Appendix 1. – Use cases

The below use cases aim to show how the 12 sustainability competences come into play when facing challenges. Given that every action has an impact on the planet and all life forms, every challenge is a sustainability challenge. These use cases show how the 12 sustainability competences are interrelated and equally important. We encourage the development of all 12 sustainability competences, yet the proficiency level in each of them can vary depending on learners' backgrounds, needs, and context.

Use case 1

Fatima is a school teacher, who cares a lot about her pupils and would like to take them out for outdoor learning. She knows they would benefit from spending more time in nature (***promoting nature***). However, she finds this impossible, due to the dire state of the natural surroundings in her community, including its important river. In fact, locals would rather travel to other places outside their region to be in nature. Because of her investigative attitude (***critical thinking***; ***exploratory thinking***), Fatima decided to approach this challenge as a sustainability problem (***problem framing***; ***valuing sustainability***). Not only is the area underused, people also make pollution levels worse when taking the car or flying to other and more distant places.

These days, the river is polluted with toxic waste from the industrial district nearby, and household waste, such as plastics. The surrounding area resembles a landfill and requires restoration. The local community stays away from this part of the region, especially families and women. The abandoned state of this area conveys a sense of unsafety and lack of healthy conditions. The decline of the place is also associated with potential crime (***systems thinking***).

Despite its current state, Fatima believes this vast area has huge potential:
- she envisions families having picnics at weekends;
- schools could organise educational excursions;
- the river offers potential for many sport activities, such as rowing or kayaking;
- people could enjoy nature without having to travel far, and could spend their days off there.

Furthermore, future generations, as well as other species could benefit from a healthy environment (***supporting fairness***). This is her vision (***futures literacy***; ***values thinking***). She is motivated to achieve this vision for her community, if members of her community share the same vision (***collective action***).

With her vision in mind, she started mapping the root causes of the current sustainability problem related to this green area. She identified direct and indirect causes, underlined man made causes and classified them by reversibility and complexity (***systems thinking***; ***problem framing***; ***individual initiative***). To get a broader picture, Fatima asked town council employees for help. They are responsible for the area and know who and what the main sources of pollution are (***collective action***; ***political agency***).

Starting with this information, she explored new avenues for change for her community, for example by focusing on local businesses and finding incentives to build a local, circular economy hub. This could help to make sustainable use of resources and avoid the use of toxic substances (***exploratory thinking***). She already knows that more sustain-

able practices are available than those currently in use nearby. Furthermore, the workforce would need to be upskilled. At the same time, people would need to adopt greener lifestyles, such as reducing their use of single-use plastic, eventually cutting it out altogether, and using green spaces while walking more. Related to this, public and private investment should prioritise the roll-out of shared green transport both for households and businesses.

Fatima knows that leading by example is an effective way to build trust and inspire young kids. So, even if quite reluctantly at first, she stopped driving her car and started to commute to school by bus (*adaptability*). Together with some parents, she petitioned the school canteen to make meals vegetarian, with one vegan option per day (*political agency*; *collective action*). She is not, or at least not yet, a vegetarian (*adaptability*). Once on a Saturday morning, she organised a treasure hunt for the whole community. The prize for collecting the most litter included tools to promote pollinator conservation, such as daisy flower plants and gardening tools – second-hand and shared by the community.

Use case 2

Alex has just started his fourth year of high school in the south of Europe. Alex is not originally from the area, so volunteering activities helped him integrate into the community. They enable him to support the community he is growing up in (*supporting fairness*; *individual initiative*) while restoring local parks (*promoting nature*). For example, together with other volunteers, Alex recently restored the park of a primary school in a less advantaged neighbourhood. Now, kids can use it again to create their own gardens and enrich local flora and fauna (*collective action*).

Lately, he has been feeling discomforted by the state of the planet. He learnt on social media that he was experiencing eco-anxiety. Frustrated by the idea of inaction, last week, he signed up for a laboratory at school (*individual initiative*). It is

entitled *Are we on track to achieve the SDGs by 2030?* In groups, learners focus on various SDGs. Each group examines their assigned SDGs, including targets and indicators. They explore the implications and current achievement of those SDGs at their community level. Finally, they need to identify and agree on steps, action and policy recommendations for their community to achieve those SDGs by 2030.

His group was assigned SDG 12 – responsible production and consumption. Eager to start, Alex and his teammates performed a web search for more facts and figures on SDGs and best practices on SDG 12 (*systems thinking*; *critical thinking*).

Inspired by young people worldwide taking action for the planet, they decided to reflect on how they would envision their community in the future (*futures literacy*; *valuing sustainability*). They created a vision anchored in sustainability principles, such as:
- equity and justice for the present and future generations (*supporting fairness*); and
- the restoration of nature to limit global warming to 1.5 °C compared to pre-industrial levels (*promoting nature*).

They envision their community transitioning to a circular model, where inclusiveness and safety are promoted, together with responsible production and consumption. However, their community is still far from becoming circular. This poses a serious problem to the health and wellbeing of the community and local natural ecosystem, and it also exacerbates inequalities (*problem framing*). They are aware that reducing waste is one of the main pillars of the circular economy (*exploratory thinking*). Therefore, they adopted a systemic way of thinking to trace causes and place the challenge in context (*systems thinking*).

To reduce waste in the community, they drafted a strategy linked to the goals of the waste hierarchy (see Figure 6)[xxvii].

Starting with the most urgent activities, they decided to partner with schools to introduce educa-

Waste hierarchy

Figure 6: waste hierarchy. Source: Waste Framework Directive 2008 https://ec.europa.eu/environment/topics/waste-and-recycling/waste-framework-directive_en

tional activities. For example, senior students could help younger ones to separate waste correctly and **recycle** waste (***individual initiative***). Learners would then pass on this knowledge to their families. Alex and his teammates would also organise a clean-up of the parks surrounding their school together with members of the community (***collective action***). Afterwards, they would send pictures and a signed letter to the local council to request preventive action to avoid littering in the future (***political agency***).

They would set up a clothes exchange with their friends to encourage people to **reuse** resources **and reduce** resource consumption. This would enable them to share and exchange clothes, fulfilling their pledge to reduce their consumption of fast fashion (***exploratory thinking***). Alex has always loved new things and has been taught by society that clothes form part of his identity. Nevertheless, he knows he should reconsider his priorities (***valu-***

ing sustainability; ***critical thinking***) and find satisfaction from other things (***adaptability***). If this model were successful, they could then look for ways to extend it to include the whole community. At the same time, they would keep in mind that travelling to exchange clothes should remain minimal and green.

Finally, they would promote waste prevention in the long term. They would ask policymakers to discourage businesses from designing products with a short lifespan (planned obsolescence), and encourage people to consume less and better.

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xxvii   Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.