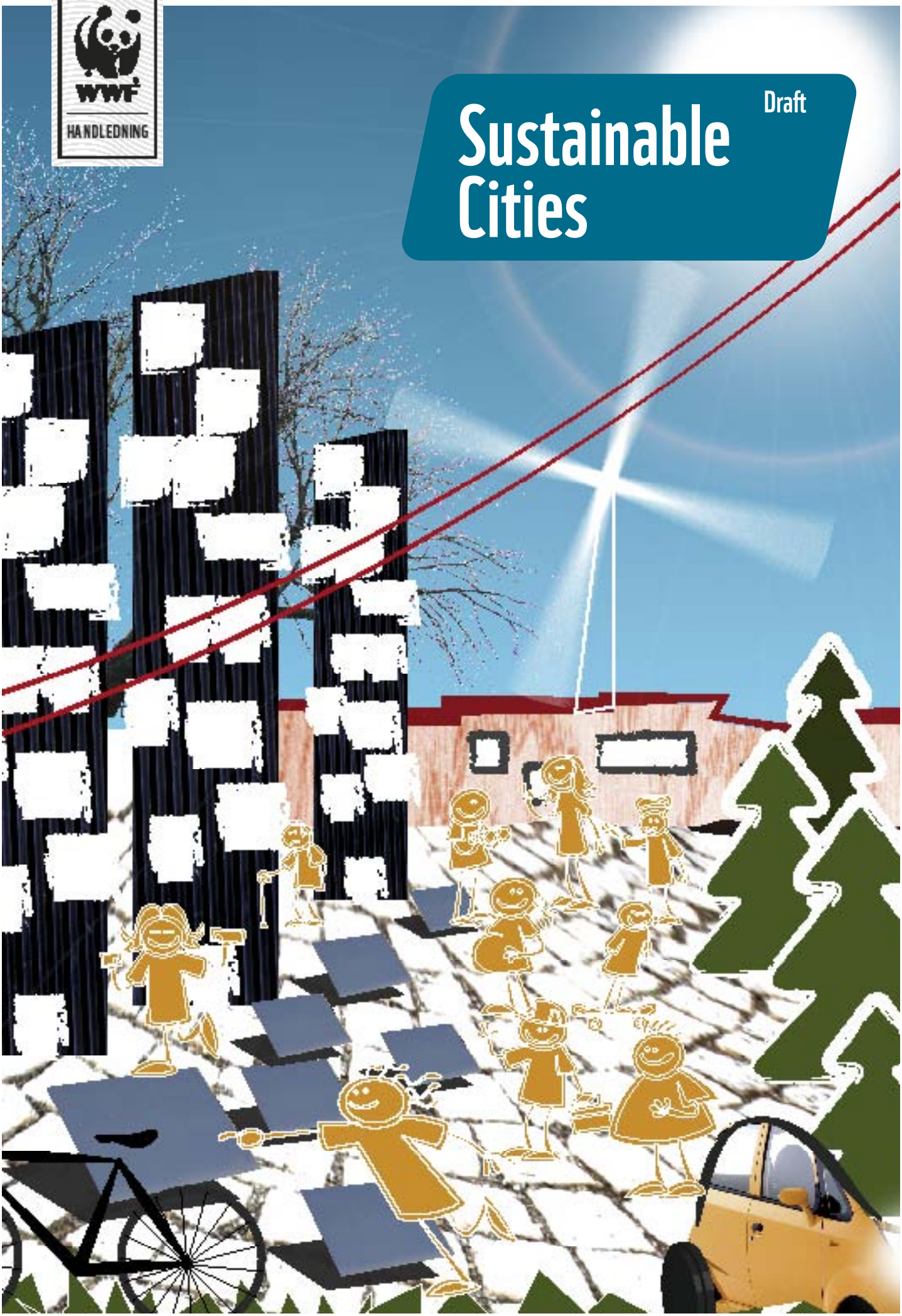
WWF

HANDLEDNING

Sustainable Cities

Draft



INTRODUCTION

Urbanization is a strong global trend. Today, over half the world's population live in cities. Within a few decades an estimated 75 percent of the world's population will be urban dwellers. The consumption of materials and energy gives rise to a growing ecological footprint that also affects biodiversity. At the same time the urban perspective offers great opportunities. Now we need smart ways to meet human needs with a minimal footprint, and with the same or better quality of life.

WWF focuses on sustainable cities and smart solutions

WWF works for sustainable cities based on the vision One Planet Future – a future for a living planet where people of all countries will have the opportunity to live a happy and healthy life, and the planet's biodiversity is managed in a sustainable way. In our work with cities we focus specifically on ecological footprints, innovations, urban greenery and ecosystem services, and on aspects of learning and involvement. Together we must find a voice that not only identifies major problems, but also viable models and solutions that already exist or can be developed.

Schools on the Path to Sustainability

Over a period of three years, ten schools participated in the WWF project Schools on the Path to Sustainability. The aim of the project was to gain experience and find models for how schools might integrate sustainable development in their activities and development. The project prioritised working with social concerns both close at hand and in faraway places when students as creative citizens are to face developmental issues.

The Global School in Stockholm has come a long way in Learning for Sustainable Development. Collaboration with the Stockholm Resilience Centre at Stockholm has enabled university researchers to test their findings with the help of pupils in well-structured interdisciplinary projects. In this project the pupils worked together with researchers Thomas Elmqvist and Jeff Ranara. There is a sound pedagogical approach behind this innovative project for secondary schools which is inspired by the goals set up in the Swedish school system curricula.

Gitte Jutvik WWF

This guide has been prepared by a group of teachers at the Global College, one of Stockholm's secondary schools, on behalf of the World Wide Fund for Nature (WWF).

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Cover and layout: Sven Ängermark

WORKING WITH SUSTAINABLE URBAN DEVELOPMENT

This teaching material is primarily intended for teachers at primary or secondary school level, but can also be used in other situations where cross-disciplinarity and learning for sustainable development are in focus. Some suggested topics are:

- Geography
- Biology
- Science
- Social studies
- History
- Swedish
- English
- Aesthetic courses

The exercises intended for pupils working together in groups of 3-6. The teaching material is made up of five components which together form a whole.

1. Preparation
2. Survey
3. Analysis
4. Change and impact
5. Advanced course

The parts build on each other but can also be used separately. This allows you as a teacher to choose whether you want to work with the materials in a few individual lessons or as a larger project that may span several weeks.

The key issues contained in the material are:

- What are ecological and social values?
- What is a socio-ecological perspective?
- What is a vision and what characterises a vision that pays attention to ecological and social values?
- What do things look like from different perspectives out in an urban district, and how has the district changed?
- What social and ecological values exist and are important in the district? What are green maps and sociotope maps?
- What are the challenges facing the city / urban district? What conditions pre-exist to meet these?
- What steps are needed to achieve higher environmental and social values and the long-term vision?
- How can the city / urban district become more sustainable (more resilient) – socially and ecologically?
- How you can as an individual contribute to change, and how can you play a part in influencing social development?

1. PREPARATION

The purpose of this first part is to create an understanding of the meaning of the concepts ecosystem services, ecological and social values and how they fit together. Pupils are given tools that will enable them to detect and visualize these values, and to formulate a vision.

WHAT ARE ECOLOGICAL AND SOCIAL VALUES?

The purpose of the two following exercises is that pupils should begin to familiarize themselves with the concepts of social and ecological value, and be able to provide examples of these in their local environment.

EXERCISE

Exercise 1:

The exercise can be done first individually and then discussed in groups or alternatively in the group as a whole.

Do you agree or not?

- You trust the people who live in your neighbourhood
- You think that people in general try to be helpful (or do they mostly think of themselves first)
- You have great confidence in: the health service, the police, parliament, the social security office, the government, local politicians
- The police care about problems in the area where I live
- You enjoy being close to a park or green area
- You feel safe in the parks or green areas near you
- There are a lot of trees or other greenery and water around your neighbourhood

EXERCISE

Exercise 2:

The pupils are asked: What makes you relax, feel comfortable, inspiration, happiness and joy? Which of these factors have their roots in your natural surroundings and which come from the people around you?

The pupils first consider this question individually and write down their thoughts. They then gather in small groups and compile their answers on colour-coded sticky notes (e.g., green for organic, yellow for social values and pink for the hard-to-place). The group agrees on five values from each colour that they think are particularly important for well-being and read them aloud to the class. These values are noted down large sheets of paper (saved for future exercises) under the headings ‘Ecological values’ or ‘Social values’.

The teacher summarises the discussion and amplifies the concepts of ecological and social value. The pupils gather in groups and ask themselves which of these values can be found in the school environment. Which of them are missing? Which of them are needed now or in the future?

A CITY IN TRANSITION

The purpose of this exercise is to create an understanding of societal forces and create commitment to a discussion of the future society.

EXERCISE

EXERCISE 1:

Divide the class into groups and assign each group a part of town. Pupils visit their part of town to observe and record the traces left from an industrial society and imagine how things will look in the society of the future. They are asked to investigate buildings, roads, services, communications, parks, people, etc.

Materials: The groups will need a table that describes different societies and different perspectives of social development.

After completing their observations the pupils can:

- Think about that which can be linked to an industrial society, a service society, an information society and a society of the future. Pupils can use the following matrix to map out different societies and different driving forces
- Reflect on societal driving forces (economic, social, technological and environmental)
- Reflect on that which will characterize and be proactive in the society of the future

Table for City in Transition exercise:

	Technological development	Economic development	Social Development	Eco strategic development	Urban structure
Early Industrial society					
Late industrial society					
Service society					
Information society					
Future society					

WORKING WITH VISIONS

The purpose of the two following exercises is to enable the pupils to grasp what a vision is and help them find the tools to draw up and visualize their own vision together in the group.

EXERCISE

EXERCISE 1:

What is a vision?

"A vision expresses a desirable future state, which can be realized in whole or in part, and which gives strength and energy".

A vision can be defined as something you want to achieve in the future, and need not be subject to realistic demands, time constraints or measurability. A vision is something you strive for and that can shed light on the goals of a community, project, organization, company or individual.

Pupils can work on developing their own visions for the future, or attempt to understand visions that have already been established for the local community. Visions that exist for some districts in the local community can also be applied elsewhere.

What challenges are there on the way to achieving the vision?

EXERCISE

EXERCISE 2:

Based on previous exercises that dealt with ecological and social values the pupils, working in a group, are asked to develop a vision for a future sustainable city / urban district. Think about the following:

- How can you promote comfort and well-being? You can wish for anything you like!
- Which ecological and social values are most important to you?
- Construct a utopian model of your dream society. One way to address this is to let pupils produce 3D models (made from e.g., clay, polystyrene foam or cardboard), drawings, text documents, etc. The most important thing here is that the pupils visualize their ideas and that these utopias are living constructs that can be changed and added to over time.

ECOSYSTEM SERVICES

The following exercises are designed to advance understanding of the ecosystem services concept, show the importance of putting a price on nature and to connect the concepts of ecological and social values.

EXERCISE

Exercise 1:

Pupils work in groups. Please use an ecosystem services fact sheet for an overview of all the services that ecosystems provide. There are quite a few as you can see! From temperate climate, arable land and medicine to beautiful scenery and recreation.

But the more you watch and read the more you realize how much we really need, and that there are ecosystem services both just outside the classroom window and on the other side of the planet.

Group 1: Write down some ecosystem services that put food on the table.

Group 2: What is a prerequisite in nature if we are to get clean water?

Group 3: Which organisms assist in providing us with clean air?

Group 4: Imagine that you cut down all trees. Which ecosystem would disappear?

Group 5: How can nature protect us from natural disasters?

Group 6: Have you ever experienced a feeling of wellbeing in a forest, at sea or among fields and meadows? Tell us about a particular occasion. In what way can you say that nature provided you with an ecosystem service at that moment?

Step 1:

- Examine the task you have been given. It is a good idea to check a fact sheet on ecosystem services at this point
- Think things through yourself first
- Listen to what everyone else in the group has to say
- Discuss the various suggestions people have. Write down the proposals that have the backing of the whole group

Step 2:

- Different ecosystem services have different functions (regulating, provisioning, cultural and supporting.). What type of ecosystem service have you discussed?

EXERCISE

Exercise 2:

The groups present the ecological and social values they have selected in the school surroundings and group them under different ecosystem services categories (some may fit into more than one).

To help pupils get started, you can 'warm up' by discussing in which categories the ecological and social value of, for example, a tree can be placed.

Each group is provided with sheets of paper and coloured pencils on which they can draw their own 'factsheet' based on the ecosystem services they have found. Older pupils can also work more in depth and produce a detailed record of ecosystem services for the upcoming field work.

EXERCISE

Exercise 3:

The teacher acts as an auctioneer and asks pupils to bid for a tree. How much is it worth? What might they be willing to pay? The pupils should motivate their bids. For example, you can mention that a tree in London is estimated to be worth € 943 500 (London Tree Officers, 2008).

The teacher then introduces the concept of 'Willingness to Pay' and the importance of attempting to put a price on nature and thus includes an economic perspective. Discuss whether ecosystem services really are free. For example, visit the Bee Urban website to read more about how much it would cost society if we got rid of our pollinators.

Advanced Exercise:

The exercise is suitable for advanced training for secondary school pupils. The aim is to provide the pupils with examples of how economic, ecological and social values are linked.

Pupils are divided into seven groups. Each group reads up on a case study from 'Eco8'. After reading the text the pupils discuss the following points and write down and save their answers:

- Summarize the article's key messages
- How can the text be understood in the light of the ecosystem services concept?
- What problems and opportunities are taken up in the article and associated with the ecosystem services concept?

ECOLOGICAL FOOTPRINTS

The concept of ecological footprint has been introduced to foster understanding of how the well-being and prosperity of people living in cities is dependent on ecosystems, both close by and on the far side of the world. When ecosystems are affected vital ecosystem services are threatened and the concept can be used to visualise and communicate our dependence on natural ecosystems services. We can utilise the ecological footprint concept to compare the extent of biologically productive area different countries and their cities use to satisfy their consumption.

For general information about the ecological footprint and illustrative examples read the WWF newspaper 'Our Ecological Footprint' which can be found at this link: http://wwf.panda.org/about_our_earth/all_publications/living_planet_report/

The following exercises are based on extracts from WWF publications, with a focus on urban perspectives.

EXERCISE

EXERCISE 1:

The purpose of this exercise is to highlight the city's dependence on local and global ecosystem services, and build an understanding of how we can move development in a sustainable direction through conscious consumption.

Is your breakfast sandwich travelsick?

- Ask pupils to write down exactly what they ate for breakfast
- How far has the breakfast you ate this morning travelled? Read the packages and ask the farmer or the shopkeeper about where the foods come from
- Which ecosystem services are needed to produce and transport your breakfast?
- Draw maps, take measurements and calculate! A good way of presenting the results is in a table:

Procuct	Origin	Route	Distance (km)	Ecosystemser-vices
Teabags	India	By boat to Eng-land. Boat on to Sweden. Truck to the store	16020 km	Erosion control, water cycle, pho-tosynthesis.
Egg	Grandmother's summer cottage	Private car from the henhouse	4 km	

- How far have the products been transported? Whereabouts in the world can you see traces of your ecological footprint?
- In your opinion, which breakfast food has contributed most to emissions? Keep in mind that different modes of transport (ship, truck, train and car draw different amounts of fuel) and that the different products don't weigh the same.
- Is the ecosystem service that was utilised to produce your breakfast threatened / vulnerable?
- What would be a more sustainable breakfast?

If pupils find it difficult to understand the difference between sustainable and unsustainable consumption it may be helpful to provide examples. It's a good idea to make use of things the pupils have taken up in their tables, or to utilise the WWF website where, for example, you can find the following:

"There are many examples of unsustainable consumption patterns. Here is one: Milk from Denmark transported by truck to Italy where a dairy turns it into yogurt and adds fruit before it is transported back to Denmark for consumption. What is unsustainable here?"

Advanced course

To add social aspects to the ecological footprint concept, pupils can carry out a life cycle analysis of a single item, taking into account the working conditions in the location where the foodstuff was produced. Here it may also be interesting to check the labelling on different products; eco and Fair Trade.

- Find out more about 'urban farming' (also known as 'urban agriculture')
- What does urban farming mean? Can you give some examples?
- What are the opportunities for urban farming in the city where you live?
- How might urban farming reduce the city's ecological footprint?
- What would be the consequences of urban farming in the countries we currently import from?

You can read a lot online about urban farming. Here are some tips:

www.ruaf.org/node/101

www.sustainweb.org/cityharvest/

EXERCISE

EXERCISE 2

How big is the ecological footprint made by cities?

The purpose of this exercise is to gain understanding of how different cities make an ecological footprint and in what way. The exercise aims to find out how they impact ecosystems across the whole spectrum and to interpret and compare statistics.

Cities have a major impact on the planet according to several prominent researchers, including Will Steffen, who has worked for years to uncover the linkages between human impact and the climate changes currently challenging humanity, not least in the cities. Steffen believes that urbanisation is this century's most dramatic trend in the human impact on the planet, both locally and globally. The city affects biologically productive space a thousand times its own size locally and globally. For example, London requires 40% of all England's productive area for its food production as well as large areas in Kansas, France, Spain, Mount Kenya and other places for the daily intake of wheat, tea and soy. (http://gulliverasso.org/IMG/pdf/article_footprint.pdf). An example closer at hand illustrates how the inhabitants of the Baltic region are dependent for their welfare on viable ecosystems equivalent to 250-300 tennis courts, distributed both locally and globally (Carl Folke, 2005). These footprints will grow as more and more people move to the cities. In 2010, 3.5 billion people lived in cities, according to the Living Planet report, and in 2050 estimated 6.3 billion people will live in cities.

In thirty years, 1.7 billion more people will live in cities in Africa and Asia (Living Planet Report 2010, wwf.se).

The city's impact on ecosystems will not diminish but on the contrary is on the rise. What then characterises the footprint of a city?

Ecological footprints are calculated in global hectares, which are obtained by taking the biologically productive area of the entire planet and dividing it by the number of inhabitants. This leaves an area of approximately 1.8 global hectares at the disposal of each person on Earth – without over-exploiting ecosystems. This is the area that the biological capacity can handle.

How big an area is 1.8 hectares?

Measure out 1.8 hectares outdoors, or round it up to 2 hectares (1 hectare = 100 x 100 metres, a football pitch = 1 / 2 ha). This is the biologically productive area available to each individual on the planet if we divide the earth's resources equitably. The average ecological footprint of each person living in Sweden is 6.1 global hectares. See the exercise booklet at http://www.wwf.se/naturvaktarna/source.php/1101490/bas5.pdf for different ways to illustrate this to pupils.

How big is the footprint made by Sweden?

Exercise 1 draws attention to the footprint made by food production locally and globally. It is primarily the food we eat and the energy we use that leave the biggest footprints. Most people live in a city, that's why most food is needed to feed the population in these urban concentrations, where there are no places close by that can be used to produce food. Where there are a lot of people there is also need for a lot of energy. People in the wealthier part of the world use more surface area for energy than that which is available. Every person living in Sweden currently uses three times more energy than the average global citizen, almost 10 times more than the average resident of India (source www.cogito.nu) while 2 billion people lack electricity for lighting and gas for cooking (Source: Christian Azar). A good way to get a glimpse of how different countries affect ecosystems is to compare their ecological footprints. You can do this by using the Living Planet Report, both from 2010 and 2008.

1. You can refer to the Living Planet Report 2010

http://www.wwf.se/source.php/1348453/LPR% 202011% 20light.pdf (pp. 11-13, 20, 23) to answer the following questions:

- What makes the biggest footprint according to the graphs?
- Compare the footprint made by high income countries with that of low-income countries. What differences are there?
- How can these differences be explained?
- How is the loss of biodiversity in low income countries linked to the increased footprint made by high-income countries?
- What is meant by the term 'business as usual' and why is it impossible to continue on in this way according to the report?
- Despite the fact that cities have a great impact, in one respect it is better to live in a city than in a rural area. Explain in what instance cities make less of an ecological footprint than rural areas, and why this is particularly interesting in a future climate perspective.

Which countries make the greatest footprint according to the report?

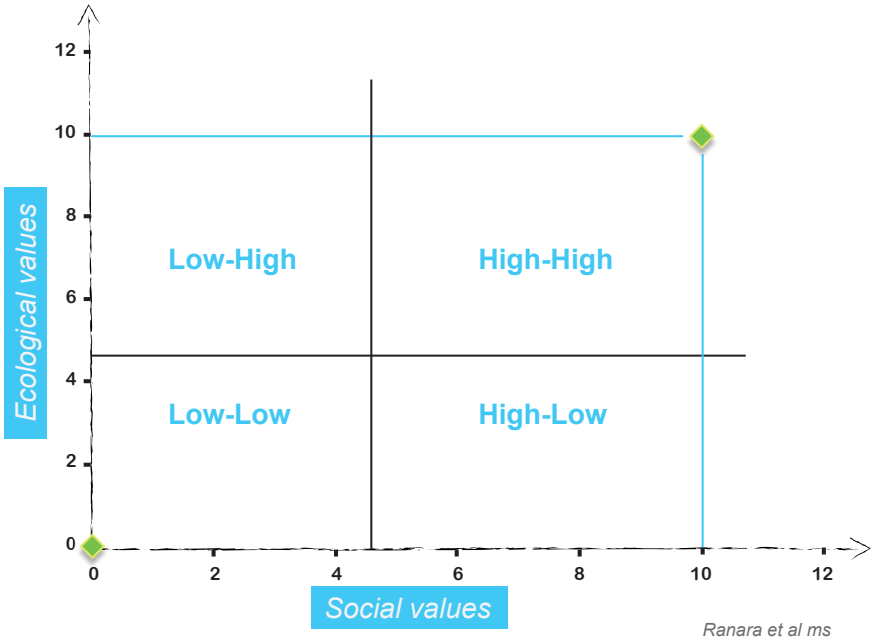
- If you calculate the footprint per person instead, who contributes most to the ecological footprint? Use the text to explain why.
- How many global hectares are required by a person living in Sweden? (Note that the available biocapacity / per person has decreased since 2005 due to population increase. In the 2011 report it is 2.1 gha, while in the report for 2010 it is 1.8 gha)
- Look at the charts showing the footprints left by different countries. Which countries make the smallest footprints? Which countries approach the availability threshold, i.e., 2.1 gha according to the figures for 2005? Try to explain why this is so – study the graphs, for example, and see what in these countries contributes to the magnitude of the ecological footprint they make. How do you think this has changed and how might it change in the future?

SOCIO-ECOLOGICAL MATRIX

The purpose of using the socio-ecological matrix is to visualize and understand how ecological and social values in a target area are related and interact. The matrix thus acts as a tool for analyzing and discussing the social and ecological values in a particular area. The matrix can also serve as a starting point for the work involved in setting up a vision and as an aid to planning and establishing measures designed to increase the social or ecological values within the area.

We think that the matrix is an excellent tool because it:

- Serves as an introduction to the socio-ecological perspective and leverages diversity in thinking
- Allows people to reflect on and concretise their thoughts on social and ecological values and the things they themselves value in an area
- Can be used as a tool to map the social and ecological values in different areas and thus highlight opportunities and challenges
- Makes it possible to compare conditions in different cities around the world
- Can inspire people to take a standpoint, increase their readiness to act and influence the local environment



Socio-ecological matrix

EXERCISE

EXERCISE 1:

The purpose of this exercise is to practice using the socio-ecological matrix in a concrete way.

The teacher shows an illustration of the socio-ecological matrix and explains how it is constructed.

The teacher hands out images representing different environments / areas along with the matrix on a large sheet of paper to each group of pupils. It is important that all pupil groups are given identical images. Some examples: industrial estates, town parks, wetlands, forests, golf courses, playgrounds, parking lots, courtyards, green walls and roofs, allotments and other public spaces in the city.

The group will be tasked with:

- Discussing the social and ecological values in the images
- Discussing whether the area has high / low values
- Placing each image in one of the boxes in the matrix and justifying the selection
- Discussing what would be needed to move the image to a box with a higher ecological and social value

Finish off with a discussion of these assignments in the whole class and highlight any similarities, differences and suggestions for improvement.

2. SURVEY

The purpose of the survey assignment is to create a foundation for that will enable an extended investigation of analytical issues such as:

- In what way has the city / district changed?
- What are the socio-ecological challenges?
- What preconditions exist that enable these to be met?
- How can the city / district become more sustainable (more resilient) – socially and ecologically?

The class is divided into smaller groups that are responsible for identifying and analyzing parts of the city in a socio-ecological perspective.

The survey can be carried out in two steps. The first step can be done in the school, using statistics, maps, or guest experts and its purpose is to provide a comprehensive understanding of the district from different perspectives. The second step is carried out in the urban district being investigated. The group may use different methods such as observation, surveys, questionnaires and interviews to gain a deeper understanding of one or more perspectives.

Step 1: Survey with the help of statistics and maps (sociotope and biotope maps)

Pupils are asked to describe their part of town (district, block, residential area) from a social, economic, geographical and ecological perspective. The purpose of this step is to acquire an overarching understanding of the district from different points of view. The pupils can study, for example: population, urban type, housing, employment, income, education, crime statistics, culture, service, health, social care, trade and communications, political affiliation, sociotope values, land use, etc.

Step 2: Surveying the district

Here the aim is to discover the social and ecological values present in the district, how high / low these values are, and their worth. This part of the survey is carried out in the group's neighbourhood. It is important to ensure that the group has contiguous lessons scheduled so that several visits in the district can be made.

The group should decide in advance

The perspectives to be covered in depth, and the questions that are to be answered. Enlist the help of descriptions made from different perspectives (historical, ecological, geographical and social)

The methods to be utilised for the study social and ecological values. (E.g.: questionnaires, surveys, interviews, etc.)

HISTORICAL PERSPECTIVE

When and why was your district built? How has the district's outward appearance and function changed over time? How have e.g., transportation, housing, occupations, commerce, the district centre and leisure activities changed?

ECOLOGICAL PERSPECTIVE

What is the state of the district's green structure? (Both green and blue spaces)

- Which ecosystem services are present?
- How is resource usage implemented in the district?

For example, the group can study:

- How extensive is the biodiversity of plants and animals in an area?
- How many functional groups are represented (e.g., pollinators, disseminators)?
- How contiguous are the green spaces (e.g., green corridors that permit the movement of many species)?
- Are there any key species in the area (species with particular ecological importance)
- How available are the green spaces to the region's inhabitants?
- If there is any natural protection against flooding (wetlands or significant unpaved green space)?
- If there is any natural protection against erosion (e.g., trees with long roots along the shoreline)?
- If there are readily available recycling centers, energy efficient buildings, opportunities to use and develop renewable energy sources?

GEOGRAPHICAL PERSPECTIVE

The geographical perspective provides opportunities to work with a spatial perspective. Using the map as a starting point gives you an overview and visual perception of the entire area and shows how different places are related to each other.

For example the group can study:

- How does the investigated area appear in a spatial perspective?
- Are there many built-up areas in relation to green space? Is there water nearby? What types of buildings are there? Are there trains, roads, bicycle paths, trams? Etc.
- How different types of maps give different views of the area. It is an advantage if there is a green map available. A green map provides an overview of the location of ecological, social and cultural values in the city. A green map is a broad starting point for the planning and management of green structure. Such maps are not available for all areas, but the link below can inspire pupils to study the maps that are on hand, and gives them ideas to use in their own maps. In larger cities there may also be a sociotope map that shows how various areas are evaluated in a social perspective. The sociotope map shows where there are social and cultural values in the city's open spaces.
- Concepts such as land use, location advantage, push and pull factors, gentrification, urban sprawl, densification, different city types, agglomerations, urban models and the degree of urbanisation (if the assignment also includes global comparisons).
- Google Earth. This visual tool creates an understanding of how the area relates to other areas and the conditions that exist at the site. A comparison with other cities can also easily be made. Take a virtual flight to Mumbai, New York or Amsterdam for a better understanding of different types of cities and urban models!

SOCIAL PERSPECTIVE

- What opportunities do people have to meet each other?
- What opportunities are there for recreation, exercise and play?
- What opportunities are there for cultural experiences?
- How safe and secure is it?
- Do people trust each other?
- What opportunities for participation and influence are there?
- How accessible are the various social institutions: police, schools, medical services, employment services, etc.? How much confidence do people have in these?

The group may choose to study:

- Public transport which, unlike cars, enables meetings between people
- Small-scaleness with small local shops (cafes, gyms, etc.)
- Public places (parks, libraries, cultural centres and squares)
- What is the character and mood of people in the street?
- Do people share a 'we-feeling' and a 'common pride'?
- The mix of housing (workplaces, shops, residential and recreational areas)
- Local media. It is the task of a local newspaper to monitor local issues. Club activities (music, culture, sports, politics, etc.)
- The function and availability of the borough council (or its counterpart)
- Social institutions (employment offices, schools, police stations, health centres)
- Is there much crime and what types of crimes are most common?
- Lighting
- Noise

ANALYSIS

Here the aim is for the pupils to compile and analyze the material collected during the survey exercise in order to determine how the city / urban district can boost social and ecological values. The analysis consists of three steps.

Step 1
Social and ecological values in the district

Step 2
Measures to increase sustainability

Step 3
Comparisons between districts

Step 1 social and ecological values

What social and ecological values can be found in the district? Are they high or low? Is resilience high or low?

What are the socio-ecological challenges? What preconditions exist to meet these?

Compile by inserting results (values) in the socio-ecological matrix and estimate how the high social and ecological values are. Did the area score a high or low social and / or ecological value?

Step 2 Measures

How can the area be made more sustainable (more resilient) – socially and ecologically? You can read more about resilience at www.stockholmresilencecenter.org.

Groups then choose actions that can increase the social and ecological values in the area.

Here, the socio-ecological matrix functions as a starting-point for a discussion of how the social or ecological value of the area can be augmented and the compromises that need to be made. This can result in lobbying campaigns and reports of various kinds. (See Change and Impact below).

Step 3 Comparisons

Here the aim is to give pupils a greater understanding of their district and the city at large by comparing and discussing with other groups. The class is divided into groups composed of pupils that represent different districts.

Proposals for issues that the cross-groups are to discuss. Pupils are given the task of documenting the reflections and conclusions of the cross-groups

- What social and ecological values exist and are important to the city?
- The groups present reports on the districts using the socio-ecological matrices. Which district has the highest and lowest values? Rank the districts and motivate
- What are the district's socio-ecological challenges?
- The groups report socio-ecological challenges and the preconditions that exist to address these. What similarities and differences can you see between districts?
- How can the district / city become more sustainable (be given more resilience) – socially and ecologically?
- Start off by talking about the meaning of sustainable development and resilience.
- Everyone presents the measures they have taken and explain shows these can enhance social and ecological values in the district.
- All measures are collected and cross-groups formulate how, when taken together, they can contribute to greater sustainability in the city

CHANGE AND IMPACT

The purpose of this section is to give pupils the capacity to influence the way things are done in their own city by implementing in different ways the proposals for action the groups have come up with.

EXERCISE

Exercise 1

Simulation exercises aim at increasing understanding of conflicts of interest and of how different actors with different interests can work together and find common solutions.

Based on a fictitious scenario, various actors with differing interests in a city attempt to agree on a joint action. Pupils are given a role card describing an actor and starting points. The pupils discuss and arrive at common policy proposals based on their roles. Pupils who have been given identical roles prepare these together.

Scenario

The city is growing, which among other things, necessitates more development. In the Closeby district there are two parks, mainly used for recreation, exercise and games. The municipality owns the land and the politicians have put forward a proposal that one or both parks should be exploited to meet the need for more housing, schools and parking lots. In the Closeby district a group has been formed to combat this proposal .

Actors

The developer (who is interested in purchasing the land from the municipality to build more residential commonhold units).

The landscape architect (who wants to preserve green spaces) raises the proposal to build sustainably. Can homes be built without reducing green space and its function?

Politician 1 (advocates more housing and parking facilities to make it more attractive for companies to locate themselves in the area).

Politician 2 (who pushes the need for more kindergartens and other services. (School, health care)

Closeby's non-profit environmental group (who are campaigning to preserve the park). The park is important to the community, and has recreational and ecological value. They advocate instead a development of the park to make it greener.

Follow-up questions:

- Was it difficult to reach an agreement?
- Which conflicts of interest arose?
- What solution did you arrive at? How will it increase or reduce social and ecological values?
- How realistic do you think the simulation was?
- Do you think that there are any role cards missing?

ADVANCED COURSE

Are there similar scenarios and challenges in your municipality? Find out how your local authorities are working to find joint solutions and actions. Are there any measures that increase both social and ecological values, i.e., that benefit more than one area of interest? Are there working groups made up of actors with different agendas?

EXERCISE

Exercise 2

Citizen proposals

The exercise aims to prepare pupils by giving them tools that will have real impact. The exercise can also be used to advantage to assess progress in social science and science subjects as well as in language. The exercise is also a suitable way to end a project as it gives pupils the gratifying feeling of having contributed towards more sustainable development practices.

Let pupils describe and analyze their actions in the form of a citizen proposal.

The purpose of the pupils' citizen proposal is

- To make it possible for pupils to take part in the democratic process and strengthen their abilities to influence this process
- Increase understanding of how the city / urban district can become more sustainable from a socio-ecological perspective

The citizen proposal may include the group (or city's) vision, a description of the district from a socio-ecological perspective, the district's challenges and circumstances, and one or more concrete measures. The citizen proposal must show how these measures would promote social and ecological values and thereby increase resilience.

From the government website for citizens' proposals:

"Through a variety of measures municipalities and county councils attempt to promote civic participation between elections. Citizen proposals are a way of bridging the gap between voters and their representatives. The right to suggest legislation gives citizens an increased opportunity to influence local policy-making directly. It is hoped this also will lead to an increased involvement among citizens in municipal and county council political issues. Citizen proposals give those who reside in a municipality or county the right to propose legislation to local government authorities. This right is also accorded to children and adolescents as well as foreign citizens who lack local franchise."

EXERCISE

Exercise 3

Campaigns, letters to the editor, opinion articles

The exercise aims to prepare pupils by giving them tools that will have real impact. The exercise can also be used to advantage to assess progress in social science and science subjects as well as in language. The exercise is also a suitable way to end a project as it gives pupils the gratifying feeling of having contributed towards more sustainable development practices.

Step 1 Visualization

Pupils should also be able to visualize their actions so that they can communicate and influence target audiences using, e.g.:

- Models
- Films
- Flyers
- Social media

Step 2 Impact

Let the pupils disseminate and analyze their actions in order to pressure one or more selected target group / s to act for increased sustainability. Pupils can, for example, engage in various advocacy campaigns in the field area, make petitions

and send them to decision makers, and write opinion articles, letters to the editor and columns for various newspapers.

Step 3 Exchanging experiences

Results can later on be presented to the rest of the school so that pupils benefit from each others' ideas and experiences. The presentations can be made lifelike by using, for example, pictures and videos from campaigns in the field area.

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HANDLEDNING

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Vi arbetar för att hejda förstörelsen av jordens naturliga livsmiljöer och bygga en framtid där människor lever i harmoni med naturen.

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