



Sustainability education toolkit: twelve topics for inclusive learning



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Introduction

The Save&Play Sustainability Pedagogical Material was created as a practical and inclusive resource for youth workers, trainers, educators and organisations working with young people. Its main aim is to make environmental topics easier to understand and more connected to everyday life.

The material covers important sustainability issues such as climate change, biodiversity loss, ecosystem protection, sustainable cities, agriculture, responsible consumption and the environmental impact of daily choices. Instead of focusing only on theory, it uses simple explanations, real-life examples, group activities, games and practical missions.

Each chapter includes learning objectives, key concepts, exercises and useful adaptation tips. Special attention is given to NEET youth and learners with specific learning difficulties, so the activities can be adjusted to different needs, learning styles and levels of experience.

The material also encourages young people to look at environmental challenges in a positive and practical way. It shows that even small actions, such as reducing waste, saving water and energy, protecting local nature or choosing more sustainable transport, can make a difference.

By using this resource, youth workers can help young people build environmental awareness, critical thinking, teamwork and a stronger sense of responsibility. The overall goal is to support learners in moving from understanding environmental problems to taking meaningful action in their own communities.



1. Making climate change understandable: from abstract concept to interactive experience

This chapter helps youth workers explain climate change in a simple, practical, and engaging way. It uses visual examples, games, and interactive missions instead of complex scientific language. Learners explore the greenhouse effect, the difference between weather and climate, climate myths, carbon footprint, and local climate action.

1.1 Learning objectives

After completing this chapter, learners will be able to:

1. Explain the greenhouse effect using a simple example, such as a blanket around the Earth that keeps heat inside.
2. Understand the difference between weather and climate, and recognise simple myths about climate change.
3. Name at least three effects of climate change in their local area, such as heatwaves, droughts, floods, or changes in nature.
4. Understand their carbon footprint by looking at daily choices, such as transport, food, electricity, and heating.

1.2 Key concepts

Key concept 1 – The Greenhouse Effect

Simple definition: The greenhouse effect is a natural process that keeps the Earth warm enough for life. Human activities, especially burning coal, oil, and gas, make this blanket thicker, so more heat stays trapped and the Earth becomes warmer.

Everyday example: A car parked in the sun can become much warmer inside than outside because sunlight enters through the windows and heat does not escape easily.



Suggested visual or icon: Earth with an “atmosphere” layer, yellow arrows showing sunlight coming in, and red arrows showing heat being trapped.

Key concept 2 – Weather and Climate

Simple definition: Weather is what happens outside today or during a short period, such as rain, wind, snow, or heat. Climate describes usual weather patterns in a place over many years. One cold day does not mean climate change is not happening. Climate change means that long-term patterns are changing.

Everyday example: If it rains today, this is weather. If a region usually has hotter summers than before over many years, this is a change in climate.

Suggested visual or icon: A split image: today’s weather forecast on one side and a long temperature timeline on the other.

1.3 Practical exercise or real-life mission

Title of the mission: The Case of the 2050 Time Capsule

Description of the task: This escape-room-style game can be organised in a youth centre, classroom, or community space. Learners become “Climate Guardians” from 2050. Their task is to open a locked time capsule and discover how to prevent future climate problems. To open it, they complete three short stations:

1. **The Warming Jar:** learners compare two thermometers: one inside a clear jar and one outside. They observe which one heats up faster and use the result to get the next clue.
2. **The Myth-Buster Maze:** learners match climate myths with correct facts and receive a hidden code.
3. **The Carbon Trail:** learners move through a floor game and make everyday choices. Each choice gives them “Carbon Points.” Lower scores help unlock the final key. Examples of choices can include: walking or cycling instead of using a car; choosing local seasonal food instead of imported food; turning off



lights and chargers when not needed; repairing clothes or objects instead of buying new ones; using a reusable bottle instead of buying plastic bottles.

Is this task for individuals or groups? : Small groups of 3–5 people.

Expected output: Each group creates a Local Climate Action Pledge with one practical action for their youth centre.

Timeframe: 60–90 minutes, plus 15 minutes for discussion.

How this task supports sustainable behavior: This activity helps learners understand climate change through action.

1.4 Adaptation tips for NEET youth and learners with SLDs

- **Simplification strategies:** Use simple words, e.g. “human-caused” instead of “anthropogenic”. Give short, step-by-step instructions.
- **Alternative formats:** Replace long texts with visuals, icons, short videos, coloured objects, movement games, and practical demonstrations.
- **Extra scaffolding:** Use hint cards, key-word handouts, and peer support to help learners continue when they get stuck.
- **Motivation tips for disengaged learners:** Present the activity as the “2050 Time Capsule” mission, praise small achievements, and take the task outdoors when possible.

1.5 Conclusion

This chapter shows that climate change can be explained in a simple, practical, and engaging way. By using visual examples, games, and group missions, youth workers can help young people understand the greenhouse effect, the difference between weather and climate, climate myths, carbon footprint, and local climate action.

Through interactive activities, young people can better understand climate change, connect it with everyday life, and turn their concerns into positive action.



2. Climate change in the Carpathians: local impacts and local responses

Climate change is being felt worldwide, but its consequences are particularly observable at the local level in mountainous regions, including the Carpathians. Rising temperatures, the increasing frequency of extreme weather events, the deterioration of forest conditions, and changes in water resources are all processes that directly affect the biodiversity of the Carpathians and the communities living there. Today's youth will be directly affected by climate change in the long term. Changes in weather patterns, the increasing frequency of natural disasters, and the decline in biodiversity are all processes that will also impact the quality of life of future generations.

2.1 Learning objectives

After completing this chapter, learners will be able to:

1. Recognize how climate change affects the biodiversity of the Carpathians, their water resources, and local communities.
2. Identify at least three local environmental problems that are linked to climate change.
3. Recognize the special natural values of the Carpathians and to understand how these become vulnerable as a result of climate change.
4. Explain how global climate processes are connected to local environmental changes.
5. Present at least two local or community-based initiatives that support adaptation to climate change.

2.2 Key concepts

Key Concept 1 – Local Climate Impacts



Climate change strongly affects mountainous regions such as the Carpathians. Due to rising temperatures, winters are becoming milder, snow cover is decreasing, and spring snowmelt occurs more rapidly, which can lead to increased river discharge and flooding. Longer dry periods are interrupted by intense rainfall events, increasing the risk of both droughts and flash floods. Mountain lakes are sensitive to these changes, as their water balance depends closely on snow and ice melt. Forest ecosystems are also changing: some tree species may decline, while pests and invasive species can establish themselves more easily in a warmer climate.

Key Concept 2 – Local Responses and Adaptation

Adaptation to climate change means recognizing changing environmental conditions and finding solutions that reduce damage and support a balance between nature and human life. In the Carpathian region, this includes promoting mixed-species forests that are more resilient to pests and extreme weather, as well as protecting catchment areas, springs, and streams to sustain water resources. Local communities contribute through tree planting, stream cleaning, volunteer programs, environmental education, and sustainable tourism practices such as waste reduction and visitor management. These measures help protect nature while supporting a habitable and sustainable environment for local communities in the long term.

2.3 Practical exercise or real-life mission

Mission Title: Climate Detectives – Climate Investigators in the Carpathians

Participants work in groups of 3–5 as “climate detectives” to investigate how their local environment has changed in recent years due to climate change. Each group chooses a topic, such as changes in forests, water sources, snow cover, extreme weather, plant and animal species, or tourism. They observe a selected location, compare current conditions with the past, speak with local people, and collect at least two types of evidence, such as photos, interviews, notes, simple data, maps, or drawings.



Based on their observations, groups discuss possible causes of the changes, links to climate change and human activity, and potential local solutions. They then prepare a short “Climate Detective Report” as a poster, video, digital presentation, article, or photo report. The activity helps participants understand how climate change can be observed locally, develop basic data collection and teamwork skills, and explore how young people and local communities can contribute to environmental protection.

2.4 Adaptation tips for NEET youth and learners with SLDs

- **Keep learning simple and visual:** Use short instructions, clear steps, simple language, icons, images, maps, infographics, and short videos instead of long theoretical texts.
- **Use structured and practical activities:** Divide group work into clear roles and include experiential tasks such as short field trips, observations, photos, interviews, and simple digital tools.
- **Build motivation through small successes:** Break activities into short, achievable tasks, provide frequent positive feedback, and allow learners to progress step by step.
- **Offer flexible and inclusive ways to participate:** Accept different forms of expression, such as drawings, posters, photos, videos, or oral presentations, and create a supportive environment focused on cooperation, participation, and exploration.

2.5 Conclusion

Climate change is already affecting the Carpathians through rising temperatures, changing rainfall, and impacts on forests, water, wildlife, farming, and tourism.

However, actions such as forest restoration, sustainable tourism, and environmental education can help communities adapt. Young people can also contribute through everyday choices and local environmental actions.



3. Cities of the future: problem or solution?

The quality of life in future cities will depend on combining smart infrastructure with responsible citizen behaviour. Artificial intelligence, renewable energy, efficient public transport, and sustainable spaces can make cities greener and more inclusive, but only when innovation focuses on human well-being. Smart systems can detect water leaks, regulate heating, switch off lights, and reduce waste, yet citizens must also make informed daily choices.

The EU Mission for Climate-Neutral and Smart Cities promotes cities as laboratories for sustainability, helping them reduce emissions, improve mobility, save energy, and involve citizens in the transition.

Future cities should also use nature-based solutions, such as trees, green roofs, urban gardens, and shaded spaces, to reduce heat, manage rainwater, and improve air quality. They must be accessible to everyone, including older people, people with disabilities, and low-income residents.

Data can improve urban services, but careless habits still increase consumption. Young people are especially important because their participation can turn sustainability goals into practical action, particularly when the positive results of their efforts are clearly demonstrated.

3.1 Learning objectives

This chapter explores how young citizens' positive behaviour can improve their communities. It aims to show that everyday actions and choices influence urban quality of life, and that technology can support environmental awareness, monitor impact, and reduce waste. Active participation in the community is essential to making future cities more sustainable, while sustainability should be understood as a practical part of daily life rather than an abstract concept.



After completing the chapter, learners will be able to **identify at least 3** everyday behaviours that affect urban sustainability, **use at least one** digital tool or app to monitor consumption or environmental impact, **apply at least 2** practical methods to reduce waste, **participate** in collaborative citizenship activities, and **connect** sustainability with small actions that benefit both the community and the urban environment.

3.2 Key concepts

Key concept 1 – Guardians of the City

Young people can become active citizens by identifying urban sustainability problems and proposing practical solutions. Using smartphones, digital maps, QR codes, or simple monitoring tools, they can investigate issues such as water leaks, energy waste, or overheated areas (For example, identifying water or energy waste and urban areas lacking shade). They can then document and analyse their findings, raise awareness, suggest improvements, and present the results in a short digital report or video aimed at creating small but meaningful change.



Key concept 2 – Daily Impact Challenge



Daily challenges help young people transform sustainable habits into practical action. Through activities at home, school, and in the community, they learn to reduce waste, use technology responsibly, choose sustainable transport, and report environmental problems. Collaborative or competitive missions make sustainability social and engaging, encouraging young people to become active agents of change.



3.3 Practical exercise or real-life mission

Save the Drop is a personal or group challenge to reduce household water consumption by 20–30%.

Participants track activities such as showers, washing cycles, reused water, and tap use, then earn points for saving water (e.g. time for shower, reused water and time spent with the tap running). By making habits and progress visible, the game encourages practical, conscious behaviour and shows how data can help reduce waste without making sustainability feel like a sacrifice.

3.4 Adaptation tips for NEET youth and learners with SLDs

Focus on motivation, independence, visible progress, and practical skills. Micro-tasks lasting 5–15 minutes can be more useful than lengthy activities. For example: taking a photo of waste; measuring urban temperatures in areas with and without trees; counting disposable bottles; challenging a friend to reduce their consumption.

3.5 Conclusion

The EU mission “Smart and Climate-Neutral Cities” shows that young people can help shape greener, fairer, and more inclusive cities through everyday choices and active participation. Practical activities, digital tools, and local challenges can strengthen awareness, responsibility, and community engagement while making sustainability more relevant and meaningful.



4. Teaching ecosystem interdependence through game mechanics

This chapter explores how game mechanics (such as rules, interactions, and systems in games) can facilitate the understanding of the interdependence of ecosystems. Just as a single game mechanic affects others, every element in an ecosystem depends on and influences others. By designing or analyzing games, learners can grasp how small changes in one part of a system can ripple through the entire network, much like in nature. Ecosystems are the foundation of life, but human activities often disrupt their balance. Understanding interdependence helps societies make sustainable choices. Games can make these complex relationships tangible, fostering empathy for ecological systems and encouraging collective action. By definition, young people are the future of the planet. They already engage with systems thinking in digital world where actions have consequences. By framing ecosystems as "games," this topic leverages their familiarity with interactive systems to build environmental awareness and critical thinking about real-world impact.

4.1 Learning objectives

After completing this chapter, learners will be able to:

1. Define ecosystem interdependence and explain it using game mechanics as a metaphor.
2. Identify real-world examples of interdependent relationships in ecosystems.
3. Design a game mechanic that demonstrates how a change in one part of a system affects others.
4. Analyze a given game or ecosystem to map out its interdependent components.
5. Propose an action to support local biodiversity, justified by their understanding of interdependence.



4.2 Key concepts

Key concept 1: Ecosystem Interdependence

Simple Definition: Ecosystem interdependence is the way living things and non-living things rely on each other to survive and thrive. A change in one part can affect the whole system.

Everyday Example: In a forest, trees provide shade and food for animals, while animals spread seeds and fertilize the soil. If many trees die, animals may starve or migrate, affecting predators and soil quality.

Suggested Visual or Icon: 🌳 Food Web Diagram or a Jenga tower.

Key concept 2: Game Mechanics as a Metaphor for Interdependence

Simple Definition: Game mechanics are the rules and systems that define how players interact with a game. Just like in ecosystems, mechanics in games are interconnected, and changing one can alter the entire experience.

Everyday Example: In Among Us, the "imposter" mechanic creates distrust among players, similar to how an invasive species can disrupt a balanced ecosystem.

Suggested Visual or Icon: 🎮 Flowchart of a game's mechanics or a domino effect.

4.3 Practical exercise or real-life mission

Title of the mission: "Eco-Game Design Challenge"

Description of the task: Learners will create a simple board game or digital prototype where each player represents a species or element in an ecosystem. The game includes at least three interdependent mechanics, and players must respond to a "disruption" and observe how it affects the entire system.

Is this task for individuals or groups?: 3 to 4, to encourage collaboration and diverse perspectives.



Expected output (what should learners produce or change?): A playable game prototype and a 1-page "Eco-Game Guide" explaining the ecosystem, the interdependent mechanics, and how the disruption affects the system, plus a short presentation demonstrating the game and its lessons.

Timeframe: More or less a week long.

How this task supports sustainable behaviour: Empathy Building, Systems thinking, and Action-Oriented learning by considering cause-and-effect relationships and brainstorming solutions linked to real-world conservation efforts.

4.4 Adaptation tips for NEET youth and learners with SLDs

Simplification strategies: Use analogies and avoid jargon, break tasks into smaller steps with visual aids, and focus on local ecosystems to make it relatable.

Alternative formats: Use comic strips or interactive diagrams, audio explanations, role-playing or immersive content, and game engines or simulation tools.

Extra scaffolding or support: Provide pre-made game boards or digital templates, pair advanced learners with beginners, and invite a local ecologist or game designer for a Q&A session.

Motivation tips: Let learners pick their ecosystem, highlight how their game could educate others, and use physical materials for kinetic learners.

4.5 Conclusion

Ecosystems and games are both systems where every part matters. By designing games that mirror ecological interdependence, learners not only understand the fragility and resilience of nature but also develop skills to think critically about their role in it. This chapter bridges the virtual and real worlds, showing that our choices in daily life (like in a game) can have far-reaching effects. The goal is to inspire learners to see themselves as active participants in the planet's "game," where every action counts.



5. How the current mass extinction differs from past ones

This chapter compares today's rapid species loss to five past mass extinctions caused by natural events like asteroids. Unlike those, humans now drive it through habitat destruction, pollution, and climate change. Biodiversity loss disrupts our food, health, and weather systems – hitting societies today, not millions of years from now. Protecting it preserves essential life-support systems. It connects to daily life through pollinated crops we eat, nature-derived medicines, filtered drinking water, and forests that prevent floods. Young people will inherit this crisis, but understanding its causes empowers them to influence policies, habits, and future liveability.

5.1 Learning objectives

After completing this chapter, learners will be able to:

- Define what a mass extinction is.
- Explain how human activities drive the current extinction.
- Describe some benefits of biodiversity for humans.
- Identify some risks to people if biodiversity collapses.
- Suggest one personal action to reduce extinction pressures.

5.2 Key concepts

These three key concepts explain the difference between past and current mass extinctions and why biodiversity matters to us. The idea is to move from one to the other using concrete examples. Each can and would benefit from further development, independently or together.

1 – Past Mass Extinctions: More than 75% of species disappear over a relatively short geological period, often due to natural events such as asteroid impacts or



volcanic eruptions. During these events, species vanish faster than new ones can evolve to replace them.

- **Everyday example:** Like a town wiped out by a flood, leaving empty streets.
- **Suggested visual or icon:** Timeline with five spikes for past events.

2 – Current Human-Driven Extinction: Species have always gone extinct, but today the rate is 100 to 1,000 times higher than the natural background rate due to human activities (habitat destruction, pollution, overhunting, climate change, invasive species). Unlike past events, this extinction is global, rapid, ongoing, and recovery could take millions of years.

- **Everyday example:** Cutting down a forest for farms kills birds and insects, collapsing food webs like removing links from a chain.
- **Suggested visual:** Hourglass with fading animal and plant silhouettes.

3 – Biodiversity's Human Value: Variety of life (species, genes, ecosystems) that provides food, water purification, pollination, and climate balance.

- **Everyday example:** Bees pollinate fruits you eat; without them there would be none.
- **Suggested visual or icon:** Interconnected web of plants, animals, and microorganisms.

5.3 Real-life mission

Title of the mission: Local Biodiversity Observation List

Description of the task: Join local species research using apps like ObsIdentify. Over the course of one week, observe and count birds, insects, and plants in your garden or park. Record species, numbers, photos/sketches, then submit to eBird (or a local census). Finally, compile class data into a biodiversity map showing observations and locations.



Use this to reflect: Why are some places richer in species? What habitats and food do they need to survive? How can we help create better conditions?

Please note that reaching NGOs (such as LPOs or directly to natural park keepers) could be a valuable asset for planning these kinds of activities.

Is this task for individuals or groups? Both: personal lists, group map.

Expected output: Observation list (10+ species), submitted data, biodiversity map.

Timeframe: One week (15-30 min daily).

How this task supports sustainable behaviour: Raises local awareness, contributes real conservation data, builds habits of observation and habitat care.

5.4 Adaptation tips for NEET youth and learners with SLDs

- **Simplification strategies:** Short sentences, one idea per line, local examples.
- **Alternative formats:** Photo journals, voice recordings, apps with icons.
- **Extra scaffolding:** Word banks, checklists, peer buddies, pre-filled templates.
- **Motivation tips:** Link to hobbies (gaming apps for spotting), show youth success stories, reward with group shares.

5.5 Conclusion

Today's mass extinction, unlike past natural ones, is human-caused and rapid, directly risking the biodiversity that sustains our food, health, and climate. By understanding differences and personal links, learners gain tools for action. Local observations turn knowledge into contribution.



6. Regenerating ecosystems

This chapter explains how damaged natural areas can recover when people give nature the right support. Learners explore how biodiversity, ecosystem services, and reduced human pressure help forests, rivers, fields, and other habitats become healthy again. The chapter also shows how young people can take part in simple local actions, such as planting native flowers, cleaning green areas, creating habitats for insects and birds, or improving a forgotten space in their neighbourhood.

6.1 Learning objectives

After completing this chapter, learners will be able to:

1. Explain what ecosystem regeneration means and how people can help nature recover.
2. Understand why important species help keep ecosystems healthy.
3. Give examples of places where nature has recovered and describe what helped this happen.
4. Explain how nature supports people, for example by cleaning water, pollinating plants, and protecting communities from floods.
5. Plan a simple local action to support nature, such as building a bug hotel, planting native flowers, or organising a cleanup.
6. Choose everyday habits that help ecosystems, such as saving energy, reducing waste, reusing materials, and supporting local sustainable food.

6.2 Key concepts

Key concept 1 – Biodiversity

Simple definition: Biodiversity means the variety of living things in nature, such as plants, animals and microorganisms. Ecosystems with many different species are usually stronger, healthier, and able to recover from droughts, floods, or fires.



Everyday example: A short, regularly mowed lawn may look tidy, but it gives little food or shelter to insects and birds.

Suggested visual or icon: A circle of connected plants and animals, such as a flower, tree, bird, fish, and insect.

Key concept 2 – Ecosystem Services

Simple definition: Ecosystem services are the useful things nature does for people. Nature cleans air and water, helps grow food, stores carbon, supports pollination, and protects us from floods. Regeneration helps repair these natural systems.

Everyday example: When we eat fruit, we often depend on bees and other insects that pollinate plants. Without pollinators, many fruits and vegetables would be harder to grow.

Suggested visual or icon: Simple icons of a water drop, a sprout, a bee, and the sun.

6.3 Practical exercise or real-life mission

Title of the mission: The Guardian of the Hidden Habitat

Description of the task: In this mission, young people become a “Recovery Squad.” Their task is to find and improve a small forgotten place in their local area, such as a neglected garden corner or a bare patch of soil. The mission has 4 steps:

- 1. Step 1: Nature Scan:** choose a small area and identify at least 5 living things, such as plants, insects, or birds. Learners can use an app such as Seek or Merlin. They also note one problem, such as lack of water, or invasive plants.
- 2. Step 2: Vision Map:** draw a simple map of the area. Show how this place could help nature and people if it were healthier, for example by feeding bees, absorbing rainwater, or sheltering small animals.
- 3. Step 3: Take Action:** do one practical activity to improve the area, such as collecting litter, building a bug hotel, planting native flowers, or creating a small pollinator corner.



- 4. Step 4: Share the Result:** take before-and-after photos and prepare a short post, poster, or blog entry explaining why this place matters.

Is this task for individuals or groups?: Groups of 3-5 people.

Expected output: Each team prepares a short “Mission Dossier” that includes a list of identified plants, insects, or birds, a simple Vision Map, photos or videos documenting the action, and a short post or poster to inspire others.

Timeframe: One week.

How this task supports sustainable behaviour: This activity helps young people turn environmental concern into practical action.

6.4 Adaptation tips for NEET youth and learners with SLDs

- **Simplification strategies:** Break the activity into short, clear steps.
- **Alternative formats:** Use movement, senses, and practical work, such as a sound map, camouflage game, plant and animal identification apps.
- **Extra scaffolding:** When working outside, mark safe zones with tape or bright signs. Use support cards, such as “Ask a mentor,” “Use extra time,” or “Search for help.”
- **Motivation tips:** Choose tasks with quick, visible results, such as collecting litter, planting flowers, or building a bug hotel.

6.5 Conclusion

Regenerating ecosystems means helping damaged natural areas recover and become healthy again. This chapter shows that nature can heal when habitats are protected, biodiversity is supported, and harmful human actions are reduced.

Through practical and game-based activities, young people can see that they have an important role in protecting and restoring nature. Even small everyday actions can support healthier ecosystems and a better future for people, animals, and the planet.



7. From awareness to stewardship: empowering youth as nature protectors

This chapter reframes environmental responsibility through the metaphor of stewardship: where every individual plays a critical role in ensuring the "safety" and well-being of the planet. Youth can learn to care for ecosystems, monitor environmental health, and take action to protect nature. Human activity has placed unprecedented pressure on ecosystems, from climate change to biodiversity loss, so society needs active stewards instead of passive observers. By adopting the stewardship mindset, youth can see themselves as leaders through actions such as organizing clean-up drives, advocating for green policies, educating peers, reducing waste, planting trees, saving energy, and sharing eco-friendly tips online. This role builds confidence, agency, and a sense of purpose.

7.1 Learning objectives

After completing this chapter, learners will be able to:

1. Explain the stewardship metaphor and how it applies to environmental protection.
2. Identify at least three ways their daily actions impact local ecosystems.
3. Design an action plan "like a steward" for their school or community, including roles, responsibilities, and goals.
4. Analyze a real-world environmental issue (as example plastic pollution) and propose stewardship-based solutions.
5. Demonstrate leadership by organizing or participating in a hands-on environmental project.

7.2 Key Concepts

Key concept 1: Stewardship as Environmental Responsibility



Simple Definition: Stewardship means taking active care of something valuable, like a flight attendant ensures passenger safety, a nature steward protects ecosystems by monitoring, maintaining, and advocating for their health.

Everyday Example: A park steward organizes monthly clean-ups, checks for invasive species, and educates visitors about wildlife. Their actions prevent degradation, just as a flight attendant's checks prevent in-flight incidents.

Suggested Visual or Icon: ✈️ Airplane Safety Card or a Venn Diagram showing the overlap between steward roles (care, leadership, problem-solving) and environmental roles.

Key concept 2: Systems Thinking in Stewardship

Simple Definition: Systems thinking means understanding how small actions (example reducing plastic use) fit into larger environmental systems (example the ocean health). Like a steward's pre-flight checklist, every step matters to the whole.

Everyday Example: A school's "zero waste" initiative involves multiple steps: composting (like checking oxygen masks), reusing materials (like securing overhead bins), and educating peers (like the safety demo). Each part supports the goal of sustainability.

Suggested Visual or Icon: 🔄 Flowchart of a Stewardship System or a Puzzle (each piece = an action, forming a complete picture of care).

7.3 Practical exercise or real-life mission

Title of the mission: "Stewardship in Action: Design Your Environmental Safety Plan"

Description of the task: Choose an ecosystem to "steward," identify its "passengers" and "safety risks," and create a Stewardship Checklist with preventive actions, emergency protocols, and adaptations for specific needs. Role-play a "turbulence" event and demonstrate the plan.



Is this task for individuals or groups?: 3 to 5 to mimic a steward team with diverse roles: leader, communicator, problem-solver.

Expected output: A Stewardship Checklist Poster, a 5-minute role-play of the plan in action, and a reflection journal on how their actions connect to larger environmental systems.

Timeframe: 2 weeks (one for “research and design”; one for “role-play and refine”)

How this task supports sustainable behaviour: ownership, collaboration, and real-world impact by helping learners see themselves as active protectors and work together on plans that can be used by schools or local organizations.

7.4 Adaptation tips for NEET youth and learners with SLDs

- **Simplification strategies:** Use the airplane metaphor consistently, provide a Stewardship Checklist template, and focus on local, tangible examples.
- **Alternative formats:** Use comic strips, board games, podcasts, and outdoor scavenger hunts to make learning more engaging and accessible.
- **Extra scaffolding or support:** Use mentorship, peer review, and guest speakers to provide guidance and real-world feedback.
- **Motivation tips:** Let learners choose their ecosystem or focus area and show how their work could be used by the school or shared with local authorities.

7.5 Conclusion

Stewardship isn't just about caring: it's about leading. By adopting the mindset of a steward, youth can transform from passengers to pilots of environmental change. This chapter equips them with the tools to see their actions as part of a larger system, where every checklist item, every clean-up, and every voice raised matters. The goal is to inspire a generation that doesn't just inherit the Earth but actively protects it.



8. Why can't we just “Jurassic Park” extinct species? What is the role of nature reserves?

This chapter explains why Jurassic Park–style de-extinction cannot address biodiversity loss or restore lost ecosystems, while highlighting how nature reserves play a crucial role in protecting existing species and habitats today. De-extinction distracts from urgent habitat protection, while reserves deliver clean water, pollination, and flood control essential for billions. Young people face collapsing ecosystems, but understanding tech limits empowers real conservation action and local advocacy. It connects to daily life through wetland-filtered water, pollinated fruit, forest flood protection, and nature spots for mental health.

8.1 Learning objectives

After completing this chapter, learners will be able to:

- Explain reasons de-extinction can't replace conservation.
- Describe the main role of nature reserves.
- Identify species in the closest Natura 2000 site.
- Recognise ecosystem services from protected areas.

8.2 Key concepts

This chapter focuses on a dual reflection between de-extinction myths and nature reserves' real impact.

1 – De-extinction limits: Reviving extinct species (via DNA) ignores lost ecosystems, behaviours, and food webs needed for survival. It's expensive, slow, and doesn't address current threats like habitat loss.

- **Everyday example:** Cloning a mammoth doesn't recreate Ice Age grasslands or prey. It's like reviving a sports team without a field or fans.



- **Suggested visual or icon:** Broken DNA chain with empty habitat.

2 – Nature reserves: Protected areas where human impact is limited to save species, habitats, and natural processes. Natura 2000 network covers 18% of EU land/sea for biodiversity.

- **Everyday example:** A city park kept wild for birds beats a concrete lot—reserves let nature recover naturally.
- **Suggested visual or icon:** Map pin on green protected zone.

8.3 Practical exercise or real-life mission

Title of the mission: Explore your nearest Natura 2000 reserve

Description of the task: Visit the [Natura 2000 Viewer](#). Find your closest site and note its name, size, key species (birds, plants), and habitats (wetlands, forests). Plan a short outing there: observe species and habitats if possible, or study habitats and their benefits (flood control, clean air). Create a group report listing site details, then make a map showing local sites and their biodiversity.

Is this task for individuals or groups? Both—individual research/outings, group map and discussion.

Expected output:

- Individual: One-page report (name, distance, 3-5 species/habitats, 1 benefit).
- Group: Map of local Natura 2000 sites with observations.

Timeframe: Same day (45 min research + 1 h outing) or two days.

How this task supports sustainable behaviour: Builds awareness of nearby protections, encourages visits/support, connects global networks to local action.



8.4 Adaptation tips for NEET youth and learners with SLDs

- **Simplification strategies:** One-step instructions, local examples only, avoid scientific terms.
- **Alternative formats:** Interactive map screenshots, video tour of site, draw species.
- **Extra scaffolding:** Pre-marked maps, species photo cards, buddy pairs.
- **Motivation tips:** Link to outings ("visit for free!"), gamify ("biodiversity hunt"), share youth photos online.

8.5 Conclusion

De-extinction can't rebuild lost ecosystems, but nature reserves actively protect what's left: vital for our food, water, and climate. Exploring local Natura 2000 sites shows real conservation in action nearby. This knowledge turns awareness into support for protected areas.



9. Modern agriculture and the consequences for nature conservation

Modern agriculture improves food production but also causes major environmental problems, including biodiversity loss, water overuse, pollution, soil degradation, pesticide contamination, and food waste.

Agriculture uses around 70% of the world's freshwater, while intensive farming is a major cause of ecosystem decline in Europe. Over 80% of European habitats are in poor condition, and farmland bird populations have fallen significantly. Pesticides and fertilisers also damage pollinators, soil, and water.

Agriculture produces about 10–13% of EU greenhouse gas emissions, mainly from livestock, methane, fertilisers, and energy use. Food waste creates further damage: around 140 million tonnes of food are wasted annually in the EU, while globally about one third of all food produced is lost or wasted.

Young people should understand that food choices affect both health and the environment because food production requires water, energy, land, packaging, and transport. Choosing local and seasonal products, reducing processed food consumption, using anti-waste apps, and recovering unsold food can reduce waste and environmental impact. These everyday actions show that sustainability is directly connected to personal habits, health, and future quality of life.

9.1 Learning objectives

Recognise the link between food production, daily consumption and environmental impact; **Identify** at least 3 everyday food-related behaviours that can have positive or negative effects on the environment; **Use** at least 2 digital tools; **Try out** at least one practical activity to learn more about what we eat.



9.2 Key Concepts

Key concept 1 – Mini reportage



Young people can act as environmental journalists by analysing official data, identifying the problems caused by intensive farming, and proposing solutions. They can present the links between food production, waste, biodiversity, climate change, and daily choices through a video, interview, radio feature, or newspaper article.

Key concept 2 – Food speaks...



Everyday food choices influence demand and the sustainability of the entire supply chain. Through the “Food Speaks” activity, young people become Food Detectives, investigating the origin, transport, water use, packaging, farming methods, pesticides, and environmental impact of common foods. Apps such as Kitche can also help them monitor expiry dates, track wasted food, compare habits, organise zero-waste challenges, and improve shopping choices. The collected data can be transformed into reports, rankings, or collaborative sustainability missions.

9.3 Practical exercise or real-life mission

Food detective: What’s Behind Your Meal?

In groups, participants investigate common foods by analysing their origin, transport distance, resource use, packaging, processing, and environmental impact. Each team creates an investigation sheet and earns points for research, creativity, sustainable alternatives, photos, and interviews. Using real products, labels, smartphones, or supermarket research makes the activity practical and engaging. Foods familiar to young people, such as snacks, energy drinks, fast food, and crisps, are especially



effective. Participants can also explore local markets, producers, cooperatives, urban gardens, and food-waste initiatives to discover more sustainable alternatives.

9.4 Adaptation tips for NEET youth and learners with SLDs

Open Food Facts is a free collaborative database that helps young people explore ingredients, allergens, nutrition, packaging, and product origins. By scanning barcodes, comparing products, and completing supermarket missions, participants can collect data, create charts, earn points, and challenge other groups. The detective approach makes learning about food sustainability practical, interactive, and engaging.

9.5 Conclusion

Sustainable agriculture depends on both responsible consumer choices and wider farming and community solutions. Young people can help by choosing local and seasonal food, reducing processed products, packaging and waste, and checking product origins.

Farmers and institutions can promote organic or low-pesticide farming, crop rotation, efficient water use, pollinator protection, short supply chains, community gardens and food recovery. Together, these actions protect natural resources, support local producers and create more resilient food systems.



10. Everyday choices, real consequences: understanding human environmental impact

This chapter explores how everyday choices affect the environment at both local and global levels. It introduces practical concepts such as carbon footprint, sustainable consumption, waste, fast fashion, and the responsible use of water and energy. Instead of focusing on scientific theory, it connects these topics to real-life situations that young people experience every day. The aim is to help learners understand that even small changes in daily habits can have a positive impact on the environment.

10.1 Learning objectives

After completing this chapter, learners will be able to:

1. Identify everyday actions that impact the environment.
2. Explain what a carbon footprint is using simple examples.
3. Recognise unsustainable habits in daily life.
4. Choose more sustainable alternatives in shopping, transport, energy use, and waste management.
5. Create a simple personal plan to reduce their environmental impact.

10.2 Key concepts

Key concept 1 – Carbon Footprint

Simple definition: A carbon footprint is the amount of greenhouse gases produced by our everyday activities, such as using electricity, travelling by car, heating our homes, or buying products.

Everyday example: Driving a car for a short journey instead of walking or cycling produces more greenhouse gas emissions and increases your carbon footprint.

Suggested visual or icon: A footprint with a CO₂ symbol.





Key concept 2 – Circular Economy

Simple definition: Sustainable consumption means making everyday choices that reduce waste, save natural resources, and minimise environmental impact. It includes buying only what we need, choosing durable products, reusing items, and avoiding unnecessary consumption.

Everyday example: Buying second-hand clothes instead of new ones, carrying a reusable water bottle, repairing broken items instead of replacing them, or choosing products with less packaging.

Suggested visual or icon: A reusable shopping bag with a green leaf or recycling symbol.



10.3 Practical Exercise or Real-Life Mission

Title of the mission: “My Week of Better Choices”

Description of the task: For one week, learners observe their daily habits and try to make small, environmentally friendly changes. They focus on areas such as transport, shopping, waste, water use, and energy consumption. The aim is not to be perfect but to notice everyday choices and reflect on which sustainable habits are easy to adopt.

Is this task for individuals or groups?: Individual task (with optional group discussion at the end)

Expected output: A completed checklist together with a short reflection (5–10 sentences) describing what changed, which actions were the easiest, and which habits they would like to continue.

Timeframe: One week

How this task supports sustainable behaviour: Tracking daily actions helps learners become more aware of their habits and understand that environmental



protection starts with small decisions. Completing the checklist each day also makes it easier to build lasting sustainable routines.

10.4 Adaptation tips for NEET youth and learners with SLDs

Use clear language, short instructions, practical examples, and activities divided into manageable steps. Replace long texts with pictures, icons, videos, audio, or demonstrations. Provide templates, checklists, completed examples, guiding questions, and opportunities to work in pairs or groups. To increase motivation, connect activities to everyday benefits such as saving money, improving health, and reducing household waste, while setting realistic goals and celebrating small achievements.

10.5 Conclusion

Our everyday choices may seem small, but together they have a significant impact on the environment. By understanding concepts such as carbon footprint and sustainable consumption, young people can make more informed and responsible decisions. Developing simple sustainable habits helps reduce waste, conserve resources, and protect the environment. Every small action contributes to a healthier and more sustainable future.



11. Intervention and consequence: how we transform our environment

This chapter explores how human activities change the natural environment and helps young people understand how everyday choices affect landscapes, natural areas, and resources. Changes such as building new roads, expanding towns, or using natural resources can improve people's lives but may also harm the environment, encouraging learners to think about the balance between human needs and protecting nature. In Romania, the rapid expansion of residential housing and commercial developments into forested areas and vulnerable hillsides shows how natural spaces are replaced by built environments, creating risks such as soil erosion, disrupted water drainage, landslides, and conflict between human settlements and local wildlife.

11.1 Learning objectives

After completing this chapter, learners will be able to:

- Understand the relationship between food production, consumption habits, and environmental impacts.
- Recognize the intended goals and unintended ecological consequences of human interventions.
- Identify and use digital tools to track daily habits, resource consumption, and waste production.
- Choose and apply daily steps to reduce their ecological footprint.
- Act as initiators within their own communities and create minor interventions that improve the environment.



11.2 Key concepts

The following concepts help learners understand the chain reactions triggered in nature by our daily decisions and larger-scale economic investments. **Intended and Unintended Consequences** show that every human intervention has a direct objective but may also bring unplanned environmental effects. **Land Use and Urbanization** describe how natural areas are transformed into built environments, causing fragmentation, soil sealing, and urban heat islands. **Ecological Balance and Carrying Capacity** explain how ecosystems can endure only a limited level of pressure before suffering irreversible damage. **Active Citizenship and Individual Responsibility** emphasize that daily choices have a direct impact on the environment and that people can also act collectively for the sustainability of their local community.

11.3 Practical exercise or real-life mission

Mission Name: "Map and Impact – Our Footprint"

Required Tools: Smartphones, free mobile applications, notebooks, flipchart paper, and colored markers.

Duration: 1 introductory workshop + 1 week of data collection + 1 final presentation and planning session.

Pedagogical Goal: To connect global sustainability theories with the tangible reality of the youth's immediate environment and develop critical thinking, digital literacy, teamwork, and problem-solving skills.

Step 1: Local Case Study Analysis: Groups examine maps and local news reports showing how green spaces have vanished and discuss ecological, hydrological, and geological impacts.

Step 2: Environmental Audit with Smartphones: Participants explore their surroundings in groups of 3–4 and document at least 3 negative examples and 1



positive example of human intervention. The output is a photo gallery with geolocation data.

Step 3: Digital Tracking: Participants monitor their own footprint for one week using ecological footprint calculators, food waste and consumption apps, or a simple digital journal tracking waste, energy, and transport habits.

Step 4: Action Plan Development: Groups select one local problem and develop a realistic, low-budget action plan, such as an awareness campaign, community greening, or school/community composting. Groups pitch their action plans to each other and to youth workers or local decision-makers.

11.4 Adaptation tips for NEET youth and learners with SLDs

- **Prioritizing Visual and Experiential Learning:** Use images, drone footage, or Google Earth satellite maps instead of long textual descriptions.
- **Plain Language:** Avoid complex professional jargon and use short, clear sentences with one idea or concept per paragraph.
- **Gamification and Applications:** Use interactive quizzes (e.g., Kahoot) or mobile applications that motivate waste reduction through visual rewards.
- **Practical Mentoring:** Emphasize practical implementation and fieldwork to boost self-confidence and strengthen engagement in active citizenship.

11.5 Conclusion

This chapter shows that people and nature are closely connected. Every choice we make can have an impact on the environment. The examples in this chapter remind us that we need to find a balance between development and protecting nature.

Young people can play an important role in creating a more sustainable future. By making simple, responsible choices every day and working together, they can help protect their local environment and inspire others to do the same.



12. Invisible daily consumption

This chapter explores invisible daily consumption and the hidden environmental impact of habits such as streaming, online shopping, device use, packaged food, and disposable products. Although these activities may seem harmless, they require energy, water, raw materials, transportation, and packaging, contributing to pollution, climate change, and waste. By understanding these hidden effects, young people can think more critically about convenience, marketing, and digital lifestyles and make more informed and sustainable everyday choices.

12.1 Learning objectives

After completing this chapter, learners will be able to:

1. Identify examples of invisible daily consumption in their own routines.
2. Explain how common habits create hidden environmental impacts.
3. Recognise hidden resource use behind everyday products and digital services.
4. Choose more sustainable alternatives in everyday life.
5. Reduce their personal environmental impact through simple behavioural changes.

12.2 Key concepts

Key concept 1 – Invisible consumption

Invisible consumption is the use of natural resources that we usually do not notice because the environmental impact happens somewhere else or later in time.

Everyday example:

- Streaming one hour of online video uses electricity not only in your phone or computer but also in data centres and communication networks.



- Leaving electronic devices on standby continues to consume electricity even when they are not actively used.
- A dripping tap may seem insignificant, but a single tap dripping once every second can waste thousands of litres of water over a year.
- Ordering products online often means additional packaging materials and transport, even if the purchase only takes a few minutes.

Suggested visual or icon: An iceberg, where only a small part is visible above the water.



Key concept 2 – Environmental footprint

Simple definition: Digital environmental impact refers to the environmental effects of using digital technologies such as smartphones, computers, cloud storage, streaming platforms, and online services. Although these activities seem invisible, they require electricity, cooling systems, and large data centres.

Everyday example: Watching videos online, storing thousands of photos in the cloud, or sending large files all require servers that operate continuously and consume significant amounts of electricity.

Suggested visual or icon: A smartphone connected to a cloud with an electricity symbol.



12.3 Practical Exercise or Real-Life Mission

Title of the mission: Become an Environmental Inspector

Description of the task: Working individually or in small groups, learners carry out an "environmental inspection" of their classroom, home, or another familiar place. They identify examples of invisible resource consumption, such as lights left on, electronic devices on standby, unnecessary water use, excessive packaging, or



unnecessary printing. Using a simple checklist, they record their observations and propose practical improvements that could reduce hidden environmental impacts.

Is this task for individuals or groups?: Individual or small-group activity. Individual task with optional group discussion

Expected output: A completed inspection checklist and at least five practical recommendations to reduce invisible consumption in the inspected location.

Timeframe: 45–60 minutes (or one week if completed at home).

How this task supports sustainable behavior: The activity helps learners recognise hidden sources of resource consumption in everyday environments and encourages practical action. It also develops observation, teamwork, and problem-solving skills while promoting long-term sustainable habits.

12.4 Adaptation tips for NEET youth and learners with SLDs

Use simple language, short instructions, practical examples, and regular understanding checks. Support learning with visuals, videos, hands-on activities, oral responses, templates, guiding questions, and pair or group work. Connect the topic to learners' interests, such as social media, shopping, or food, and highlight practical benefits like saving money and reducing waste. Provide quick feedback and celebrate small achievements to build confidence and motivation.

12.6 Conclusion

Invisible daily consumption shows that many small, routine actions have hidden environmental consequences. By making these impacts visible, learners can better understand how their habits affect the planet. The chapter highlights that sustainability is built through everyday choices, not only major decisions. Increasing awareness helps young people make more responsible and conscious decisions. Over time, small changes can lead to meaningful environmental improvements.



Summary

This material invites young people to explore how the environment works, how human activities affect it and what we can do to create a more sustainable future. It presents important topics such as climate change, biodiversity, ecosystems, nature protection, sustainable cities, agriculture and responsible consumption in a clear and practical way.

Each chapter connects environmental challenges with everyday life. Young people can discover how choices related to transport, food, energy, shopping and waste can influence the planet. They can also learn how climate change affects forests, rivers, animals, plants and local communities.

The material is not only about reading and learning facts. It includes games, group activities, discussions and real-life missions that encourage young people to observe their surroundings, ask questions, solve problems and work together. These activities help learners understand that environmental issues are not something distant – they are already part of our daily lives.

A key message of the material is that everyone can make a difference. Small actions, such as saving water and energy, reducing waste, reusing materials, protecting local green spaces or choosing more sustainable transport, can lead to positive change when many people take part.

Overall, this resource encourages young people to become more curious, responsible and active. It helps them build knowledge, teamwork and problem-solving skills, while showing that protecting the environment can be practical, creative and meaningful.



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