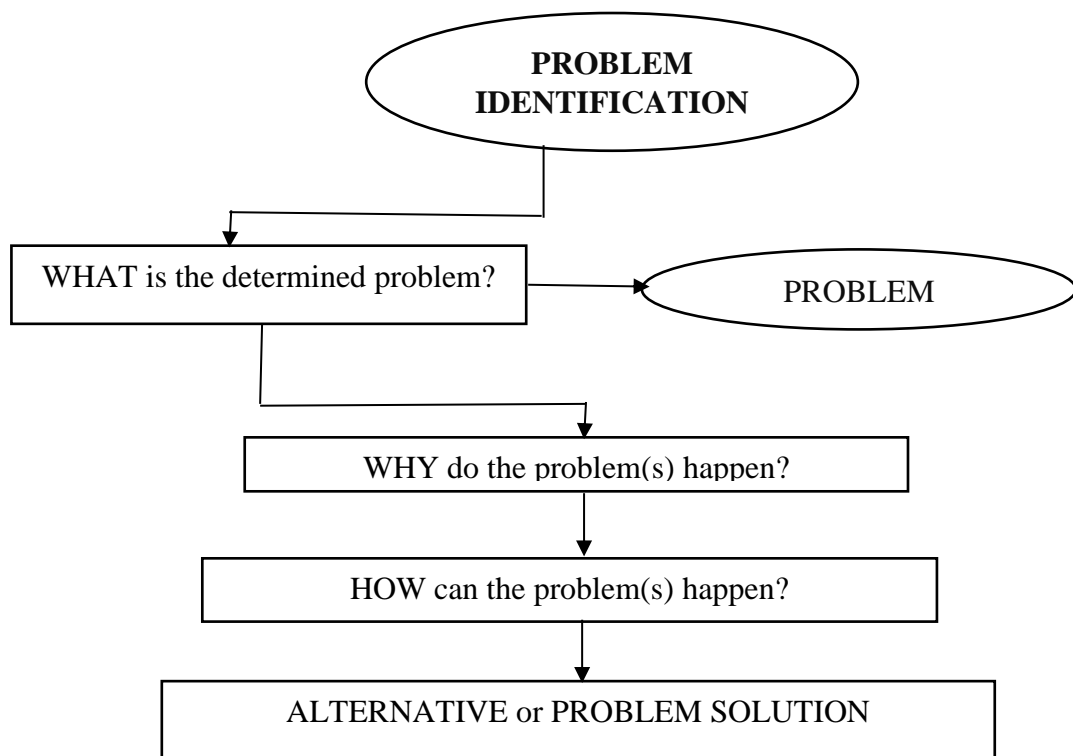


Figure 2. Three Questions in Developing an Approach and Formulation of the problem.

Research benefits need to be stated clearly (both main and other benefits), realistically, and relevant. The benefits of the research describe the expected benefits of the research results for the development of science and technology (IPTEK) as well as solving national development problems.

d. Research location and time

The location of the research must be clearly stated, and if possible, the geographical location (longitude and latitude) is stated, and accompanied by a map made according to the correct cartographic method. The period for conducting the research needs to be clearly stated, in the range of weeks to months. The stages of research can also be mentioned separately between the preparation and implementation of research.

2.4.2 Literature review

Literature review is the **heart** of a scientific work, because it needs to be prepared as well as possible long before the research is carried out. The literature review should represent all aspects of the research, both the main aspects and additional aspects. The main aspect is usually reflected in the key words in the title. Additional aspects are supporting aspects that researchers generally need to know. The weight of the literature review is correlated with the weight of the research as a whole. Extensive and comprehensive literature review will be very helpful in the process of completing scientific papers.

The literature review contains a review of research results or various theories of previous researchers. The cited data and information should be up to date, relevant, and support the basic concepts as well as the framework of thinking; as well as the background to the researched problem.

The literature review is arranged chronologically according to the order of priority of interest or converging from general information to more specific information. The literature review covers the development (state of the art) of existing knowledge (see also sub-chapter 4.1.2 and 4.2.2). Data and information that deviate from the topic of the problem being studied should be avoided.

2.4.3 Materials and methods

Materials and methods are crucial part and usually have the highest weight or score compared to the other components. This part becomes the soul of a research. Materials and methods need to be described as clearly as possible, so that theoretically the research can be repeated, and the data obtained can be confirmed by other researchers (research = “RE – SEARCH”). Materials and methods contain data and information regarding: (1) hypotheses, (2) research materials, (3) variables and measurement methods, (4) experimental design, and (5) data analysis.

a. Hypothesis

Literally, the hypothesis derives from the words *hypo* and *thesis*. *Hypo* means under, rudimentary, or before; while *thesis* means a statement, thought, or opinion. A hypothesis is a temporary statement (answer) that still needs to be tested for validity, or is also interpreted as a statement which is a temporary answer to the problem raised and still has to be proven true.

Based on the conceptual explanation above, a hypothesis can also be interpreted as an assumption or opinion that is generally accepted as a truth (a tentative statement) to explain a fact or which is used as the basis for a research. These assumptions or opinions are often used to conclude that if a hypothesis is wrong, the decisions taken can also be wrong. Hypotheses must be tested based on empirical data, namely data based on research or samples. Based on this real situation, the results of hypothesis testing can be used as a basis for decision making. Errors caused by decision making is a risk in decision making.

The hypothesis has four levels or models, namely: (1) a simple hypothesis or also called a comparison or differentiating hypothesis, (2) a working hypothesis or syllogism, (3) an ideal hypothesis, and (4) a complex hypothesis. Simple hypotheses are generally stated by H₀ (zero hypothesis) and H₁ (counter hypothesis). H₀ is a statement or condition that is generally accepted, but still needs to be proven true. The statement in H₀ implies that the researcher is guided by the principle of "presumption of innocence". Researcher placing himself in a neutral

position, without any tendency, until it is statistically proven that the treatment given has or does not affect the variables to be tested. H1 is usually an alternative hypothesis that is different or opposite to H0. If based on statistical tests the statement in H0 is rejected or not accepted, which means that the "suspected" "something" is proven not to be a part or component of the population, H0 is rejected and H1 is accepted. Working hypotheses are usually composed of statements of cause or condition (antecedence) – dependence or intermediary (dependence) – effect or conclusion (consequence). The working hypothesis generally begins with the word "if" which is an antecedent statement, then followed by a dependence statement beginning with the word "then", and then the consequence statement begins with the word "so". The use of the words "then" and "so" can be more than once. The ideal hypothesis is a hypothesis whose results can be predicted, but the only difference is the magnitude or amplitude. This hypothesis is often used in medical science or engineering with a high level of estimation or precision. The complex hypothesis is used when the researcher deals with various factors that require various assumptions given the conditions that are always dynamic (changing) such as natural conditions or society.

b. Research material

Research materials usually include materials and tools used during the research. Research material should be stated completely and clearly, so that readers can understand the technical implementation of the research. Great delivery will be able to describe all the materials and equipment needed in the research. The delivery should be presented in the form of informative sentences.

c. Variables and measurement methods

The variables used should include both the main and supporting variables. The various variables of the variables to be measured and their measurement methods should be stated clearly and measurably. These variables should be presented based on the order of priority of importance or the sequence of biological processes. The presentation of the data should be clear and not lead to any debate on interpretation, for example: how many litres of water or the number of test

animals used, and the origin of the test animals. Experimental conditions, such as number of treatments, temperature of the medium, need to be clearly stated.

d. Experimental design

The experimental design describes the type of research being conducted. The research design used must be clearly stated, including the number of treatments and replications of each treatment. Determination of the number of repetitions carried out based on the correct sampling theory methods, so that the data obtained is declared valid because it has met the rules of the sampling theory. The type of research, whether it is an experimental laboratory or a field survey, does not have to be stated in a clear or explicit sentence.

e. Data analysis

The method of analysis and processing of all the data obtained needs to be explained clearly, including various types of tests and further tests that will be used. The percentage or confidence interval to be used should also be stated. Or else, it can also use the probability of error (probability, "P"). The tools or software for the data analysis program used, if necessary, should also be explained. Further explanation can be read in sub-chapter 4.2.3.

2.4.4 Results and Discussion

The results and discussion are the heaviest or most difficult parts of writing scientific papers. The author's opinions and arguments can be freely expressed in this section, but they should remain focused and concise. The results and discussion chapters usually consist of results and discussion sub-chapters which are presented separately.

The results describe all the research results. The results are prioritized to be presented in the form of tables and figures (graphics), but can be also in easy-to-understand sentences. Excessive exposure of tables and figures, which will make it difficult to understand the meaning of the data presented, needs to be avoided. Both tables and figures are self-explanatory, which means that the tables and figures have features or characteristics which, regardless of the original paper or draft, the message or mission can still be understood in its entirety. Text in tables

and figures should be informative and comprehensive. The data in the table presented is actually already processed.

A good discussion involves all the data produced. The arrangement of delivery should be adjusted to the results. The actual discussion sub-chapters no longer contain figures or tables. The discussion should link the data obtained, and it is highly recommended to involve or relate also to the results of research from other researchers. The discussion should be balanced. References used can support, compare, or contrast. The discussion should focus on and discuss various aspects related to the research results. The discussion discusses the topic being studied, what has been found, research achievements and things that have not been achieved. The discussion can also ask further questions on the phenomena that have been achieved in order to open up opportunities for further research. The author believes in the results achieved and remains on the track or corridor of the topic under study.

The discussion is not a repetition of the results. Research results may or may not be in line with expectations as implied in the hypothesis, as long as it is carried out based on the correct methodology. Thoughts or opinions that are egotistical and paranoia (extreme and fanatical about the "truth" of the results achieved) should be kept away from this discussion.

2.4.5 Conclusions and suggestions

Conclusions and suggestions are stated clearly and concisely. Conclusions should answer and be in line with the objectives and research hypotheses. The conclusion is not a summary of the results. Conclusions no longer include reasoning or discussion and explanation. Suggestions should be realistic and based on research results, for example an improvement in the results of related research. Suggestions can also provide opportunities or pave the way for other researchers to be able to conduct further research.

2.5 Final Part

The final part of scientific writing such as diploma thesis and PKL report, consists of: (1) bibliography, (2) attachments, and (3) biography. Manuscripts of

articles for publication in a scientific journal generally do not include attachments or biography.

Acknowledgments are common to be presented and placed before the bibliography. The final part of writing a seminar paper only consists of a bibliography.

2.5.1 Bibliography

Each university or journal has a different bibliography writing methodology, so the determined methodology needs to be studied carefully. Consistency in writing a bibliography is very important and needs to be considered.

2.5.2 Appendices

Appendices are important information if readers of scientific papers want more detailed information. The appendices are sorted in the order in which they are used in the main section. Appendices can be in the form of tables, pictures, procedures, or other research documents. Each attachment contains only one integrated information and should be presented on the same page.

2.5.3 Biography

Writing a biography is the full right (authority) of the author. Biography should not be exaggerated. Unnecessary or “bragging” information and statements should be avoided. Author biographical data related to academic achievement is usually still permitted.

The researcher's biography should be written completely and correctly according to the chronological time.

III. SEMINAR PAPER WRITING SYSTEMS

The seminar paper consists of an introductory section, a main section, and a final section. Seminar material is part or all of the research results from the diploma thesis that have not been tested, or it can also be in the form of research proposals. The front cover of the seminar paper is dark blue or white, depending on each department. The maximum number of pages of seminar papers is 15 pages, excluding the beginning. Seminar paper writing generally follows the requirements for diploma thesis writing. The systematics of writing seminar papers in more detail are as follows:

I The Initial Part

- a. Front cover
- b. Title page
- c. Validation page
- d. *Ringkasan* and summary

II. Main Part

- a. Introduction
- b. Materials and methods
- c. Results and discussion (for research results)
- d. Conclusions and suggestions (for research results)
- e. Implementation schedule (for research proposals)

III. Final Part

References

3.1 Initial Part

3.1.1 Front cover

The front cover or also called the cover contains the same information or data as the information or data on the title page. The front cover for the seminar paper is made of a soft cover. The front cover of seminar papers for all study programs under the Department of Marine Science is dark blue, while for all study programs under the Department of Fisheries is white.

3.1.2 Title page

The title page contains: (1) the title of the seminar (2) the category of scientific work, (3) the name and student identification number (NIM), (4) the UNDIP logo, and (5) the name of the institution, namely the Faculty of Fisheries and Marine Sciences, Universitas Diponegoro, Semarang, and (6) year of writing. The category of scientific work is written "SEMINAR". The title of the seminar is made tight, brief, but clear (concise) and should not exceed 15 words, excluding prepositions and conjunctions (examples of titles can be seen in the Appendices page).

3.1.3 Validation page

The validation page contains: (1) Title of the study (2) name and student identification number (NIM), (3) Department and study program, and (4) acknowledgement from the main supervisor and co-supervisor with full name, academic title, and NIP.

3.1.4 Ringkasan and summary

The summary is written in 2 languages, in Bahasa Indonesia (*ringkasan*) and English (summary). The *ringkasan* or summary is a compaction of the entire seminar manuscript. A *ringkasan* or summary can be considered as part of a diploma thesis, so that the writing is carried out according to the rules as in writing a thesis. A *ringkasan* or summary for research results includes name and NIM, title, name of supervisor, background, purpose, place of research, research methods, results, conclusions, and is equipped with 3 - 8 "keywords". The *ringkasan* or summary for the research proposal (UP) does not contain the results

and conclusions. The *ringkasan* and summary are typed single-spaced and no more than 250 words.

The first paragraph containing the name and NIM, title, and name of the supervisor, typed from the left margin. The student's name and the name of the supervisor (without a degree) are typed in full without abbreviations using font 12 and in bold. The title is typed using lowercase letters, except at the beginning of each word using a capital letter. Prepositions and conjunctions are typed using lowercase letters.

The distance between the word "summary" and the first paragraph containing the name and NIM is double spaced, as well as for the distance between the first paragraph that contains the name of the supervisor and the next paragraph that contains the background. The distance between paragraphs from the background to the conclusion is single spaced. Keywords with the previous paragraph are double spaced. Examples of *ringkasan* and summaries can be seen in Appendix 16, 17.

3.2 Main Part

3.2.1 Introduction

The rules, formats, and techniques of introduction writing in seminar papers follow the provisions for writing an introduction to a diploma thesis, but are compacted (see sub-sections 2.4.1 and 4.2.1). The introduction contains the background, literature review (approximately 20% of the introduction), problem formulation, research objectives, as well as time, place, and research location.

3.2.2 Materials and methods

The rules, formats, and techniques for writing material and methods for seminar papers follow the provisions of the diploma thesis, but are compressed (see sub-sections 2.4.3 and 4.2.3). The material included in the seminar paper is everything that is the object of research (for fossil material, loans, the source of sample provision must be written). The methods listed are only the methods used in conducting the research (e.g., methods of sampling/determination of stations,

methods of sample collection, and methods of data analysis), not theoretical methods.

3.2.3 Results and Discussion

The results and discussion chapters are the most important part of the seminar paper, if the paper presents the results of the research. If what is presented is a Research Proposal (UP) then this section is certainly not included in the seminar paper. The rules, formats, and techniques for writing the results and discussion of seminar papers follow the provisions of the diploma thesis, but are compacted (see sub-sections 2.4.4 and 4.2.4).

3.2.4 Conclusions and suggestions

The conclusion and suggestion chapter, as well as the results and discussion chapter, is only found in seminar papers which are the result of research, but not for papers from a UP. The rules, formats, and techniques for writing conclusions and suggestions for seminar papers follow the provisions of the diploma thesis (read sub-sections 2.4.5 and 4.2.5).

3.2.5 Implementation schedule

If the seminar paper is a UP, the research schedule must be included in the paper. The types of activities and implementation periods listed in the schedule can be used as evaluations so that the research implementation procedures can run correctly, directed, and smoothly. Further explanation can be read in sub-section 4.1.3 point (d).

3.3 Final Part

The final part of the seminar paper consists of a bibliography. The rules, formats, and techniques for writing a bibliography follow the provisions of the diploma thesis (see sub-sections 2.5.1 and 4.3.1).

IV. DIPLOMA THESIS WRITING SYSTEMS AND REPORTS OF FIELD WORK PRACTICES

Diploma thesis can be written faster, better, and easier, if the planning of a research has been carefully prepared in advance as well as possible. The preparation of the research plan includes three main actions, starting from: (1) field survey, (2) literature review, and ending with (3) preparation of research proposal (UP). The three actions are described in more detail in Appendix 1. The diploma thesis, as well as the UP and PKL proposal, is systematically composed of three main components, namely: (1) the introductory section, (2) the main section, and (3) the final section, although there are slight differences in the constituent components (see Appendix 1 point 3).

The introductory part of the UP consists of: title page, validation page, and numbering page (the latter component is not included in the thesis). The title page contains various data and information, such as the category of proposed scientific work. The category of scientific paper proposals for field work practice reports is written "Suggestions for Compiling Field Work Practice Reports" (Appendix 2); while the diploma thesis is written "Research Proposal for Compiling Undergraduate Thesis" (Appendix 3). Examples of approval pages for PKL proposals and UP for their respective thesis are presented in Appendix 4 and Appendix 5. Examples of numbering sheets for MU are presented in Appendix 6 and Appendix 7.

The main part of the UP for the diploma thesis, as well as for the proposal for PKL, is composed of an introduction, literature review, materials and methods, and an implementation schedule (the latter component is not included in the diploma thesis). An example of an implementation schedule, for both MU and PKL proposal, is presented in Appendix 8.

The final part of the UP (for thesis) and the PKL proposal consists of a bibliography and appendices, without biography. A more in-depth explanation of UP and PKL proposal can be read in Appendix 1 point 3.

The rules, formats, and techniques for writing and presenting the PKL proposal and undergraduate thesis UP should refer to the diploma thesis. The three main components in writing a diploma thesis are described in more detail as below.

4.1 Initial Part

The initial part of the diploma thesis consists of: (1) front cover, (2) title page, (3) explanation page, (4) validation page, (5) statement page, (6) *ringkasan* page, (7) summary sheet, (8) foreword page, (9) table of contents, (10) list of table, (11) table of figures, and (12) list of appendices. Examples of the components of the initial part above are presented in Appendix 9 to Appendix 22.

4.1.1 Front cover

The front cover or also called the cover contains the same information or data as the information or data on the title page. More detailed information can be read in sub-section 4.1.2. The front cover for the diploma thesis is made of thick cardboard or hard cover and is laminated with transparent plastic. The front cover of the diploma thesis for all Study Programs under the Department of Fisheries is dark blue, while for all Study Programs under the Department of Marine Science is light blue. The front cover and title sheet are separated by a single white blank page.

4.1.2 Title page

The title page contains (1) the title of the research, (2) the category of scientific work, (3) the name and student identification number (NIM), (4) the UNDIP logo, (5) the name of the institution, namely the Faculty of Fisheries and Marine Sciences, Universitas Diponegoro, Semarang, and (6) year of writing. All data and information in the title page are presented in a right-left symmetrical position, and the distance between the data and information is adjusted accordingly. An example of a title page is presented in Appendix 9.

The title is typed in capital letters. The scientific work category for the field work practice report is written "FIELD PRACTICE REPORT", while for the diploma thesis it is written "S K R I P S I". The two categories of scientific papers are typed using letters with the same font as in the title and given a line at the top

and bottom. The student's name is fully written without abbreviations. The student identification number (NIM) is fully written and is indented 1 for each series of 3 letters or numbers. The logo or symbol of Universitas Diponegoro is vertical: horizontal by 4.5: 5.2 cm. The name of the institution is written without the Study Program. The year of completion is the last year the scientific work was edited or written completely, namely the year of submission or dissemination of the scientific work.

The title of the PKL and diploma thesis is made tight, brief, but clear (concise) and should not exceed 15 words (excluding conjunctions and prepositions). An example of a title page for a diploma thesis is presented in Appendix 9.

4.1.3 Explanation page

The sheet or explanation page is also called the allotment page. This page contains data and information such as: (1) the title of the diploma thesis, (2) the name and student identification number (NIM), (3) an explanation of the purpose or use of the thesis, (4) the name of the institution, namely the Faculty of Fisheries and Marine Sciences, Universitas Diponegoro, Semarang, and (5) year of writing. The same data and information as contained in the title page (sub-section 4.1.2) are written and presented using the same format. The explanation of the use of the thesis is typed with text such as the following example: "Thesis as One of the Requirements for Obtaining a Bachelor Degree in the Study Program of Utilization of Fisheries Resources, Department of Fisheries, Faculty of Fisheries and Marine Sciences, Universitas Diponegoro", while for the extension program the word "Extension" is added after the word S1, so that it becomes: "Thesis as One of the Requirements for Obtaining an Extension Bachelor Degree in the Study Program of Utilization of Fishery Resources, Department of Fisheries, Faculty of Fisheries and Marine Sciences, Universitas Diponegoro". The explanation of the usefulness of this thesis is typed using 12-seze fonts and printed in plain (non-bold). An example of an explanation page is presented in Appendix 10.

4.1.4 Validation page

There are 2 (two) validation sheets or pages, namely: (1) acknowledgement from supervisors and faculty leaders (heads of departments and dean), and (2) acknowledgement from examiners and chairman of the Program Final Examination Committee (PUAP). The supervisor also acts as an examiner. The employee identification number (NIP) for all leaders or officials, teaching staff, and committees must be written correctly. The validation sheet contains data and information about: (1) title, (2) name and student identification number, (3) name of department and study program, (4) statement (i.e., on the second page), (5) name and NIP of the supervising team (on the first page) or the name and NIP of the examiner team (on the second sheet), and (6) the name and NIP of the faculty leader (on the first page) or the head of PUAP (on the second page). All data and information on the validation page is written in lowercase or plain letters (not capitalized, except at the beginning of each word), 12-size font, and printed in plain (non-bold). Initial words for prepositions and conjunctions are written in lowercase.

The word "Thesis Title" is typed starting from the top left side of the writing margin, followed by the text for the thesis title. After writing the word "Thesis Title" followed by a colon (:), and continued with the text for the thesis title without a dot (.) at the end. The word "Student Name" is followed by a colon (:) as the word for "Thesis Title", and is followed by writing the student's full name without abbreviations. The words "Student Identification Number" and "Department/Study Program" are typed in the same format and procedure as "Student Name". All colons (:) are typed exactly one line below the previous colon. The statement on the second validation page explains that the thesis has been completed and has been tried or tested before the examiner team (in this case the supervisor acts as the examiner team). The sentence of the statement reads: "This thesis has been tried before the Examiner Team on the date: ...". The first acknowledgement page does not contain this component. The signature of the

faculty leader, supervisor, examiner team, and PUAP must be accompanied by the full name including the correct academic title and NIP. Examples of the two types of approval pages mentioned above are presented in Appendices 11, 12 and Appendices 13, 14, respectively.

4.1.5 Statement Page

The statement page contains a statement from the author that the scientific work or research results written are the original results of his own research and not the work of others and the author declares that his scientific work (thesis) has never been submitted as a final task requirement to obtain a bachelor's degree (S1) at any university or other higher education institution. At the top of this page, the title is typed with the title “**STATEMENT OF AUTHENTICITY OF SCIENTIFIC WORK**” with a position in the middle (symmetrical right – left), using a capital letter font 14, semi-double spacing (1.5), and in bold. "Statement" is typed below with a spacing of 3 with the following sentence: "I,(name of author), hereby declares that this scientific work/thesis is my own original work and has never been submitted as a fulfilment of the requirements for obtaining a bachelor's degree (S1) from Universitas Diponegoro or other universities. All information contained in this scientific work/ diploma thesis that comes from the work of others, whether published or not, has been awarded by citing the author's name correctly and all contents of this scientific work/diploma thesis are fully the responsibility of the author". At the bottom of the statement, write the place (in this case, type: "Semarang") and the date the statement was made, then type the word "Author" under it accompanied by a comma (.). The seal affixed with the author's signature, full name, and NIM is affixed at the bottom of the word "author".

4.1.6 Ringkasan page

The summary in the *ringkasan* page contains 3 components, namely the Initial Section, Main Section, and Final Section. The initial section contains data and information including: (1) student name, (2) NIM, (3) title, and (4) supervisor name. The main section contains data and information which includes: (1) basic concepts or theoretical foundations of the importance of research being carried out, (2) objectives or statements related to research objectives, (3) research

methodology, (4) results, and (5) conclusions or presumption. The final section of the summary contains various keywords. The summary should be no more than one page and no more than 250 words and typed using single spaces.

The student's name is written in full without abbreviations. The student identification number is typed with an indent of 1 for every 3 letters or numbers. Both the name and NIM are in bold. The title is written in lowercase (regular), unless the beginning of the word is typed in capital letters as on the validation page. Initial words for prepositions and conjunctions are also typed in lowercase. The supervisor's name is written in full without abbreviations and without titles using capital letters (bold) and typed in brackets. The title text and the name of the supervisor on the validation page do not end with a period (.).

The main part of the summary includes all important data and information in a succinct manner from background to conclusion. The number of paragraphs in the main section is generally more than one. The basic concept or theoretical basis should be no more than three sentences. The next two to three sentences state the importance of conducting research based on the basic concepts of the study topic. The title does not have to be written exactly as in the introduction chapter, but can be rearranged with the same substance of meaning, so that the flow of the sentence with the previous sentence is in harmony. Data and information in the methodology should be presented which is important or the main thing. The data and information are generally regarding the treatment or experimental design, the treatment imposed on the research object (e.g., test fish), and the media or container of the research object. The results are presented in a comprehensive, complete, and concise manner, especially research results related to the main variables in the methodology chapter. The final part of the summary usually ends with a one-sentence conclusion or presumption.

Key words should be able to describe the field of science or the topic of study. The selected keywords are usually reflected in the title. Phrases should not be used as keywords, unless separated can change the meaning (grouper is better than tiger grouper, growth is better than relative growth rate). The number of

keywords ranges from three to eight words. An example of a summary page is presented in Appendix 16.

4.1.7 Summary page

The summary page contains a summary of the research similar to the sub-section 4.1.6 which is presented in English. Summary does not have to be a word for word translation of the *ringkasan*, but the important thing is to have the same substance of meaning. The explanation of the summary is the same as in the *ringkasan* (sub-sub-chapters 4.1.6). An example of a summary page is presented in Appendix 17.

4.1.8 Foreword page

The foreword page should be no more than one page. The foreword is typed in capital letters, font 14 and in bold, positioned at the top of the page symmetrically on both sides. The first paragraph of the text in the foreword is typed with 3 spaces apart from the introduction. All text in this page is typed using semi-double spacing (1,5). The bottom right of the foreword text ends with the location and time of writing, namely: Semarang, ...(month), ...(year), then typed "Author" without a name at the bottom.

The foreword page number is typed using lowercase Roman numerals, (example: iv), placed at the bottom of the page in a symmetrical right-left position (see also the general provisions of sub-chapter 2.2 and sub-section 2.3.5). An example of a foreword page is presented in Appendix 18.

4.1.9 Table of contents page

The table of contents contains: (1) Table of Contents, (2) Pages, (3) chapter numbers, (4) titles of chapter, sub-chapters, and sub-chapters, and (5) page numbers for chapters, sub-sections -chapters, and sub-sub-chapters. The title of the table of contents is typed at the top of the page in a symmetrical right-left position with capital letters, font 14 and bold. The word "Page" is typed in lowercase font

12, non-bold, at the right margin of the page border, and is double spaced from the word “Table of Contents”. The word “Page” is single-spaced with the title text below which begins with: “Foreword” in capital letters. The word “CHAPTER” does not need to be written, but instead uses capital Roman numerals and is followed by a period (.) before typing the title text for each chapter (example: **IV. SCIENTIFIC WRITING SYSTEMS**). Between the dot and the text of the chapter title is typed with an indentation of two tabs. The title text for the introduction, lists, chapters, and appendices is typed using capital letters and bold. The text of the chapter titles is typed with double spacing, while the text within the same chapter (or between sub-chapters) is typed with single spacing. The page numbering for the introduction to the list of appendices (i.e., the beginning of the diploma thesis) on the table of contents is typed using lowercase Roman numerals (e.g.: iv, v, and so on). Page numbering starting from chapters I, II, and so on until the appendix (that is, the main and final part of the diploma thesis) is typed using Arabic numerals (e.g.: 1, 2, 3, and so on).

All paged text, (including bibliography and appendices), is connected by dots (for example:) until the tabulation is 1 cm from the right margin of the page and is not in bold. An example of a table of contents is presented in Appendix 19.

4.1.10 List of Tables page

The list of tables contains: (1) the title of the list of tables, (2) the words: Page, (3) the serial number of the table, (4) the text of the table title, and (4) the page number of the table. The title of the table list is typed in capital letters in font 14, printed in bold, and is located at the top of the paper page in a symmetrical position right and left. The word page is typed in lowercase font 12, printed non-bold, and placed at the position of the right margin of the page border. Page words are typed with a space of 2 spaces from the word list of tables, and with a single space distance to the title text below it. Table numbering is sorted according to the sequence number of use in the diploma thesis. The table number is typed using Arabic numerals and immediately accompanied by a period (.), then typed with an

indentation distance of 2 tabs against the related table title text. The table page numbering in the table list is typed using Arabic numerals according to the table page in the thesis. The table page is typed on the right side of the page (right margin).

The table title text is typed with double spacing, while the title text in the same table is typed with single spacing. All table title text is connected by dots (for example:) which are not bolded, so that the tabulation distance is 1 cm from the right margin of the page. An example of a table list sheet is presented in Appendix 20.

4.1.11 Table of Figures page

The presentation format and typing technique for the table of figures are the same as on the list of tables. An example of a table of figures page is presented in Appendix 21.

4.1.12 List of Appendices page

The presentation format and typing technique for the list of appendices page are the same as in the list of tables page. An example of a list of appendices page is presented in Appendix 22.

4.2 Main Part

The main part is composed of 5 main components, namely: (1) introduction, (2) literature review, (3) materials and methods, (4) results and discussion, and (5) conclusions and suggestions. The five components should be presented in a consistent and integrated manner.

4.2.1 Introduction

The introduction chapter is composed of 4 components which include data and information regarding: (1) background, (2) approach and problem formulation, (3) objectives and benefits, and (4) location and time of research implementation. The four components are presented in separate sub-chapters as in the example in Figure 3. The presentation format as shown in Figure 3 also applies to each new chapter change (see also sub-section 2.4.1). The background is endeavoured as much as possible to be the original thought of the author about the background of

the research. To be different from a literature review, the background should use the literature that is really necessary, for example to support the argument for the importance of the research to be carried out. The background, approach and problem formulation in the introduction chapter should be supported by a literature review from reputable, up-to-date, and highly relevant journals.

4.2.2 Literature review

The largest percentage of literature reviews should come from journals. Information or references from popular scientific books should be avoided. Popular scientific books, when absolutely necessary, are still permitted at a very small percentage. The original source of the facts examined in the literature review must be mentioned by including the reference source (name of author and year of publication).

All sources of data and information used must be included in the bibliography, and vice versa, all literature in the bibliography must have been used in the text at the main part. Statements or information obtained based on oral discussion or personal communication (*kompri*) followed by (*kompri*, year) behind the statement, but the source or year of information may not be listed in the bibliography. Dissertations, thesis, diploma thesis and research reports (from teaching staff) even though they are not published can be used as references and written in the bibliography by including the following information: (not published).

Quotations or citations of someone's opinion expressed in the text must be supported by including the name and year of publication of the article's manuscript as also listed in the bibliography. Written citations should be the substance or nature of the contents of the manuscript in order to avoid plagiarism, but can also be in the form of original sentences.

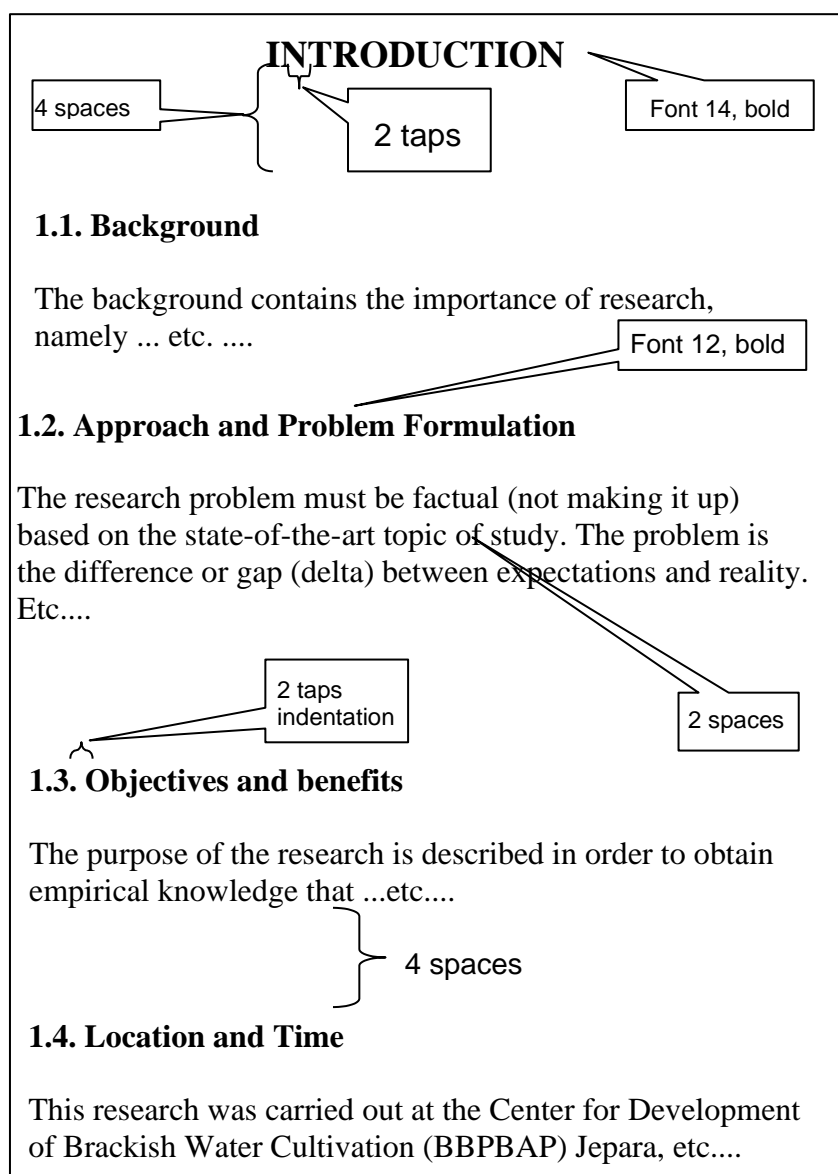


Figure 3. Example of an Introduction Presentation Format.

Writing in the form of the original sentence must be put in quotation marks (“.....”) between the quoted sentences. This method is often used in citations in scientific works of the social sciences, but is rarely used in exact sciences such as fisheries and marine affairs.

Writing the name of the source in the text is written "Tacon (1995)" or "(Tacon, 1995)", depending on its position in the sentence. For example: "Tacon (1995) argues that" or "According to Tacon (1995), it is explained that" or "Chromium (Cr+3) has been believed to through increased insulin bioactivity (Tacon, 1995)" or "Nevertheless, Tacon (1995) conjectured that". The latter method is more often found in most reputable journals. Writing the name of the source in a text with 2 authors is presented in the following way: "Rand and Petrocelli (2005)" or "(Rand and Petrocelli, 2005)" depending on its position in the sentence (see the example above regarding the presentation technique for 1 author). Citing literature written by 3 or more authors, (both names of Indonesians and names of foreigners), only the first (main) author is written and followed by "et al." italicized (not et al.). Examples are: Meador et al. (1998) or (Meador et al., 1998). The names of all authors in the bibliography are written in full.

Quoting many (more than one) literatures sources in one sentence is presented in the following way. First, the literature sources are sorted by year of publication, starting from the oldest to the newest. Second, if in the same year of publication there are several sources of literature, then they are sorted alphabetically from the name of the first author. Third, if in the same year of publication there are several sources of literature from the name (or names) of the exact same author, then the year of publication is followed by superscript letters according to the order in which they are used in the scientific work. Fourth, the names of each literature source are separated by a semicolon (;) without the word "and" at the end, if the quotation is in brackets. If the citation of a library source is placed at the beginning or middle of a sentence, the names of different literature sources are separated by a comma (,) with the word "and" at the end, as in the following example:

a. "Some researchers have found that trivalent chromium (Cr+3) functions as an essential micromineral element, both for humans, ruminants, and non-ruminants including fish (Hepher, 1988; McDowell, 1992; Mertz, 1993; Mertz et al., 1993;

NRC, 1997; Lukaski, 1999; Underwood and Suttle, 1999; Groff and Gropper, 2000; Xi et al., 2001; Lall, 2002; Subandiyono et al., 2002; Webster and Lim, 2002; Subandiyono et al., 2004a, b, c)” or

b. “Hepher (1988), McDowell (1992), Mertz (1993), Mertz et al. (1993), NRC (1997), Lukaski (1999), Underwood and Suttle (1999), Groff and Gropper (2000), Xi et al. (2001), Lall (2002), Subandiyono et al. (2002), Webster and Lim (2002), and Subandiyono et al. (2004a,b,c) found that trivalent chromium (Cr+3) functions as an essential micromineral element, both for humans, ruminants, and non-ruminants including fish” or

c. “Several researchers such as Hepher (1988), McDowell (1992), Mertz (1993), Mertz et al. (1993), NRC (1997), Lukaski (1999), Underwood and Suttle (1999), Groff and Gropper (2000), Xi et al. (2001), Lall (2002), Subandiyono et al. (2002), Webster and Lim (2002), and Subandiyono et al. (2004a, b,c) found that trivalent chromium (Cr+3) functions as an essential micromineral element, both for humans, ruminants, and non-ruminants including fish”.

Based on the three examples above, example (a) is preferred. Quotations originating from sources or materials whose author's name is not clearly known, are written with the name of the institution, editor, compiler, or translator, for example: NRC (1997). When there is no institution name, as a last alternative it can be anonymous, both for English or foreign or Indonesian language sources of information. Materials compiled by a group and not published, such as practicum books or lecture materials that are not prepared by a particular institution, may not be used as references or literature resources.

4.2.3 Materials and methods

The data and information covered in the material and method chapter include: (1) hypotheses, (2) research material, (3) variables and measurement methods, (4) experimental design, and (5) data analysis. The components mentioned above can be adapted to the needs, depending on the type or nature of the research and the methodology used. If in the procurement of materials there are stages of preparation to implementation, these can be stated jointly (integrated) in each of

the sub-chapters of the material. If the research is carried out in more than one stage, the first stage of research (i.e., preliminary stage) and subsequent stage of research (i.e. main research), each stage has its own material and method chapters as well as separate chapters on results and discussion. The preparatory stage is not the same as the preliminary research stage. The preliminary stage is a complete research, while the preparation stage is only the preparation of the material before the material is used in the implementation of research.

a. Hypothesis

Hypotheses should be formulated clearly and operational, so that the hypothesis can be tested. Research hypotheses used in diploma thesis are generally simple hypotheses which are also known as comparative or differentiating hypotheses, but many also use working hypotheses or syllogisms. The simple hypothesis is formulated into the null hypothesis (H₀) and the alternative hypothesis (H₁). Thus, H₀ is the formulated hypothesis, while H₁ is an alternative hypothesis formulated as the opposite of H₀. For example, if a researcher wants to prove that drug A is more effective in treating a disease than drug B, the hypothesis is formulated as follows:

H₀ : The effectiveness of drugs A and B are the same.

The alternative hypotheses formulated are as follows:

- a. H₁ : The effectiveness of drug A is not the same as drug B; or
- b. H₁ : The effectiveness of drug A is better than drug B; or
- c. H₁: The effectiveness of drug A is worse than drug B.

Another example of a simple hypothesis is as follows:

H₀: Chromium-yeast supplementation in feed had no effect on blood glucose levels, respiratory quotient, protein retention, and growth of the test fish.

H₁: Chromium-yeast supplementation in feed affects blood glucose levels, respiratory quotient, protein retention, and growth of the test fish.

Examples of working hypotheses are as follows:

"If the use of chromium-yeast supplements related to blood glucose supply is able to increase energy utilization from carbohydrates, the use of feed protein becomes more efficient so that protein retention and growth will increase"

In this case, it can simply be explained that the supply of glucose into the bloodstream can be translated as blood glucose levels, as well as the efficient use of carbohydrates (and not protein feed) as an energy source can be translated as respiratory quotient (RQ).

Hypotheses can be stated in separate ways (e.g. with various assumptions), not stated clearly, or even not stated at all in certain scientific fields. Research that is qualitative, exploratory, or descriptive may fall into this group.

b. Research material

All research materials, both in the form of materials and tools used during the research, should be explained and elaborated in informative and interesting sentences based on the group category. The materials and tools should not be presented in tabular form without an explanation of the relevance of its use in research, but should be stated in the form of narrative sentences. For example, for the field of aquaculture with the topic of fish nutrition studies, it can be grouped into: (1) feed, (2) fish maintenance, (3) containers and maintenance systems. The following examples can be used for consideration:

(1). Feed

The test feed is a modification and development of the formula by Mokoginta et al. (1996) and Suprayudi et al. (2000) with a low total content of the extract without nitrogen (BETN), which is approximately 30% dry weight. Four kinds of feed with the same protein content, BETN, fat, and energy to protein ratio, and each with a chromium-yeast supplement different, namely 0.0, 1.5, 3.0, and 4.5 ppm Cr+3, used in this study (Table x).

(2). Pisciculture

The fish came from fish farmers in Parung with individual weights ranging from 20 to 30 g/head, with a total of 200 fish. Each treatment used 30 animals which were randomly selected. Each treatment was repeated three times, so the fish density was 10 fish/aquarium. The remaining 80 fish were reared with the same density as stock fish for additional blood samples for the four treatments. Thus, it takes 20 aquariums, each with a volume of 100 liters. The average weight of fish in treatments A, B, C, and D was 25.2 ± 0.1 , respectively, 25.5 ± 0.0 , 25.0 ± 0.0 , and 25.2 ± 0.1 g/head. Fish were kept in a semi-closed circulation system for 40 days and were fed in the morning and evening until they were full (at satiation).

(3). Container and Maintenance System

This section describes in more detail the container and maintenance system used in the research, if it is important and necessary. In this case, it can also be equipped with drawings, sketches, floor plans, or photos.

Other examples in the toxicity test of toxic substances can be grouped into: (1) test materials, (2) test biota, (3) test containers, (4) test media, (5) maintenance of test biota during acclimatization, preliminary experiments and main experiments

(1) Test material

In the description of the test material, it is stated the type of test material used, its source, the procedure for obtaining it and the level of purity. Example: the test material used is the pesticide Diazinon 50 EC produced by factory X, which was obtained from a pesticide dealer in Semarang City.

(2) Test biota

This section describes the origin, size and density of the test organisms used in the toxicity test. Example: test biota used to observe the effect of pesticides on growth of phytoplankton is the algae *Chlorella* sp. Pure cultures of algae were obtained from the Center for Brackish Water Cultivation in Jepara. Before being used in the experiment, the algae were acclimatized to the conditions of the research media. The initial density used in each experiment was 1 million cells/ml (CEA, 1996).

(3) Test container

In this description, it is explained in detail but not long-winded about the container and test media used, including how to prepare it. Example: the test container used is Becker Glass with a volume of 200 ml, to accommodate 100 ml of test media. Prior to use, the test container must be sterilized.

(4) Test medium

Similar to the test material, the test media used must be stated: type, origin, collection method and salinity (if using seawater). Example: the test medium is seawater with a salinity of 28 ± 2 ppt which has been sterilized.

(5) Maintenance of test biota

This description describes the procedures for maintaining the test biota starting from the acclimatization stage, the preliminary experiment (range finding test) and the main experiment (definitive test).

c. Variables and their measurement methods

The variables and their measurement methods should be described in the form of sentences, not tables or notes, for example: “At the end of the study, blood, liver and meat samples were taken; measurement of CO₂, O₂, and total dissolved ammonia levels; proximate measurement of fish and feed; and weighing fish body weight and feed. Proximate measurements of fish and feed were carried out to calculate the value of deposition and nutrient retention. Samples came from fish both at the beginning and end of the study as well as test feed. ...etc... Protein, carbohydrates, fat, and energy were analysed approximately by following standard procedures, both for fish samples and test feed (Appendix x). Proteins were

analysed by the Kjeldahl method, lipids were analysed by the ether extraction method using a Soxhlet extractor, while the extracts without nitrogen were calculated based on computations after knowing the crude fibre and water content (Watanabe, 1988).

The variables and measurement methods used for this type of experimental research should be described in detail and complete, as well as for the experimental design, the observed variables, the assumptions used, and data analysis techniques. The presentation of variables should be accompanied by a formula and followed by an explanation or definition. This explanation should be presented below the formula and typed in indent using 1.5 spaces. Survey research that does not apply treatment needs to explain the survey method used, including sampling techniques, determining respondents, and collecting data. Material and the method may also include the limitations, formulation or understanding of the terms used in the research.

The use of standard procedures (such as chemical analysis procedures and statistical analysis) does not need to be described in detail in this chapter, it is enough to mention the reference procedures used, for example: analysis of water quality variables was carried out according to the APHA, AWWA and WPCF (1989) procedures. A more detailed and complete explanation, if needed, can be presented in the appendix. If the research involves modification of an existing model, the procedures that have been applied during the research should be described and the purpose of the modification explained. Further explanation can be read in sub-section 2.4.3.

d. Experimental design

The design of the experiment, both for experimental laboratories and field surveys, needs to be clearly described. Experimental laboratories research, usually described in the number of treatments and repetition, while research based on field surveys described the methodology of determining the location or sampling station and how the sample was taken. Example of experimental laboratories design: this study uses 5 treatments, and each treatment is repeated 3 times. The treatment is:

- A: Cadmium concentration in test media 2 ppt;
- B: Cadmium concentration in test media 1 ppt;
- C: Cadmium concentration in test media 0.5 ppt;
- D: Cadmium concentration in test media 0.25 ppt;
- E: Cadmium concentration in test media 0.125 ppt

e. Data Analysis

The data of variables obtained during the study need to be analysed statistically, such as their variety value (ANOVA) and middle value (t test, for example) in order to know the significance value of the treatment to the variable being tested and the difference between treatments. Test prerequisites need to be met first. If you are going to use Parametric Test Statistics, you need to qualify the data, i.e., homogeneous data and data spread according to normal curves. If the data has been transformed with different types of data transformations, but the requirements statistics test are not met, non-parametric test statistics are used. Another statistical method that can be done is to analyse the data descriptively by looking at the pattern or trend of the data. It should be determined one of the trust hoses used, for example 95 or 99%.

4.2.4 Results and discussion

Results should be presented separately with discussions, i.e., in different sub-chapters. Presentation of research results in the diploma thesis should be conducted in order of topics and sub-topics systematically. The form of presentation is the combination of descriptions, tables, and figures presented according to the needs, so it is easier to understand. The presentation of the table of research results should already be a summary or further processed, so that the reader can easily understand. The table of research results should be followed by the results of statistical tests, both based on the degree of significance of 1% and/or 5%. It should be noted that: "THERE IS NO DISCUSSION IN THE RESULTS, ONLY A DESCRIPTION OF THE RESULTS".

Scientific justification in the discussion should be about the results obtained in the study and which can be achieved through the analysis of causal relationships between variables, interpretation of results, interpolation, generalization of the results from the sample to the population, as well as the theoretical and practical implications of the results of the study. Relationships between variables must be clearly outlined with the support of statistical and literature data relevant or related to the problem or topic of research. Sentences such as: "why?" or "how can it happen?" are two sentences that can help in the discussion. Tables or figures are generally no longer presented in the discussion, except for very special cases, for example the figure is a conclusion or extraction from several previously submitted results. It should be noted that: **"DISCUSSION IS NOT A REPEATED INFORMATION FROM THE RESULTS"**. Further explanation can be read in sub-chapter 2.4.4.

4.2.5 Conclusion and suggestion

The writing of conclusions and suggestions should be presented separately in separate sub-chapters. These conclusions and suggestions can be presented using points or with Arabic numerals, or it can also be in the form of a narrative sentence. Conclusions and suggestions no longer include the sentence of reasoning, causation, or argumentation.

Conclusions should answer the objectives and hypotheses of research and write it carefully, concisely, and appropriately. Conclusions are different from summaries and not a repetition of research result information.

Suggestion is not required, but it should be available. Suggestions can be in the form of improvements or modifications in the research methodology, as well as the delivery of benefits or expansion of the application of research results. Suggestions should be open and realistic to be applied by researchers. Suggestions should remain in the scientific corridor and related to the topic of research in general.

Conclusions and suggestions are prepared based on the results of research. Conclusions and suggestions should not appear suddenly.

4.3 Final Part

The final part is a support that complements the data and information from the initial and main parts, including the biography of the author. The final part contains: (1) bibliography, (2) appendices, and (3) biography.

4.3.1 Bibliography

The bibliography contains all the resources used in the preparation of diploma thesis and Field Work Practice reports. Sources of information that can be used and included in the bibliography are journals, books (text books), scientific magazines, proceedings, abstract collections, translation books, dissertations, thesis, diploma thesis, research reports, and scientific information obtained from reputable websites or the internet. The results of personal communication can be written as library reviews, but do not need to be listed in the realm of the bibliography. Most of the library resources used should come from journals, especially reputable journals. Two of the journals used should be very relevant, supporting the theoretical basis of the topic of study, and up-to-date. The maximum number of textbooks (including translation books) allowed to be used as a source of information is 20%, the maximum number of sources coming from websites or the internet (which is not a scientific article) is 10 %. Popular scientific books or magazines and personal communication are recommended to be avoided. Popular newspapers and magazines should not be used as a source of information.

The author's name is the main item that should always be in the bibliography. The way of writing the author's name in this scientific work adheres to the **Vancouver System** which applies back-to-back on the name of the first author, while the second author and so on the names are displayed with precedence of the initials (Eg: Widjaya, E.A., M.A. Rifai, B. Subiyanto and D. Nandika). The source of information where the name of the author is not clearly known, what is listed in the bibliography is the name of the institution, editor, compiler, or translator. Anonymous (whether for English or foreign or Indonesian sources of information) may be used as a last resort, if all of the above sources of information are no longer found. Some foreign names have writing techniques that deviate from the general provisions. For example, the names are:

Chinese : Kang Biau Tjwan written Biau-Tjwan, K.
Vietnam : Nguyen Cao Ky is written Cao-Ky, Ng.
Hungary : Farkas Karoly is written Karoly, F.
India : B.C. Das Gupta is written Das Gupta, B.C.
French : V. du Barry is written du Barry, V.
Netherlands : Rijkart van de Jong is written van de Jong, R.
Germany : Carl von Schmidt is written von Schmidt, C.
Arabic : Ali Abdul Aziz is written Abdul Aziz, Ali.
Anglo-Saxon : John Doe, Sr. is written Doe, John, Sr.

The systematic presentation of the author's name is arranged alphabetically. The year listed in the bibliography is the year of publication. If there is more than one source of information with the same author name in the same publishing year, its presentation in the bibliography is distinguished by the use of superscript lowercase letters a, b, c, and so on behind the year without spaces, according to the order in which they are used in the text of the scientific work. The name (or names) of the author of the source of the information under it does not need to be written again, and instead used an underline that is the same length as the name or author name on it, for example:

Mokoginta, I, Suprayudi, M.A. and Setiawati, M. 1995a. Nutritional Needs Of Carp (*Osphronemus gouramy*, Lac.) for Growth and Reproduction. [Lap. pen. Hb. II/3]. Faculty of Fisheries and Marine Sciences, Bogor Agricultural University, Bogor, xx p. 100.

_____. 1995b. Optimum Protein and Energy Needs Feed Benih Ikan Gurame (*Osphronemus gouramy*, Lac.). J. Pen. Indonesian Fisheries, 1(3):82-94.

The source of the information published in several editions, the description of the number of editions used needs to be listed. The shortening of the name of the source of information is conducted by following the system following the benchmark ISO 4-1972 International Code for the Abbreviation of Titles of Periodicals and index of Indonesian Scientific Magazines. The name of a scientific journal or magazine consisting of only one word does not need to be abbreviated. Some of the commonly used journal names and their writing abbreviations in the bibliography are presented in Appendix 23. If the book used as a source of information and listed in the bibliography consists of several volumes, the literature listed in the reference is only the volume used only. Publication data consists of the name of the publisher and the name of the publishing city. The number of pages of a book or text book is listed completely, while for articles in scientific journals or magazines are listed only the page sections of the referenced library sources (see also the example writing above).

The procedure for presenting a literature that is sorted in a bibliography, arranged alphabetically by the name of the author. The author's name is typed starting from the left margin, the second line and so on are arranged with indentation 1 cm inwards. The spacing between lines in a single literature source is a single space, while the distance between two sequential literature sources is double space. Writing libraries in a bibliography is performed with ordinances that vary according to type of literature used, or different universities or scientific institutions. The way journals are written will be different from textbooks, scientific works, or research reports. Universities or scientific institutions that one applies writing techniques for a journal with different ordinances (unique). Consistency of writing techniques or ordinances is important.

The presentation technique of a bibliography has many similarities, for example: (1) the writing of a literature source begins with the name (or names) of the author, year, title, publisher name, publishing city, page or number of pages, (2) for a journal, publisher name and publishing city are replaced with the name of

the journal, (3) after the period (.) behind the components there is a point (1) above, then followed by an indentation distance of 2 tabs and capital letters at the beginning of the word, (4) the title is typed in lowercase, except for each beginning of the word, (5) the preface and conjunction are typed in lowercase, (6) the word from Latin is italicized, and (7) at the end of the writing of a literature source ends with a period (.). Specifically, the terms and systematics of writing each literature resource are as follows:

a. Scientific journals/magazines

Terms and systematics of writing:

- a.1. The name (names) of the author/author followed by a period (.);
- a.2. The year of issue followed by a period (.);
- a.3. Title followed by a period (.);
- a.4. The name of a scientific journal or magazine followed by a comma (,).
(Note: Names of journals or scientific magazines can be abbreviated to the system following the benchmark ISO 4-1972 International Code for the Abbreviation of Titles of Periodicals and Index of Scientific Magazines of Indonesia. Magazine names consisting of only one word are not abbreviated);
- a.5. Volume and (where necessary) the publishing number followed by a colon (:). The publishing number is written in parentheses () following the volume number; and
- a.6. The page followed by a period (.). "Page" is a range and is written from this to this.

For example:

- a.1. Dobson, S.H. and R.M. Holmes. 1984. Compensatory Growth in the Rainbow Trout, *Salmo gaidneri* Richardson. J. Fish. Biol., 25: 649-656.

- a.2. Regier, H.A. 1976. Environmental Biology of Fishes: Emerging **Sciences**. Environ. Biol. Fish., 1(1): 5-11.
- a.3. Sanusi HS, Haeruddin, S Hartini and M. Hutomo. 2003. Growth and efficiency of utilization of juwana feed windu shrimp (*Penaeus monodon* Fab) in the phenol-contaminated media. Journal of Indonesian Aquatic and Fisheries Sciences., 10(2): 79 – 83.
- a.4. Tidwell, J.H., S.D. Coyle and G. Schulmester. 1998. Effect of Added Substrate on Production and Population Characteristics of Freshwater Prawn *Macrobranchium rosenbergii* in Ponds. J. World Aqua. Soc., 29(1): 17-22.
- a.5. Edyanto, C.B. and Herman. 1997. Pre Plan for The Layout of Iboih Area of Sabang Municipality. Indonesian Engineers Magazine, Indonesian Engineers Association, Jakarta, 049: 13-18.

b. Textbooks

Terms and systematics of writing:

- b.1. Name (see point a.1 above);
- b.2. Year (see point a.2 above);
- b.3. Heading (see point a.3 above);
- b.4. The edition (if any) is written "ed." followed by the edition number and a comma (.). For example: Ed. 4 or Ed. IV (for literature resources in Bahasa Indonesia); 1st ed., 2nd ed., 3rd ed., 4th ed., etc. (for literature resources in English);
- b.5. The publisher's name followed by a comma (.). For example: Erlangga, or UNDIP Press,
- b.6. The publishing city followed by a comma (if there is more than one place, mentioned only one); and,
- b.7. The page followed by a period (.). "Page" for literature sources in English or foreign is written "pp." (for page range) or "p." (for the total

number of pages) before writing the numbers. If the literature source is in Bahasa Indonesia, it is written "hlm." is not "hal.".

Examples:

- a.1. [APHA] American Public Health Association, American Water Works Association and Water Pollution Control Federation. 1975. Standard Methods for the Examination of Water and Wastewater. 14th ed., APHA, Washington D.C., 1193 p.
- a.2. Boyd, C.E. and A. Nill. 1982. Water Quality Management for Pond Fish Culture. Elsevier Sci. pub. Co., Amsterdam, 585 p.m.
- a.3. Dahuri, R., J. Rais, S.P. Ginting and M.J. Sitepu. 2004. Integrated Management of Coastal and Ocean Resources. PT. Pradnya Paramita, Jakarta, 328 pp.

c. Proceedings or paper collection

Proceedings or books whose contents are a collection of many scientific papers presented with the provisions and systematics of writing as follows:

- c.1. Name (see point a.1 above);
- c.2. Year (see point a.2 above);
- c.3. Heading (see point a.3 above);
- c.4. The word "In" is italicized to be "*In*", followed by a colon (:), the name (or names) of the editor, and followed by a period (.);
- c.5. The title of the proceeding or a paper collection followed by a period (.);
- c.6. Edition (if any) followed by a comma (,);
- c.7. Publisher name, followed by a comma (,);
- c.8. Publishing city (if there is more than one, simply write one only) followed by a comma (,); and
- c.9. The page or number of pages that are copied ends in a period (.)

Examples:

- b.1. Cholik, F., I.A. Zafril and S. Tatam. 1998. Breeding a Healthy Shrimp. *In: Proceedings of Coastal Fishery Technology Seminar in Bali On August 6-7, 1998. Balitbangkan, Gondol, pp. 17-22.*
- b.2. Arifin Z. 2001. Heavy metal pollution in sediments of coastal waters of Indonesia *in Proceeding of 5th IOC/WESTPAC International Scientific Symposium : 27 – 31 August 2001, Seoul, South Korea*
- b.3. Akiyama, D.M., W.G. Donny and A.I. Lawrence. 1992. Shrimp Nutrition. *In: A.W. Fast and L.J. Lester (Eds.). Marine Shrimp Culture: Principles and Practices. Elsevier, Amsterdam, pp. 535-568.*
- b.4. Ricker, W.E. 1979. Growth Rates and Models. *In: W.S. Hoar, D.J. Randall and J.R. Brett (Eds.). Fish Physiology: Bioenergetics and Growth. Vol. VIII. Acad. Press Inc., USA, pp. 677-743.*

d. Abstract collection of journals and proceedings

Terms and systematics of writing:

- d.1. Name (see point a.1 above);
- d.2. Year (see point a.2 above);
- d.3. Heading (see point a.3 above);
- d.4. Journal name/title of proceeding followed by a period (.);
- d.5. Edition (if any) followed by a comma (,);
- d.6. Name of publisher or institution followed by comma (,);
- d.7. Publishing city followed by comma (,); and
- d.8. Volume and (where necessary) the publishing number followed by a colon (:). The publishing number is written in parentheses () following the volume number; and
- d.9. The page number and followed by the word "abstract" in parentheses (), ending with a period (.)

Examples:

- c.1. Hastuti, S., D. Dana and T. Sutardi. 2002. The Effect of Chromium

Feed on Blood Glucose, Health Status, and Growth of Carp (*Osphronemus gouramy*, Lac.). National Seminar on Fish II. Indonesian Society of Ichthyology, Bogor, p. 33 (abstract).

- c.2. Subandiyono, S. Hastuti and I. Mokoginta. 2005. The Effects of Chromium on Carbohydrate Utilization, Nitrogenous Waste, and Growth of Giant Gouramy (*Osphronemus gouramy*, Lac.): An Alternative of Eco-Friendly Diet. International Workshop: Eco-Friendly and Sustainable Fisheries. Riau Univ. and Tokyo Univ. of Marine Science and Technology, Riau, p. 50 (abstract).

e. Translation books

The terms and systematics of writing a translated book in a bibliography are the same as a textbook, but the name of the author listed is the original name of the author of the book, instead of the translator's name. At the end of the bibliography list text, an explanation is provided in parentheses (translated by).

Examples:

- d.1. Linder, M.C. 1992. Nutrition and Carbohydrate Metabolism. In: M.C. Linder (Ed.). Biochemistry of Nutrition and Metabolism. UI-Press, Jakarta, pp. 27-56 (translated by A. Parakkasi).
- d.2. Nybakken, J.W. 1990. Marine Biology. An Ecological Approach. Pt. Gramedia Pustaka Utama, Jakarta, 459 pp. (translated by M. Eidman, Koesoebiono, D.G. Bengen, M. Hutomo and S. Sukardjo).
- d.3. Purcell, E.J. and D. Varberg. 1987. Calculus and Analytic Geometry. Ed. V. Publisher Erlangga, Jakarta, 300 pp. (translated by I Nyoman Susila, B. Kartasmita and Rawuh).

f. Dissertations, thesis, diploma thesis, and research reports

Terms and systematics of writing:

- f.1. Name (see point a.1 above);
f.2. Year (see point a.2 above);

- f.3. Heading (see point a.3 above);
- f.4. The research category, written in brackets "[]" followed by a period (.);
- f.5. The name of the Institution/Faculty/College where the dissertation/thesis/diploma thesis/research report was made followed by a comma (,);
- f.6. The name of the city of the Institution / Faculty / College followed by a comma (,); and
- f.7. The number of pages followed by a period (.)

Examples:

- e.1. Hastuti, S. 2004. Physiological Response of Carp Fish (*Osphronemus gouramy*) Feed Containing Chromium-Yeast to the Decrease of Environmental Temperature. [Dissertation]. Graduate School, Bogor Agricultural University, Bogor, 104 pp.
- e.2. Hadadi, A. 2002. Effect of Different Carbohydrate Content of Feed on the Growth and Efficiency of Carp Feed (*Osphronemus gouramy* Lacepede) Size 70-80 grams. [Thesis]. Graduate School, Bogor Agricultural University, Bogor, 55 pp.
- e.3. Komang, A. 1993. Eco physiological Analysis of Red Tilapia (*Oreochromis* sp.) for the Development of Floating Net Cultivation in the Sea. [Thesis]. Postgraduate Program, Bogor Agricultural Institute, Bogor, 105 pp.
- e.4. Purwanto, H. 2007. Effect of Chromium Supplement in Feed on Feed Utilization Efficiency and Dumbo Catfish Growth (*Clarias gariepinus*). [Diploma Thesis]. Faculty of Fisheries and Marine Sciences, Universitas Diponegoro, Semarang, 40 pp.
- e.5. Jasper, R. and M. Hoxey. 1997. The Effect of Processed on Pellet Hardness, Water Stability and Leaching Characteristics of Prepared Feed for Aquaculture. [Research Report]. Australian Quality Ingredients Ltd., South Fermentable, Western Australia, 50 p.m.
- e.6. Mokoginta, I., R. Affandi, M.A. Suprayudi and M. Setiawati. 1993. Nutritional Needs of Carp (*Osphronemus gouramy*, Lac.) for Growth and Reproduction. [Lap. pen. Hb. II/1]. Faculty of Fisheries and Marine Sciences, Bogor Agricultural University,

Bogor, xx pp.

g. Website or internet

Terms and systematics of writing:

- g.1. Name (see point a.1 above);
- g.2. Year (see point a.2 above);
- g.3. Heading (see point a.3 above);
- g.4. Website address; as well as
- g.5. Dates, months, and years visited in parentheses () followed by a period (.).

Examples:

- f.1. anonymous. 2006. The Roles of Insulin. <http://en.wikipedia.org/wiki/insulin#cilumn-one> (March 25, 2006).
- f.2. Groth, A., U. Focken, R.M. Coloso and K. Becker. 1998. Effect of L-Carnitine on Growth, Survival and Body Composition of Individually Reared Juvenile Tiger Shrimp (*Penaeus monodon*, Fab.). http://www.Uni_hohenheim.de/~agroth/ag_1998 (January 15, 2003).

4.2.3 Appendices

Appendices contain material or information that is not incorporated into the main part or text, as it may interfere with the compactness of the description. Appendices are intended to help readers to easily gain clarity and further understanding of the data and related information. The appendices contained in the "Appendices" chapter are arranged according to the order in which they are used in the text (writing hierarchy). Between appendix 1 and the end of the bibliography part is bounded with 1 page that says the word appendix. This page is the beginning of a compilation of the required appendices in the diploma thesis. This page should have page numbers in order placed on the top right side as in the text at the main

or final part. The word appendix is typed "A P P E N D I X" with an indentation distance of 1 tap between each capital letter used. The word "appendix" is bold using font 14 (or up to 16), and is located in the middle of the paper page (Appendix 24).

Each appendix must have obtained a reference sentence or introductory sentence in the text, either directly or indirectly. Examples of direct reference sentences are: "Blood glucose levels of carp maintained by feeding contain low carbohydrate shortly before (0th hour) and after consuming the feed (1st, 2nd, 3rd, 4th, 5th, 7th, 9th, 11th, and 18th postprandial) is presented on Figure x and Appendix y". While the example of indirect reference sentences is: "Blood glucose levels at the peak for treatment A, B, C, and Dare 111.9 ± 1.3 , 116.5 ± 4.0 , 112.3 ± 3.8 , and 111.9 ± 3.6 mg/100 ml blood (Appendix x). Appendices that do not obtain the previous reference sentence must be removed from the appendix chapter. Each appendix in the appendix chapter must also be written systematically and sorted in a list of appendices page in the order of their numbers. The text for each appendix in the appendix chapter must exactly match the text in the list of appendices page.

The message delivered in the text on each "appendix" is an integrated piece of information. If there is more than one message, it should be presented in a separate appendix number. Each appendix number should be used on a single page. If one appendix number (e.g., Appendix 16) requires more than one page, the next page says: "Appendix 16. (continued). If there is more than one appendix number or picture in one appendix, the picture table should not have text in the form of a complete sentence, but just a short description as already mentioned in the first text (Appendix 25, 26).

Data and information that are usually contained in appendices are:

1. Raw data of research results;
2. Supporting data, such as secondary data;
3. Sampling procedure;
4. Questionnaire;

5. Statistical calculation procedures, such as ANOVA;
6. Maps, images, or photos of research results;
7. Results of chemical analysis; and
8. Methods and reagents used for chemical analysis.

4.3.2 Biography

The author's biography is presented succinctly, especially the personal data of the author such as place and date of birth, children in the family, the name of the parents, the level of education that has been and is being passed, and the experience of scientific work or another research. The biography should be completed with a 2x3 cm colour photo placed on the top left side. The biography of a researcher or author is not a scientific work, so it does not need to be included in the table of contents.

V. WRITING SYSTEMATICS OF SCIENTIFIC PUBLICATIONS

Rules, presentation and writing techniques, and other provisions on the writing of scientific publications in general are the same as in the writing of a thesis or other types of scientific works. The writing of scientific publications is usually presented in a more concise format than the thesis. Scientific publications can be part or all of the results of research contained in a thesis, so a thesis can be written into one or more scientific works depending on the size of the research topic or the amount of data obtained. Scientific publications, similar to the thesis, consist of: (1) initial part, (2) the main part, and (3) the final part.

5.1 Initial Part

The initial part of a scientific publication is composed of: (1) title, (2) author name, (3) address, (4) abstract, and (5) keywords. The writing and presentation of each of these components is described below.

The title is a very important part of a manuscript of a scientific publication article, as it will be referred to for the first time by the reader. The title will be read by hundreds of people, so that every word in the title should be chosen carefully. The interrelationships or relationships between words in the title should be carefully formulated as well. The number of words in the title of a scientific publication is usually limited, so the short length of the title should be considered on the basis of important value, accuracy of meaning, priority of use, as well as the association of selected words with the "key message" of the scientific publication article. Titles that are too short make potential readers less or not helped in understanding or knowing the content of the writing. For example: "The study of Brucella". It is not clear whether the title contains taxonomic, genetic, biochemical, or medical studies? Conversely, too long titles can reduce meaning when compared to short titles. The use of less meaningful words (waste of words) in titles such as "study about", "research about", "observation about", "study of", and others should be avoided. The number of words in the title of a scientific publication is a

maximum of 15 words, excluding prefaces and conjunctions. Abbreviations, jargon, chemical formulas, and acronyms should be avoided.

The names of the authors should be written in full without the academic title. If the author's name is more than one, the chief researcher should be placed as the first author and then followed by the rest of the research team.

The address of the author should be listed fully and clearly. The author's address is generally the address of the laboratory where the author conducted the research. The purpose of address writing is as part of the author's identity and serves as the author's mailing address. If the number of authors is more than one, the writing address is sorted according to the order of the names of the authors in the article of the scientific publication. Some journals apply an asterisk system and some use footnotes in authorship.

An abstract is a "summary" of the information summary in the document. Abstracts should be written clearly and straightforwardly. Abstracts should not provide information or conclusions not stated in the article text. The author's name from the bibliography (reference or literature) that is copied or confiscated should not be included in the abstract. Abstracts are composed of: (1) statements on the purpose and topic (scope) of research, (2) methods used in research, (3) summary of research results, and (4) statements of main conclusions. The number of words in the abstract should be no more than 150 words and consist of 1 paragraph.

The last part of the abstract usually ends with the keyword. The words selected in the keyword should be the main words that are very relevant to the topics. The number of these keywords ranges from 3 to eight words. "Word" takes precedence over "phrase".

5.2 Main part

The main part of a scientific publication is composed of: (1) introduction, (2) materials and methods, and (3) results and discussions. The writing and presentation of each of these components is explained below.

The introduction provides readers with sufficient information about the background of the research, so that the reader can understand and evaluate the results reported in the study, without having to refer or browse previous publications. The introduction should explain the reason or rationale for the research being conducted. A good introduction has the following criteria: (a) stating the nature and topic of the study or problem being studied, (b) reader-oriented, (c) involving (review) some very relevant and up-to-date literature studies, (d) stating the research method and if necessary, the reason for choosing the method, and (e) stating the results of the main research.

Materials and methods are written with the aim that other researchers interested in the topic can repeat the related research. The research materials and methods also contain quantity, technical specifications, and source or preparation method. It should have avoided the use of trade names or brands, and instead used the name of the active ingredient content, generic name, or chemical name. In this case, it can be equipped with factory names that produce it, especially for materials known to many types. For example, vitamin E (instead of "Nature-E") is produced by PT. " X". When using animal, plant, or microbial material, it should be identified accurately. Specific sources and characters (such as age, gender, genetics, and physiological status) should be listed. The writing of the research methodology follows the format referring to the script of the seminar article (see sub-chapter 3.2.2).

Results and discussion are the most important part of scientific publication articles. Rules and techniques of presentation and writing of results and discussion should follow the provisions and formats as the text of the seminar article.

5.3 Final Part

The final part of an article of scientific publication is generally composed of: (1) conclusions, (2) bibliography (references), and (3) acknowledgements. Some journals require different conditions.

Conclusions are generally presented in separate chapters separately, but some are listed as the final part of the discussion. Suggestions are rarely included in scientific publication articles. Rules and techniques of presentation and oral conclusion follow the provisions and format as the writing of the conclusion of the seminar article script.

All cited literature resources must be listed in the bibliography. The rules and techniques of presenting and writing bibliography follow the provisions and format as the writing of the bibliography of seminar article manuscripts.

Acknowledgement can be addressed to the research funder, complete with research contract number. When the writing of the publication script comes from the thesis, the acknowledgement is addressed to the supervisor. If the acknowledgement is addressed to a particular person, it should explain the real contribution of the person in the research, such as assisting in the design of research materials or data processing.

VI. TYPING AND PRESENTATION TECHNIQUES

Scientific works (e.g., thesis) or research proposals (UP) should be presented in Bahasa Indonesia or English properly and correctly with due regard to the applicable grammar and spelling provisions, both in terms of the use of terms, sentence structure, and carefulness in the use of punctuation. The style of language used should be straightforward, clear, communicative, and every sentence as much as possible meets the criteria of the standard sentence. Sentences should be made in the form of passive sentences, without using or accentuating people's pronouns (e.g., me, him, them, and so on). First-person pronouns (I) if needed, (e.g., in preface or biography), should be replaced with the word author.

The use of words or terms that are the result of absorption from foreign languages should always be done by paying attention to the applicable rules as stated in the General Guidelines for the Terms Establishment. Some important provisions in typing techniques and presentation of thesis writing are described as follows.

6.1 Typing Techniques

Scientific manuscripts should be typed with regard to the fonts, punctuation, spacing between lines, paper margin, page numbering, paragraph, letters at the beginning of a sentence, down details, arrangement of chapter (headings), sub-chapters, and sub-chapters.

6.1.1 Numbers

All numbers are written with Arabic numerals (1, 2, 3, 4, and so on). The number located at the beginning of a sentence is written in a spelled way (example: One, Two, Three, and so on). Decimal fractions are attempted in two decimal places and expressed by using comma (.). When a number reaches thousands then each value of thousands is affirmed by a period (e.g., 345.678,21). When presented sequentially, decimal fractional numbers are separated by a semicolon (;) to distinguish from each other (example: 75.00; 45.21; 40.00).

6.1.2 Unit

All units (measurement) are expressed in international measurement (SI=Metrics). If a number is a conversion of another unit, the original measurement is listed behind it and in parentheses, for example: 10 cm (4 inches). Units of length, width, volume, weight, and other units are written using abbreviations without dots {example: 5 cm, 50 cm², 1 kg, 75 mg, 100 g (instead of 100 gr), 100 ml (not 100 mL or 100 cc), 24 l (not 24 L), and so on}. If the unit is at the beginning or in a sentence or is not preceded by a number, the writing must be spelled, for example: body weight is expressed in kilogram (not kg) or volume in litres. The unit % or temperature degree (e.g., °C) can be used when preceded by a certain number and placed behind a number without spaces, (e.g., 10%, 5%, 15%, 25°C, 37°K). If a number is not followed then the sign must be written with the spelling of “percent” (not “prosen”).

Writing of dosage units or concentrations can be done based on (volume), for example: ml/l or mL/L; (weight/volume), for example: mg/l or mg/L and (weight/weight), for example: mg/kg. Both ways of writing can be used, but must be consistent after choosing one method. Examples of writing symbols of different types of units are presented in Appendix 27.

6.1.3 Greek letters

Greek lettering such as α (alpha), β (beta), γ (gamma), and so on is written as original.

6.1.4 Foreign words

Word (or words) in Latin is italicized, for example: *ad libitum*, *in vivo*, *Aeromonas hydrophyla*, *Homarus americanus*, *Chanos chanos*, *Penaeus japonicus*, *Gracilaria* sp., *Vibrio* sp. Scientific names and language organisms in Latin, e.g., for species names, genera, families, orders, class, and so on are italicized. The species name should be mentioned in full for the first time at the beginning of each new chapter change. The writing of the species name for the

next letter of the genus name, for example the writing of *Penaeus japonicus*, for later written *P. japonicus*. The exception of writing the full genus name occurs when the genus name is different but begins with the same letter, e.g., *peneus japonicus* and *Portunus pelagicus* are written in full. Foreign words and other words that have not been standardized into Bahasa Indonesia are written in quotation marks, for example: "bakalan", "tebasan", "anakan", "nener", "benur", "spat", "grouper".

6.1.5 Term

Shortening the term on first use should be written in full, for example: ammonia (NH₃), flying fatty acids (VFA), carbon dioxide (CO₂), carbohydrates (KH), dissolved oxygen (DO), variety analysis (ANOVA), *Penaeus monodon* (*P. monodon*), *Tridacna maxima* (*T. maxima*). The writing of biological names (e.g. *Penaeus monodon*) more than once in the same chapter, the writing of the second name and the next is using abbreviations, for example: *P. monodon*.

6.1.6 Font

The font used is a type of Times New Roman font 12. The whole script is typed with the same font. The letters in each chapter are typed with font 14, capitalized, and bolded. The letters for the title sheet and the front cover are typed in font 16 – 18 (depending on the length of the title), capital (except Latin names), and bolded. Greek letters and other non-typed markings can be neatly handwritten in black ink.

6.1.7 Punctuation

Punctuation such as periods, commas, semicolons, or colons, must be used appropriately. After using a period to end a sentence or numbering, the following typing is given a two-indentation distance. After commas, semicolons, and colons the next typing is given an indentation distance of one. A typed colon is attached without spaces to the word before it, for example: "the following:", "like:", "i.e.:".

6.1.8 Spacing between rows

The spacing between sentence lines is generally double space. Summaries, direct citations, bibliography, and table titles or text and picture lists that exceed one line of typed are single-spaced.

6.1.9 Paper margin

The typing margin of the paper edge is as follows: the left margin is 4 cm, the upper, lower, and right margins are 3 cm. The end of typing on the right margin of the paper doesn't have to be straight down vertically or aligned right. If desired, the composition of justify margin then it is necessary to note the following:

1. Hyphenation must be in accordance with the correct Bahasa Indonesia provisions. It is recommended to adjust to the automatic program from the computer;
2. The spacing between words in a sentence is no more than 3 indentations; and
3. Abbreviations and names of people should not be cut.

6.1.10 Page filling

Each page should be typed full, except on certain pages such as: list of tables page, table of figures page, list of appendices page.

6.1.11 New paragraph

The new paragraph starts with an indentation of 1 cm from the left margin of the paper. The new paragraph should not be at the end of a sentence of one page. The beginning or end of each page consists of 2 or more sentence lines, not a single sentence line. Each paragraph should be composed of more than two sentences. One paragraph with one sentence is not allowed.

6.1.12 Beginning of sentence

The number of units, symbols or chemical formulas at the beginning of a sentence, must be spelled, for example: "Ten red tilapia brood stock..." and so on, it should not be written "10 red tilapia brood stock..." and so on). Connectors and

conjunctions, for example: and, if, whereas, or, where, should not be placed at the beginning of a sentence.

6.1.13 Downwards details

If in the text there are details that must be arranged downwards, used a sequence number of details with numbers or letters, followed by a semicolon (;) and conjunctions such as "and", "or" at the end of the sentence before the last number as can be seen in the following example:

Characteristics of dumbo catfish brood stock (*Clarias batracus*) with matured eggs are:

1. His anus is enlarged and reddish;
2. When the lower part of the stomach is pressed out, matured egg granules will come out; and
3. and so on for the last sentence.

6.1.14 Chapter arrangement

Chapters begin with Roman numerals in the order in which they are numbered. The Roman numerals are followed by a period and a distance of indentation of two tabs. Chapter titles are typed in capital letters, font 14, and bold and without period. The chapter title is symmetrical in the middle of the beginning of the new page. New chapters in the main part always start with a new page. The last page of a chapter contains at least two lines of sentences.

The sub-chapter is preceded by two numbers (Arabic numbers) in front of it, namely the chapter number and the sub-chapter number in order. The sub-chapter starts from the left margin of the paper. All words in sub-chapter headings are written in lowercase, except for each beginning of the word typed in capital letters, bolded, and without period. Starting from this sub-chapter, all headings are typed using 12 font-sized letters. Conjunctions and prepositions are typed in lowercase. Sub-chapter titles with more than two lines are written with single space. The first sentence of the sub-chapter begins with a new paragraph with an indentation of 1 cm.

Sub-chapters are preceded by three numbers (Arabic numerals in front of them), i.e., chapter numbers, sub-chapter numbers and sub-sub-chapter numbers according to their sequence numbers. Sub-chapters are typed in lowercase, except only at the beginning of the heading the sub-chapters are typed in capital letters, bold, and without period. Sub-chapter typing starts from the left margin of the paper. The first sentence after the sub-chapter heading is a new paragraph with an indentation of 1 cm. If a sub-sub-sub-chapter is still needed, the new sub-sub-chapter begins with lowercase Latin and is bolded similar to sub-chapters (note the chapter arrangement techniques of this manual and Figure 4).

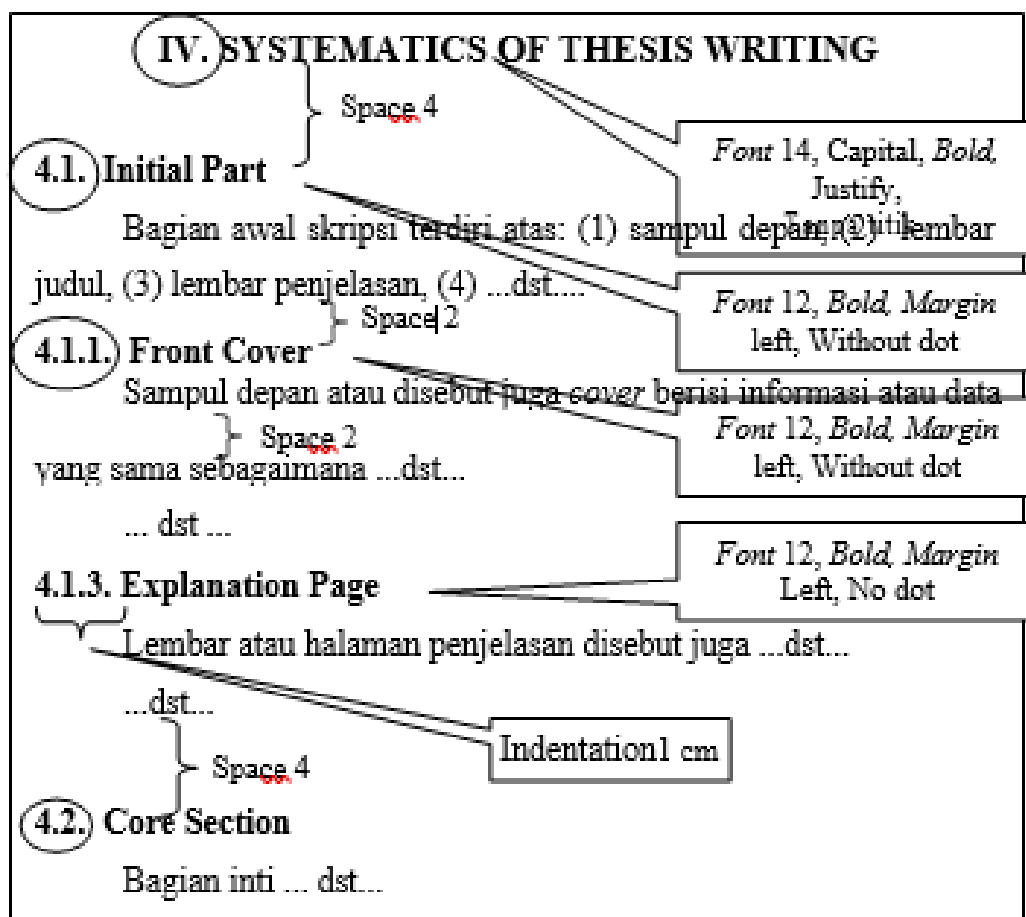


Figure 4. Example of Chapter Arrangement in Thesis Writing.

6.1.15 Numbering

Numbering is distinguished into three, namely: page numbering, table or data and figure numbering, and equation numbering. The initial part of the diploma thesis, which is from the title page to the list of appendices page, is numbered with small Roman numerals (e.g., iii, iv, and so on). The main part and the final part of the diploma thesis, i.e., from the introduction page to the end of the bibliography, are given number pages. Page numbers with small Roman numerals are typed on the middle bottom side of the page with a distance of 1.5 cm from the bottom margin (justify). The Roman number "i" starts from the title page. However, this number does not need to be listed or written, although still counted. The writing of the page numbers starts from the Roman number "ii", i.e., on the glossary page. Page numbers with Arabic numbers typed on the upper right side of the paper, including for new chapter pages. The page number on the upper right side of the paper is typed at an indentation of 3 cm from the right margin and 1.5 cm from the top margin (i.e. in the upper right corner of the header position). The number "1" begins on the page with the introduction chapter (i.e., "I. INTRODUCTION"). with arabic numerals (e.g. 1, 2, dan so on).

Numbering of tables (data), figures, and appendices is done sequentially using Arabic numerals and followed by periods (.) after numbering (read more about table and figure display techniques in sub-chapter 6.2). Equations in the form of mathematics formulas, chemical reactions, etc. are numbered in order with Arabic numbers in parentheses and typed at the back near the right margin as the following example:

$$Y = 207 - 4.7922X + 0.033X^2 \quad (1)$$

6.1.16 Degree

All academic degrees possessed by a person should be fully written, either located in front of or behind the name, and written correctly in accordance with the general rules. Religious titles can be written or not, depending on the custom of the owner. Each writing of one degree ends with one period (.) (Appendix 28). When

two or more degrees are written in sequence, they should not be separated by indentation (tap). Examples of academic degree writing are as follows:

- a. Prof.Dr.Ir. Johannes Hutabarat, MSc.;
- b. Prof.Dr.Ir.H. Sutrisno Anggoro, MS.; and
- c. Dr.Ir. Suradi Wijaya Saputra, MS.

6.2 Presentation Techniques

Figures and/or tables may be presented in the chapters of literature review, materials and methods, and results and discussions; but not uncommon in the introduction chapter, conclusions and suggestions chapter, nor sub-chapters of discussion. Figures and tables that give the same message or meaning because they come from the same data should be presented only one, not both. If the meaning you want to emphasize is the number value, it should be presented in the form of a table. When you want to emphasize more on a pattern (trend) or tendency, it should be presented in the form of a figure. Each number and description (legend) in a table or figure should be presented with a font size that is easy to read, for example font 12. The total size should be proportional and no less than half the page width of the paper.

Figures or tables should be placed directly or as closely as possible after the reference sentence, which is the sentence that discusses or refers to it. Each figure or table must have a reference sentence before the table or figure is presented. The title text on the table or figure should not begin with clichéd words such as: "Table...", "Data...", "Image...", "Histogram...", "Map...", etc., but should immediately explain the substantial information.

6.2.1 Table

The table should be presented in a symmetrical position right-left. Tables must not be cut. The same table should be arranged to be on the same page of paper. If the amount of data is sufficient, the data presented in the table can be shortened, for example showing only the average values and standard deviations (or standard errors) only, without repetition. More data can be referred to in appendices. If the

number of columns is large, the table can be arranged at the landscape paper position with columns parallel to the length of the paper page. The top of the table is placed on the left (i.e., the part to bound) and keep following the margins and the determined page writing and numbering rules.

The table format is presented with a single line intact (not double and dotted) and horizontal. Borders between columns do not need to use a vertical line but must be kept so that the separation between the columns is quite firm.

The table title text is in lowercase, except for each beginning of the word typed in capital letters. Prepositions and conjunctions are typed in lowercase. The author's name and the year the library source quoted in the table are placed right in the bottom section of the table with a space of 1 from the end of the table. The distance between rows from a table caption is a space of 1. Titles consisting of more than one line must be written with a single space. The distance of the final row of the title with the top row of the table is a single space.

Between rows in a table is typed with a spacing of 1.5. Writing of table headings in text starts with writing table identity words, for example: "Table 1." and so on. The letter "t" is written in uppercase "T" and followed by a period (.) after arabic number table, then indented 2 taps. Two taps after writing the word "Table 1.", typed the table title text as the conditions mentioned above and without a period (.) after the last word. If the title of the text is more than two lines, then the 2nd line and later are indented according to the left margin of the text on the first line (see example in Table 1, 2, 3).

6.2.2 Figure

Figures should be presented in a symmetrical position right – left. Figures include curves, graphs, histograms, photos, maps, floor plans, sketches, etc., which are usually not in the form of text. The figure presented in the main part of the diploma thesis is an image of the results of research that is considered an important information value. If it is not considered as important, it should be presented in

appendices and using the identity of the appendix (instead of the figure), and thus, the picture is grouped into the list of appendices page.

Curves, graphs, and histograms that are illustrations of a series of data should be presented in 2 dimensions without outer borders, grids, and backgrounds. Curves, graphs, and histograms should be minimally involving data in the form of numbers, and instead need to include a deviation line (error bar) on each data point.

Writing a figure title in text begins with writing a figure identity word, for example: "Figure 1." and so on. The letter "f" is typed with the uppercase "F" and followed by a period (.) after the Arabic number of the image, then indented 2 tabs.

Table 1. Example of Table 1

Tabel 1. Contoh Tabel Komposisi Bahan dan Proksimat Pakan Uji untuk Ikan Gurami (*Ospchronemus gouramy*) pada Penelitian Tahap Pendahuluan (dalam % Bobot Kering)

Bahan Pakan

Jarak indentasi 2 ketukan

Kadar Kromium (ppm) Tanpa titik

Font 12, spasi 1, Self explanation

Spasi 1 (Perlakuan A) Tanpa titik (Perlakuan B) Font 12, spasi 1, Self explanation (Perlakuan C)

Tepung ikan	24.0	24.0	24.0
Tepung rebon	16.9	16.9	16.9
Tepung terigu	41.4	41.4	41.4
Minyak ikan	4.7	4.7	4.7
Minyak jagung	3.8	3.8	3.8
Vitamin*	2.0	2.0	2.0
Mineral**	5.9	5.9	5.9
Ragi	0.3	0.3	0.3
Kromium	0.000	0.001	0.002
Selulosa	0.002	0.001	0.000
CMC	1.1	1.1	1.1
Komposisi proksimat:			
Protein	33.4	33.0	33.1
BETN	43.3	43.3	43.3
Lemak	9.1	8.9	9.0
Serat Kasar	1.9	3.4	2.9
Total Energi (kkal)***	298.0	295.7	297.9

Keterangan:

*Dalam mg/kg pakan: vit. B₁ 60; vit. B₂ 100; vit. B₃ 40; vit. B₆ 100; vit. C 2000; vit. K₁ 50; vit. A,D₃ 400; vit. E 200; Ca-pantotenat 100; inositol 2000; biotin 500; asam folat 10; niacin 700; riboflavin 500; vitamin B₁₂ 0.01; asam lemak panasil 2000; Fe 200; Zn 200; Mn 200; Cu 200; K₂CO₃ 200; Na₂CO₃ 200; Na₂HPO₄ 2H₂O 12.5; KH₂PO₄ 16.0; CaHPO₄ 2H₂O 6.53; Fe-sitrat 1.25; ZnSO₄ 7H₂O 0.1765; MnSO₄ 4H₂O 0.081; CuSO₄ 5H₂O 0.0155; K₂HPO₄ 40.0015; CoSO₄ 0.0003.

***Protein = 3.5 kkal/g; Bahan ekstrak tanpa nitrogen = 25.9 kkal/g; Lemak = 8.1 kkal/g.

Table 2. Example of Table 2

Tabel 2. Contoh Tabel Kualitas Air Media Percobaan yang Diamati secara Periodik selama Periode 28 Hari pada Percobaan Budidaya Tokolan Udang Windu dalam Media yang Terkontaminasi Fenol

Parameter	Nilai Pengamatan	Nilai Optimum Menurut Pustaka
Suhu (°C)	27,7 – 29,2	28 – 30 (Boyd, 1982)
Jar. Oksigen terlarut (mg/l)	3,8 – 4,6	> 4 (Chen, 1989)
Salinitas (ppt)	33 – 37	33 – 50 (Cheng and Liao, 1986)

Space 1 Font 12, space 1.5 Font 12, space 1 Without dot

Or:

Table 3. Sample Table of Water Quality of Experimental Media Observed Periodically over a Period of 28 Days in the Experiment of Cultivation of Tiger Prawns in Phenol Contaminated Media

Parameters	Observation Value	Optimum Value
Temperature (°C)	27,7 – 29,2	28 – 30 ^{a)}
Dissolved Oxygen (mg/l)	3,8 – 4,6	> 4 ^{b)}
Salinity (ppt)	33 – 37	33 – 50 ^{c)}

Information
^{a)}Boyd, 1982;
^{b)}Chen, 1989;
^{c)}Cheng and Liao, 1986.

Space 1 Center Align Lowercase, Superscript

Two taps after writing the word "Figure 1.", typed the title text of the figure following the conditions mentioned above and ended with a period (.) after the last word.

If the text title is more than two lines then the 2nd line and more are aligned according to the left margin of the text on the first line. The text of the figure title text is placed at the bottom of the image (Fig 5). Figures must be made on the same type of paper as the paper for text (except on the basis of scientifically specific considerations). Images over the size of quarto paper should be reduced, but the page numbers and captions of the figures must be typed at standard sizes just like any other page.

Figure 5. Sample Image Blood Glucose Level Pattern of Gurami Fish (*Osphronemus gourami*) for 18 hour *Postprandial* at Low Carbs.

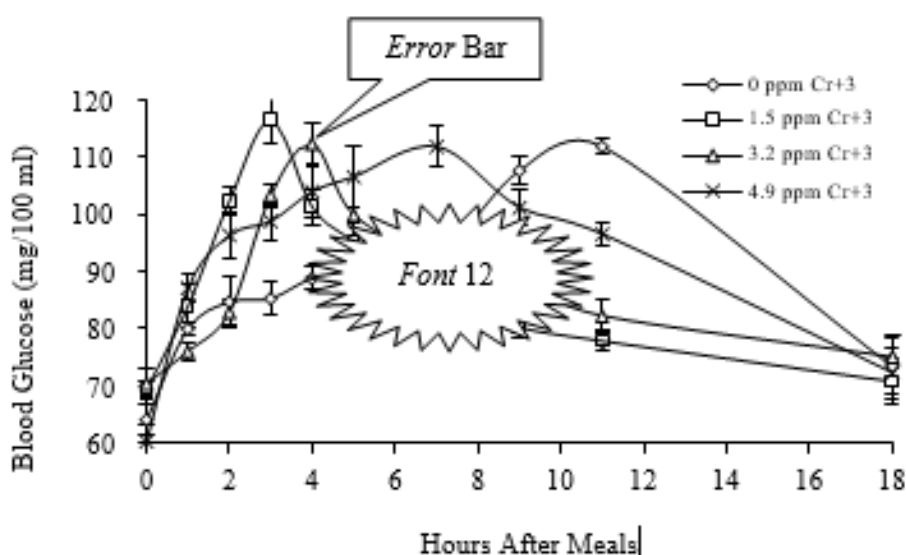


Figure 5. Sample Image Blood Glucose Level Pattern of Gurami Fish (*Osphronemus gourami*) for 18 hour *Postprandial* at Low Carbs.

Font 12,
Space 1

Dot

The presentation of various types of figures in the diploma thesis manuscript must meet the following conditions:

1. The image is a colour photo using *doff* paper and is at least 5x9 cm in size. Photos are closely related to the methods and results of research;

2. Images of charts and graphs are made to be harmonious, or proportional. The average value should include its standard deviation (error bar). In displaying a regression line graph, the regression coefficients (r) should also be displayed in addition to presenting the equation of the regression line. The scale on the chart should be made so that it is easy to draw the interpolation or extrapolation;
3. In a graph or diagram, upright and flat axis explanations are typed parallel to the axes. Axis explanations are typed using lowercase letters, except at the beginning of each word using capital letters. Existing units are written in parentheses. An image explanation is typed at the bottom of the image;
4. Images in the form of maps must be in accordance with the rules of cartography. If it is deemed important, the map can be displayed in the materials and methods chapter. The use of colour is allowed. It is important to note: **AERIAL/SATELLITE PHOTOS ARE NOT MAPS BUT IMAGES, IF THEY DO NOT MEET CARTOGRAPHIC RULES;**
5. When the image is made wide along the paper (landscape), the top of the image is placed on the left and keep following the typing margin rules; and
6. All images are numbered and titled. The number and title of the image are typed in the bottom of the image by using a single space.

An image can be categorized as a map if it meets the correct cartography rules. If it does not meet these rules, it cannot be referred to as a map. A map must have the following requirements:

1. Agencies and logos;
2. Constituents;
3. Year of manufacture;
4. Northward and declination;
5. Latitude and longitude (map coordinates)
6. Scale;

7. Legend or description;
8. Map source (base map sheet);
9. End line; and
10. Cross section (for bathymetric maps presented in 3-dimensional form).

An example of a map layout is presented in Figure 6. Some examples of map types are presented in Figures 7, 8, 9. Paper orientation (landscape or portrait) depends on the image of the area to be displayed.

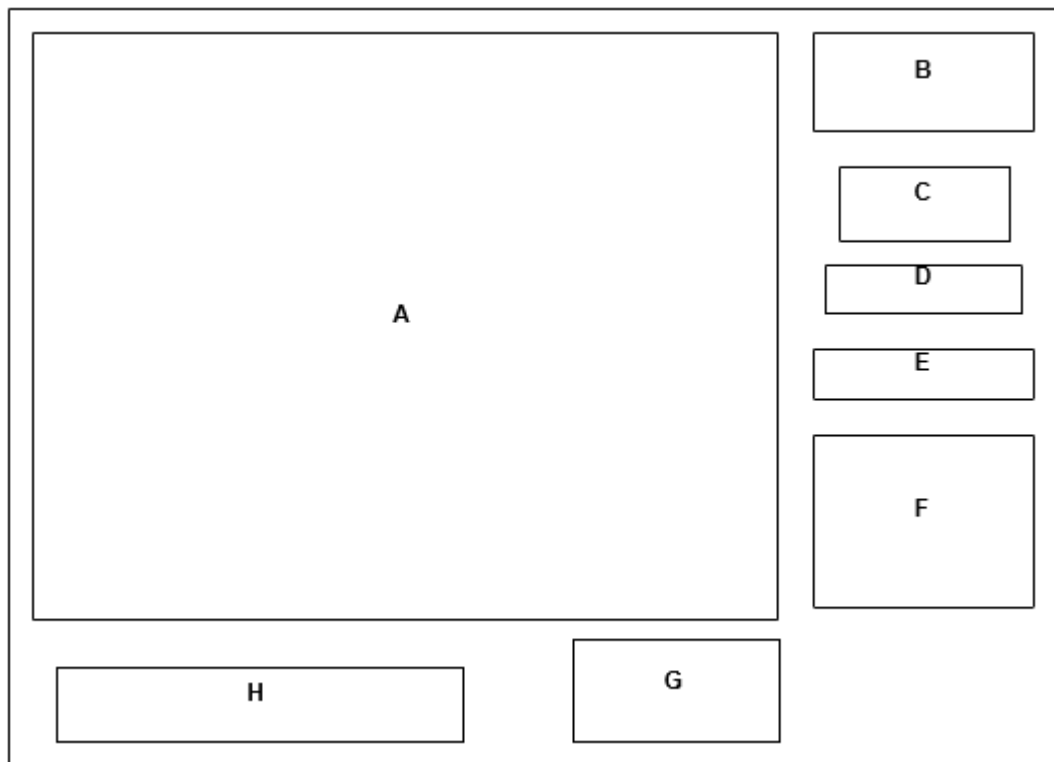


Figure 6. Example lay out for a map.

Explanation:

- A: Draw a complete area, location, or research station with latitude, longitude and northwards;
- B: Agency or logo;
- C: Map title;
- D: Editor;
- E: Scale;

F: Legend or map description;

G: Inset; dan

H: Map source (source, map sheet, and year of creation).

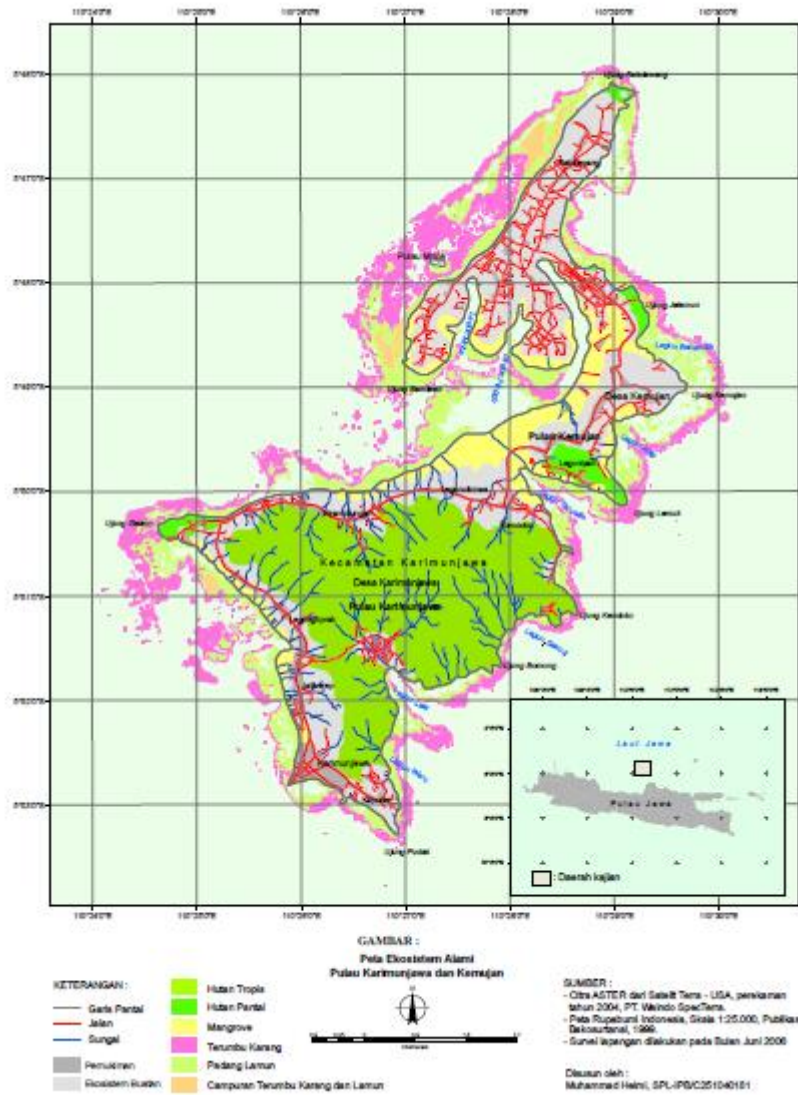


Figure 7. Example of Natural Ecosystem Map of Karimunjawa and Kemujan Islands.

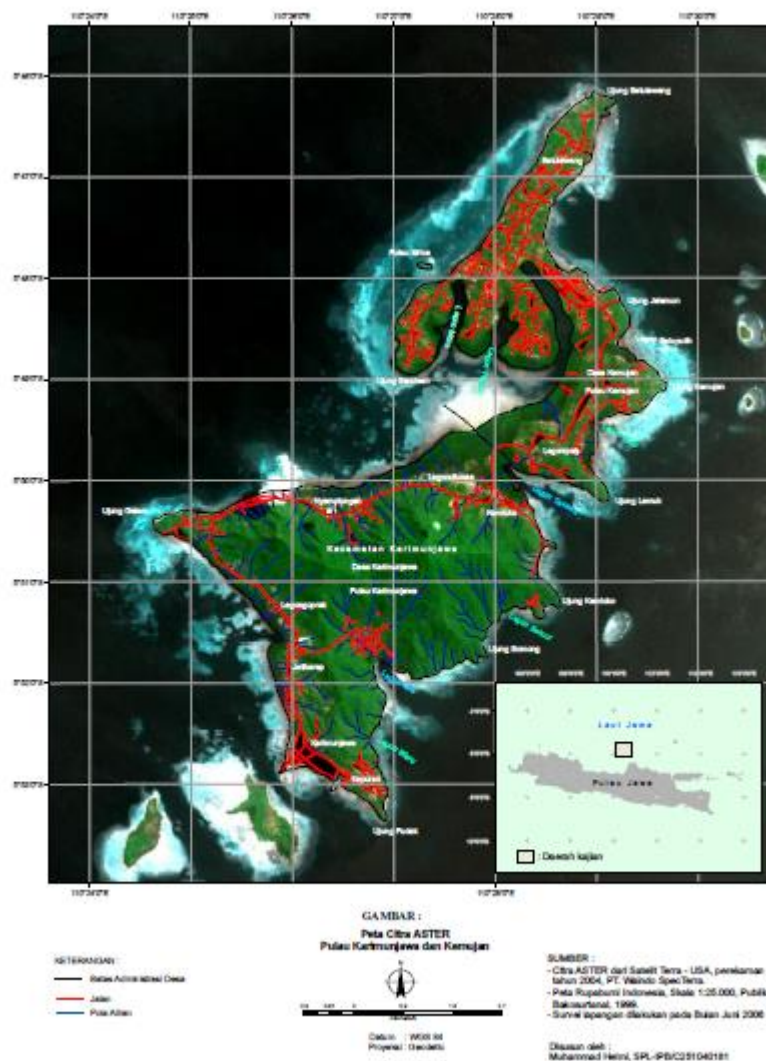


Figure 8. Example of ASTER Imaginary Satellite of Karimunjawa and Kemujan Islands.

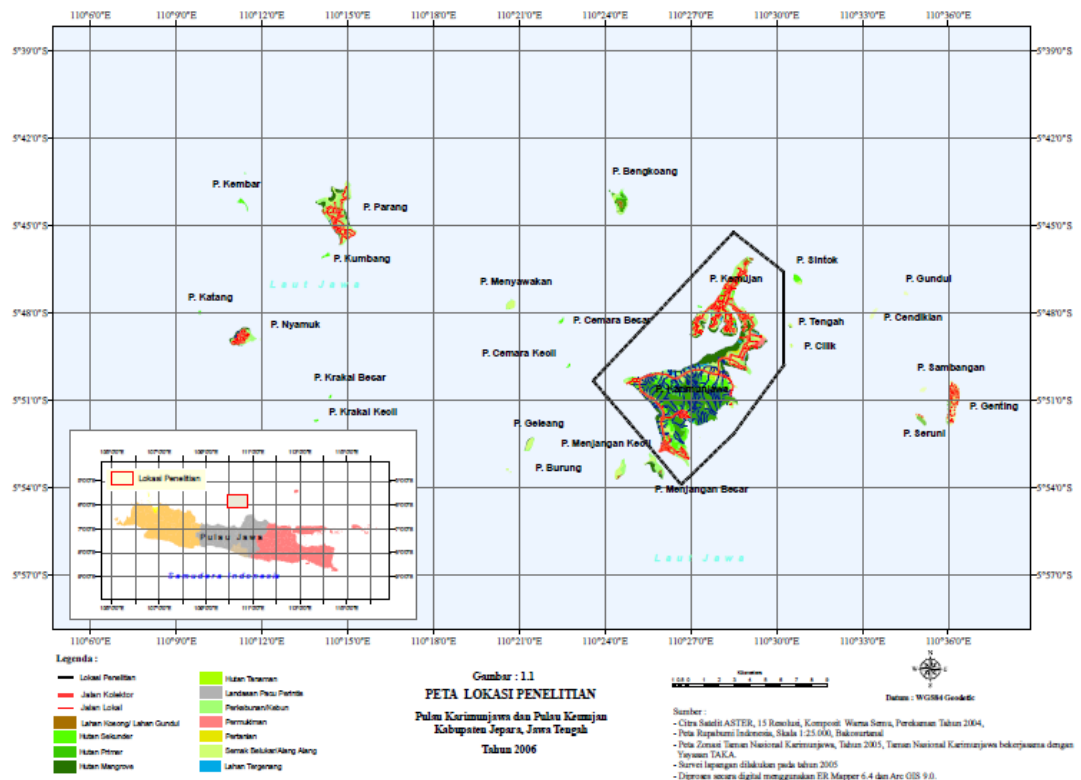


Figure 9. Example of Research location Map on Karimunjawa and Kemujan Island 2006.

APPENDICES

Appendix 1. Three Main Actions before the Implementation of Research, Starting from Field Survey to Research Proposal Preparation (UP)

The three main actions that should be considered before the implementation of the study begins are:

1. Field Survey

In field surveys or research plan locations include the possibility of availability of research materials and equipment, where obtaining such materials and equipment, as well as administrative procedures of research permits. The right research location is very helpful in the success of implementation and writing of scientific works.

2. Literature Review

Literature can be obtained from printed or electronic media, such as research journals (preferably reputable journals), textbooks, and the internet. In certain very specific cases, popular scientific books and magazines as well as personal communication (*kompri*) with experts or competent people in their fields are still permitted, but should be avoided. Popular magazines and newspapers should not be used in literature citations, although they are very useful in adding insight or understanding to researchers.

3. Preparation of Research Proposals

The rules of writing or format of research proposal preparation (UP) are in principle the same as those applied in the preparation of diploma thesis (chapter II) and sub-chapter 4.1 and so on in chapter IV. Similar to the thesis, the UP consists of the initial, the main, and the final part, although there are slight differences in the constituent components. Usually, soft cover is enough for UP front cover, instead of hard cover like the diploma thesis. In the initial part of the UP, there are 3 components, namely the title page, the acknowledgement page, and the numbering page (the latter component is not included in the thesis). The main part is composed of introductions, literature reviews, materials and methods, and implementation schedules (the latter component is not included in the thesis).

While the final part consists of a bibliography and appendices, with no biography. The number of UP pages should be no more than 20 pages. In detail, the UP systematics are as follows:

- A. Initial Part
 - a. Title page
 - b. Acknowledgement page
 - c. Numbering page
- B. Main part
 - a. Introduction
 - b. Literature review
 - c. Materials and methods
 - d. Schedule
- C. Final Part
 - a. References
 - b. Appendix

In this section, the components in the UP that are different from the diploma thesis will be explained (i.e., title page, acknowledgement page, numbering page, and schedule of implementation), while for the same component can be read in chapter II and sub-chapter 4.1 and so on in chapter IV.

a. Title page

The UP-title page contains: (1) the title of the research proposal, (2) the category of scientific work proposal, (3) the name and students' ID number (NIM), (4) UNDIP logo, and the name of the institution, namely the Faculty of Fisheries and Marine Sciences, Universitas Diponegoro, Semarang, and (5) years of writing. The category of scientific work proposal for field work practice reports (PKL) is written "Proposals for Preparing a Report on Field Work Practices" (see example in Appendix 2). As for the diploma thesis, it is written "Research Proposal for Undergraduate Thesis" (see example in Appendix 3). The title page of UP contains the purpose of research proposals, namely to prepare the undergraduate thesis. This statement is not written in the title page of the diploma thesis, but is listed on the explanatory page. The title page is typed using single space, bolded, as well as the symmetrical position right – left (justify).

b. Acknowledgement page

An acknowledgement page is also called a legality page. The acknowledgement page of PKL proposal and diploma thesis proposal contains the title, name and NIM of students, name and NIP of the supervisor, as well as the name and NIP of the head of the study program (KPS). The acknowledgement page is approved by one supervisor (for PKL) or two to three supervisors (for diploma thesis) and the head of the study program (KPS). Examples of acknowledgement page for PKL proposals and research proposals (i.e., for diploma thesis) can be seen in Appendix 4 and Appendix 5, respectively.

c. Numbering page

The numbering page (also called the registration sheet) contains: (1) the title of the research proposal, (2) the name and students' ID number (NIM), (3) the code and name of the academic advisor, and (4) the recording number of the Department and the Study Program. This numbering page is made double. The first page is signed by the Secretary of the Department, while the second page is signed by the Secretary of the Study Program. Examples of numbering page can be seen in Appendix 6 and Appendix 7.

d. Schedule

The schedule of implementation of PKL and research contains about the description of the order of implementation of research in the form of time schedule, ranging from preparation, implementation of research, data collection, data analysis, and preparation of research reports. An example of an implementation schedule can be found in Appendix 8.


Appendix 2. Example of Title Page for Field Work Practices (PKL) Proposal

**TEKNIK PEMELIHARAAN INDUK
UDANG GALAH (*Macrobrachium rosenbergii*)
DI UPTD BBI UDANG GALAH PURWOREJO**

Usulan
untuk Menyusun Laporan Praktek Kerja Lapangan

Spasi 1, Simetris
kanan-kiri

Oleh:
MAULANA MUKLISH
K2B 002 122



**FAKULTAS PERIKANAN DAN ILMU KELAUTAN
UNIVERSITAS DIPONEGORO
SEMARANG
2005**

Font 14, Bold

Font 14-16, Kapital, Bold, Tanpa titik

Font 12, Bold, Nama kapital

Dipisah setiap 3 huruf atau angka

Panjang : lebar = 5,2 : 4,5 cm

Font 14, Bold, Kapital


Appendix 3. Example of title page for Research Proposal

PERTUMBUHAN RUMPUT LAUT
(Gracilaria lichenoides) **PADA PERLAKUAN**
WAKTU PERENDAMAN DALAM TETES TEBU

Judul Penelitian
untuk Menyusun Skripsi Sarjana S1

Spasi 1, Simetris
kanan-kiri

Oleh:
IWAN AGUS SUBROTO
K2C 992 380



FAKULTAS PERIKANAN DAN ILMU KELAUTAN
UNIVERSITAS DIPONEGORO
SEMARANG
2004

Font 14, Bold

Font 14-16, Kapital, Bold, Tanpa titik

Font 12, Bold, Nama kapital

Panjang : lebar = 5,2 : 4,5 cm

Font 14, Bold, Kapital

Appendix 4. Example of Acknowledgement page for Field Work Practices (PKL) Proposal

**TEKNIK PEMELIHARAAN INDUK
UDANG GALAH (*Macrobrachium rosenbergii*) DI
UPTD BBI UDANG GALAH PURWOREJO**

Font 12, Kapital,
Bold, Tanpa titik

Oleh:

**MAULANA MUKLISH
K2B 002 122**

Tanpa logo

Font 12, Bold,
Nama kapital

Spasi 1, Simetris
kanan-kiri

Disetujui Oleh:

Font 12,
Tidak bold

Ketua Program Studi

Pembimbing

.....
NIP.....

.....
NIP.....

Appendix 5. Examples of Acknowledgement page for Research Proposals

**KEPADATAN DAN DOMINASI FITOPLANKTON TAMBAK
DALAM MEDIA DENGAN KANDUNGAN NITRAT-FOSFAT
YANG BERBEDA**

*Font 12, Kapital,
Bold, Tanpa titik*

Oleh:
IWAN AGUS SUBROTO
K2A 992 386

*Font 12,
Tidak bold*

*Font 12, Bold,
Nama kapital*

Disetujui Oleh:

Pembimbing Utama

Pembimbing Anggota

.....
NIP.....

.....
NIP.....

Pembimbing lapangan
(Kalau ada)

.....
NIP.....

Ketua Program Studi

.....
NIP.....

Appendix 6. Example of Numbering Page for Research Proposal at Faculty Level

**KEPADATAN DAN DOMINASI FITOPLANKTON TAMBAK
DALAM MEDIA DENGAN KANDUNGAN NITRAT-FOSFAT
YANG BERBEDA**

Font 12, Kapital,
Bold, Tanpa titik

Oleh:
IWAN AGUS SUBROTO
K2A 992 380

Font 12,
Tidak bold

Font 12, Bold,
Nama kapital

Dosen Wali
Kode: 1431

Font 12,
Bold

Dra. Niken Larasati, M.Sc.
NIP. 18761707 1999031 001

Font 12,
Tidak bold

Usulan Penelitian ini telah dicatat di
Jurusan Perikanan
Nomor :
Tanggal :

Font 12,
Tidak bold

Sekretaris Jurusan

Font 12,
Bold

Dr. Abdul Kohar, S.Pi, MSc.
NIP. 19701509 1995041 001

Font 12,
Tidak bold

Appendix 7. Example numbering page for Research Proposals at the Study Program Level

**KEPADATAN DAN DOMINASI FITOPLANKTON TAMBAK
DALAM MEDIA DENGAN KANDUNGAN NITRAT-FOSFAT
YANG BERBEDA**

**Oleh:
IWAN AGUS SUBROTO
K2A 992 380**

Dipisah setiap 3
huruf atau angka

Dosen Wali
Kode : 1431

Dipisah setiap 3
huruf atau angka

**Dr. Ir. Max. Rudolf M, M.Sc.
NIP. 19600516 1987031 001**

Usulan Penelitian ini telah dicatat di
Program Studi
Manajemen Sumberdaya Perairan
Nomor :
Tanggal :

Sekretaris Program Studi

**Dr.Ir. Frida Purwanti, M.Sc.
NIP. 19641405 1991031 002**

Appendix 8. Examples of Research Schedule

No.	Activity	Month						
		I	II	III	IV	V	VI	VII
1.	Preparation and Permission	X						
2.	Materials and Equipment Preparation	X	X					
3.	Setting of Preservation System		X					
4.	Acclimation of Preservation System		X	X				
5.	Evaluation of Preservation System			X				
6.	Experiment Feed Preparation			X				
7.	Survey & Experiment Fish Preparation			X	X			
8.	Acclimatization of Experiment Fish				X			
9.	Beginning of Experiment Fish Stocking				X			
10.	Preservation & Monitoring of Experiment Fish				X	X	X	
11.	Monitoring of Preservation Media				X	X	X	
12.	Data Collection				X	X	X	
13.	Analysis and Data Tabulation					X	X	X
14.	Report Writing					X	X	X

Appendix 9. Example title page for Diploma Thesis

**PENGARUH FREKUENSI PEMBERIAN PAKAN
TERHADAP EFISIENSI PEMANFAATAN PAKAN
DAN PERTUMBUHAN BENIH LELE DUMBO
“SANGKURIANG” (*Clarias fariatus*)**

Font 14,
Kapital, Bold

Font 14-16, Kapital,
Bold, Tanpa titik

SKRIPSI

Oleh:
**MURTINGSIH
K2B 002 125**

Font 12, Bold,
Nama kapital

Dipisah setiap 3
huruf atau angka

Panjang : lebar
= 5,2 : 4,5 cm



**FAKULTAS PERIKANAN DAN ILMU KELAUTAN
UNIVERSITAS DIPONEGORO
SEMARANG
2007**

Font 14,
Kapital, Bold

Appendix 10. Sample of Explanatory Page

**PENGARUH FREKUENSI PEMBERIAN PAKAN
TERHADAP EFISIENSI PEMANFAATAN PAKAN
DAN PERTUMBUHAN BENIH LELE DUMBO
“SANGKURIANG” (*Catfish gariepinus*)**

Spasi 1

Font 14-16, Kapital, Bold, Tanpa titik

Oleh:
MURTININGSIH
K2B 002 125

Font 12, Bold, Nama kapital

Font 12, Huruf kecil, Tidak Bold

Skripsi sebagai Salah Satu Syarat untuk Memperoleh
Derajat Sarjana S1 pada Program Studi
Budidaya Perairan
Jurusan Perikanan, Fakultas Perikanan dan Ilmu Kelautan
Universitas Diponegoro

Spasi 1

Font 14, Kapital, Bold

**FAKULTAS PERIKANAN DAN ILMU KELAUTAN
UNIVERSITAS DIPONEGORO
SEMARANG
2007**

Appendix 11. Example of Acknowledgement page from Faculty Leader with 2 Supervisors

Judul Skripsi : Pengaruh Kromium Trivalensi (Cr^{+3}) dalam Pakan Buatan terhadap Efisiensi Pemanfaatan Pakan dan Pertumbuhan Nila Gift (*Oreochromis niloticus*)

Spasi 1

Nama Mahasiswa : Farah Nurdiany
Nomor Induk Mahasiswa : K2B 002 111
Jurusan/Program Studi : Perikanan/Budidaya Perairan

Mengesahkan :

Pembimbing Utama

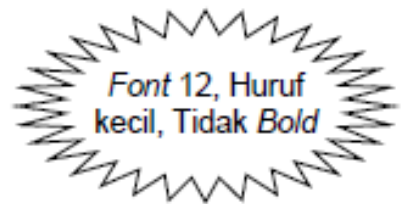
Pembimbing Anggota

.....
NIP.....

.....
NIP.....

Dekan
Fakultas Perikanan dan
Ilmu Kelautan
Universitas Diponegoro

Ketua
Jurusan Perikanan

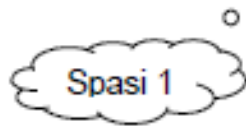


.....
NIP.....

.....
NIP.....

Appendix 12. Example of Acknowledgment page from Faculty Leaders with 3 Supervisors

Judul Skripsi : Potensi dan Tingkat Pemanfaatan Sumberdaya Ikan Kuniran (*Upeneus spp.*) di Perairan Demak
 Nama Mahasiswa : Gabriela Ari Sulistyawati
 Nomor Induk Mahasiswa : K2A 002 026
 Jurusan/Program Studi : Perikanan/Pemanfaatan Sumberdaya Perikanan



Mengesahkan :

Pembimbing Utama

.....
 NIP.....

Pembimbing Anggota

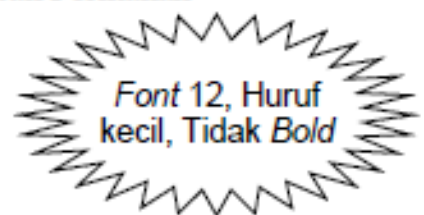
Pembimbing Anggota
(Kalau ada pembimbing luar FPIK)

.....
 NIP.....

.....
 NIP.....

Dekan
Fakultas Perikanan dan Ilmu Kelautan
Universitas Diponegoro

Ketua
Jurusan Perikanan



.....
 NIP.....

.....
 NIP.....

Appendix 13. Sample Acknowledgement page from the Program Final Exam Committee (PUAP) with 4 Examiners

Judul Skripsi : Studi Pendahuluan Penggunaan
Levamisole sebagai Imunostimulant
pada Kelulushidupan Pasca Larva
Udang Windu (*Penaeus monodon* Fab)
terhadap Inveksi *Vibrio sp.*

Spasi 1 ○ ○ ○

Nama Mahasiswa : Rochman
Nomor Induk Mahasiswa : K2C 992 354
Jurusan/Program Studi : Perikanan/Manajemen Sumberdaya
Perairan

Skripsi ini telah disidangkan di hadapan Tim Penguji
pada tanggal:

1. Penguji
(Pembimbing Utama)

2. Penguji
(Pembimbing Anggota)

.....
NIP.....

.....
NIP.....

3. Penguji
(Penguji Utama)

4. Penguji
(Penguji Anggota)

.....
NIP.....

.....
NIP.....

Panitia Ujian Akhir Program
Ketua

.....
NIP.....

Font 12, Huruf
kecil, Tidak Bold

Appendix 14. Sample of Acknowledgement page from the Program Final Exam Committee (PUAP) with 5 Examiners

Judul Skripsi : Analisa Spasial Daerah Rawan
Tsunami di Kabupaten Jembrana, Bali
Nama Mahasiswa : Adhi Nugroho
Nomor Induk Mahasiswa : K2D 000 000
Jurusan/Program Studi : Kelautan/IlmU Kelautan

Skripsi ini telah disidangkan di hadapan Tim Penguji
pada tanggal:

1. Penguji
(*Pembimbing Utama*)

2. Penguji
(*Pembimbing Anggota*)

.....
NIP.....

.....
NIP.....

3. Penguji
(*Penguji Utama*)

4. Penguji
(*Penguji Anggota*)

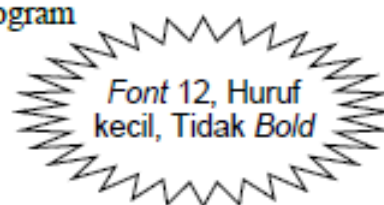
5. Penguji
(*Penguji Anggota*)

.....
NIP.....

.....
NIP.....

.....
NIP.....

Panitia Ujian Akhir Program
Ketua



.....
NIP.....

Appendix 15. Sample of Statement of Authenticity of Scientific Works

PERNYATAAN KEASLIAN KARYA ILMIAH

Spasi 3

Font 14, Kapital, Bold, Tanpa titik

Dengan ini saya,(*nama penulis*)....., menyatakan bahwa karya ilmiah/skripsi ini adalah asli karya saya sendiri dan belum pernah diajukan sebagai pemenuhan persyaratan untuk memperoleh gelar kesarjanaan strata satu (S1) dari Universitas Diponegoro maupun perguruan tinggi lainnya.

Semua informasi yang dimuat dalam karya ilmiah/skripsi ini yang berasal dari karya orang lain, baik yang dipublikasikan atau tidak, telah diberikan penghargaan dengan mengutip nama sumber penulis secara benar dan semua isi dari karya ilmiah/skripsi ini sepenuhnya menjadi tanggung jawab penulis.

Spasi 1.5

Font 12,
Huruf kecil,
Tidak Bold

Semarang,

Penulis,

Meterai

TTD

Nama terang penulis

NIM

Appendix 16. Example of *Ringkasan* page

Font 14, Kapital, Bold → **RINGKASAN**

Font 12, Tanpa titik → Murtiningsih. K2B 002 125. Pengaruh Frekuensi Pemberian Pakan terhadap Efisiensi Pemanfaatan Pakan dan Pertumbuhan Benih Lele Dumbo “Sangkuriang” (*Clarias gariepinus*) (Subandiyono dan Agung Sudaryono)

Font 12, Huruf kecil, Tidak Bold → Tujuan dari penelitian adalah untuk mengetahui pengaruh frekuensi pemberian pakan terhadap pertumbuhan, efisiensi pemanfaatan pakan, dan kelulushidupan benih lele dumbo “sangkuriang” (*C. gariepinus*).

Font 12, Huruf kecil, Tidak Bold → Penelitian ini menggunakan rancangan acak lengkap (RAL) dengan 5 taraf perlakuan dan masing-masing terdiri dari 3 ulangan. Perlakuan yang diujikan adalah frekuensi pemberian pakan dengan perlakuan A, B, C, D dan E, masing-masing dengan frekuensi pemberian pakan 1, 2, 3, 4, dan 5 kali per hari. Ikan uji yang digunakan adalah benih lele dumbo “sangkuriang” (*C. gariepinus*) dengan bobot rata-rata individu sebesar $2,94 \pm 0,31$ g. Ikan dipelihara dalam jaring apung berukuran (0,5x0,5x0,8) m³ yang diletakkan pada bak berukuran (4x2) m² dengan kedalaman air 80 cm. Lama pemeliharaan selama 40 hari dengan padat tebar 15 ekor/KJA.

Hasil penelitian menunjukkan bahwa frekuensi pemberian pakan berpengaruh sangat nyata ($P < 0,01$) terhadap pertumbuhan dan tingkat konsumsi pakan, tetapi tidak berpengaruh nyata ($P > 0,05$) terhadap efisiensi pemanfaatan pakan dan kelulushidupan. Nilai pertumbuhan pada perlakuan C, D, dan E tidak berbeda nyata tetapi lebih tinggi dari perlakuan A dan B. Pertumbuhan ikan pada perlakuan C, D, dan E masing-masing adalah 26,75; 27,98; dan 34,33% bobot awal per hari. Tingkat konsumsi pakan tertinggi dicapai pada perlakuan E yaitu sebesar 641,43 g. Kualitas air selama penelitian masih berada dalam kisaran yang layak untuk kehidupan lele dumbo yaitu suhu 24 – 27°C; pH 6,75 – 7,54; DO 4,75 – 6,51 mg/l; dan kandungan amonia 0,16-0,35 mg/l. Berdasarkan hasil penelitian dapat disimpulkan bahwa frekuensi pemberian pakan yang optimal bagi pertumbuhan benih lele dumbo “sangkuriang” adalah 3 – 5 kali/hari.

Kata kunci: Frekuensi, Pakan, Pertumbuhan, Efisiensi, *Clarias*

3-8 kata

Spasi 1

Appendix 17. Example of Summary page

SUMMARY

Murtiningsih. K2B 002 125. Effects of Feeding Frequency on the Food Efficiency and Growth of “Sangkuriang” Catfish (*Clarias gariepinus*) Fingerlings (Subandiyono and Agung Sudaryono)

In order to grow better, fish should be able to utilize feeds efficiently. When feeding times do not coincide with the time of the feed required by the fish, the feed couldn't be utilized more efficiently. Less efficient of feeds utilization caused the increasing amount of feed needed. However, it might do not support a greater growth percentage. So, the increasing of feeding efficiency was necessarily. The feeding efficiency could be achieved when the feeding management was considered thoroughly, especially on the feeding frequency. A proper feeding frequency subjected to fingerlings of catfish (*C. gariepinus*) will fed the fish as the time needed.

The research was aimed to know the influence of feeding frequency on the growth, feed consumption rate, feeding efficiency, and survival rate of “sangkuriang” catfish (*C. gariepinus*) fingerlings.

A completely randomized design was applied to the research with 5 treatments and 3 replicates. Feeding frequency applied in the treatments of A, B, C, D, and E were 1, 2, 3, 4, and 5 times/day, respectively. The experimental fish used in this research was fingerlings of catfish (*C. gariepinus*) strain sangkuriang, with its average body weight was 2.94 ± 0.31 gram. The fish was stocked at a density of 15 fish per cage and was reared for 40 days. The size of the cage was $0.5 \times 0.5 \times 0.8$ m³ for length, width, and depth.

The results revealed that feeding frequency affected significantly ($P < 0.01$) on the fish growth and feed consumption rate. However, the feeding frequency was not significant ($P > 0.05$) on the food efficiency and survival rate. The growth values of the treatments of C, D, and E were 26.75; 27.98; and 34.33% of the initial body weight. Treatment E performed the best food consumption rate, i.e. 641.43 grams. Water qualities remained at suitable range for catfish culture i.e. for the temperature was 24 – 27°C; pH was 6.75 – 7.54; DO was 4.75 – 6.51 mg/l; and ammonia was 0.16 – 0.35 mg/l. It was concluded that the optimum feeding frequency for better growth of “sangkuriang” catfish fingerlings was 3 – 5 times a day.

Keywords: Feeding, Frequency, Growth, Efficiency, *Clarias*

Appendix 18. Example of Foreword page

KATA PENGANTAR

Puji syukur penulis panjatkan kehadiran Allah SWT., yang telah melimpahkan rahmat dan hidayah-Nya sehingga penulis laporan penelitian dengan judul "Pengaruh Frekuensi Pemberian Pakan terhadap Efisiensi Pemanfaatan Pakan dan Pertumbuhan Benih Lele Dumbo "Sangkuriang" (*Clarias gariepinus*)" ini dapat diselesaikan.

Penelitian ini bertujuan untuk mengetahui pengaruh frekuensi pemberian pakan yang berbeda terhadap efisiensi pemanfaatan pakan dan pertumbuhan benih lele dumbo "sangkuriang" (*C. gariepinus*).

Dalam kesempatan ini penulis mengucapkan terima kasih kepada:

1. Dr.Ir. Subandiyono, MAppSc. selaku dosen pembimbing utama dalam penelitian dan penyusunan skripsi ini;
2. Dr.Ir. Agung Sudaryono, MSc. selaku dosen pembimbing anggota dalam penelitian dan penyusunan skripsi ini;
3. Diptarina Martarini, Api. selaku pembimbing lapangan dalam penelitian ini beserta staf Satker PBIAT Ngrajek, Magelang, Jawa Tengah; dan
4. Semua pihak yang telah membantu dalam penyusunan laporan penelitian ini.

Penulis menyadari bahwa dalam penyusunan laporan penelitian ini masih sangat jauh dari sempurna. Karena itu, saran dan kritik demi perbaikan penulisan skripsi ini sangat penulis harapkan. Semoga karya ilmiah ini dapat bermanfaat.

Semarang, Maret 2007

Penulis

Appendix 19a. Sample of Table of Contents Page

DAFTAR ISI		Spasi 2 { Halaman
KATA PENGANTAR		v
} Spasi 2		
DAFTAR ISI		vi
DAFTAR TABEL		vii
DAFTAR GAMBAR		viii
DAFTAR LAMPIRAN		ix
} Spasi 2		
BAB I. {	PENDAHULUAN	1
} Spasi 1 {	1.1. Latar Belakang	1
	1.2. Pendekatan dan Perumusan Masalah	2
	1.3. Tujuan dan Manfaat	4
	1.4. Tempat dan Waktu Penelitian	4
BAB II. TINJAUAN PUSTAKA		5
	2.1. Budidaya Udang <i>Penaeid</i>	5
	2.1.1. Aspek biologi	5
	2.1.2. Teknik budidaya	7
	2.1.3. Pakan alami dan buatan	dst.
	2.1.4. Kondisi lingkungan budidaya	
	2.2. Studi Evaluasi Kualitas Pakan	
	2.2.1. Bentuk fisik pakan	
	2.2.2. Studi pertumbuhan	
	2.2.3. Studi daya cerna	
BAB III. MATERI DAN METODE		
	3.1. Hipotesis	
	3.2. Materi Penelitian	

Appendix 19a. (continued)

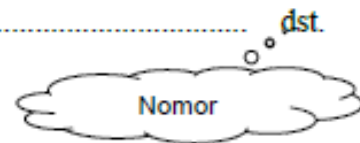
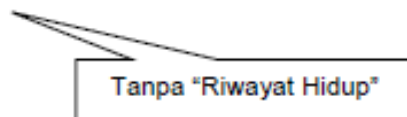
3.2.1. Pakan
3.2.2. Pemeliharaan udang
3.2.3. Wadah dan sistem pemeliharaan
3.3. Peubah dan Metode Pengukuran
3.4. Rancangan Percobaan.....
3.5. Analisis Data.....

BAB IV. HASIL DAN PEMBAHASAN
 Hasil
 Pembahasan.....

BAB V. KESIMPULAN DAN SARAN
 5.1. Kesimpulan
 5.2. Saran

DAFTAR PUSTAKA

LAMPIRAN dst.



Appendix 19b. Sample of Table of Contents Page

DAFTAR ISI

	Halaman
KATA PENGANTAR	viii
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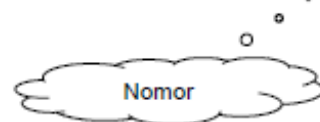
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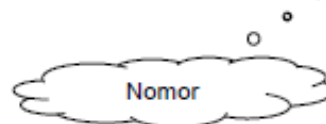
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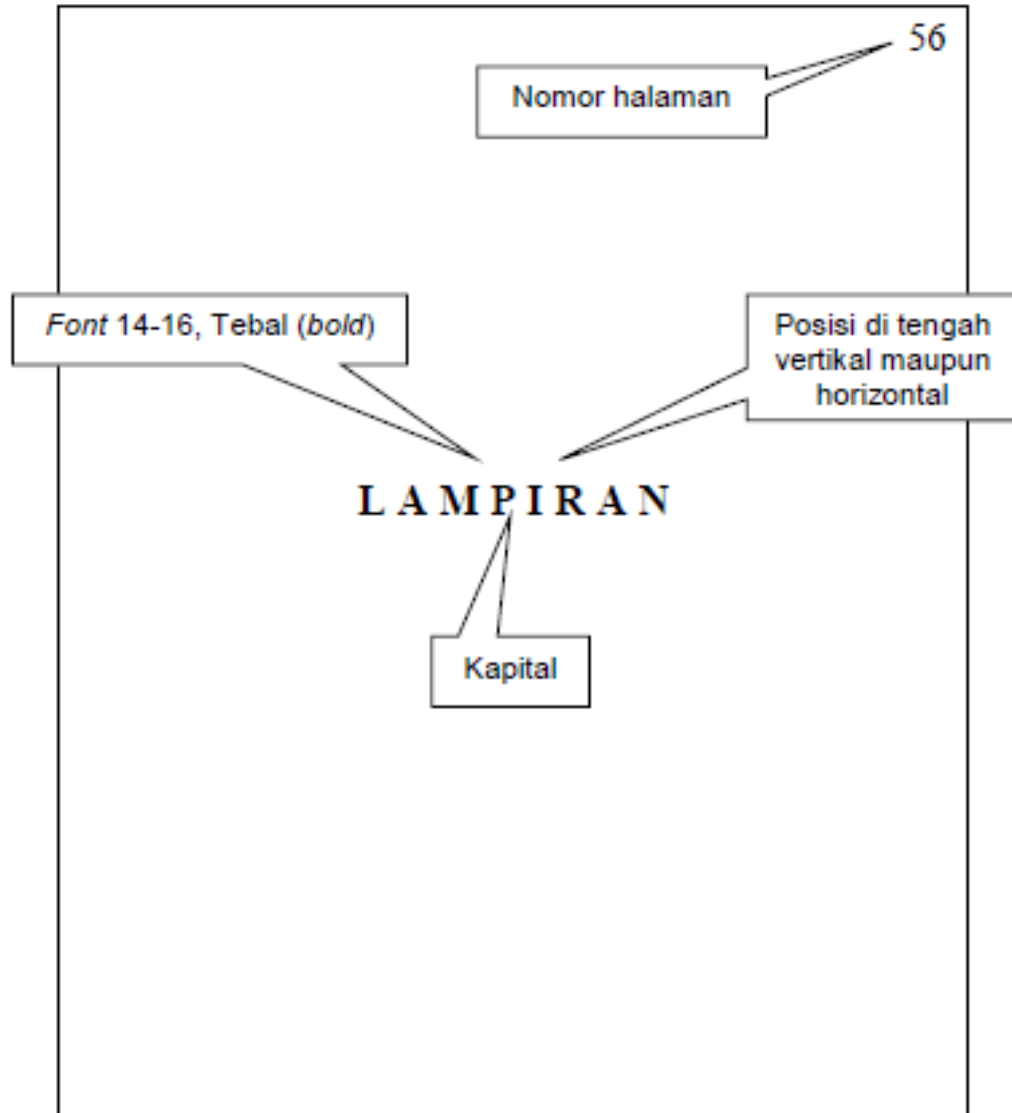
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Appendix 23. Examples of Journal Names for Various Sciences and Their Abbreviations

JUDUL JURNAL	SINGKATAN
Agrometeorologi	
International Journal of Climatology	Int. J. Climatol.
Journal of Applied Meteorology	J. Appl. Meteorology
Journal of Climate Applied Meteorology	J. Clim. Appl. Meteorol.
Solar Energy	Solar Energy
Journal of Hydrology	J. Hydrol.
Biologi	
Advanced of Microbial Physiology	Adv. Microb. Physiol.
Animal Scince	Anim. Sci.
Annals of Applied Biology	Ann. Appl. Biol.
Applied and Environmental Microbiology	Appl. Environ. Microbiol.
Applied Microbiology and Biotechnology	Appl. Microbiol. Biotechnol.
Aquaculture	Aquaculture
Aquatic Botany	Aquat. Bot.
Canadian Journal of Botany	Can. J. Bot.
Journal of Animal Ecology	J. Anim. Ecol.
Journal of Applied Bacteriology	J. Appl. Bac.
Journal of Applied Ecology	J. App. Ecol.
Journal of Bacteriology	J. Bacteriol.
Journal of Biotechnology	J. Biotechnol.
Jurnal Biologi Indonesia	J. Biol. Indonesia
Marine Biology	Mar. Biol.
Kimia	
American Journal of Clinical Nutrition	Am. J. Clin. Nutr.
Analytical Biochemistry	Anal. Biochem.
Applied Biochemistry and Biotechnology	Appl. Biochem. Biotechnol.
Australian Journal of Chemistry	Aus. J. Chem.
Buletin Kimia	Bul. Kim.
Journal of Biochemistry	J. Biochem.
Journal of Chemical Physics	J. Chem. Phys.

Appendix 24. Example of a Delimiter page between a Bibliography Chapter and an Appendix Chapter



Appendix 25. Example of Appendix with Two Tables of Association between Blood Glycerol Triasil Levels 2 Hours After Blood Glucose Peak Point Reached (A) and Blood Glucose Levels at Peak Point (B) of Gurami After Maintenance with High Carbohydrate Feeding (mg/100 ml Blood)

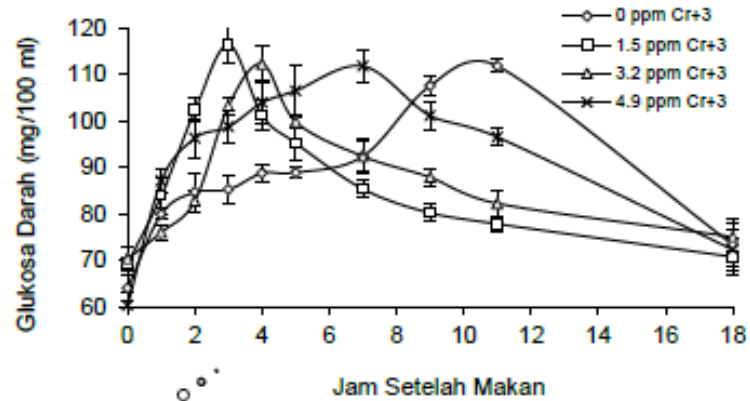
Ulangan	Perlakuan			
	A	B	C	D
	(0.0 ppm Cr ⁺³)	(1.5 ppm Cr ⁺³)	(3.0 ppm Cr ⁺³)	(4.5 ppm Cr ⁺³)
1	362.0	215.0	195.0	285.0
2	318.7	172.0	143.0	319.0
3	276.4	162.0	178.0	329.0
Rerata	319.0±42.8	183.0±28.2	172.0±26.5	311.0±23.1

Identitas Tabel (A)

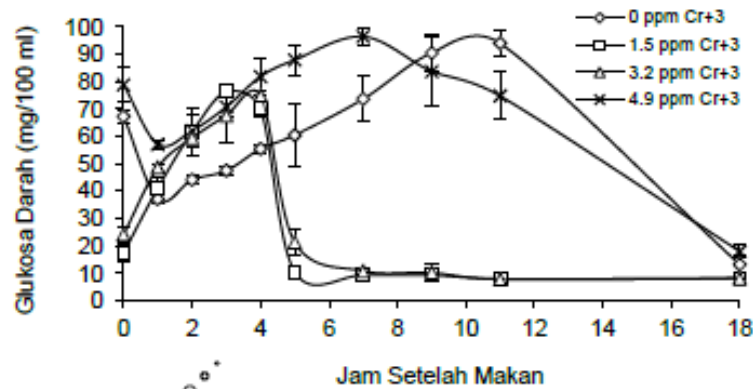
Ulangan	Perlakuan			
	A	B	C	D
	(0.0 ppm Cr ⁺³)	(1.5 ppm Cr ⁺³)	(3.0 ppm Cr ⁺³)	(4.5 ppm Cr ⁺³)
1	91.5	76.4	74.1	93.8
2	93.0	75.3	75.3	100.8
3	89.1	77.2	75.3	93.8
4	95.3	74.5	73.0	99.2
5	100.8	78.3	76.8	94.6
Rerata	94.0±4.4	76.3±1.5	74.9±1.4	96.4±3.3

Identitas Tabel (B)

Appendix 26. Example Appendix with Two Pictures Comparison of Gurami Blood Glucose Level Pattern (*Osphronemus gouramy*) for 18 Hours Postprandial on Feeding Containing Low Carbohydrates (Top) and Gurami Blood Glucose Level Pattern for 18 Hours Postprandial on Feeding Containing High Carbohydrates (Bottom)



"Gambar"



"Gambar"

Appendix 27. Examples of Writing Symbols of different Types of Units

Besaran	Satuan	Lambang
Panjang	Sentimeter	cm
	Meter	m
Bobot (berat)	Mikrogram	µg
	Miligram	mg
	Gram	g
	Kilogram	kg
	Ton	ton
Waktu	Detik	detik
	Menit	menit
	Jam	jam
	Hari	hari
Suhu	Derajad Celcius	°C
	Derajad Kelvin	°K
Konsentrasi	Per satu milyar	ppb
	Per satu juta	ppm
	Per seribu	ppt
	Miligram per liter	mg/l
Persentase	Persen	%
Luas	Sentimeter ²	cm ²
	Meter ²	m ²
	Hektar	ha
Volume	Mililiter	ml
	Liter	l
	Meter kubik	m ³
Kecepatan	Meter per detik	m/detik
	Kilometer per jam	km/jam
Debit	Liter per menit	l/menit
Energi	Kalori	kal
	Kilokalori	kcal

Appendix 28. Examples of Types of Academic Titles and Their Abbreviations

Jenis Gelaran	Singkatan
Profesor	Prof.
Doktor	Dr.
Philosophy of Doctor	PhD.
Master Sain	MS. (lulusan periode terdahulu) MSi. (lulusan periode sekarang)
Master Sain Ilmu Ekonomi	MSIE
Master Manajemen	MM.
Master Hukum	MHum.
Master of Science	MSc.
Master of Applied Science	MAppSc.
Master of Philosophy	MPhil.
Insinyur	Ir.
Dokter	dr.
Dokter Hewan	Drh.
Doktorandus	Drs. (untuk laki-laki)
Doktoranda	Dra. (untuk perempuan)
Sarjana Perikanan	SPi.
Sarjana Teknik	ST.
Sarjana Hukum	SH.
Sarjana Ekonomi	SE.
Diploma	Dipl.