Lesson 4
How can we achieve sustainability?
Ways to balance goals and overcome conflict

This matrix sums up the information a teacher needs to plan and deliver the lesson.

Competence training refers directly to EDC/HRE.

The **learning objective** indicates what students know and understand.

The **student task(s)**, together with the **method**, form the core element of the learning process.

The **materials** checklist supports lesson preparation.

The **time budget** gives a rough guideline for the teacher's time management.

Competence training	Analysis and judgment: Reflecting on experience through concept-based analysis.	
Learning objective	Incentives strongly influence our behaviour. The effect of incentives can be checked by rules (externally) or by responsibility (self-control). Concepts: incentive, dilemma.	
Student tasks	The students apply concepts to their personal experience.	
Materials and resources	✍ Student handout 4.2.	
Method	Presentations; plenary discussion; teacher inputs.	
Time budget	1. The students give their inputs.	10 min
	2. The students reflect on the influence of incentives on their behaviour.	15 min
	3. The students discuss two basic approaches to solve the sustainability–profit dilemma.	15 min

Information box

In this lesson, the students apply the concept of incentives to analyse their behaviour in the fishing game. The game setting encouraged the students to focus on the goal of maximising their short-term gains regardless of the consequences for other fishermen or the common fish resource.

In this concluding lesson, the students discuss ways of controlling incentives that have counter-productive effects. This can be done in two ways. First, by political means (authoritative approach); rules and laws allow or forbid certain types of behaviour. Rewards and punishment are means of enforcement. Second, the individuals control their behaviour themselves through taking responsibility. The students discuss which approach they prefer.

The homework task is important in several respects: students reflect on and record the result of the preceding lesson. They take the floor at the beginning of this lesson, and are actively involved from the start. The teacher receives feedback on what the students have learnt and understood. This gives him/her a guideline on how to continue (constructivist learning and student-centred instruction).

Lesson description

Stage 1: The students give their inputs

The teacher links the lesson topic to the key questions

The students are expected to arrive at the lesson with their statements on two key questions. By thinking about these questions, the students have created the conceptual framework for the whole lesson (constructivist learning).

1. Explain why it is difficult to achieve two or more sustainability goals at the same time. Refer to ✍ student handout 4.2 and our discussion in class.

2. Explain why most players stick to the goal of individual welfare, even when the disastrous consequences have become clear.

If you wish, you can also refer to concrete examples.

Have your statements ready in writing.

The teacher announces the topic of the lesson: how can we achieve sustainability? He/she writes it on the blackboard or flipchart, and gives the floor to the students. Each of the two questions is dealt with in turn.

Question 1: Sustainability goals

The students may be expected to have thought about the following problem: while goals of sustainability harmonise with each other, some are mutually exclusive. Protection of the environment, for example, goes together very well with responsibility for future generations and for mankind as a whole (global perspective, one world). These goals are endangered if the present generation strives for increasing welfare today (economy). Society (the goal of fair distribution) and economy (the increase of output and productivity) may harmonise, but in many cases do not.

The fishing game was a worst-case scenario in which everything went wrong. Even the richer fishing villages faced economic decline.

The students may refer to current efforts to harmonise economic growth and protection of the environment: recycling of waste, production of electricity by wind, sun or water generators, or the development of cars driven by electricity.

Question 2: The goal of individual welfare

The students may be expected to have thought about the following problem: in the fishing game, the "winner" seemed to be the village with the biggest catches. Responsibility for the environment did not pay, in a very literal sense.

In each round, the teacher gives the floor to 6 to 10 students. When a clear picture emerges, the students attempt to sum up what they have heard. The result may come near to what has been outlined here, but may also differ. If the students disagree, this should also be stated.

Stage 2: The students reflect on the influence of incentives on their behaviour

In a brief input, the teacher introduces two concepts that help to understand how the students behaved in the fishing game.

In the fishing game, responsibility for the environment and for the well-being of the others did not pay, in a very literal sense, but maximising the catch to increase one's own welfare did. This signal was all too clear. This kind of subtle influence on us, prompting us to behave in a certain way, but not forcing us, is called an *incentive*.

Here, the teacher pauses and asks the students to think about incentives that they experience in their daily lives. We may expect examples like the following:

- We tend to buy the cheaper product if the quality is more or less the same.
- We make an effort in school to achieve good marks.
- Parents promise their children a treat if they do well at school.
- Insurances offer bonuses if their customers do not make a claim.
- You receive a gift if you subscribe to a magazine, or if you succeed in convincing your friend to subscribe.
- Some people do not want to get drunk because they fear their reputation will suffer.

The students, or the teacher, draw a conclusion from such examples.

These examples show very clearly that incentives appeal to our individual interests. Often they plainly and bluntly have to do with money, but also with our wish to be successful, or to be accepted by others. Competitive market economies strongly rely on incentives, and the profit incentive is at the core of free market competition. Therefore it is no surprise if the students respond to an incentive that is very familiar to them.

Stage 3: The students discuss two basic approaches to solving the sustainability–profit dilemma

The teacher adds a second prompt, linked to the concept of dilemma. The incentive to increase our individual gain is strong. From the perspective of sustainability the consequences are disastrous if we all respond to the profit incentive, and we know it. We are in a dilemma. We know we should do something to protect the common resources, but if we try, we will experience failure, and end up poorer than the others. So we return to our profit goal, fearing the worst. This situation, in which we do something seriously wrong no matter which option we choose – and we must choose one – is called a *dilemma*.

The students should first ask questions on comprehension. Once they agree to the thesis that the profit incentive in the initial phase of the fishing game is powerful, they may turn to the question of how to overcome its destructive potential. Their experience during the game is important here. Did the students succeed in controlling or co-ordinating their fishing policies? Even if they failed, what solutions were suggested? What solutions would they suggest looking back?

Broadly speaking, we may expect the students' ideas to fall into two categories. They may not address all the aspects included in this ideal-type description:

- *The authoritative approach*: the fishermen need a set of rules and laws, and a system of control and sanctions to enforce them. The fishermen are controlled by an institution standing above them, and this institution – a government, most probably – would also define the goals of sustainability. The liberty to follow profit incentives would be strictly limited.
- *The contract-based approach*: the fishermen sign a contract on rules or principles of conduct, and perhaps also on sustainability goals. They may also agree on a system of controls and sanctions.

Which of the two options do the students prefer? If little time is left, the teacher asks for a show of hands, and one or two students from each side give their reasons. If time allows, a discussion may follow. The students may point out that the weakness of the hierarchical, authoritative approach is that a remote institution may not have a clear understanding of the goals of sustainability. The local contract-based approach has its strengths in its expertise, but may be inferior in sanctioning breaches of the contract. As the fishermen are partners on equal terms, they can hardly police each other.