**Draft LUMES Thesis Research Plan**

Format Suggested for Supervision with Kim Nicholas

Lund University Centre for Sustainability Studies

Version updated 6 October 2014

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*Please note:*

*Include scholarly references and figures/pictures/images throughout.*

*Think about how to represent your ideas in words as well as visually.*

*You can use this as a template to fill out with your own text:*

* *Text in blue is explanatory and meant to be deleted.*
* *Text highlighted in yellow should be replaced with your own text as relevant.*
* *Text highlighted in Green is to guide you in how long each section should be (delete for final draft).*

**Thesis Title**

**Your Name Here**

**Date**

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# Current Thesis Title

# Dream Abstract (250 words max)

Write about what you would like to be able to say at the end of your thesis. It’s a good idea to do this first, as it should guide the design of your research so that you will be able to gather the evidence and do the analysis you need to make the claims you desire. At this point, it’s OK to dream big, but try to make it specific (“Based on my case study analysis, I recommend that policies X, Y, and Z are adopted to remove the barriers and increase incentives to implement social entrepreneurship urban beekeeping programs in every Swedish city,” rather than, “I want greener cities worldwide.” You may want to start with the end in mind of what change you would hope to see in the world as a result of your thesis, then figure out who the relevant actors are to make that change, and what kind of information and tools they need to make or support that change. Then think of how your thesis can produce or contribute to that information.

Note that an Abstract in general should have the following format:

* 1 sentence broad, general motivation and background (climate change is important, people need to eat food, etc.)
* Then, immediately jump into your case/specific topic. 1-2 sentences linking this with the broader topic and posing a problem or question, a gap you will fill in this thesis.
* 1-2 sentences on methods. What kind of data will you need to answer your research question? How will you get those data (literature review, survey, statistical analysis of existing data, collecting original data in the field, etc.).
* 2-3 sentences on Results. What do you expect to find? Since this is a dream abstract, go ahead and state your ideal finding reasonably possible from your research (“Watching this 20 minute video inspired participants to reduce their carbon footprint by 73%!”). Be specific. Your results should be presented in terms of measurable variables.
* 1-2 sentences on implications, conclusions and next steps- what is the broader significance of this study?

You may like to use the following template to help you:

The issue/understanding of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is important because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. In particular, the intervention/pattern/process/treatment/ theory/function of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has the potential to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, but not enough is known about this to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
In this thesis, I study the case/population/specimens of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, particularly under the regime/policy/treatment/condition(s) of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and how they behave/perform/interact/react in terms of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
I will collect/construct/gather data/empirical material by measuring/observing/compiling the indicators \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, using the tools/techniques/data sources of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. I will analyze the data on these indicators by comparing/contrasting/ clustering/ summarizing/visualizing them using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_technique/tool/ method/framework. I expect that the results will show that the indicator\_\_\_\_\_\_\_\_\_\_\_\_\_\_ was \_\_\_\_\_\_\_\_\_\_\_ when \_\_\_\_\_\_\_\_\_\_\_\_\_\_. This effect is likely due to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
This is important because it supports/challenges the previous research/theory/policy of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and demonstrates \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

As a result of this work, actors such as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can/should be able to

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**BONUS: (Research Question**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_?)

**Title:** \_(catchy verb or adverb)\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_(catchy noun)\_\_\_\_\_\_\_\_\_\_\_\_:

The case of \_\_\_\_\_\_\_\_\_\_\_\_ in \_\_\_\_\_\_\_\_\_\_ increases/decreases/complicates \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Introduction (broad to narrow). 2-3 paragraphs

* 1. First paragraph: the big problem your thesis is attempting to resolve
	2. contextualize the importance of the question, its relationship to sustainability science, and summarizing work on the issue to date
	3. include references to scholarly literature

# Research Questions (3-5 sentences in the form of ANSWERABLE questions)

## Overarching research question

This may be rather general, and include some broad **constructs** (ideas that exist only in our minds and cannot be seen in the world, such as biodiversity, sustainability, urbanization, ecosystem services) that have not yet been operationalized into specific research variables.

## Research sub-questions

* + See checklist for good research questions.
	+ Read “The Craft of Research”, chapter three, for exercises “from topics to questions”.
	+ Note that these questions should contain **variables**. Variables are clearly defined, measurable, observable, and relate to your concept of interest using valid theory. Your thesis research will be largely carried out using variables. It will likely take some time to get the right variables to represent the construct you’re interested in. For example, to turn the construct of ecosystem services into a variable, you could measure rates of carbon sequestration, monetary value of crop pollination, or stakeholder ranking of values of different cultural services.

# Research design (2-3 PAGES total)

Note: This section describes, in concrete terms, what you will do in your research (e.g., “conduct an online survey of 200 university students in Lund to learn about their travel habits.” Citations to the literature do not belong in Section 5 (they go above and below).

For helpful descriptions and reminders of research design terminology and theory, you can check out the Research Methods Knowledge Base by William Trochim: <http://www.socialresearchmethods.net/kb/design.php>

## Case selection and description (1-2 paragraphs)

* + 1. What are you studying?
		2. Selection of the unit of analysis (plots, countries, people, groups), including criteria for inclusion/exclusion (who/what/where are you studying?)
		3. Study area description, maps, relevant history, etc.
		4. Dates/time periods you will conduct research, or that define the phenomenon you are studying.

## Research Plan (1-2 pages)

* + - This is a critical section. It should be detailed and concrete. The main idea is to break down each sub-question into specific, tangible pieces, with logical links throughout that demonstrate how you will answer your questions (what data/empirical material you will use, how you will collect and analyze and interpret it).
		- One way to do this is to make a MATRIX with research questions, sub-questions, and methods to answer each (shown below with an example from a previous LUMES thesis).
		- The goal is to go from broad topics of interest, to more specific, answerable questions. These questions then need to be “operationalized” from “constructs” (the phenomenon of interest, like sustainability, climate change, power, etc.) into “variables” (a trait that can change in value from case to case, or within a case over time, and which is observable, measurable, well defined, exhaustive (covers all possibilities), mutually exclusive (unambiguous), and aligned with valid theory).
		- In the case of Planetary Boundaries (Rockström et al., 2009), the construct is “safe operating space for humanity”, one variable is “climate change”, it is operationalized into a **measure** of parts per million CO2 in the atmosphere, and the actual **data** is the currently observed levels (e.g., now over 400ppm, compared with proposed boundary of 350 ppm).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Topic** | **Question** | **Operationalizing…** | **Variables** | **How to collect data?** | **How to analyze data?** |
| Food security, cities, ecosystem services | What is the potential capacity of urban food forestry to meet food needs? | “capacity of UFF”-> tons of apples produced | What trees to plant? | Lit review | Suitable species |
| Available land for planting trees | GIS mapping | Classifying & quantifying open land |
| Density of planting | Lit review | Scenarios |
| Yield per ha | Lit review | Scenarios |
| Food Needs -> calories demanded | Very Food Insecure calorie needs | How many people, how many calories | Calculations from lit data |
| Total population fruit needs | How many people, how much fruit | Calculations from lit data |
| Tons to calories | Lit review | Calories per gram conversion |
| (other RQs…) |  |  |  |  |

Source: Kyle Clark LUMES thesis 2011; Clark and Nicholas, 2013, *Landscape Ecology*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Topic** | **Research Question** | **Operationalizing** | **Variables** | **How to collect data?** | **How to analyze data?** |
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|  |  |  |
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|  |  |  |
| (other RQs…) |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| Question | Data | Methods to collect & analyze data |
| RQ1 |  |  |
|  |  |  |
| RQ2 |  |  |
|  |  |  |
| RQ3 |  |  |
| Examples: |  |  |
| What climate adaptation actions are being undertaken in the wine industry in Victoria? | Reported actions by growers and winemakers | Online survey of 100 growers identified by belonging to marketing groups, to report frequency of undertaking various actions |
| What is the potential for rain-fed agriculture in Africa? | Available ag land in Africa | * FAO data on current arable land
* Data on current yields by country for each crop selected
* Maps
 |

## Visual representation of research question and plans

Insert some sort of diagram, flowchart, mind map, causal loop diagram, or other figure that represents the key aspects of your research noted so far in a visual way. See “Research design images” ppt file in Dropbox.

## Ethical considerations of research -1 paragraph

* + 1. If you are using human subjects, how will you treat anonymity, confidentiality, any stress your work may cause subjects, any sensitive information?
		2. Any other ethical aspects

## Anticipated Challenges (1 paragraph)

* What major research challenges do you anticipate facing, and how will you address them?
* What are the main things that could go wrong in your research (e.g., access to data, field sites, or participants), and what “Plan B” do you have in place to allow you to conduct your research under modified conditions?

## Research philosophy (3 paragraphs)

Description of research program, following Khagram, Nicholas et al., 2010, *Environmental Conservation* 37:388-397.

* 1. **Research strategy** (experimental, statistical, comparative, ethnographic, triangulation)- one paragraph relating to your research question
	2. **Research theory** (predictive, understanding, explanatory)- one paragraph relating to your research question
	3. **Research philosophy** (positivism, constructivism, interpretivism)- one paragraph relating to your research question

# Broader Impacts and Implications (ca. 1 page)

While every thesis may have a different balance between the type of evidence used (concrete or empirical vs. abstract, philosophical, or theoretical approach) and the scale of analysis (specific, focusing on particular case(s), or more general and abstract), the strongest research can often demonstrate some relevance at each of these four dimensions. In particular, it’s important to be able to address what broader lessons can be drawn from a particular case for a highly applied study, or to be able to identify how or where the abstract ideas could be seen or tested in the real world for a theoretical one. You can also think of this as placing your work in a national and international context (a criteria for thesis evaluation by HSV). A good way to achieve this is to use the approach suggested by Prof. Christian Lund at Copenhagen University (filled out with an example from Mine Islar, LUCID PhD):

## Research Matrix (Fill out below and describe in 1 paragraph)

|  |  |  |
| --- | --- | --- |
|  | Concrete | Theoretical |
| Specific | * River privatization in Turkey

(What is your case?) | * Neoliberalization
* Governmentality

(What is this a case OF?) |
| General | * Renewable energy development
* Privatization and ownership of natural resources

(What are the issues in your case?) | * Rights appropriation
* Justice as recognition

(What can we decontextualize from this phenomenon?) |

You do not have to weight each quadrant equally (it’s fine if your main focus is primarily in one quadrant). However, ultimately you will want to show that you have considered each quadrant in your research.

## Audience, stakeholder involvement, and communication- 1 paragraph

Who do you hope will read your thesis? Besides Kim! ☺ (residents of a certain area, consumers of certain technologies, government officials, NGOs, academic researchers…) How will you involve the intended audience in your work (either in the research process, such as participatory or transdisciplinary research approaches, and/or a plan for communicating results so that they reach the intended audience)?

What peer-reviewed journal(s) would be an appropriate target to submit the work you’ll do in your thesis? (Select one and look at the Instructions for Authors, use this to guide your thesis outline.)

## Relevance to sustainability science- 1 paragraph

Refer to key literature in the field and the over-arching aims of SS- how does your thesis contribute (even in a modest way) to these? The Research Matrix, above, may be helpful here.

# Time Plan (note, this is from last year, need to update to new deadlines for 2014)

|  |  |  |  |
| --- | --- | --- | --- |
| Week of…  | Task | Deliverable | LUMES Deadlines |
| Oct 21 |  |  |  |
| Oct 28 | Individual supervision meetings as needed |  | 3 page proposal to Anne and Kim, Oct 31 |
| Nov 4 | Group supervision meeting |  |  |
| Nov 11 |  | Research plan draft 1 to Kim |  |
| Nov 18 |  |  |  |
| Nov 26 |  |  |  |
| Dec 3 |  | Draft 2 Research plan to Kim |  |
| Dec 10 | Revise research plan |  |  |
| Dec 17 | Revise research plan, make initial contacts | Draft 3 Research plan to Kim | Research plan to Stefan and Kim, Friday Dec 21 |
| Dec 24 | Holiday |  |  |
| Dec 31 | Holiday  |  |  |
| Jan 7 | Research design | Research instrument design (draft survey /interview questions, as appropriate) |  |
| Jan 14 | Pilot fieldwork/data collection | Revise instrument  |  |
| Jan 21 | Pilot fieldwork/data collection |  |  |
| Jan 28 | Initial data analysisFinalize research instrument | Draft Methods section |  |
| Feb 4 | Fieldwork and data analysis | Figures of initial results |  |
| Feb 11 | Fieldwork and data analysis |  |  |
| Feb 18 | Fieldwork and data analysis |  |  |
| Feb 25 | Fieldwork and data analysis |  |  |
| Mar 4 | Data analysis |  |  |
| Mar 11 | Data analysis | Draft figures |  |
| Mar 18 | Data analysis | Draft Results section |  |
| Mar 25 | Conceptual framework/theoretical analysis | Draft Discussion section |  |
| Apr 1 | Writing | 1st Draft of full thesis to Kim | Progress report to Stefan and Kim, Weds Apr 3 |
| Apr 8 | Writing | Draft Introduction and Conclusion |  |
| Apr 15 | Writing |  |  |
| Apr 22 | Editing/Revising | 2nd draft of full thesis to Kim |  |
| Apr 29 | Editing/Revising |  | Thesis abstract to Stefan and Kim, May 4 |
| May 6 | Editing/Revising | 3rd draft of full thesis to Kim |  |
| May 13 | Editing/Revising |  | Submission of complete thesis, Sat May 18, 13:00 |
| May 20 | Draft seminar talk to Kim |  |  |
| May 27 | Practice seminar talk in research group |  | Thesis seminars, Th/Fri, May 30-31 |
| June 3 |  |  | Graduation! June 5 |

# References