

MSD | Introduction to Interdisciplinary Science 2014

Group assignment: Sustainability, research, interdisciplinarity

In a world where certain human activities, in certain parts of the world are becoming more and more unsustainable, sustainability is everywhere, and for everyone. Under a green surface and sustainability speak, a deeper brown, grey and black can be found. Our challenge is to get to the bottom of things, challenge the obvious and be constantly creative, out-of-the-box and out of the outside-inside-box paradigm. Uppsala University is doing "Research for a better world" and SLU aims to provide knowledge that "enable[s] us to utilize our forests, our landscapes, our soil and our animals in a sustainable way".¹ Uppsala municipality has since 2010 adopted a Uppsala Climate Protocol and became the World Wild Life Foundation's Earth Hour Capital in 2013.

As young researchers you have been tasked to assess the sustainability situation in different areas of the city, and propose ways to make Uppsala socially, culturally, economically and ecologically sustainable as well as an attractive place to live. Starting from the particular place in Uppsala that your group has been assigned (see below), you will identify key sustainability trends, themes, challenges and opportunities and propose measures that will improve the situation. Summarize your results and proposals in a research paper (6 pages, 2500–3500 words) that will be presented and discussed at the Course Conference on September 18th.

Based on primary data (eg. site observations, interviews, statistics, etc.), course literature and journal articles, your research paper should explore and attempt to answer an original research question that you have formulated in your group based on the sustainability challenges that you identify in your site observations.

¹ See vision statements at the universities' websites.



The Process

As support for your collective research process, you have the self-study session, lectures, workshops, collaborative learning sessions, individual seminar tasks and literature. In particular, the Academic Debates both give a basic structure to your process and allow for discussion and cross-group deliberation on key aspects of your joint papers. The process has the following milestones:

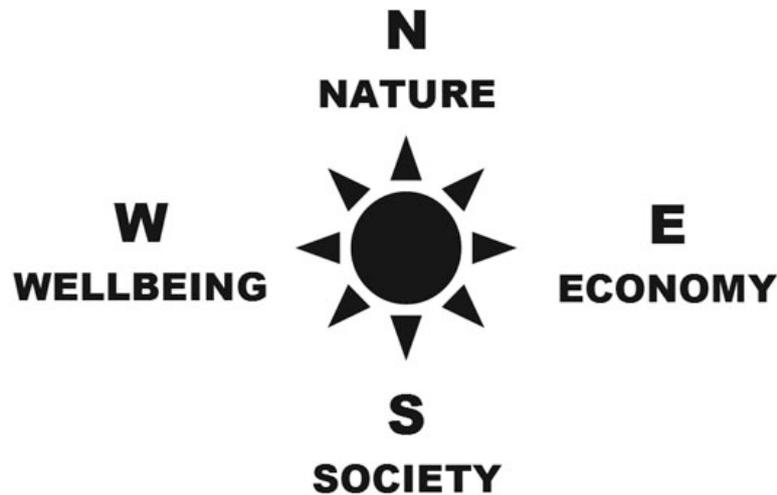
- Academic Debate 1: Sustainability challenges & research problems (Sep 5th)
- Academic Debate 2: Literature, writing & ethics (Sep 12th)
- Deadline for posters (Tuesday Sep 16th at 13.00)
- Deadline for research papers (Sep 17th at 13.00)
- Concluding course conference (Sep 18th)
- Deadline for final revised version of the papers (Sep 22nd at 0800)

Part 1: Sustainability challenges & research questions

Your overall task in this phase is to identify societally relevant and academically interesting research problems and research questions that may lead to knowledge and insights that may contribute to a sustainable development. Questions to consider in this phase:

- Sustainable development criteria: what does social, cultural, ecological and economical sustainability mean in relation Uppsala and the particular themes you have identified?
- What is happening? What are the key trends, challenges or opportunities that you can identify in your area?
- Why is this happening?
- What can be done to increase the sustainability in this area?
- What (research) questions have been raised in the process that need further study?

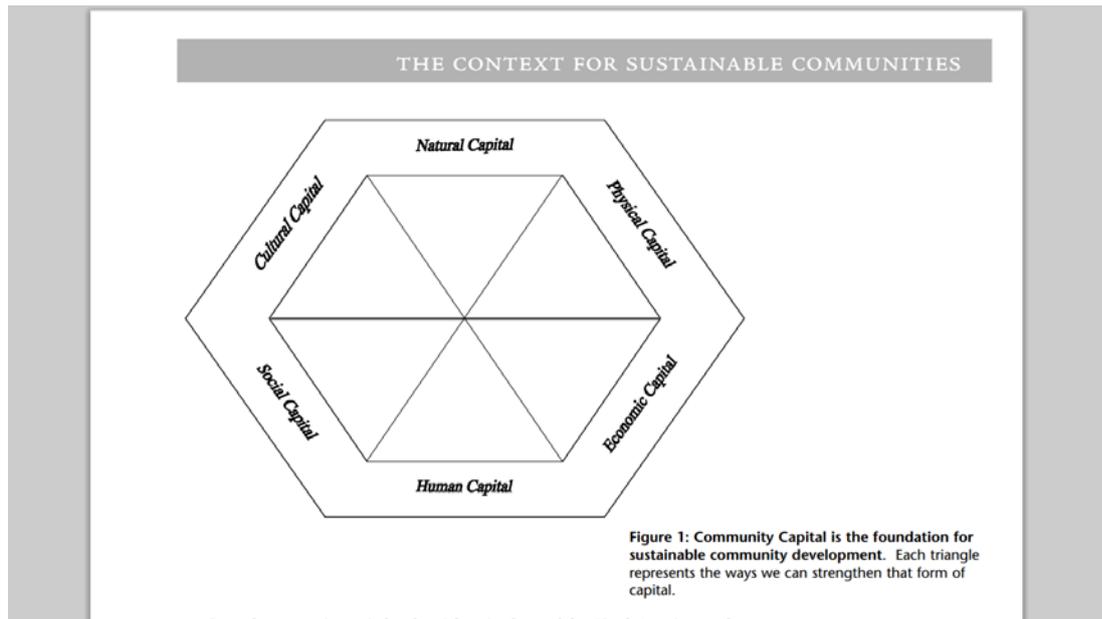
The Sustainability Compass may be a useful tool to capture the interdisciplinarity of sustainability trends and problems:



- **Nature:** Healthy air and water quality, sustainable resource use, sufficient habitat (especially for endangered species), the preservation of scenic beauty.
- **Wellbeing:** Our individual health, happiness, education, satisfaction, and fulfillment, as well as the health of our families and primary relationships, and the quality of our living and working environments.
- **Economy:** Vital businesses, good infrastructure, the sufficient production of goods and services, a solid financial sector, and good jobs for people at good wages.
- **Society:** The health of our communities, institutions, schools, cultural traditions, and the arts, and the organizational structures and legal frameworks that protect equality and opportunity for all.

Another framework you can use for inspiration are Roseand's 6 Capitals for sustainable communities.²

² Roseland, Mark & Connelly, Sean, Toward sustainable communities: resources for citizens and their governments, Rev. ed., New Society Publishers, Gabriola Island, BC, 2005



a) Identify sustainability challenges (starting Sep 2nd with Self-Directed Uppsala Observations & Data Collection)

The point of departure for your study will be to visit the site your group has been assigned for the self-directed Uppsala observations. Observe, talk to people and use other relevant (and easily available) data collection methods. Use the information you gather to identify trends, challenges and opportunities that are of relevance for making Uppsala a more sustainable and attractive city. You may have to return to your site several times (and at different times of the day) in order to get a sufficient understanding of the place and its particular challenges and opportunities. Use different media to document your visit(s)!

b) Formulate research questions based on the sustainability challenges you have identified.

c) Review literature that may help understand the problems

Familiarize yourselves with the university library resources and start reviewing literature relating on the themes that you have identified. Note that the themes can be approached from several disciplinary starting points. (Note: You do not have to read the complete articles/books at this stage.)

d) Prepare for Academic Debate 1

Be ready to present the following at Academic Debate 1:



- At least 4 key sustainability challenges that you identified in your area (ie. your research *problems*).
- At least 4 possible research *questions* that connect to the sustainability challenges.
- An annotated list of literature (journal articles as well as books) that give a background to your research questions or can be used to understand different aspects of sustainability and the sustainability challenges that you have identified. The list should include sources from at least three different disciplines (natural sciences as well as social sciences/humanities).

Part 2: academic writing & ethics

In this phase, you will work with the *one* research question that you selected at Academic Debate 1. Starting from this research question, continue to review literature, research and write your paper. Preparations for Academic Debate 2:

- Bring a draft of a part of your paper, at least 2 pages long.
- Reflect on what ethical challenges or dilemmas you have discovered that relate to your research questions, your sustainability challenges and solutions.
- Read the relevant sections of Öberg and Graff&Birkenstein (see Seminar Task 2)

At Academic Debate 2 you will work on your literature review sections of your reports with Öberg and Graff&Birkenstein as starting points.

Part 3: Write joint research paper & prepare for the conference

In this phase you will finish the report and prepare a conference presentation of the main points. Preparations for the conference:

- Hand in the final report (Sep 17th at 1300)
- Prepare a conference presentation (max 5 min) of your main points and conclusions.



- Prepare a research poster that summarizes the main parts of your report (deadline Sep 16th at 1300)
- Read the other reports (will be distributed on Sep 17th after 1300).

At the conference you will discuss the reports and also create a summary synthesis of the main policy recommendations to Uppsala municipality. After the conference, your groups may do final revisions to your reports based on the input you get during the conference. Deadline for the final revised reports is Sep 22nd at 0800.

Practical info and assessment criteria

Upload your report (Sep 17th at 1300) and final revised report (Sep 22nd at 0800) to the appropriate File Areas on Studentportalen (www.studentportalen.uu.se). Assessment criteria:

- Clarity; the language must be clear, understandable and at a sufficiently high academic standard.
- Argumentation; the arguments must be relevant, and should be concise and coherent.
- Academic; arguments and proposals must be anchored in scientific and analytical sources.
- References; references must be properly used and done throughout the paper.

Remember your arguments and basic facts with references. Make sure to make it very clear to the reader when you express your own ideas and opinions, and refer to sources when you write about other people's opinions or research. Make sure that you reference correctly. Use either footnotes, i.e. the Oxford system³ or include the references in the text, i.e. the Harvard System; example: (Hornborg, 2001, p. 39). There are very useful guides for referencing easily found on the Internet.

³ Eg. Roseland, Mark & Connelly, Sean, *Toward sustainable communities: resources for citizens and their governments*, Rev. ed., New Society Publishers, Gabriola Island, BC, 2005