Guidelines MSc-thesis research
Land Use Planning (LUP)
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1 INTRODUCTION

1.1 MSc-thesis: the crown of higher academic education
Writing an MSc-thesis is often considered the crown of higher academic education. And indeed, the importance of the thesis work is also reflected by the prominent role it takes within the whole MSc-program. After completing introductory and specific courses in the educational program, the MSc-thesis offers the challenge to set up and carry out a scientific research project in - for the students - an almost fully, self-responsible manner. This challenge includes:

- Assuring the adequate delineation and definition of the research topic.
- Building a sound theoretical framework for orientation of the research.
- Collecting and analysing (secondary) data in a systematic and verifiable manner, often including case study research.
- Presenting the results comprehensibly.
- Drawing sound conclusions based on a discussion of the results.
- Showing the potential contribution of the research to the process of theoretical reconstruction of the topic.

A great deal of independence is expected from the student in preparing the MSc-thesis, starting with defining a topic individually. The role of the supervisor is to guide the learning process. The grading of the MSc thesis is a feedback on the student's scientific training progress and the quality of the thesis report.

This guideline provides an outline of the common steps and procedures for preparing an MSc-thesis Land Use Planning. It takes its departure from the general information and terms of reference for preparing an MSc-thesis at Wageningen University (see the study handbook). Under certain conditions (e.g. participating in larger projects) it might be necessary to make specific arrangements that differ from the regular procedures. In these cases please contact your supervisor and the MSc-thesis contact person in an early stage to make the necessary arrangements.

The remainder of this introduction chapter deals with the basic scientific and administrative preconditions to start the preparation of the MSc-thesis. In chapter 2 the content and phases in the MSc-thesis process are described. Chapter 3 focuses at the administrative aspects for a successful start and completion of the MSc-thesis, including the thesis agreement, costs, grading and other administrative procedures.

1.2 What is a scientific masterpiece?
Working on an MSc-thesis students face the requirement that a thesis must be scientifically founded in a theoretical context. This aspect is generally unclear in the beginning of the process.

Epistemology of science
The question “what is science?” has been answered in many different ways. Since this is a fundamental question with many incompatible answers evolving over time, even an own discipline has been formed dealing only with this question, namely the epistemology/philosophy of science (or, if you want: the science about science). This guideline cannot provide an overview on the different epistemological approaches (such as
positivism, hermeneutics, critical rationalism, etc.). Many excellent introductory textbooks on the epistemology of science are available to orient the student on this question, some of which were also discussed in the course “Advanced methods and techniques for planning and research”. Nor does this guideline favour any one approach over another. However, it is argued here that the researcher must be clear about his or her own understanding of what science is within the different epistemological approaches, as this determines to a large extent the logic and also sequence of the research process. References to relevant textbooks are presented in Chapter 4.

Science and research
Another thing that is very often confusing for students, starting with their thesis is the sometimes synonymously, sometimes complementary or even contradictory use of the terms “science” and “research”. For clarification: definitions do not contain the truth, but reflect different interpretations, which are seen as suitable for the respective situation. In this guideline it is argued, that science and research both aim at a deeper understanding, or enlightenment, of phenomena in the real world. Research, in this understanding, aims at empirically accessing and depicting the real world phenomena in a systematic, consistent and comprehensive manner. Research questions are therefore mainly formulated as what, who, and how-questions (e.g., Who should participate in a collaborative planning process? or What effects can we expect from reallocating a livestock farm?). This does not mean that doing a field study is the only possible research method (see also paragraph 1.4). Science aims at enlightening real world phenomena through a process of theoretical reconstruction of the phenomena at stake. Scientific questions are therefore first and foremost why questions, searching for explanations for the empirical reality (e.g., why do people enjoy recreating in forest landscapes?). However, also within its process of theoretical reconstruction science relies to a variable degree on research. Why-questions are therefore supported or in case of explorative studies even replaced by what-questions (e.g., how many people are visiting a national park per year?), with the intention to contribute to the process of theoretical reconstruction of the topic.

Scientific standards
Independent from which understanding of science and research has been chosen, broad agreement exists on major scientific standards. Therefore, the following scientific standards should also be applied (and to be proven) by the student in the thesis:

- The thesis must be reliable / theory-based. Theories in this respect can be understood as sets of explanation systems for observable phenomena in the real world. The students’ departure in enlightening real world phenomena must be taken from existing theoretical literature. The student is furthermore expected to discuss and to reflect his or her findings against the existing theoretical literature as well as empirical literature. Theoretical literature claims to contain explanation systems for real world phenomena, where as empirical literature is characterised by its descriptive focus of cases and situations.

- The thesis must be verifiable. This is only possible if a clear line of argumentation through the existing theoretical and empirical literature is given, and the underlying assumptions are made explicit. Ideally, also the original data, e.g. interview reports, field measurements, and so on, should be included in the work (usually as an appendix) to allow the reader to verify the drawn conclusions. Science is always at least partially subjective, as science in itself is a social activity carried out by human beings. However, this fact should never lead to the
rejection of the call for scientific objectivity. Scientific objectivity thereby does not result out of a fictive unconditional assumption, but out of the clear exemplification and reflection of the conditions and assumptions underlying the research process.

- The thesis must be in principle replicable. It should (at least in principle) be possible to repeat the empirical part, thereby leading to similar results and conclusions. This is only possible if the methods for data collection and for data analysis are clearly described and if the work process is as much as unbiased and reflective as possible.

1.3 Basic requirements and necessary skills

For the successful completion of an MSc-thesis a specific knowledge level and mastery of certain skills are basic requirements. This means that students normally should start to work on their MSc-thesis only after they have obtained at least 20 study points within the MSc-program (and after the Academic Orientation), with an adequate coverage of relevant courses in the field of land-use planning.

Sound knowledge of methods and techniques for planning and research as well as planning theory will be assumed as basis at the beginning of the thesis work and will not be touched upon during the supervision. Furthermore, sound skills in applying word processors, spreadsheets, GIS and/or drawing software are expected from the beginning.

It is the student's own responsibility to acquire the necessary knowledge and skills in time before starting with the thesis. In case these skills have to be acquired during the thesis work, extra time should be planned which, however, cannot be rewarded with extra credit points. It is recommendable that the student delivers upon the first meeting with his or her supervisor a summary of research and presentation skills to avoid disappointments on both sides.

1.4 Types of research

The thesis should be conducted on a graduate level and written for the MSc Land-Use Planning programme. This requires that the paper should be more than a description. It should have an adequate theoretical as well as informational base. The topic cannot be trivial or superficial. It should, of course, be achievable and reflect the interests of the student. It must be original work, not a copy of a report of an institute or another organisation. It should be relevant to both the field of spatial planning and to the student's own goals. It should be substantive, a real contribution to the understanding of a significant set of issues. It must also be realistic in scope, so that it can be completed with the resources available.

The most common type of MSc thesis research in Land Use Planning is case study research. Case study research is an empirical study of a set of issues related to a particular institution, activity, land use, cultural setting, area or region. The course LUP-34306 Advanced Planning Research Methods will especially elaborate on case study research and related research methods and techniques.

All thesis research should have a theoretical component. However, with adequate library resources a thesis research may be primarily a theoretical analysis, critique or documentary study of past developments. However, a theoretical-analytical thesis research is more common for a minor thesis, as the major thesis usually includes a case study component.
2 STEPS IN THE MSc-THESIS PREPARATION

2.1 Selection of a topic and supervisors

The first step in working on the MSc-thesis Land Use Planning is the selection of a theme and topic and a supervisor. The website http://www.lup.wur.nl includes a list of themes and topics, including information on the LUP researchers involved. Indicative themes are:

- Planning theory and methodology and history of planning
- Energy landscapes
- Spatial planning and heritage management
- Spatial planning and water management
- Spatial planning and landscape ecological issues
- Food planning and urban agriculture
- Planning and public participation and initiatives
- Innovation in rural areas

A student can decide to contact a LUP staff member directly, based on the information at the website. However, it is also possible to contact the MSc-thesis contact person for a first exploratory discussion. The final decision to accept the specific topic of an MSc-thesis is always taken by the supervisor. The first supervisor of the MSc-thesis LUP has to be an assistant, associate or full professor of the Land Use Planning group. A second supervisor can be a PhD student or postdoc LUP, a staff member of another group of Wageningen UR, or a member of an external organization such as a governmental or research organization or consultancy agency.

In some cases it might be helpful to combine the MSc-thesis work with a practical period. This holds particularly true for MSc-research which is partly done outside the Netherlands, such as a case study involving planning practices in another country. A practical period usually focuses on gathering primary data and information, such as field visits and interviews with local stakeholders. All arrangements must be settled by the student in time before the start of the thesis work and must be agreed upon by the supervisor.

2.2 Preparation of a research proposal

After the selection of a topic the next step in the thesis work is the preparation of a consistent and comprehensive research proposal of 5 to 6 pages. The thesis proposal is a product of a process of preparatory research around the theme that will be developed. Students must become familiar with the theoretical problems, the historical context and the empirical details of the theme to be able to define, in precise terms, what it is that will be studied and how it will be studied. As many researchers have shown, a main challenge of research is to specifically define the research questions. It is necessary to understand and incorporate existing scientific knowledge, departing from the actual problem, to be able to enhance scientific knowledge. Given its importance, this step might require up to 20% of the total thesis preparation time.
A research proposal generally consists of the following parts:

a) **Introduction**: The first part of the proposal provides an overview of problems or issues leading to a delineation of the research topic and a motivation for the selection of the topic. Consequently, this section requires your first reflection on the literature. The background of the topic area at times is given in the introduction along with an overall purpose of the research.

b) **Problem description**: The next part gives a clear delineation of the problem field, finally resulting in a concise problem statement. If done in a sound way, this implicitly and explicitly reflects the social and scientific relevance of the selected research topic. To be able to develop a clear problem statement, a preliminary investigation must be carried out to establish a sufficiently profound knowledge base to pose the concrete problems that will be researched. This includes a review of the theoretical and empirical literature, which is most relevant to the topic, which also ensures that the topic has not already been exhausted by other researchers. The literature review ends up with a problem statement.

c) **Research objective and research questions**: Following the problem statement, the scientific objective of the research should be clearly stated. Given the fact that scientific research aims at the process of theoretical reconstruction of the topic at stake (in the sense of providing explanation systems), scientific objectives are very often expressed with terms such as to enlighten, to understand, to explore, to determine, to highlight, to verify. It is important that the objective of the research (1) is strictly related to the research topic, that is, that it do not change the focus by introducing elements not already implicit in the topic, and (2) that it exhaust the topic completely, that is, it do not leave out any object or relation already posited. A research objective should, on the one hand, be determined by the challenge to deepen theoretical knowledge, analytical capacities and techniques and methods of planning, and, on the other hand, by pragmatic reasons, such as available time, actual research conditions (e.g., availability of resource persons, political events, tourist season), and the capacity of the student. Subsequently, the research objective should be translated into research questions, that are the questions that need to be answered in order to fulfil the research objective. In this respect, the research questions operationalize the research topic. However, the research questions should not be mixed up with the operationalization of the research topic in a methodologically coherent manner for data collection (e.g., the questions in a structured interview) in the later stage of the research process (see step ‘carrying out the research’).

d) **Theoretical framework**: The theoretical framework acts as a partial guide for the selection of the phenomena, which will come under study. It is a matter of fact that different theoretical frameworks emphasise different phenomena as those, which are most important, thereby giving direction to the overall thesis work. In other words, the theoretical framework guides the student in his or her approach to the theoretical reconstruction of the topic. The main body of the theoretical framework is generally included in the final report as Chapter 2, directly following the introduction chapter. To be qualified as scientific research, theoretical categories are used which demarcate the research within a specific discipline and school of thought or para-
digm. In the exposition of the theoretical framework, the main theoretical categories/concepts should be described, along with their relations to the substantive areas under investigation. It is important to keep in mind that the theoretical framework should be an argumentation of the student through existing theories and concepts, finally resulting in the students’ own conceptual model (often summarised in form of an analysis or evaluation framework at the end of the theoretical framework). Working out the theoretical framework is therefore a creative act, rather than a descriptive exercise through existing literature.

The rationale along with existing theories and theoretical concepts in developing the theoretical framework should always be done against the background of the research objective and research questions. Even though almost everything seems to be connected with each other, the research objective and research questions help in determining which theories and concepts are relevant for the students’ thesis research and which are not. And at the same time it becomes clear that developing a research proposal is not so much a strict linear, chronological, but rather an iterative process (in the sense of a dialectical movement between concrete reality and theory) with several ‘working’ versions before finally writing the definitive proposal. A comprehensive review on existing theoretical and empirical literature thereby forms the indispensable basis to come from the pre-scientific understanding (on which the selection of the topic was based) to a deeper theoretical understanding of the topic (which is needed to actually start writing the real thesis proposal).

As has been said: developing the theoretical framework is a creative act, rather than a descriptive exercise. If there are debates around the definition of concepts or their application, the major insights in the debate should be laid out, showing the differences and similarities and finally, how the student will incorporate them into his/her research. Also if the direct application of concepts and theories is not possible to the chosen topic (e.g., because the theory is about decision-making in organisations, whereas the focus of the work might lay on individual decision-making), it should be pointed out how they have been adapted by the student respectively.

Theoretical framework, and its condensed expression in form of the conceptual model, acts as a map to identify those concepts in the empirical complexity of the real world, which have been found to be relevant so far by theoretical and empirical literature. It is obvious that the theoretical framework is the business card of the student with regard to the scientific standards. Investing time and energy in preparing a good, and analytically sharp theoretical framework is therefore always worth it, and can help to save a lot of problems and obstacles afterwards.

e) **Research methodology:** With the theoretical framework the student indicates *which* concepts are important to be looked at in answering the research questions. In this part of the proposal it should be explained *how* these concepts will be identified and assessed empirically. Methodology in general is then nothing else but the science about methods and instruments for the assessment of the real world, or more technically, the generation of data. The function of the methodology part within the research proposal (and later in the thesis report) is to specify reliability (theory based), validity and principle replicability. The methodology part therefore completes the students’ business card with regard to scientific standards.

Setting up a sound methodological framework requires arguing about the following points:
- Identify the **character of the thesis work**: for example, is it an explorative or comparative, or interpretative, or analytical study? Is a case study approach chosen to exemplify a certain real world phenomena or does the thesis work aim at being representative for them? It is obvious that with the selection of the topic and the formulation of the problem statement the student already implicitly provides answers to many of these questions. However, only in making them explicit, the student allows for the discussion of his work, as the students’ assumptions and logical framework can be empathised.

- Design the **data collection** and **data analysis**: this step requires arguing about and providing an answer to the following questions:

  (1) What is seen as *data* and from which sources of information (e.g., maps, documents, individuals, and institutions) will they be derived? Data can take on the quality of primary data (that is, generated by the researcher) as well as that of secondary data (new analysis of data generated by earlier research).

  (2) What are the criteria for determining and delineating the sources of information (e.g. Who will be interviewed? Why those policy documents and not the others? Why selecting this case study and not another?). The answers to these questions are partially dependent on whether qualitative or quantitative research methods are chosen (see next question).

  (3) What *methods* and *instruments* are employed to derive the data from the sources of information? The selection of adequate methods depends on the sources of information, which are seen as relevant to find answers to the posed research questions. Here the student has to argue why a certain method is most appropriate for the research topic at stake. As no single method is really suitable to fully capture the complexity of real world phenomena, very often a combination of different methods will be applied to assess the *same* phenomena in order not to miss important information and to fulfil the requirements of validity and reliability.

  (4) It should be pointed out that methods and instruments are necessary for the *data collection* (that is, to come from theory to data) as well as for *data analysis* (that is, to come from data to theory).

**f) Working plan and time scheme**: The research proposal finally should be completed by a comprehensive working plan, indicating the necessary steps in carrying out the research, as well as their logical order. The different steps in writing the MSc-thesis should be distributed in a feasible manner over the available time period (usually 6 months for the major thesis LUP-80436 of 36 ECTS or 4 months for the minor thesis LUP-80424 of 24 ECTS). The student should also agree with the supervisor about the frequency of contacts as well as the deadlines for delivering certain parts of the thesis proposal or report. (See also paragraph 3.1)

Preparing the working plan implies additionally to elaborate a financial plan, such as costs for travel, mailing costs, field assistance (e.g. for translation) etc. The general necessity of financial means to carry out the thesis work needs to be dis-
cussed and agreed between student and supervisor before the actual thesis work (usually, the students pay the costs related to the thesis work themselves).

Besides, two other aspects must be dealt with:
- The relevance of the study - such as social, theoretical, policy and management oriented relevance - must be discussed.
- Limitations - what barriers and or constraints do you expect in the process of conducting the research?

2.3 Carrying out the research
When carrying out the research special attention should be given to organisational and safety aspects, especially when working abroad. Possible economical, social and technical constrains (e.g. restricted or expensive data, holidays of interviewees) should be taken into account as much as possible in advance of the research work. If unforeseeable circumstances do occur, the research plan should be adapted after consultation with the supervisor respectively.
In any case, the student has to respect social, cultural and interpersonal norms and standards. This holds particularly true for privacy aspects of organisations and persons. In any case, it should be avoided that the identity of persons is discernible out of the final text, if not agreed otherwise between the respondents and the researcher. These agreements have to be laid down before information collection.
It is recommended to clearly document all research activities, findings and sources, including also seemingly small details. Analytical skills should be accompanied by organisational accuracy. Experience shows that this can save a lot of time when finally preparing the thesis report.
Also in the phase of carrying out the research it is recommended to keep in close contact with the supervisor. This is the responsibility of the student.

2.4 Writing the thesis report
The research activities should finally result in a comprehensive, consistent and concise thesis report. The thesis report will average approximately 60 to 80 pages, organized in a minimum of four to five chapters (e.g. font Times New Roman, 11 point, and line spacing 1,2). It should be written according to scientific standards and using the possibilities of modern word processors in the layout. In general the following parts structure the thesis report:

- **Title page:** Providing the name and registration number of the student, the full title of the thesis research, the thesis registration number (LUP code) and number of credits (ECTS), the name(s) of the supervisor(s) and examiner / second reviewer, and the full name and address of Wageningen University, Land Use Planning Group.

- **Table of content:** Providing the overview of chapters and paragraphs with the respective page numbers. The outline should also include the summary as well as the list of annexes.

- **Abstract:** Providing a 10 lines abstract, including five keywords.
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- **Summary:** Providing a short, but comprehensive summary of the problem, objective, approach and results of the research. The length should not exceed one page. If relevant, also a Dutch summary.

- **Introduction:** This chapter includes a general introduction, the problem description and problem statement, the scientific objective as well as the research questions (see also chapter 'Research proposal'). It can be completed by a characterisation of the type of work (referring to the first question in the methodology part of the research proposal) and a short outline of the structure of the subsequent chapters.

- **Theoretical framework or literature review:** In this chapter (normally chapter 2) the review of the theoretical and empirical literature, and the reconstruction of the used theoretical concepts will be provided (see also section 'Research proposal'). The theoretical framework is very often completed by a conceptual model, in which the relations of the relevant concepts (e.g., behaviour, action, values, community) of the applied theories are presented (see also chapter 'Preparation of a research proposal').

- **Methods:** (not methodology, as in the proposal, but research design in the case of empirical studies): This part reports on the used information sources, as well as the applied methods and instruments for data collection and data analysis (see also section 'Research proposal'). In contrast to the research proposal, where this section is presenting the ambitions and plan, in the final thesis report, however, the situation as it has actually worked (e.g. also problems which occurred) should be presented. If the research has been a case study, circumstances as well as the case should be described here.

- **Results:** In this section the results should be presented in the most objective and comprehensive manner. Mixing results with subjective interpretation and discussion should in any case be avoided. The challenge is to structure the results chapter in such a way, that the research questions are at best addressed. Where appropriate the findings should be illustrated or summarised with tables and figures. Appropriateness means that they provide an added value compared to ordinary text. In any case, tables and figures must thereby be drawn in such a way that they can stand on their own, independent from the surrounding text. Do not forget to include measurements and an explanation of abbreviations. References to tables and figures should be made in the text (e.g., see Table 1 and Figure 2). Note that table captions are given above the table, whereas figure captions are placed below the figure.

- **Discussion:** The discussion section links the own findings, as presented in the result section, with those of others. The challenge here is to argue for and against the findings and the related theoretical concepts. Literature references are therefore again necessary in this section. Furthermore the findings should be discussed in the background of the scientific objective and the research question, as well as in the light of the chosen theoretical framework. In other words, here the problem statement will be answered. It might therefore be helpful to structure the discussion section accordingly. Last but not least, it should also not be forgotten to discuss the extent in which the findings might
have been influenced by the chosen methods (e.g., possible shortcomings, and special circumstances).

- **Conclusion:** This section brings together the most important consequences in the students’ perspective of his or her research. These conclusions normally touch on three aspects: a) The scientific objective and the research questions (results), b) Hints for future research on this topic (theoretical framework and methods), c) Practical application of the results (consequences or recommendations for management and policy). The discussion and conclusion section are usually presented together in the final chapter of the report.

- **Bibliography:** In this section a list of all referred literature should be given, sorted in alphabetical order by the last name of the author. The bibliography section (like the theoretical framework) again can be seen as a sort of business card of the researcher. Information given in the bibliography should be complete and accurate. The style for the different types of publications (articles in journals, books, chapters in books etc.) should be consistent. Some researchers prefer to mention information sources, such as policy documents and Internet sources separately. If reference is made to information on the Internet, the complete web-address should be given, as well as the date on which the information has been accessed the latest.

- **Annex/Appendix:** The annex should include information, which can be missed in the direct text body, but is still relevant for the understanding of the research or of important steps of it. This could mean for example the inclusion of the original data, the list of interviewed persons, background information on the study area, interview reports, further detailed statistical analysis, etcetera. Note that also the annex pages should be numbered consistently with the general text.

The presented structure of the different parts at the same time also reflects the standard chapter structure of a scientific report, with the Introduction section forming chapter 1, the theoretical framework, forming chapter 2, and so on. However, different types of research (e.g., theoretical-analytical research) might require a slightly different chapter structure.

A **complete** final draft of the report should be discussed with the supervisor(s) (and if applicable also with external supervisors) prior to the final colloquium and examination. As soon as the student and the supervisor have discussed and agreed on the draft report, the thesis report can be finalized.

### 2.5 Giving the final colloquium

After finalizing the thesis report, the student is required to present the major findings of his or her research to an audience. The audience usually includes fellow MSc students, LUP staff members, and other interested people. The length of the presentation should not exceed 30 minutes, followed by 15 minutes for discussion. The presentation should meet the standards for oral presentations, such as clearly addressing the audience with a comprehensive, consistent and logical structure. The colloquium is usually supported by visual tools, such as a PowerPoint presentation.
2.6 Final examination

The objective of the final examination is to reflect on the whole scientific training process, which the student has undergone in preparing the MSc-thesis as well as to place the MSc-thesis within the ongoing debates and the larger contexts within the field of spatial planning. Beside the student and the supervisor, the examiner or a second reviewer will also participate in the final examination. The examiner of the MSc thesis is the chairman of the Land Use Planning group. The second reviewer can be any other scientific staff member of the Land Use Planning group. The examination usually takes place subsequent to the colloquium. The date for the final colloquium and examination should be arranged at least four weeks in advance. It is the students’ responsibility to provide the supervisor and examiner / second reviewer with a copy of the final MSc-thesis no later than two weeks in advance of the examination.

The examination takes about 1 hour, with about 45 minutes of questions and discussions. Following the questions and discussion, the student will be asked to leave the room for a short while, during which the supervisor and examiner / second reviewer will complete the thesis evaluation sheet of the Wageningen Educational Institute. The sheet includes sub-grades for the different aspects of the thesis research and a final grade. The student will then receive oral feedback and the announcement of the final grade. A signed copy of the sheet will be handed over to the student afterwards.

The supervisor will take care of the communication of the grade to the student administration. It should be noted, however, that the MSc-thesis work can successfully pass only after all administrative issues (see following section) have been completed.
3 ADMINISTRATIVE ISSUES AND GRADING

3.1 MSc-thesis agreement

No MSc-thesis without an agreement! The MSc-thesis officially starts only after the student and the supervisor completed the MSc-thesis agreement (see the annex). In the agreement all aspects with respect to the MSc-work are laid down, such as course requirements, time period (inclusive possible pauses or practical periods), planned research steps, intensity and arrangements with regard to supervision. The idea of the agreement is to provide clarity in advance of the training process, in order to avoid disappointments later on. Not obeying the agreement can lead to the termination of the training process, with a grading below 6 (fail).

The most important formal requirements are:

- The student will have regular meetings with the supervisor, to keep the supervisor updated on the progress of the research and to get feedback on written text. Usually, all draft chapters and other important text, such as lists of interview questions, will being discussed in due course of the research. In subsequent meetings the student has to make clear how he or she dealt with remarks and comments of the supervisor.
- The maximum amount of time, which the supervisor(s) invest, is 50 hours for a major thesis (40 hours for a minor). His/her time will be used for reading, meetings and assistance in general.

After signing the MSc-thesis agreement by the student, the supervisor and the examiner, copies go to (1) the student, (2) the supervisor, (3) the secretary of the LUP student administration, and (4) the MSc-thesis contact person (see Annex 5.1 for names).

3.2 Office space

The Land Use Planning group provides office space for MSc thesis students, but a student may also decide to work at home or to make use of the general facilities at the educational buildings. Students who prefer having office space at the Land Use Planning group can submit their request to the secretary of the LUP student administration (see Annex 5.1).

3.3 Costs associated with carrying out the MSc-research

Preferably, MSc-research should be planned in such a manner, that no project or external funds have to be acquired. In any case it should be tried to rely on existing administrative and logistic support as much as possible. Usually, MSc-students have to pay the costs related to the thesis work themselves, with exception of the printed versions of their report (see next section).

3.4 Printing costs

For reproducing (at least) two copies of the final report, the LUP group provides a maximum of € 50,00. The printing costs can only be re-claimed upon delivery of an
original receipt. If additional copies of the final thesis report are required (e.g. for organizations which co-operated in the research) that should be paid by the LUP group, approval in advance is needed from the supervisor. A form for refund of the printing costs can be requested at the financial administrator of the LUP group (see Annex 5.1).

3.5 Final colloquium and examination

The student is responsible for organising the final colloquium. See also 2.5 and 2.6. It is the student’s responsibility to invite people for the colloquium. Support with distributing the invitation is provided by the secretary of LUP student administration and the Geniusmail of GeniusLoci. However, it shows that personal invitations usually are the most effective to gather an audience for the colloquium.

3.6 Participation in other MSc-colloquia

MSc-students are expected to participate in other MSc-colloquia meetings additional to their own final colloquium. Working on an MSc-thesis can sometimes become a rather lonesome business. The idea of the colloquia is therefore to enhance further discussion and exchange between MSc-students and staff members as well as to train students in oral presentation abilities. Participating in colloquia usually helps to rethink the structure and content of your own research and to improve the quality of your own results.

3.7 Thesis evaluation sheet

Written feedback on the student’s performance during the MSc-research will be provided through the thesis evaluation sheet of the Educational Institute. The sheet consists of four groups of criteria for judging the quality of a thesis (see Annex 5.2), namely:

- **Research competences** of the student, focusing on a) Commitment and perseverance; b) Initiative and creativity; c) Independence; d) Efficiency in working with data; e) Handling supervisor’s comments and development of research skills; and f) Keeping to the time schedule.
- **Thesis report** focusing on a) Relevance research, clearness goals, delineation research; b) Theoretical underpinning, use of literature; c) Use of methods and data; d) Critical reflection on the research performed (discussion); e) Clarity of conclusions and recommendations; and f) Writing skills.
- **Colloquium** (if appropriate) focusing on a) Graphical presentation; and b) Verbal presentation and defence.
- **Examination** focusing at a) Defence of the thesis; and b) Knowledge of study domain.

The sheet also includes some space for additional remarks. The supervisor and examiner / second reviewer will use the evaluation sheet with the final examination to arrive at the final grade. The grade will be clarified by the supervisor and discussed with the student. The student will receive a signed copy of the sheet.
3.8 Grading
The grading will be based on the standard grading scale at Wageningen University ranging from 0 to 10 (extraordinary), with a grade lower than 6 meaning failed (see also the thesis evaluation sheet in the annex). The final grade will be announced immediately after the final examination talk.

The grade reflects all elements and steps in the preparation of the MSc-thesis, including the colloquium and the final examination talk (see above). However, main emphasis will be given to the research competences and especially the thesis report. The weights used by the LUP group for these four groups are 50% to competences, 40% to the report, 5% to the colloquium and 5% to the final examination.

3.9 Completing the administrative requirements
Before the final grade can be passed on to Wageningen University’s central student administration, the student must submit a digital version of the report as a pdf file to the supervisor, for uploading in the library system of the Wageningen University. The supervisor will deliver the evaluation form and the digital version of the report to the secretary of the LUP student administration. A copy of the evaluation form should also be delivered to the MSc thesis contact person.
4 STARTING LITERATURE

The following literature does not intend to provide a complete nor exhaustive overview on helpful and interesting literature when starting an MSc-thesis research. It mainly focuses at standard publications that are easily accessible at the libraries in Wageningen, some of these have been used in prior courses. More specific literature can be found with the search facilities of the WU library at: http://library.wur.nl/desktop/catalog/. This website also provides a link to browse the wealth of online accessible journals (see also http://www.sciencedirect.com/science). Another entrance to scientific literature is Google Scholar (http://scholar.google.nl/).

4.1 Science and philosophy

4.2 Research methodology
5 ANNEX

5.1 Checklist of actions and responsibilities

Action & Who

- Fixing thesis topic: Student, supervisor
- Filling in the MSc-thesis agreement, signing by student, supervisor and examiner: Student, supervisor, examiner
- Registration of MSc-project: providing a copy of the agreement to a) student, b) supervisor, c) secretary LUP student administration, and d) MSc thesis contact person: Supervisor
- Preparation of research proposal: Student (supervisor)
- Approval of research proposal: Supervisor
- Thesis work: Student (supervisor)
- Approval of draft thesis: Supervisor
- Arranging date for final colloquium and examination: Student, supervisor
- Selecting examiner / second reviewer: Supervisor
- Inviting people for the colloquium: Student
- Providing (at least) two printed copies of the final thesis to the supervisor and the examiner / second reviewer: Student
- Final examination: Student, supervisor, examiner / second reviewer
- Filling in the thesis evaluation form and grading of thesis: Supervisor and examiner / second reviewer
- Delivering a digital version of the thesis report (pdf) and the powerpoint presentation to the supervisor: Student
- Delivering the thesis evaluation form and the digital copy of the thesis report to the secretariat: Supervisor
- Administrative finalisation: grades to CSA and delivering digital copy to library: Secretariat

Names

MSc thesis contact person  Dr ir Gerrit Jan Carsjens
MSc thesis examiner  Prof dr ir Adri van den Brink
Secretary LUP student administration  Lidy van der Lugt
Financial administrator LUP group  Peter van der Plas
## 5.2 Thesis evaluation sheet

**Thesis evaluation Wageningen University**

Fill out the single lined fields. Use a comma or a point as decimal sign, depending on the language chosen.

<table>
<thead>
<tr>
<th>Name chair group</th>
<th>Land Use Planning</th>
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<tbody>
<tr>
<td>Name student</td>
<td></td>
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<tr>
<td>Registration number</td>
<td></td>
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<tr>
<td>Study programme</td>
<td>MLP</td>
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<td>Specialisation</td>
<td>Spatial Planning</td>
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<td>Code thesis</td>
<td>LUP</td>
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<tr>
<td>Short title thesis</td>
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<tr>
<td>Date examination</td>
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<tr>
<td>Supervisor chair group</td>
<td></td>
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<tr>
<td>Supervisor outside chair group (if so)</td>
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<tr>
<td>Second reviewer/examiner</td>
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</table>

### Grading

<table>
<thead>
<tr>
<th>Research competence (30-60%) *</th>
<th>1 Commitment and perseverance</th>
<th>2 Initiative and creativity</th>
<th>3 Independence</th>
<th>4 Efficiency in working with data</th>
<th>5 Handling supervisor's comments and development of research skills</th>
<th>6 Keeping to the time schedule</th>
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<thead>
<tr>
<th>Thesis report (30-60%) *</th>
<th>1 Relevance research, cleanness goals, delineation research</th>
<th>2 Theoretical underpinning, use of literature</th>
<th>3 Use of methods and data</th>
<th>4 Critical reflection on the research performed (discussion)</th>
<th>5 Clarity of conclusions and recommendations</th>
<th>6 Writing skills</th>
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<tr>
<th>Colloquium (5%) *</th>
<th>1 Graphical presentation</th>
<th>2 Verbal presentation and defence</th>
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<tr>
<th>Examination (5%) *</th>
<th>1 Defence of the thesis</th>
<th>2 Knowledge of study domain</th>
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* please choose weights such that their sum is 100.

TOTAL: 0.0

FINAL GRADE: 0

**Comment by supervisor**

**Comment by 2nd reviewer/examiner**
5.3 Thesis agreement

The thesis agreement can be downloaded at the website of Wageningen University [http://www.wageningenuniversiteit.nl/](http://www.wageningenuniversiteit.nl/).

The form and instructions are shown at the next pages.
Wageningen University Master Thesis Agreement

This Wageningen University (WU) master thesis agreement serves to lay down agreements between a master student and a chair group. The agreement registers rights and duties of both parties and is a further supplementation and elaboration of the Higher Education and Research Act (WHW), Education and Examining Regulations and the Student Charter.

The form has to be completed for each master thesis by the student and a representative of the chair group before the start of the study activities.

Student and representative sign three copies of the form. Both receive a copy. A third one is send to a representative of the programme: the study advisor mentioned below.

When the agreement is modified the student will receive a copy of the adjusted form.

For complaints on the supervision or assessment the student can appeal to:
- The study advisor for advice and support
- The Examining Board for advice on procedures or an official complaint.
- The Examination Appeals Board.
- A dean or a Confidential advisor for students

For additional information see the explanation on page 4.

1. Information on student and chair group

Student:
Study programme:
Registration number:
Study advisor:
Chair group: Land Use Planning (LUP)
Supervisor(s):
Examiner b1:
Course code:
Examiner a2:

The student is informed upon the (written) guidelines and rules of the chair group for thesis students: yes/no

2. Prerequisite course(s)

Course code: Passed: yes/no
Course code: Passed: yes/no

3. Admission to the thesis

Study advisor has stated that the student is qualified3 for a master thesis and that the thesis is optional for the programme of the student.

1 This name can be entered later.
2 This can be the supervisor.
3 This means that the student has completed all requirements for starting with this master thesis.

Education Institute, 9-9-2009
### 4. Title and planning

Title of the thesis project: 

Date of completion parts of thesis: 

Date of start: 

Date of finish: 

Special arrangements for planning: 

### 5. Arrangements on supervision

(Arrangements on the type and intensity of meetings of student and supervisor on role and responsibilities when more supervisors or more chair groups are involved)

### 6. Arrangements on facilities

(Work place (office/lab), access to buildings and locations. Availability and use of equipment, materials and facilities)

### 7. Arrangements on report

(Language and lay out, time and format of transfer of results and data, agreements on secrecy of results and publicity of the thesis report)

### 8. Arrangements for individual situations.

(Circumstances beyond one’s control, disability, absence for special reasons)
9. Assessment
The assessment form\(^4\) for theses of WU has to be used.

The percentages in the assessment form that will be used are:

<table>
<thead>
<tr>
<th>Learning outcomes (assessment criteria)</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Research competence</td>
<td>50%</td>
</tr>
<tr>
<td>B. Thesis report</td>
<td>40%</td>
</tr>
<tr>
<td>C. Colloquium</td>
<td>5%</td>
</tr>
<tr>
<td>D. Examination</td>
<td>5%</td>
</tr>
</tbody>
</table>

The assessment will be done in week (on) ........................................

10. Signature
The student agrees to report any relevant change in circumstances which may affect the results of the project to the supervisor.

The student declares to be acquainted with rules and procedures of the chair group and with the assessment form. The chair group declares to have provided the student with all relevant information (including rules, regulations, safety issues).

Wageningen,

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student:</td>
<td></td>
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<td>Supervisor(s):</td>
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<td>Examiner a:</td>
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<tr>
<td>Examiner b:</td>
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Explanation

1. Information student and chair group
The study advisor has to be asked for advice on the progress of the student and qualification for a master thesis. The study programme (study advisor) has to be informed about the arrangements students want to make for thesis projects in order to establish whether the programme allows the student to take this thesis and to keep record of the student’s progress.

The examiner will be the chair holder being responsible for the thesis. The supervisor takes care of daily supervision. A supervisor from an external organization can not have a formal role, and can not be involved in the marking because he is not a qualified lecturer. If more supervisors and chair groups are involved each role should be explained under item 5. WUR employees outside the university section (e.g. researchers) can be regarded as supervisor like a WU lecturer.

2. Prerequisites
Chairs can require a maximum of two prerequisite courses (in total 12 credits) for starting a thesis. These prerequisites have to be published in the study handbook. The student has to pass the exam(s) to gain access to the thesis.

3. Admission to the thesis
The chair group (supervisor, coordinator education) should contact the study advisor personally to be informed about the student being qualified for starting with the master thesis.

4. Description and planning
In general reference can be made to a previously described project proposal of the chair group with subject and type of activities. It is considered very important that the student writes a detailed project description and is aware of all consequences with respect to type of activities, intensity and planning of work. If the student intends to interrupt the project for exams or leave the supervisor should agree in advance.

5. Arrangements on supervision
A supervisor will have his own rules for planning meetings with students, for involvement of co-workers. Especially when more supervisors and chair groups are involved it should be avoided that the student is confronted with conflicting rules and opinions. Only one supervisor should be the focal point for the student.

6. Arrangements on facilities
The chair group takes care of the facilities the student needs. In general it should be assumed that the student is not familiar with the policy concerning priorities for use of equipment and facilities, and is not aware who is in charge of them. It should be explained to the student that arrangements can never be a guarantee for availability and that because of unpredictable circumstances the thesis project may have to be adapted with respect to time planning and/or content. Chair group and student have to find solutions together.

---

5 This Master Thesis Agreement form is established by the Board of the Education Institute in September 2009: it is a revision of the Thesis Contract used at WU since January 1996.
7. Arrangements on report
Specific rules on the lay-out of a report, the transfer of data sets and processed results have to be agreed.
The thesis project can be part of a larger project in which external partners are involved, or in which results may be generated that require confidentially. The university has rules on protection and embargo of scientific results. Thesis reports can be registered with a restriction on disclosure of contents. The examiners and supervisor(s), however, always need a full copy to assess the student.
From October 2009 all master theses have to be uploaded to the Wageningen UR Digital Library through the AIR (Administration Enrolment data and Results). It is up to the involved chair group and student to decide whether the thesis will be made public or not in the Digital Library.

8. Arrangement for individual situations
Students can ask for specific facilities e.g. to work with a disability. Student and chair group can ask study advisor or dean for students for advice.

9. Assessment procedure
Examining Boards and Board of the Education Institute have decided in 2006 that all chair groups of WU have to use the standard assessment form for theses and two examiners. The chair group can adjust the weight (percentages) of the assessment criteria on the excel-form. The student should be informed on this (item 9 of this agreement).
The completed assessment form for the thesis has to be uploaded to the AIR.