

# Communication and citizen engagement initiatives in line with the Horizon Europe Mission A Soil Deal for Europe

Report on Dissemination and Exploitation  
Practices in Member States and Associated  
Countries



Independent  
Expert  
Report

## Communication and citizen's engagement initiatives in line with the Horizon Europe Mission A Soil Deal for Europe

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# **Communication and Citizen Engagement Initiatives in Line with the Horizon Europe Mission A Soil Deal for Europe**

## ***Report on Dissemination and Exploitation Practices in Member States and Associated Countries***

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## Abbreviations

AC	Associated Country
EAFRD	European Agricultural Fund for Rural Development
EC	European Commission
EEA	European Economic Area
EU	European Union
ESDC	European Soil Data Centre
EUSO	European Soil Observatory
FAO	Food and Agriculture Organization of the United Nations
ISRIC	International Soil Reference and Information Centre
JRC	Joint Research Centre
MS	Member State
NGO	Non-Governmental Organisation
UNEP	United Nations Environment Programme

# EXECUTIVE SUMMARY

This report presents examples of soil-related activities and initiatives launched by, co-developed with or targeted at citizens<sup>1</sup> in EU Member States and Horizon Europe Associated Countries. The study aims to inspire the wide spread of citizen initiatives in the protection and restoration of soils, and serves as a basis for further actions to be financed under Horizon Europe to implement the EU Mission “A Soil Deal for Europe” (Mission Soil).

The study focus is on activities and initiatives in the following three main areas, although some other soil-related initiatives, if particularly relevant, are also included:

- Public and citizen initiatives related to the protection and restoration of soil, including soil health strategies/actions co-developed with citizens;
- Knowledge communication, awareness raising and outreach activities related to soil education in primary and secondary schools;
- Relevant art products, performances, communication material, movies, and documentaries concerning soil;

The study covers activities and initiatives implemented in both rural and urban areas by various stakeholders including governments, non-governmental and civil society organisations, municipalities, farmers, citizens and citizen organisations. Both top-down and bottom-up initiatives and activities have been taken into consideration. Initiatives and activities implemented by international organisations, such as the Food and Agriculture Organisation of the United Nations or involving several countries have also been accounted for. The study reviews initiatives and practices implemented after 2014. However, it does not exclude earlier initiatives if they have been found to be of relevance to and inspirational examples for further action.

The study is guided by the European Commission policy documents in the area of soil. Information on soil-related activities and initiatives was collected through desk research of relevant databases, reports and websites of key stakeholders and on the basis of a limited number of interviews.

Initiatives that provide particularly good examples and illustrate various types of action are presented in text boxes and tables. Collected information is stored in a database covering the following categories:

- Public and citizen initiatives related to the protection and restoration of soil, including soil health strategies/actions co-developed with citizens;
- Education and dissemination activities on soil health in primary and secondary schools;
- Soil-related art products and communication materials.

All activities and initiatives have been attributed to one of the Soil Mission’s specific objectives as follows: (1) Reduce land degradation relating to desertification; (2) Conserve and increase

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<sup>1</sup> Citizen engagement in soil-related activities involves local communities, schools, non-governmental and citizen organisations, farmers and the population in general.



soil organic carbon stocks; (3) No net soil sealing and increase the reuse of urban soils; (4) Reduce soil pollution and enhance restoration; (5) Prevent erosion; (6) Improve soil structure to enhance soil biodiversity; (7) Reduce the EU global footprint on soils; (8) Increase soil literacy in society.

It should be noted that the data on practices collected and covered by this report are not exhaustive - no full set of initiatives per category or country was collected. Furthermore, for some countries more examples of initiatives were collected than for others depending on the information available.

### **The findings of the study are:**

Various types of citizen initiatives and activities related to soil have already been or are currently being implemented across Europe which can ultimately support the EU Mission “A Soil Deal for Europe” objectives. Many initiatives aim to increase soil literacy in society, while others focus on specific challenges such as land degradation and desertification, soil erosion and pollution. A significant number of initiatives are targeted at the implementation of sustainable agricultural practices to preserve and improve soil fertility, increase soil organic carbon stocks and enhance soil biodiversity. In urban areas, urban gardening is one of the most popular soil activities that involves citizens and contributes to decreasing soil sealing and increasing the reuse of urban soils. Tree planting activities initiated by citizen organisations and non-governmental organisations (NGOs) and biowaste composting are implemented in both rural and urban areas.

The level of citizen involvement in initiatives ranges from consultation to active participation and leadership. Citizens are usually consulted through surveys, focus groups, on-line platforms, social media or other communication channels. Some initiatives engage citizens in various activities such as training, citizen science experiments, putting in place soil protection and restoration practices. There are also examples of actions initiated by citizens like petitions, collective urban gardening, tree planting, informal networks and movements, production of videos and art materials.

Awareness of soil issues is key to ensuring active position/participation and involvement on the part of interested parties in activities and initiatives related to soil health. Therefore, activities focusing on educating schoolchildren on soil characteristics, its ecosystem services and importance for sustaining life are considered by many stakeholders (NGOs, research and international organisations and associations) an important point of departure for improving the way we manage this natural resource. Availability of funding is another important enabling factor for the implementation of soil-related activities and projects. Most funding has been provided by and under EU programmes (e.g. Horizon2020/Horizon Europe, the LIFE programme, the European Agricultural Fund for Rural Development (EAFRD) and the Interreg programme), international donors (e.g. Food and Agriculture organisation (FAO), and national funding from governmental agencies (usually environmental, agricultural and development). Local funding through municipalities, private and public foundations and through business companies, interested in soil-related activities, is also available.

# 1. Objectives, scope, methodology applied and limitations of the study

## 1.1. Introduction to Mission Soil

European Union (EU) Missions are a novelty of the EU framework programme for research and innovation - Horizon Europe. Missions are rooted in research and innovation but aim to bring concrete solutions to some of the greatest societal challenges by engaging citizens along the process. They have ambitious goals and are expected to deliver results by 2030.

One of the Missions is the EU Mission “A Soil Deal for Europe” (Mission Soil). This Mission will be a major instrument to co-design, assess, monitor and implement actions to restore and protect soil so that it can continuously provide benefits to society and the planet. In the context of the Mission, soil health is defined as “the continued capacity of soils to support ecosystem services”. These services include:

- producing adequate quantities of safe and nutritious food, feed, fibre and other biobased products;
- storing water and recharging aquifers, thereby contributing to climate change adaptation and purifying percolating polluted water protecting ground and surface water quality;
- capturing carbon from the atmosphere and reducing the emission of greenhouse gases from soil as important measures to contribute to climate mitigation;
- preserving and protecting biodiversity both in the soil itself and on a landscape scale while securing the well-being of all citizens and communities;
- nutrient cycling, supporting crop productivity as well as preventing the transport of nutrients and their harmful release into water and other ecosystems.

The Mission will be implemented through<sup>2</sup>:

- (1) A transdisciplinary research and innovation (R&I) programme which includes a social science component to fill knowledge gaps and develop solutions for soil health. The Mission will address all types of land use in rural and urban areas.
- (2) A network of 100 living labs (for experimentation) and lighthouses (for demonstration)<sup>3</sup> to accelerate the co-creation and uptake of solutions across various settings in a diversified geographic and socio-economic context.
- (3) A robust, harmonised EU framework for soil monitoring and reporting.
- (4) Communication and citizen engagement activities to increase soil literacy across society.

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<sup>2</sup> [EU Mission Soil Deal for Europe Implementation Plan](#)

<sup>3</sup> <https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/af34d940-a4d8-11ec-83e1-01aa75ed71a1>

The Mission's specific objectives have been outlined in the [EU Mission Soil Deal for Europe Implementation Plan](#). These objectives include:

- Reduce land degradation relating to desertification.
- Conserve and increase soil organic carbon stocks.
- No net soil sealing and increase the reuse of urban soils.
- Reduce soil pollution and enhance restoration.
- Prevent erosion.
- Improve soil structure to enhance habitat quality for soil biota and crops.
- Reduce the EU global footprint on soils.
- Increase soil literacy in society across Member States.

The Mission not only aims to maximize benefits of soil health conservation and restoration in the EU but also to minimize the adverse effects of land use outside the EU. The Mission Soil will largely contribute to the overall goals of the European Green Deal, as mentioned in the [Farm to Fork Strategy](#)<sup>4</sup> and the [EU Biodiversity Strategy for 2030](#)<sup>5</sup>. The Mission will also contribute to the EU [Climate Adaptation Strategy](#)<sup>6</sup>; the [Zero Pollution Action Plan for Air, Water and Soil](#)<sup>7</sup>; the EU [Forest Strategy](#)<sup>8</sup> for 2030; the [Long-term Vision for Rural Areas](#)<sup>9</sup> as one of its flagship initiatives; the [Organic Action Plan](#)<sup>10</sup>; the EU Soil Observatory ([EUSO](#))<sup>11</sup> and the new EU [Soil Strategy](#)<sup>12</sup>; as well as the UN Sustainable Development Goals ([SDGs](#))<sup>13</sup>.

The EC has already, through several initiatives, promoted the Mission Soil and its objectives to interested stakeholders and citizens and thus facilitated their involvement and engagement in the Mission.

The Mission and its activities have been presented and discussed in more than 250 events across Europe and beyond since September 2019<sup>14</sup>, when the process of its preparation started. For instance, the EC, during the co-creation phase of the Mission worked with high-level experts (the Mission Board) and consulted stakeholders (by launching an online survey that received around 2500 replies), and citizens in the Czech Republic and Portugal through

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<sup>4</sup> [https://ec.europa.eu/food/horizontal-topics/farm-fork-strategy\\_en](https://ec.europa.eu/food/horizontal-topics/farm-fork-strategy_en)

<sup>5</sup> [https://ec.europa.eu/environment/strategy/biodiversity-strategy-2030\\_en](https://ec.europa.eu/environment/strategy/biodiversity-strategy-2030_en)

<sup>6</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2021:82:FIN>

<sup>7</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0400&qid=1623311742827>

<sup>8</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021DC0572>

<sup>9</sup> [https://ec.europa.eu/info/sites/default/files/strategy/strategy\\_documents/documents/ltvra-c2021-345\\_en.pdf](https://ec.europa.eu/info/sites/default/files/strategy/strategy_documents/documents/ltvra-c2021-345_en.pdf)

<sup>10</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0141R%2801%29>

<sup>11</sup> [https://joint-research-centre.ec.europa.eu/eu-soil-observatory-euso\\_en](https://joint-research-centre.ec.europa.eu/eu-soil-observatory-euso_en)

<sup>12</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0699>

<sup>13</sup> <https://sustainabledevelopment.un.org/?menu=1300>

<sup>14</sup> Up to August 2022

dedicated participatory events, or young people, through a collaboration with the European Youth Forum.

A citizen engagement session was organized during the European Research and Innovation days in November 2020<sup>15</sup>. The Mission also developed activities for kids to be hosted at EC fair stands. For instance, during the Green Week 2020 in Berlin, children were given soil jigsaw puzzles to do at the Commission stand, or play the [Apple-soil game](#)<sup>16</sup>.

During the Paris International Agricultural Show (Salon International de l'Agriculture - SIA) 2020, similar activities were offered at the stand, including a soil quiz. In the 2022 edition of SIA, the EC hosted a training event on composting in partnership with a French composting network - [the Réseau Compost Citoyen](#)<sup>17</sup>.



Photo credit: ©Arianna Pasa

Promotional videos were also produced (such as [Soil matters](#)<sup>18</sup>, [Soil health and food](#)<sup>19</sup> and [EU Mission "A Soil Deal for Europe" 2021](#)<sup>20</sup>)

Horizon Magazine has run a series of articles dedicated to the Mission Soil, e.g. - [Bringing Europe's soils back to life](#)<sup>21</sup>; [The answer lies beneath our feet](#)<sup>22</sup>; [Digital data drives better soil management](#)<sup>23</sup>; [Does an ally against climate change lie beneath our feet?](#)<sup>24</sup>; [On course for healthier, more sustainable soil](#)<sup>25</sup>.

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<sup>15</sup> <https://www.youtube.com/watch?v=gN1Uy3nw4kk>

<sup>16</sup> [https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/soil-health-and-food\\_en#missions-identified](https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/soil-health-and-food_en#missions-identified)

<sup>17</sup> <http://reseaucompost.org/>

<sup>18</sup> [https://www.youtube.com/watch?v=oJF\\_GTmrJGI](https://www.youtube.com/watch?v=oJF_GTmrJGI)

<sup>19</sup> <https://www.youtube.com/watch?v=53bbzE2lpKc>

<sup>20</sup> <https://www.youtube.com/watch?v=3hPIZqwwhhM>

<sup>21</sup> <https://ec.europa.eu/research-and-innovation/en/horizon-magazine/bringing-europes-soils-back-life>

<sup>22</sup> <https://ec.europa.eu/research-and-innovation/en/horizon-magazine/answer-lies-beneath-our-feet>

<sup>23</sup> <https://ec.europa.eu/research-and-innovation/en/horizon-magazine/digital-data-drives-better-soil-management>

<sup>24</sup> <https://ec.europa.eu/research-and-innovation/en/horizon-magazine/does-ally-against-climate-change-lie-beneath-our-feet>

<sup>25</sup> <https://ec.europa.eu/research-and-innovation/en/horizon-magazine/course-healthier-more-sustainable-soil>

In the context of the work of the Mission Soil, a [CORDIS Results Pack on soil health](#)<sup>26</sup> was published. Different informative factsheets such as [EU Missions: A Soil Deal for Europe: concrete solutions for our greatest challenges](#)<sup>27</sup>, [EU Mission 'A Soil Deal for Europe' Living Labs and Lighthouses](#)<sup>28</sup> were developed and podcast episodes targeted at the non-expert audience were produced (Podcast 'Behind the Scenes' episode S02/E05 "[A blossoming career as a soil keeper](#)"<sup>29</sup>, Podcast 'Food for Europe' episode 15/15 "[Soils in danger: Europe fights back on the EU Mission A Soil Deal for Europe](#)"<sup>30</sup>).

The Mission presence on social media has been linked to the hashtag *#MissionSoil*. Recently, the Mission has launched a social media campaign to promote sustainable soil management practices targeted at stakeholders and citizens alike (e.g. [Mission Soil: best practices to keep our soils healthy and beat desertification](#)<sup>31</sup>, [Mission Soil: best practices to keep our soils healthy - composting](#)<sup>32</sup>).

## 1.2. Objectives and scope of the study

The study aims to identify and map out good examples of soil-related activities and initiatives launched by, co-developed with or targeted at citizens that can serve as a basis for further actions to be financed under Horizon Europe and support the implementation of the EU Mission "A Soil Deal for Europe".

The study covers activities and initiatives in the EU Member States (MSs) and some Horizon Europe Associated Countries (ACs) in the following three areas:

- Public and citizen initiatives related to soil protection and restoration, including soil health strategies/actions co-developed with citizens;
- Knowledge communication, awareness raising and outreach activities related to soil education in primary and secondary schools;
- Relevant art products, performances, communication material, movies, and documentaries concerning soil.

Initiatives and activities that involve several countries or are implemented by international organisations, such as the Food and Agriculture Organisation (FAO) have also been considered.

Both top-down and bottom-up initiatives and activities carried out in both urban and rural areas have been considered.

The study reviews initiatives and practices implemented after 2014. However, it does not exclude earlier initiatives if they have been found to be of particular relevance or inspirational

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<sup>26</sup> [CORDIS results pack on soil health - Publications Office of the EU \(europa.eu\)](#)

<sup>27</sup> <https://data.europa.eu/doi/10.2777/247887>

<sup>28</sup> <https://data.europa.eu/doi/10.2777/706627>

<sup>29</sup> <https://play.acast.com/s/behind-the-scenes-conversations-with-researchers-and-innovat/s02e05-a-blossoming-career-as-a-soil-keeper>

<sup>30</sup> [https://ec.europa.eu/info/food-farming-fisheries/farming/food-europe-podcast\\_en](https://ec.europa.eu/info/food-farming-fisheries/farming/food-europe-podcast_en)

<sup>31</sup> <https://twitter.com/HorizonEU/status/1537734073979895815>

<sup>32</sup> <https://twitter.com/HorizonEU/status/1547206933274398720>

examples for further action. The following criteria should be met for an initiative to be considered/labelled good practice:

Table 1. Selection criteria applied to good practices

Criterion	Description
Relevance	The initiative is particularly relevant to the objectives of the EU Mission “A Soil Deal for Europe”. It is developed in response to existing international/national/regional or local challenges and addresses existing needs of the key parties such as, for example, farmers, landowners, school children and citizens in general.
Effectiveness	The initiative delivered relevant results and achieved its objectives.
Sustainability	The results of the initiative were well accepted and what was done still exists and is used as intended.
Impact	The initiative has or will have a positive impact on soil health or has raised awareness about soil.

Apart from building up knowledge on good practices, the study aims to identify enabling conditions for and barriers to the development of soil-related initiatives involving and engaging citizens.

### 1.3. Applied methodology

The study is guided by the European Commission (EC) policy documents in the area of soil and particularly the [EU Mission “A Soil Deal for Europe” Implementation Plan](#)<sup>33</sup>.

Information on soil-related initiatives has been collected mainly on the basis of desk research of relevant databases, reports and web sites of key stakeholders. The sources used are listed in **Annex 1**.

Scoping interviews were carried out with the European Society for Soil Conservation, the Federal Office for the Environment of Switzerland, the Lithuanian Soil Science Society, the Alpine Soil Partnership, the Latvian Soil Science Society and the Czech Soil Science Society to identify good practices and examples, discuss data sources as well as outline enabling conditions for and barriers to the development and implementation of soil-related initiatives and citizen engagement in them.

In-depth interviews were carried out with the Urban Gardening Sofia initiative, the Norwegian Centre for Organic Agriculture (NORSØK), the Association Ökoregion Kaindorf (Austria) and the Soil Service of Belgium to discuss particular actions including good practices and challenges met. A list of the interviews conducted is presented in **Annex 2**.

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<sup>33</sup>[https://ec.europa.eu/info/sites/default/files/research\\_and\\_innovation/funding/documents/soil\\_mission\\_implementation\\_plan\\_final\\_for\\_publication.pdf](https://ec.europa.eu/info/sites/default/files/research_and_innovation/funding/documents/soil_mission_implementation_plan_final_for_publication.pdf)

Some initiatives that provide particularly good examples and illustrate various types of action (such as soil protection actions, films or activities in schools) are presented in text boxes and tables in the report. All collected information was stored in a database covering the following categories:

- Public and citizen initiatives related to the protection and restoration of soil, including soil health strategies/actions co-developed with citizens.
- Education and dissemination activities on soil health in primary and secondary schools.
- Soil-related art products and communication materials.

Further categorisation was carried out for each of the aforementioned categories as presented in the table below:

Table 2. Categories and subcategories used for the purposes of classification and group initiatives

Category	Subcategories	
Public and citizen initiatives related to the protection and restoration of soil, including soil health strategies/actions co-developed with citizens	<ul style="list-style-type: none"> <li>• Initiated by citizens</li> <li>• Co-developed with citizens</li> </ul>	<ul style="list-style-type: none"> <li>• Urban</li> <li>• Rural</li> <li>• Both</li> </ul>
Education and dissemination activities on soil health in schools	<ul style="list-style-type: none"> <li>• Soil-related educational activities in schools</li> <li>• Soil-related practical activities in schools</li> <li>• Combined (educational and practical) school activities related to soil</li> </ul>	
Soil-related art products, performances and communication materials	<ul style="list-style-type: none"> <li>• Video materials including movies, short films and documentaries</li> <li>• Festivals, agricultural fairs, art projects, exhibitions, and competitions</li> <li>• Information and communication materials</li> </ul>	

Finally, all activities and initiatives have been attributed to one of the Mission Soil objectives.

## 1.4. Limitations of the study

The soil related activities and initiatives dealt with in this study are implemented in EU MSs and ACs and cover pre-defined categories as presented in the methodology notes above. The good practices data herein handled are not exhaustive as no full set of initiatives per category or country has been collected. Furthermore, there are more examples of initiatives for some countries rather than others depending on the availability of information. Often, the information used was available in the local language only. Thus, the compiled dataset should

not be seen as an indication that a certain type of activity or initiative has not taken place in a given country, or that one country has been more active than another.

A limited number of interviews were conducted. More interviews are to be further conducted at the time of the two report updates planned.

## **1.5.        Structure of the report**

The report consists of the following main chapters:

**Chapter 1.** provides introductory information about the study as well as the methodology applied and limitations.

**Chapter 2.** presents public and citizen initiatives related to the protection and restoration of soil, including soil health strategies/actions co-developed with citizens.

**Chapter 3.** discusses soil-related information dissemination practices, education programmes or activities in primary and secondary schools.

**Chapter 4.** presents examples of art products/performances/communication material, movies, documentaries, etc. related to soil and soil protection and restoration.

The conclusions of the study are presented in **Chapter 5.**

**Annex 1** and **Annex 2** list the sources of information cited and interviews conducted.



## 2. Public and citizen initiatives related to soil protection and restoration, including soil health strategies/actions co-developed with citizens

### 2.1. Policy initiatives and actions

The EU Soil Strategy for 2030, published in November 2021, together with the EU Mission “A Soil Deal for Europe” and the European Soil Observatory (EUSO) has laid down the EU framework for soil protection and restoration. A new Soil Health Law, envisaged in the Strategy, is to be published in 2023. The drafting of the EU Soil Strategy was preceded by an online public consultation carried out in the period February-April 2021. More than half of the responses received were from individual EU citizens (963 responses), followed by academia/research institutions (163) and companies/business organisations (157)<sup>34</sup>.

Soil-related strategies that are currently in place at a national or regional level in EU MSs and ACs aim to reduce soil pollution and enable soil restoration, improve soil structure to enhance soil biodiversity, and prevent erosion. Such strategies, e.g. [Malta's National Agricultural Policy 2018-2028](#)<sup>35</sup> and [Georgia's Second National Action Programme to Combat Desertification](#)<sup>36</sup>, are usually drawn up by governmental bodies and agencies.

Another example is the soil strategic planning and management initiative of the Turkish Ministry of Food, Agriculture and Livestock which resulted in the establishment of [Provincial Soil Protection Boards](#) in 2018. Along with the Boards, a set of rules<sup>37</sup> were introduced for the elaboration of soil conservation plans and protection of grass lowlands. The nine-member Soil Protection Boards in each province include representatives of the local government, non-governmental organisations and the Union of Chambers of Agriculture in Turkey. Some of their responsibilities amount to screening evaluation and investigation of issues regarding the protection of cultivated areas and soil health. The boards are further in charge of evaluating the implementation of soil protection measures.

Citizen involvement in the soil strategy elaboration exercise is usually ensured by a public consultation process. Nevertheless, citizens are often included as a target group or stakeholders of soil-related strategies along with other actors such as farmers, landowners, students, researchers, associations, and local governments.

Often, soil-related strategies are part of broader-scope strategic papers aimed at regional development, sustainable agriculture or nature protection. For example, soil is one of the key topics of the [EU Strategy for the Alpine Region \(EUSALP\)](#)<sup>38</sup> and of the Smart Village Strategy of Babina Greda Municipality (Croatia) as presented below. This is an example of the involvement of local government bodies (such as municipalities) in the development of soil-related policy documents.

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<sup>34</sup> <https://ec.europa.eu/6fd0d6eb-9e3d-401b-9b13-3fa6d36113e2>

<sup>35</sup> [https://meae.gov.mt/en/Public\\_Consultations/MSDEC/Documents/National%20Agricultural%20Policy%20for%20the%20Maltese%20Islands%202018%20-%202028.pdf](https://meae.gov.mt/en/Public_Consultations/MSDEC/Documents/National%20Agricultural%20Policy%20for%20the%20Maltese%20Islands%202018%20-%202028.pdf)

<sup>36</sup> <https://rec-caucasus.org/wp-content/uploads/2020/08/1557338980.pdf>

<sup>37</sup> [Regulation on protection and use of agricultural land, December 2017:](#)  
<https://www.resmigazete.gov.tr/eskiler/2017/12/20171209-3.htm>

<sup>38</sup> <https://www.alpine-region.eu/action-group-6-resources>

### Text box 1. Smart Village Strategy, Municipality of Babina Greda

[https://www.smartrural21.eu/wp-content/uploads/Babina-Greda\\_Smart-Village-Strategy.pdf](https://www.smartrural21.eu/wp-content/uploads/Babina-Greda_Smart-Village-Strategy.pdf)

#### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

Reduce soil pollution and enhance restoration; Increase soil literacy in society

#### Where?

Croatia

#### When?

2020

#### Who?

Municipality of Babina Greda

#### What and how?

Developing a sustainable and competitive economy with smart, environmentally-friendly agriculture on healthy soils and local community engagement are among the objectives of the strategy. 28 participants and experts from various fields of expertise took part in meetings, workshops and six focus groups in the course of the strategy development process. Individual interviews were conducted with representatives of key stakeholders. The local community was informed through social media and a series of advertisements and articles in the local print media and on the radio. Social networks



*Photo credit: Strategy paper*

were used to organise discussions and provide feedback on strategy activities, and also as an awareness-raising tool to stress the importance of the strategy. Local associations were actively involved in regular meetings to both voice their opinion and keep them informed on the progress made. Active engagement of stakeholders and citizens resulted in the elaboration of strategic measures that were well received and supported by the population of Babina Greda. The strategy was prepared in the framework of the “Preparatory Action on Smart Rural Areas in the 21st Century” project funded by the EC.

Soil strategies are also developed by environmental organizations and associations working in the areas of the environment and agriculture to help promote soil protection action, an example of which is the [Advocacy of environmental NGOs in formulating mineral fertilizers and soil protection policy](#)<sup>39</sup> project implemented in Lithuania in 2021.

Another example of policy initiative promoted by NGOs is the [Position Paper](#)<sup>40</sup> with recommendations for sustainable development of the agricultural sector, including soil health, to the Irish Government. The initiative is presented in the Text box 2 below.

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<sup>39</sup> <http://www.circulareconomy.lt/projektas-aplinkosaugos-nvo-advokacija-formuojant-mineraliniu-trasu-ir-dirvozemio-apsaugos-politika/>

<sup>40</sup> [https://environmentalpillar.ie/wp-content/uploads/2021/04/EnvironmentalPillar\\_SWAN\\_SCC\\_Agricultural\\_Food\\_Policy.pdf](https://environmentalpillar.ie/wp-content/uploads/2021/04/EnvironmentalPillar_SWAN_SCC_Agricultural_Food_Policy.pdf)

## Text box 2. Towards a New Agricultural and Food Policy for Ireland

[https://environmentalpillar.ie/wp/wp-content/uploads/2021/04/EnvironmentalPillar\\_SWAN\\_SCC\\_Agricultural\\_Food\\_Policy.pdf](https://environmentalpillar.ie/wp/wp-content/uploads/2021/04/EnvironmentalPillar_SWAN_SCC_Agricultural_Food_Policy.pdf)

### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

Reduce soil pollution and enhance restoration; Conserve and increase soil organic carbon stocks; Improve soil structure to enhance soil biodiversity; Prevent erosion.

### Where?

Ireland

### When?

2021

### Who?

[Environmental Pillar](#), [Stop Climate Chaos Coalition](#) and [Sustainable Water Network](#)

### What and how?

With this paper, three NGOs have come up with policy recommendations to the Irish Government aimed at instilling awareness and initiating discussions that could deliver a change to Irish agricultural

#### **Towards a New Agricultural and Food Policy for Ireland** Recommendations for Government

A Position Paper from the  
Environmental Pillar, the Stop  
Climate Chaos Coalition and the  
Sustainable Water Network



policy. The paper provides a foundation for a deeper discussion on what a new model of agriculture for Ireland could look like – a model that works within the ecological parameters essential to a healthy society, economy and planet. The paper provided 10 key policy recommendations such as: Develop a Policy Framework Aligned with Ecological Limits and Environmental Commitments; Protect and Restore Biodiversity on Farmland; Protect and Restore Peatlands and Woodlands on Farms; Ensure that Agriculture Delivers its Fair Contribution of the 51% Reductions in Greenhouse Gas Emissions by 2030; Support Sustainable Livelihoods and Incentivise Farm Diversification; Contribute Meaningfully to Food Security and Nutrition; Facilitate Inclusive Dialogue and Participation for an Alternative Model for Agriculture in Ireland. The position paper was elaborated by the NGOs in close consultation with their members. The paper also calls for a comprehensive, effective and inclusive public engagement and debate, with adequate time and engagement mechanisms

for incorporating public input into the policy making process. The document recommends that measures should be taken by the Government to raise public awareness and ensure participation in decision-making via citizen assemblies and/or dialogue fora and regional exchanges.

Often, soil strategic papers are elaborated as part of the project implementation process, e.g. **EU funded Horizon 2020 project UNISECO<sup>41</sup>** under which practice-validated strategies and incentives for the promotion of improved agri-ecological approaches were elaborated while involving different stakeholders.

There are also examples of policy-related soil health and protection initiatives that are pushed forward by citizens and civic organizations. The 2015-2016 initiative People4Soil, started by EU citizens, NGOs, farmers and scientists, raised awareness of the need to establish a strategic and legal framework to protect soil in Europe as a strategic resource to ensure food security, biodiversity conservation and mitigation of climate change. More information on the initiative is presented in the Text box 3 below.

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<sup>41</sup> <https://cordis.europa.eu/project/id/773901>; <https://uniseco-project.eu/>

### Text box 3. People4Soil

<https://www.facebook.com/people4soil/> <https://www.youtube.com/watch?v=LCMknN-PBok>;  
<http://ec.europa.eu/citizens-initiative/public/initiatives/open/details/2016/000002>

#### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

Reduce soil pollution and enhance restoration;

#### Where?

EU

#### When?

2015-2017

#### Who?

European citizen initiative, supported by European NGOs, research institutes, farmers associations and environmental groups

#### What and how?

The objective of the initiative was to request an EU legal framework to recognize soil as a shared heritage that needs protection and to put in place appropriate legislation to address soil threats: erosion, sealing, organic matter decline, biodiversity loss and contamination; to integrate soil-related UN Sustainable Development Goals into EU policies; to properly account and reduce greenhouse gas emissions from the farming and forestry sectors. An online petition was launched in September 2016 and was live until 12 September 2017 providing a platform for the European citizens to push the EU policy makers to elaborate legislation for soil by signing the petition. 212 252 citizens signed the petition by the closing date, which was well below the one million target. Nevertheless, the campaign was a good example of cooperation between stakeholders to raise awareness of soil health issues and a step forward in advocating sustainable soil management in the EU.



*Photo credit: People4Soil initiative*

The table below provides a short overview of some soil-related strategies, co-developed with citizens.

Table 3. Soil protection strategies co-developed with or initiated by citizens

Strategy	Mission Soil objectives	Leading Organisation	Description
<a href="#">EU Strategy for the Alpine Region (EUSALP)</a> <sup>42</sup>	<ul style="list-style-type: none"> <li>• Reduce soil pollution and enhance restoration.</li> <li>• Increase soil literacy in society.</li> </ul>	AlpGov 2 project lead partner, Lombardy Region	EU SALP a European macro-regional strategy. The strategy covers 7 countries (5 EU Member States and 2 non-EU countries). During the strategy development process, a broad stakeholder consultation was conducted in 2014 that aimed at reaching out to national, regional and local authorities, inter-governmental and non-governmental bodies, international financial institutions and the private sector, as well as individual citizens. Stakeholder and citizen involvement in activities that support implementation of the Strategy is facilitated by a Platform of Knowledge –a technological public platform that connects people and facilitates knowledge sharing and dialogue. The specific objectives that are relevant to soil are collection of information and implementation of regional awareness raising events on how to reduce land use and protect soil.
<a href="#">Understanding and improving the sustainability of agri-ecological farming systems in the EU</a> <sup>43</sup>	<ul style="list-style-type: none"> <li>• Improve soil structure to enhance soil biodiversity.</li> <li>• Reduce soil pollution and enhance restoration.</li> </ul>	Johann Heinrich Von Thuenen-Institut, Bundesforschungsanstalt für ländliche Räume, Wald und Fischerei, Germany	Practice-validated strategies and incentives for the promotion of improved agri-ecological approaches were elaborated with involvement of stakeholders. The strategies have been developed under an EU funded <b>Horizon 2020 project (UNISECO)</b> aiming at strengthening the sustainability of European farming systems. The project ran from 2018 to 2021. Project partners were universities, research institutes, companies and NGOs including European Landowners Organization. To facilitate stakeholder cooperation and citizen involvement, a virtual networking - Multi Actor Networking Facility (MAP NEF) was created. MAP NEF provided a space for networking and knowledge exchange. An Agri-Ecological Knowledge Hub was created to provide access to the knowledge generated after the end of the project.

<sup>42</sup> <https://www.alpine-region.eu/action-group-6-resources>

<sup>43</sup> <https://cordis.europa.eu/project/id/773901>; <https://uniseco-project.eu/>

Strategy	Mission Soil objectives	Leading Organisation	Description
<a href="#">National Agricultural Policy for the Maltese Islands 2018 – 2028<sup>44</sup></a>	<ul style="list-style-type: none"> <li>• Reduce soil pollution and enhance restoration.</li> <li>• Reduce the EU global footprint on soils.</li> </ul>	Ministry for the Environment, Sustainable Development and Climate Change, Malta	This policy supporting document was developed in 2018 as an external study commissioned by the Maltese Ministry for Sustainable Development, the Environment and Climate Change. The document includes, among others, measures targeting soil conservation and stabilization and increasing soil productivity. The policy document was developed using a wide consultation process. A National Consultation Event was held in March 2016. This two-day event was attended by 78 stakeholders who participated in the creation of a strength, weakness, opportunity, and threat (SWOT) analysis. The target groups of the strategy are: farmers, entrepreneurs, land owners and tenants; agricultural students; cooperatives and producer organisations; consumers; research institutions and higher educational establishments interested in agriculture; private entities, the catering industry, delivery services, consultancy agencies; NGOs, lobby groups, local councils, and citizens interested in the upkeep of the rural landscape through agriculture. The document was incorporated in Malta's Sustainable Development Vision 2050 – a policy document of the Ministry for the Environment, Sustainable Development and Climate Change.
<a href="#">Georgia's Second National Action Programme to Combat Desertification<sup>45</sup></a>	<ul style="list-style-type: none"> <li>• Reduce land degradation relating to desertification.</li> </ul>	Ministry of Environment Protection, Georgia	This is a national strategic document covering the 2014-2020 period. During the programme development process, key stakeholders (governmental bodies, NGOs, scientific institutions) were consulted through meetings and had the possibility to express their opinion on the draft document.

<sup>44</sup>[https://meae.gov.mt/en/Public\\_Consultations/MSDEC/Documents/National%20Agricultural%20Policy%20for%20the%20Maltese%20Islands%202018%20-%202028.pdf](https://meae.gov.mt/en/Public_Consultations/MSDEC/Documents/National%20Agricultural%20Policy%20for%20the%20Maltese%20Islands%202018%20-%202028.pdf)

<sup>45</sup><https://rec-caucasus.org/wp-content/uploads/2020/08/1557338980.pdf>

Strategy	Mission Soil objectives	Leading Organisation	Description
<a href="#">Advocacy of environmental NGOs in formulating mineral fertilizers and soil protection policy<sup>46</sup></a>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> <li>• Reduce soil pollution and enhance restoration.</li> </ul>	Circular economy (Žiedinė ekonomika), Lithuania	This is a project funded by <a href="#">The Active Citizens' Fund<sup>47</sup></a> , of the European Economic Area (EEA) Financial Mechanism. The project was implemented in 2021 with the aim to strengthen the voice of environmental NGOs to represent environmental interests with regard to fertilization and soil protection policies. This was achieved by elaborating a position paper on sustainable fertilization in consultation with experts in the field, presented to decision-makers and farmers.
<a href="#">Provincial Soil Protection Boards</a>	<ul style="list-style-type: none"> <li>• Prevent erosion.</li> <li>• Reduce soil pollution and enhance restoration.</li> <li>• Conserve and increase soil organic carbon stocks.</li> <li>• Reduce land degradation relating to desertification</li> </ul>	Ministry of Food, Agriculture and Livestock, Turkey	Turkey's Ministry of Food, Agriculture and Livestock introduced a new regulatory regime for planning, use and oversight of cultivated areas in 2018. It includes establishing provincial Soil Protection Boards, as well as introducing rules for soil conservation plans and protecting grass lowlands. The Soil Protection Boards ("Boards") are composed of nine members in each province, representatives of the local government, non-governmental organisations and the Union of Chambers of Agriculture in Turkey, among others, who express opinions and views of various stakeholders including the local population. The Boards' responsibilities include: screening, evaluating and investigating issues regarding the protection of cultivated areas, undertaking appropriate measures to resolve problems regarding soil protection; directing all initiatives requiring land use, project review and approval aimed at land management and soil health; following and evaluating the implementation of soil protection measures at a local level; monitoring compliance between national, regional and local plans; receiving requests for the use of cultivated land and passing these to the relevant authorities, with the Board's opinion.

<sup>46</sup> <http://www.circulareconomy.lt/projektas-aplinkosaugos-nvo-advokacija-formuojant-mineraliniu-trasu-ir-dirvozemio-apsaugos-politika/>

<sup>47</sup> <https://www.eeagrants.gov.pt/en/programmes/active-citizens-fund/>



## 2.2. Soil restoration and protection practices in rural areas

Soil protection and restoration practices in rural areas most often aim to reduce soil pollution and land degradation related to erosion and desertification and improve soil structure to enhance soil fertility and biodiversity.

These initiatives are usually associated with farming and they focus on improving agricultural practices. In addition to farmers, these practices can also include other stakeholders such as local governments, researchers, companies, landowners, NGOs and citizens. Private companies are also taking an active part in the promotion of eco-farming and eco-food production practices, which boost soil health and maintain soil fertility.

Training and knowledge exchange for citizens, farmers or other interested parties in the form of workshops, on-the ground training actions and seminars are among the common project activities. These actions aim to inform and educate interested stakeholders and individuals about soil health, restoration and protection practices, and land management, while also improving soil biota, reducing pollution, enhancing restoration, and preventing soil erosion.

An initiative that actively educates citizens about soil biodiversity is presented in Text box 4.

### Text box 4. Participatory Observatory of Earthworms

[https://ecobiosoil.univ-rennes1.fr/OPVT\\_accueil.php](https://ecobiosoil.univ-rennes1.fr/OPVT_accueil.php)

#### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

Improve soil structure to enhance soil biodiversity; Reduce soil pollution and enhance restoration; Increase soil literacy in society.

#### Where?

France

#### When?

2011

#### Who?

University of Rennes

#### What and how?

This project benefits both the work of scientists through the accumulation of a large set of data and the education of citizens by raising awareness on scientific issues. It offers a tool for soil biodiversity evaluation in natural and anthropic soils, training to farmers, sampling protocols accessible to a wide range of citizens and adapted to the targeted public (farmers, territory managers, gardeners, pupils), and builds a databank of reference values on earthworms. The Participative Earthworm Observatory involved various stakeholders as farmers, schools, natural areas managers, gardeners and researchers. EcoBioSoil, a website dedicated to the study, stored collected data and information.



Photo credit: OPTV project website

Other initiatives in rural areas have been targeted at soil erosion prevention and tree planting. A collaborative initiative of the Soil Conservation Service of Iceland Landgræðslan (a governmental agency under the Ministry for the Environment and Natural Resources),



[BÆNDUR GRÆÐA LANDIÐ \(Farmers heal the land\)](https://land.is/heim/malaflokkar/baendur-graeda-landid/)<sup>48</sup>, assisted farmers, landowners and land users over the 2009-2019 period to revegetate degraded land, halt erosion, cover land vegetation and reclaim land, making it usable again for agriculture or other uses. Since 2013 a citizen initiative in Bulgaria has supported the planting of more than 800 000 trees ([Gorata](https://www.gorata.bg)<sup>49</sup>). This is by the people for the people initiative, which aims to plant new forests and trees in Bulgaria.

An example of an initiative, combining soil restoration practices with trips for tourists and schools is presented in Text box 5 below.

#### **Text box 5. Græðir Ísland - CARE Rewilding Iceland**

<https://landvernd.is/care-rewilding-iceland/>

#### **Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:**

Reduce soil pollution and enhance restoration; Conserve and increase soil organic carbon stocks; Increase soil literacy in society;

#### **Where?**

Iceland

#### **When?**

2017-ongoing

#### **Who?**

Landvern - Icelandic Environment association NGO with financial support from the [American Embassy in Iceland](#) and the [Icelandic Ministry for the Environment](#)

#### **What and how?**

Land degradation is a major environmental challenge in Iceland and human activities – particularly unsustainable land use but recently also tourism – contribute to the continued existence of the problem.



*Photo credit: Landvern*

Græðir Ísland is a land reclamation project for groups and individuals who want to contribute to voluntary work to improve the country's vegetation and soil resources and image by participating in hands-on land restoration actions. The activities improve plant vegetation, soil resources and land appearance by restoring ecosystems on specific land plots. Many domestic and foreign tourists take part in the project as well as students and volunteers.

Some projects aim to empower civil society by increasing awareness among the population on the importance of soil for people and the environment like [the Citizen Science project on soil health and soil awareness](#)<sup>50</sup>, implemented as part of the 2020 Science Year in Germany. Through simple field soil experiments performed by citizens, the project collected up-to-date information about the soil condition and compiled a database to be used to assess soil functions. The database was placed on a web portal with free access.

<sup>48</sup> <https://land.is/heim/malaflokkar/baendur-graeda-landid/>

<sup>49</sup> [www.gorata.bg](https://www.gorata.bg)

<sup>50</sup> <https://forschung-sachsen-anhalt.de/project/citizen-science-projekt-bodengesundheit-23954>

Another initiative undertaken by a municipality in Austria promoted the advantages of home-grown vegetables by encouraging citizens to plant a free seed. The initiative is presented in Text box 6 below.

#### **Text box 6. Plant with me - plant with net!**

[https://www.bodenbuendnis.or.at/beispiele-bodenschutz/pflanz\\_mi](https://www.bodenbuendnis.or.at/beispiele-bodenschutz/pflanz_mi)

#### **Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:**

Improve soil structure to enhance soil biodiversity; Increase soil literacy in society.

#### **Where?**

CBad Vöslau, Lower Austria

#### **When?**

2021

#### **Who?**

Municipality of Bad Vöslau

#### **What and how?**

The objective of the initiative was to raise awareness of the high consumption of natural resources and soil used by the food industry. The project demonstrated the simplicity and advantages of home-grown vegetables by encouraging citizens to plant a free seed. The campaign was targeted at grandparents, parents and children who were motivated to take part with a free seed plant.



Expert advisors (gardeners) were giving tips on growing vegetable plants at various locations. Everyone planted the seed at home and later the best “self-pulled fruit that looks good to bite” was chosen as “Miss Biss” and the winner received a prize.

*Photo credit: Plant with me - plant with net!*

Compositing can also contribute to protecting soil and improving soil properties. Organic waste (from cooking, dead leaves, branches and other organic waste from gardens and green spaces) can be used for mulching. Many organisations such as the Citizen Compost Network ([Réseau Compost Citoyen](#) – France)<sup>51</sup> and [Composting Association Ireland](#)<sup>52</sup> provide information and training to citizens on composting and involve them in various activities.

[Best4Soil](#)<sup>53</sup>, a network involving various stakeholders and **funded under the EU Research and innovation programme, Horizon 2020**, aims to maintain, improve or re-establish soil health by connecting growers, advisers, educators and researchers. The network promotes and disseminates ready-to-use knowledge about four practices related to the control of soil borne diseases: compost, green manure, anaerobic disinfestation, and (bio) solarization. A website with factsheets and open-access databases was created. Meetings and events for exchanging knowledge on soil health with practitioners were organized in 20 European

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<sup>51</sup> <https://reseaucompost.org/>

<sup>52</sup> <http://www.cre.ie/Home%20Composting/Home-composting5.html>

<sup>53</sup> <https://www.best4soil.eu/>

countries. [Links4Soil](#)<sup>54</sup>, a project supported by the **EU Interreg programme**, implemented similar activities but for the Alpine region.

Table 4 summarises the presented examples of soil restoration and preservation practices in rural areas.

Table 4. Soil protection/restoration practices in rural areas

Initiative	Mission Soil objectives	Organizer/ Stakeholder	Description
<a href="#">BÆNDUR GRÆÐA LANDIÐ (Farmers heal the land)</a> <sup>55</sup>	<ul style="list-style-type: none"> <li>• Prevent erosion.</li> <li>• Improve soil structure to enhance soil biodiversity.</li> </ul>	<a href="#">Landgræðslan</a> - The Soil Conservation Service of Iceland (SCSI)	The project is a collaborative initiative between Landgræðslan and landowners on land reclamation. It is a 'cost-share' programme in which 25% of Icelandic farmers participated. SCSI assisted farmers, landowners and land users to revegetate degraded land, halt erosion, cover land vegetation and reclaim land, making it usable again for agriculture or other uses. Numerous organizations and volunteers also participated in co-operative tasks. The project started in 2009 and until 2019 about 600 landowners took part in it.
Gorata <a href="http://www.gorata.bg">www.gorata.bg</a>	<ul style="list-style-type: none"> <li>• Reduce land degradation relating to desertification.</li> </ul>	Gorata Initiative, Bulgaria	The activities started in 2011 as a people-to-people initiative aiming to plant new forests and trees in Bulgaria. More than 1 650 000 trees have been planted throughout Bulgaria since 2013 when the first tree was planted. The initiative worked in partnership with the Ministry of Agriculture and Forestry, local authorities, schools and kindergartens.
<a href="#">Citizen Science project on soil health and soil awareness</a> <sup>56</sup>	<ul style="list-style-type: none"> <li>• Improve soil structure to enhance soil biodiversity.</li> </ul>	Helmholtz Centre for Environmental Research GmbH - UFZ, Germany	This project was implemented in the period 2019-2020 as part of Science Year 2020 Bioeconomy and entailed a country-wide citizen science campaign on soil health. The project aimed, with the help of simple field soil experiments to be performed by citizens, to collect up-to-date information about the soil condition and compile a database to be used to assess soil functions. The database was placed on a web portal with free access.

<sup>54</sup> <https://www.alpine-space.org/projects/links4soils/en/home>

<sup>55</sup> <https://land.is/heim/malaflokkar/baendur-graeda-landid/>

<sup>56</sup> <https://forschung-sachsen-anhalt.de/project/citizen-science-projekt-bodengesundheit-23954>

Initiative	Mission Soil objectives	Organizer/ Stakeholder	Description
<a href="#">Tous au Compost!</a> <sup>57</sup> <a href="#">Geocompost</a> <sup>58</sup>	<ul style="list-style-type: none"> <li>• Improve soil structure to enhance soil biodiversity.</li> <li>• Increase soil literacy in society.</li> </ul>	Réseau Compost Citoyen, France	<p>Tous au Compost! is an annual national event that promotes the practice of local composting of organic waste. The event involves professionals, communities, citizens, volunteers, and everyone that can inform, share experience, raise awareness or support local composting and biowaste management. The event encompasses exhibitions, conferences, site visits, training, etc.</p> <p>Geocompost is an initiative that involves citizens in mapping composting sites in France. Information is used to create and maintain a web-based tool that allows citizens to find shared composting sites near their homes to dispose and treat their biowaste.</p>
<a href="#">Best4Soil</a> <sup>59</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	DELPHY BV, the Netherlands (coordinator)	<p>Best4Soil was a network of practitioners for sharing knowledge on the prevention and reduction of soil borne diseases. It consisted of growers, advisers, educators and researchers from organisations of 20 countries in Europe (Austria, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, the Netherlands, Poland, Serbia, Slovakia, Spain, Switzerland and the United Kingdom). Best4Soil received funding from the European Union's <b>Horizon 2020</b> Programme. The project started in November 2018 and was completed in the beginning of 2022. The network provided open-access databases with information on the range of soil-related topics.</p>
<a href="#">Links4Soils</a> <sup>60</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	Agricultural Institute of Slovenia (AIS) (Lead partner)	<p>The project ran between 2016-2020. It aimed at overcoming soil-related knowledge gaps by facilitating sharing of Alps soil knowledge between users (managers, stakeholders) and experts, elaborating sectoral soil information, creating best-case practices and promoting soil management. The project resulted in the establishment of the Alpine Soil Partnership and Alpine Soil Platform. It was funded through the <b>EU Interreg programme</b>.</p>

Source: Desk research

<sup>57</sup> <https://tousaucompost.fr/>

<sup>58</sup> <https://lesactiveurs.org/geo-compost/>

<sup>59</sup> <https://www.best4soil.eu/>

<sup>60</sup> <https://www.alpine-space.org/projects/links4soils/en/home>; [https://alpinesoils.eu/wp-content/uploads/2020/11/28102020\\_Main-project-results.pdf](https://alpinesoils.eu/wp-content/uploads/2020/11/28102020_Main-project-results.pdf)

2.3. Soil restoration and protection practices in urban areas

Soil-related practices in urban areas most often deal with soil sealing, reuse of urban soils and soil restoration. Such initiatives can also promote sustainable land use and land management in urban space. These practices are often connected with other objectives, such as improving human health, fighting climate change, and biodiversity conservation.

Soil restoration practices generally represent rehabilitation of contaminated areas, where the land has been polluted by industrial or other human activities in cities, for example, the reclamation of several polluted sites in Baia Mare city in Romania supported under the [SPIRE project](#)<sup>61</sup>, an **EU Urban innovative action initiative** (see

Initiative	Mission Soil objectives	Organizer/ Stakeholder	Description
<a href="#">SPIRE - Smart Post-Industrial Regenerative Ecosystem project in Baia Mare City, Romania.</a>	<ul style="list-style-type: none"><li>• Reduce soil pollution and enhance restoration.</li><li>• No net soil sealing and increase the reuse of urban soils.</li><li>• Increase soil literacy in society.</li></ul>	Baia Mare Municipality, Romania	The SPIRE project was launched in September 2019 and ended in June 2022. It proposed sustainable land use action aimed at reclaiming several polluted sites. The project integrated nature-based solutions and phytoremediation strategies into urban design and city planning. The results achieved include: 7.15 hectares of contaminated land included in a phytoremediation and renaturing process; 250 youth beneficiaries and 3000 citizens involved; bio-based start-ups using biomass for innovative applications in the construction industry; 10 citizen-led eco-initiatives. To actively engage stakeholders and citizens, a SPIRE Local Action Network, the SPIRE Hub and maker space, and a digital platform were created. The project was supported by the <b>EU Urban Innovative Actions Initiative</b> , which supports pilot projects in the field of sustainable urban development.

below). These activities are usually initiated by national or local authorities. Researchers or citizens are involved through consultations.

Table 5. Soil restoration practices in urban areas

Initiative	Mission Soil objectives	Organizer/ Stakeholder	Description
<a href="#">SPIRE - Smart Post-Industrial Regenerative</a>	<ul style="list-style-type: none"><li>• Reduce soil pollution and</li></ul>	Baia Mare Municipality, Romania	The SPIRE project was launched in September 2019 and ended in June 2022. It proposed sustainable land use action aimed at reclaiming several polluted sites. The

<sup>61</sup> <https://www.uia-initiative.eu/en/news/urban-soil-decontamination-citizens-health>

Initiative	Mission Soil objectives	Organizer/ Stakeholder	Description
<a href="#">Ecosystem project in Baia Mare City, Romania</a> <sup>62</sup> .	<p>enhance restoration.</p> <ul style="list-style-type: none"> <li>• No net soil sealing and increase the reuse of urban soils.</li> <li>• Increase soil literacy in society.</li> </ul>		<p>project integrated nature-based solutions and phytoremediation strategies into urban design and city planning. The results achieved include: 7.15 hectares of contaminated land included in a phytoremediation and renaturing process; 250 youth beneficiaries and 3000 citizens involved; bio-based start-ups using biomass for innovative applications in the construction industry; 10 citizen-led eco-initiatives. To actively engage stakeholders and citizens, a SPIRE Local Action Network, the SPIRE Hub and maker space, and a digital platform were created. The project was supported by the <b>EU Urban Innovative Actions Initiative</b>, which supports pilot projects in the field of sustainable urban development.</p>

Source: Desk research

Text box 7 below describes an example of soil remediation action in industrially polluted urban areas in Finland, Sweden, Estonia and Latvia that aims to convert the areas into sustainable city districts.

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<sup>62</sup> <https://www.uia-initiative.eu/en/news/urban-soil-decontamination-citizens-health>

### Text box 7. Planning soil remediation in cooperation with stakeholders

[https://www.balticurbanlab.eu/sites/www.balticurbanlab.eu/files/materials/baltic\\_urban\\_lab\\_policy\\_brief\\_2\\_web.pdf](https://www.balticurbanlab.eu/sites/www.balticurbanlab.eu/files/materials/baltic_urban_lab_policy_brief_2_web.pdf)

#### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

No net soil sealing and increase the reuse of urban soils.

#### Where?

Finland, Sweden, Estonia and Latvia

#### When?

2017-2018

#### Who?

Baltic Urban Lab

#### What and how?

The initiative aimed at improving urban planning by developing and testing new models of integrated planning and Public-Private-People partnerships for the regeneration of four brownfield sites in Norrköping (Sweden), Tallinn (Estonia), Turku (Finland) and Riga (Latvia). Remediation aimed to clean the soil and help to revitalise the urban space. Smart, sustainable city districts with high-quality living and working environments were planned to be developed on the remediated sites. Funding was provided by the Baltic Urban Lab, **an EU co-funded cross-border cooperation project** that focused on urban planning in the Baltic Sea region. Local population, landowners, students and other stakeholders were consulted through various approaches such as cooperative forums, idea gathering, focus groups, free boat trips as part of public hearings, workshops, seminars, clean-up days, a students' competition for the best site development proposal, digital platforms and communication through social media.



Photo credit: Project website

Other initiatives in urban areas involving citizens deal with urban gardening. Some of them also improve local governance and encourage social and intercultural dialogue. The food grown in the communal gardens is often donated to charity organisations or local schools.

Another example of citizen engagement initiatives is [Urban gardening in Berlin](#) (Germany), started by citizens, and promoting increased use of urban soils for growing food and improving soil management.

Table 6. Soil protection practices in urban areas – urban gardening in Berlin

Initiative	Mission Soil objectives	Organizer/ Stakeholder	Description
<a href="#">Urban gardening in Berlin</a> <sup>63</sup>	<ul style="list-style-type: none"> <li>No net soil sealing and increase the reuse of urban soils.</li> <li>Increase soil literacy in society.</li> </ul>	Associations and volunteers, Germany	Environmentally-conscious citizens are growing high-quality organic fruit and vegetables on vacant plots, thereby creating an awareness of the way produce is sourced and how it could be grown in the city. Berlin's urban gardening projects are organised by several associations, initiatives and groups of volunteers.

Source: Desk research

<sup>63</sup> <https://www.visitberlin.de/en/urban-gardening-berlin>



Urban gardening is practised in other EU cities. Text box 8 below presents the [Resilient urban and peri-urban agriculture](#) project in Rome (Italy) that was fighting social exclusion and poverty and allowed for brownfield recovery.

**Text box 8. Resilient urban and peri-urban agriculture**  
<https://urbact.eu/resilient-urban-and-peri-urban-agriculture>

**Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:**

No net soil sealing and increase the reuse of urban soils; Improve soil structure to enhance soil biodiversity.

**Where:**

Rome, Italy

**When?**

2015-present

**Who?**

The City of Rome

**What and how?**

The aim of this participatory urban gardening project was two-fold: to fight social exclusion and poverty and to allow for brownfield recovery. Working with NGOs, citizens, disadvantaged people and minorities, the city used urban and suburban agriculture as a means to improve governance processes. Stakeholders like local NGOs and horticulture associations contributed to the set-up of the Regulation of Urban Gardens (City Council Resolution, July 2015) activating local representatives of such communities in a process of social and intercultural integration. At present, approximately 300 people are direct beneficiaries of parcels. Dozens of associations and many citizens were involved in the pilot projects, and awareness was raised among municipal staff and citizens. The project was funded by the EC under the URBACT programme.



*Photo credit: Project website*

[Collective school catering](#)<sup>64</sup> in Mouans-Sartoux, France delivered local organic food in schools. It led to the establishment of a local farm, and encouraged the emergence of many citizen initiatives like local grocery stores, community gardens, and local groups working on sustainable development actions. The municipality also created the [BIOCANTEENS](#)<sup>65</sup> network through which it transferred its practice to 6 other cities – LAG Pays des Condruses (Belgium), Vaslui (Romania), Trikala (Greece), Rosignano Marittimo (Italy), Torres Vedras (Portugal) and Troyan (Bulgaria), between 2018 and 2020. The initiative was supported by the [EU URBACT](#)<sup>66</sup> programme and is presented in the table below.

<sup>64</sup> <https://urbact.eu/collective-school-catering>

<sup>65</sup> <https://urbact.eu/biocanteens>

<sup>66</sup> <https://urbact.eu/>



Table 7. Soil protection practices in urban areas –municipal farms

Initiative	Mission Soil objectives	Organizer/ Stakeholder	Description
<a href="#">Collective school catering</a> <sup>67</sup> and <a href="#">BIOCANTEENS</a> network	<ul style="list-style-type: none"> <li>• No net soil sealing and increase the reuse of urban soils.</li> <li>• Increase soil literacy in society.</li> </ul>	Mouans-Sartoux Municipality, France	Since 1998, the city of Mouans-Sartoux has operated a municipal farm to grow vegetables for school canteens, thus meeting 85% of the needs of the three local schools. Many citizen initiatives have emerged, like local grocery stores and community gardens. Having developed this approach, Mouans-Sartoux is now working on local agri-food systems and education, as supported under the <b>EU URBACT Programme</b> .

Source: Desk research

An urban gardening initiative in Sofia (Bulgaria) that was originally started by enthusiastic citizens but has subsequently expanded to get Sofia Municipality and civil society organisations involved in the process is presented in Text box 9 below.

#### Text box 9. Urban Gardening - Sofia

<https://www.urbangardening-sofia.com/about/>

#### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

No net soil sealing and increase the reuse of urban soils; Improve soil structure to enhance soil biodiversity.

#### Where?

Sofia, Bulgaria

#### When?

2012 to date

#### Who?

Two enthusiastic citizens laid the basis for the maiden urban gardening initiative by setting up the first communal garden in a Sofia neighbourhood in 2012, which since then has greatly expanded and drawn more activists.

#### What and how?

The aim of the initiative is to promote urban gardening in the city. It strives to enhance food independence and healthy eating, while endeavouring to educate and create an active civil society that cares for soil and biodiversity. The initiative helped create and maintain shared communal gardens in the city. More and more citizens are now getting involved in planting and growing food in the four gardens in Sofia. The actions are coordinated with Sofia municipality/Sofia City Council authorities. An interactive [map](https://gis.sofiaplan.bg:3344/webappbuilder/apps/5/) (<https://gis.sofiaplan.bg:3344/webappbuilder/apps/5/>) indicates potential municipal land, suitable for urban gardening.



Photo credit: Urban Gardening - Sofia

<sup>67</sup> <https://urbact.eu/collective-school-catering>

### 3. Soil in schools

This chapter explores soil-related good practices of outreach and dissemination activities, awareness raising, knowledge communication and educational activities, which involve primary and secondary schools in EU MSs and ACs. Educating children about the importance of soil for sustaining life, producing food and providing ecosystem services contributes positively to soil awareness in society as well as protection and restoration of soils.

Educational activities related to soil in primary and secondary schools can be joint initiatives of governmental bodies (ministries or agencies) and other organisations such as the EC and FAO. Various local, regional, national and international NGOs or civil society organisations also cooperate with national or local authorities or initiate such practices themselves. For example, the **EC LIFE programme funded Soil4Life**<sup>68</sup> project has developed educational material<sup>69</sup>, delivered training for teachers and organised primary and secondary school soil contests<sup>70</sup>.

Private businesses can also be involved in such activities, for example, the Belgium [Skyfarms](#) project<sup>71</sup>. This initiative, apart from other urban gardening activities, teaches 7- to 9-year old pupils how to work the soil and grow fruit and vegetables while also making observations and learning about the animals that live in the soil.

Funding of soil-related activities in schools is provided by national and local government budgets, the EU, as well as NGOs and companies' own resources.

In this chapter soil education initiatives in primary and secondary schools are dealt with in three main sub-categories: (1) Soil education activities in schools: lectures and seminars, teaching material, theoretical training; (2) Practical activities related to soil: including school gardening, competitions, field days and experiments; and (3) Combined (educational and practical) soil-related initiatives in schools.

#### 3.1. Soil-related educational activities in schools

Educational activities related to soil health, protection and preservation that are directed at primary and secondary pupils most often comprise theoretical seminars, classes and trainings, educational and teaching materials, like books and comics, websites and online games and lessons.

[The Italian Soil Science Society](#)<sup>72</sup> has a number of soil-related resources that can be used for educational activities such as [“Living in the Soil”](#)<sup>73</sup> comic. Text box 10 below presents another comic story “Let’s go discover soil biodiversity”.

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<sup>68</sup> <https://soil4life.eu/>

<sup>69</sup> <https://www.youtube.com/watch?v=EDME6Q6WUU0>

<sup>70</sup> <https://soil4life.eu/contest-scuola/>

<sup>71</sup> <https://www-skyfarms->

<be.translate.google/en/business/? x tr sl=en& x tr tl=bq& x tr hl=bq& x tr pto=nui,op.sc>

<sup>72</sup> <https://scienzadelsuolo.org/download.php>

<sup>73</sup> <https://scienzadelsuolo.org/download.php>

### Text box 10. Comic Project “Let’s go discover soil biodiversity”

[https://www.secs.com.es/wp-content/uploads/2021/11/Let%C2%B4s-go-to-discover-soil-biodiversity\\_op.pdf](https://www.secs.com.es/wp-content/uploads/2021/11/Let%C2%B4s-go-to-discover-soil-biodiversity_op.pdf)

#### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

Increase soil literacy in society.

#### Where?

Italy, Spain

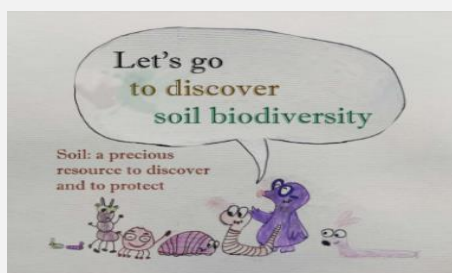
#### When?

2021

#### Who?

Children and teachers, as supported by IIAG-CSIC Spain, the Spanish Society of Soil Science, Nebrodi Regional Park, the Italian Society of Pedology, the Italian Society of Soil Science, and the European Society of Soil Conservation.

#### What and how?



During the children's contest “Living in the soil: The World Soil Day”, a group of 7 children and 3 teachers from the Comprehensive Institute in Capizzi-Cesarò (Sicily, Italy), made a hand-made booklet in comic format as a present for the President of the Biology Section of the Spanish Society of Soil Science, Monserrat Díaz-Raviña, who then suggested using it as a didactic source to spread soil knowledge for children of the same age, 10-12 years old, on an international level. The booklet was then translated into English.

*Photo credit: Comic Project “Let’s go discover soil biodiversity”*

Soil-related teaching materials aim to help teachers engage and educate pupils about soil properties, management, restoration and preservation. An example of this is the teachers' [booklet "We understand soil"](#)<sup>74</sup> produced by the Climate Alliance (Klimabündnis), Austria. The Austrian Federal Environment Agency offers training for teachers on the subject of soil<sup>75</sup>. The European Commission Joint Research Centre (JRC) has developed soil-related tests and games that can be used as teaching materials<sup>76</sup>. The EC publication [Farming: at the heart of our life. Teacher's resource pack](#)<sup>77</sup> is another example of teaching material that covers, among others, soil-related topics. Teaching materials on soil fertility, its services and threats that can destroy soil health have been developed by other organisations as well, for example, WWF's [Soil: the skin of the Earth](#)<sup>78</sup>.

<sup>74</sup> <https://www.bodenbuendnis.or.at/publikationen/lehrerinnenheft-wir-begreifen-boden>

<sup>75</sup> <https://www.umweltbundesamt.at/seminare-schulungen/boden-und-bildung/boden-lehrmaterial>

<sup>76</sup> [https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/soil-health-and-food\\_en#missions-identified](https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/soil-health-and-food_en#missions-identified)

<sup>77</sup> European Commission, Directorate-General for Agriculture and Rural Development, Farming : at the heart of our life : teacher's resource pack, Publications Office, 2016, <https://data.europa.eu/doi/10.2762/373009>

<sup>78</sup> <https://oneplanetschool.wwf.it/corsi/suolo-la-pelle-della-terra>

The Norwegian Centre for Organic Agriculture [NORSØK](https://www.norsok.no/en/about-norsok)<sup>79</sup> produces articles and factsheets with teaching tips to inspire school garden projects in Norway. The initiative “[Book a researcher](https://www.forskningsdagene.no/bestill-en-forsker/t-13146)” (see Text box 11 below) makes it possible for stakeholders, be they companies, clubs, etc., to ‘book’ researchers to learn more about their research and gain new knowledge. There is an online platform where one can choose from numerous researchers and invite them to a classroom or event to speak at. The initiative is part of the nationwide [Forskningsdagene](https://www.forskningsdagene.no/artikler/bestill-en-forsker/t-600)<sup>80</sup> (Research Days) festival, held annually. It encompasses many research and knowledge communication activities directed at all citizens, including students, for 12 days each autumn. The festival is under the auspices of the Research Council of Norway and various research- and knowledge-based institutions are welcomed to showcase their activities.

**Text box 11. NORSØK at “Book a researcher” initiative**  
<https://www.forskningsdagene.no/bestill-en-forsker/t-13146>


**Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:**  
Increase soil literacy in society.

**Where?**  
Norway - Upper Secondary Schools in Møre og Romsdal, mainly in Kristiansund, Molde and Tingvoll.

**When?**  
Annually in September/October; Last one: 22 September - 3 October 2021

**Who?**  
NORSØK at Forskningsdagene festival.

**What and how?**



In 2021 researchers from [NORSØK](https://www.norsok.no/en/about-norsok) took part in the Forskningsdagene festival and talked to pupils in high schools, educating them about soils. Before the end of the school year, an e-mail is sent out to the upper secondary schools in the surrounding area offering various lectures. The content of lectures is planned in advance, and the researchers decide what they want to talk about and the title of their lecture. The programme is then offered to high schools in the surrounding area. There has been a lot of positive feedback from both students and teachers.

*Photo credit: NORSØK*

The table below shows examples of educational platforms and websites, projects and good practices for soil education for schools.

<sup>79</sup> <https://www.norsok.no/en/about-norsok>  
<sup>80</sup> <https://www.forskningsdagene.no/artikler/bestill-en-forsker/t-600>

Table 8. Soil-related educational activities for outreach and knowledge dissemination in primary and secondary schools

Name	Mission Soil objectives	Organisation	Description
<a href="https://soil4life.eu/">Soil4Life</a> <sup>81</sup>	<ul style="list-style-type: none"> <li>• Reduce soil pollution and enhance restoration.</li> <li>• Increase soil literacy in society.</li> </ul>	Legambiente Onlus (Italy) coordinator, with partners from Italy, France and Croatia	Soil4Life is a project co-funded by the <b>EC through the Life programme</b> . The project was implemented in the period 2018-2022 with the aim of promoting sustainable soil management and land use. Various training, information and advocacy activities were implemented aimed at different target groups. Activities for schools comprised a specific training course for teachers, educational materials and a contest for primary and secondary schools.
<a href="#">We understand soil</a> <sup>82</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	Climate Alliance (Klimabündnis), Austria	This booklet was published in 2007 as a teaching aid in soil education for teachers. It covers various aspects of soil such as its properties, pollution and erosion, land use and soil sealing, and gives examples of and advice on conducting field experiments. The material is suitable for mid- to upper-level classes - 12- to 16-year old pupils.
<a href="#">Salty experiments with soil for children and guide for teachers</a> <sup>83</sup> <a href="#">The magical world of soil biodiversity</a> <sup>84</sup> and <a href="#">Soil experiments for children</a> <sup>85</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	FAO	<p>This is a booklet produced by FAO within the World Soil Day 2021 campaign. It compiles a number of experiments and information for children aged 6-11 years on soil salinization. There is also a guide for teachers.</p> <p>FAO's children's book is a collection of 10 stories for children from around the world and a booklet for teachers with soil experiments for children.</p>
<a href="#">Pedagogical and educational activities</a>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	The Federal Environment Agency, Austria	Several research institutes offer workshops for schools under the name " <a href="#">Boden macht Schule</a> " <sup>87</sup> . Experts of the Federal Environment Agency, within

<sup>81</sup> <https://soil4life.eu/>

<sup>82</sup> <https://www.bodenbuendnis.or.at/publikationen/lehrerinnenheft-wir-begreifen-boden>

<sup>83</sup> <https://www.fao.org/documents/card/en/c/cb7681en/>

<sup>84</sup> <https://www.fao.org/family-farming/detail/en/c/1396856/>

<sup>85</sup> <https://www.fao.org/3/i7957e/i7957e.pdf>

<sup>87</sup> <https://bfw.ac.at/rz/bfwcms.web?dok=9821>).

Name	Mission Soil objectives	Organisation	Description
<a href="#">towards soil awareness</a> <sup>86</sup>			the framework of international projects (CIRCUSE) and national cooperation (Austrian Soil Science Society), developed workshop scenarios and teaching materials about soil that could be used in the classroom: "Soil makes school" for pupils from third to ninth grade (9 to 16 years old) and "Environmental Effects of Land Use" for pupils in ninth grade and above (16 to 18 years old).
<a href="#">Farming: at the heart of our life: teacher's resource pack</a> <sup>88</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	EC, DG AGRI	This is a learning pack for teachers and schoolchildren aged 11-15 about farming which includes activities on soil sampling and sustainable land management. The teacher's pack contains a DVD, a USB key, worksheets and a map.
<a href="#">Soil: the skin of the Earth</a> <sup>89</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	WWF	This is a course of 11 lectures in Italian related to soil and presented by university professors. The lectures are accompanied by short video lessons.

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<sup>86</sup> <https://www.umweltbundesamt.at/seminare-schulungen/boden-und-bildung>

<sup>88</sup> European Commission, Directorate-General for Agriculture and Rural Development, Farming: at the heart of our life: teacher's resource pack, Publications Office, 2016, <https://data.europa.eu/doi/10.2762/373009>

<sup>89</sup> <https://oneplanetschool.wwf.it/corsi/suolo-la-pelle-della-terra>

### 3.2. Soil-related practical activities in schools

Practical activities that educate schoolchildren about soil properties, restoration and protection are diverse but the most widespread ones are plant and vegetable gardens in schools developed with the help of pupils (e.g. in Germany<sup>90</sup>, Italy<sup>91</sup>, Norway<sup>92</sup> and Portugal<sup>93</sup> – see Table 9). Often, the focus is not only on soil health but also on organic farming and healthy food.

Table 9. Soil-related practice activities -school gardens

Name	Mission Soil objectives	Organisation	Description
<a href="#">Organic Vegetable Garden</a> <sup>94</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	Ackerhelden machen Schule gGmbH, Germany	This is a non-profit educational project available to kindergartens and schools across Germany in the period 2013-2020. Its aim was to grow organic vegetables for and with children and teach them about good food, healthy diet and organic farming. Kindergartens and schools that would like to take part in the project could do this either in organic raised vegetable beds that were set up directly at the premises of the relevant school/kindergarten, or in one of the organic vegetable gardens located in 18 German cities. On site workshops and age-appropriate teaching materials were also provided.
<a href="#">L'Orto in Condotta Vegetable Garden in Condotta</a> <sup>95</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> <li>• Improve soil structure to enhance soil biodiversity.</li> <li>• No net soil sealing and increase the reuse of urban soils.</li> </ul>	Slow Food Education, Italy	In Italy, "Orto in Condotta" began in 2004, becoming the main tool for food and environmental education activities in schools nowadays. Students, teachers, parents, grandparents and local producers are the actors of the project, constituting the learning community for the transmission to the younger generations of knowledge related to the culture of food and environmental protection. "Orto in Condotta" provides training courses for teachers, food and taste education activities and environmental education for students and seminars for parents and grandparents and gardeners <sup>96</sup> . 495 Italian schools participate in the initiative.

<sup>90</sup> <https://www.ackerhelden.de/ams-english/>

<sup>91</sup> <https://www.slowfood.it/educazione/orto-in-condotta/>

<sup>92</sup> <https://www.norsok.no/en/projects/2020/school-garden>

<sup>93</sup> <https://agendagotsch.com/en/syntropic-school-garden-wins-2nd-place-in-a-national-sustainability-contest/>

<sup>94</sup> <https://www.ackerhelden.de/ams-english/>

<sup>95</sup> <https://www.slowfood.it/educazione/orto-in-condotta/>

<sup>96</sup> <https://www.slowfood.it/educazione/orto-in-condotta/la-rete-nazionale/>

Name	Mission Soil objectives	Organisation	Description
<a href="#">School Garden</a> <sup>97</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> <li>• Improve soil structure to enhance soil biodiversity.</li> </ul>	NORSØK (Norwegian Centre for organic agriculture), Norway	The school garden at NORSØK enables local primary school pupils to learn about how to sustainably grow food crops. NORSØK has maintained its school garden since 2020. The garden is used as an arena for teaching primary school pupils as well as for training teachers and pre-school staff. The students become acquainted with a diversity of crops, following many of them from seed to plate.
<a href="#">Syntropic school garden</a> <sup>98</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> <li>• Improve soil structure to enhance biodiversity.</li> </ul>	Santana de Cambas School (Mertola), Portugal	In 2019, the children from Santana de Cambas School created their syntropic garden. This garden is a living laboratory that stimulates observation of nature, where children can plant, take care, harvest and eat the result of their cultivation. More than 50 students have adopted the garden as their new space to play and learn at the same time.

Source: Desk research

There are also a lot of educational and fun art activities like the Lower Austrian soil protection campaign [SOIL art - Painting with the colours of the Earth](#)<sup>99</sup> that makes use of painting boxes “with the Colours of the Earth”, which are colour pigments obtained directly from the soil. As part of the campaign, numerous national and international projects have taken place, such as successful painting competitions with Czech, Hungarian and Romanian schools. Schoolchildren are also involved in soil studies and experiments as, for example, the [GrassLIFE](#)<sup>100</sup> project where children took part in the “Living soil” campaign - a type of citizen science action to study grasslands and soil and obtain data.

Pupils are actively involved in working with the soil by exploring it, planting vegetable gardens, but also in some soil restoration activities. The [Landvernd's Residential Recovery with Schools project](#)<sup>101</sup> is a good example of an educational initiative that actively engages primary and secondary school students in soil restoration, as presented in Text box 12 below.

<sup>97</sup> <https://www.norsok.no/en/projects/2020/school-garden>

<sup>98</sup> <https://agendagotsch.com/en/syntropic-school-garden-wins-2nd-place-in-a-national-sustainability-contest/>

<sup>99</sup> <http://www.soilart.eu/1-0-Home.htm>

<sup>100</sup> <https://grasslife.lv/living-soil-a-campaign-for-young-students/>

<sup>101</sup> <https://landvernd.is/graenfaninn/vistheimt-skolar/>



### Text box 12. Landvernd 's Residential Recovery with Schools project

<https://landvernd.is/graenfaninn/vistheimt-skolar/>

#### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

Increase soil literacy in society; Reduce soil pollution and enhance restoration.

#### Where?

Iceland

#### When?

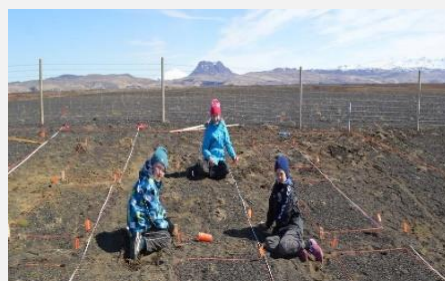
2020

#### Who?

Landvernd, in collaboration with Landgræðslan.

#### What and how?

The project focuses on primary and secondary school pupils' practical education about recovery of vegetation, soil, biodiversity and the fight against climate disasters. It was nominated for the Icelandic Education Award 2020. Students and teachers work with the best experts on experiments on micro-land, measurements of flora and fauna development and wetland restoration projects. The focus is on students who are encouraged to come up with their own ideas and implement constructive, positive and solution-oriented projects.



*Photo credit: Landvernd*

The table below highlights other practical activities (teabag experiments) that involve schoolchildren in soil learning initiatives.

Table 10. Soil-related practical activities for schoolchildren – teabag experiments

Name	Mission Soil objectives	Organisation	Description
<a href="https://teatime4schools.at/en/">TeaTime4 Schools</a> <sup>102</sup>	<ul style="list-style-type: none"><li>• Increase soil literacy in society.</li></ul>	Austrian Agency for Health and Food Safety (AGES); Open Science – Life Sciences in Dialogue and the HBLA for Viticulture and Pomology Klosterneuburg, Austria	This project was funded by Sparkling Science, a research programme of the Federal Ministry of Science, Research and Economy of Austria and run from September 2017 to the end of August 2019. Its aim was to raise awareness of the importance of soil and soil functions. Over 150 school classes conducted the Tea Bag Index (TBI) experiment, which measured the rate of organic matter decomposition with the help of tea bags. The data was submitted to the global TBI database. An educational TBI app was developed, comprising different hands-on methods of soil exploration.

<sup>102</sup> <https://teatime4schools.at/en/>

Name	Mission Soil objectives	Organisation	Description
<a href="#">Living soil</a> <sup>103</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	Institute for Environmental Solutions (Latvia)	The Institute for Environmental Solutions, partner in the <b>EU Funded GrassLIFE</b> project, engaged schoolchildren in a campaign which involved studying grasslands and soil. The campaign took place from May to September 2021. The schoolchildren were asked to weigh and bury a tea bag in the soil at the start of the summer. At the end of the summer the teabags were dug up to determine their degree of decomposition.

Source: Desk research

### 3.3. Combined (educational and practical) soil-related activities in schools

A third group of educational initiatives in schools on soil encompasses both theoretical education and practical activities. These comprise eco-schools and certification programmes for schools as well as summer school camps for students, covering broader environmental and sustainable development topics, including soil. Theoretical training amounts to lessons, presentations, books with instructions and exercises, while the practical part involves field days and trips to farms/museums/fields, workshops, experiments, and competitions.

The global [Eco-schools programme](#)<sup>104</sup> (see Text box 13) has set a good example of combined activity. It is one of the most widespread and successful initiatives of sustainable education in schools. Generally, more and more eco-school initiatives are emerging covering more than 70 countries globally. Their goal is to encourage sustainability and environmental preservation through various actions – competitions, educational activities, school gardens, water-saving techniques, waste management and recycling, and outdoor activities.

<sup>103</sup> <https://grasslife.lv/living-soil-a-campaign-for-young-students/>

<sup>104</sup> <https://www.ecoschools.global/>

### Text box 13. The eco-schools programme

<https://www.ecoschools.global/>

#### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

Increase soil literacy in society; Reduce soil pollution and enhance restoration; Improve soil structure to enhance soil biodiversity.

#### Where?

Global

#### When?

Since 1994-present

#### Who?

Foundation for environmental education (FEE)

#### What and how?



Photo credit: Eco-Schools

The aim is to encourage students, from pre-school to secondary school age, to actively care for and protect the environment. It begins with each individual student in the classroom, then it is transferred to the classroom and finally to the community at large. The programme offers the opportunity for schools to obtain 'The Green Flag'<sup>105</sup>. This is an international accreditation mark for schools which are committed to sustainability actions in education, buildings and surrounding areas. A school has to fulfil a set of requirements to acquire the Green Flag and then every two years there is a new accreditation procedure.

There are also other ecological school programmes at national level, for example the Ecologisation of Schools (ECOLOG/ÖKOLOG) programme in Austria and Dinja Waħda environmental education programme in Malta (see Table 11).

Table 11. Eco-school initiatives

Name	Mission Soil objectives	Organisation	Description
<a href="https://www.oekolog.at/">(ECOLOG/ÖKOLOG programme)<sup>106</sup></a>	<ul style="list-style-type: none"><li>• Increase soil literacy in society.</li></ul>	University of Klagenfurt in partnership with the Austrian Federal Ministry for Education	In more than 600 ÖKOLOG schools, teachers, students and pupils learn and work together on sustainable ecological and social development topics, including soil. For example, in 2016-2017, 600 pupils developed and implemented the project “Garden of diversity” in their schools. The programme is based on a participatory approach and offers the opportunity for winning the ÖKOLOG Award for outstanding pre-scientific work.

<sup>105</sup> <https://eco-schools.nl/en/about-eco-schools/the-green-flag>

<sup>106</sup> <https://www.oekolog.at/>

Name	Mission Soil objectives	Organisation	Description
<a href="#">Dinja Wahda</a> <sup>107</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	Birdlife, Malta	Dinja Wahda is a flagship environmental education programme in schools. The programme has been in place since 1994 and implemented in collaboration with the Malta's Education Directorate. Spanning across formal education from kindergarten, primary and secondary schools, Dinja Wahda connects classroom learning with outdoor education. For instance, students of Blata l-Bajda school created a garden <sup>108</sup> where they do various activities. The programme also offers teacher training. It is funded by the Bank of Valetta.

Source: Desk research

Project-related summer school initiatives have been also implemented, e.g. the [Links4Soils Summer School](#)<sup>109</sup>, which took place in Pokljuka, Slovenia in 2019 (see Text box 14).

#### Text box 14. Links4Soils Summer School POKLJUKA 2019

<https://alpinesoils.eu/portfolio/summer-school-pokljuka-2019-summary/>

#### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

Increase soil literacy in society.

#### Where?

Pokljuka, Slovenia

#### When?

2019

#### Who?

Lead partner: [Agricultural Institute of Slovenia](#)<sup>110</sup>; Alpine Soil Partnership.

#### What and how?



A summer school was held under the Links4Soils project of the Alpine Soil Partnership. The programme included lectures and field days where children dug out a soil profile and described its properties with their mentors. Workshops and recreational activities like hiking and competitions were organised. Lectures were given by some of the best soil experts with interesting topics, for example *Why soil matters* by Dr. Borut Vrščaj, *Mountain Soils* by Dr. Michele Freppaz and *Key soil properties* by Dr. Silvia Stanchi. The project was financed by the **European Interreg programme**.

Photo credit: Links4Soils Summer School 2019

<sup>107</sup> <https://birdlifemalta.org/environmental-education/schools/dinja-wahda-gardens/>

<sup>108</sup> [https://birdlifemalta.org/wp-content/uploads/2017/03/Id-Dakra-1\\_Blata-l-Bajda-Dinja-Wahda-magazine.pdf](https://birdlifemalta.org/wp-content/uploads/2017/03/Id-Dakra-1_Blata-l-Bajda-Dinja-Wahda-magazine.pdf)

<sup>109</sup> <https://alpinesoils.eu/portfolio/summer-school-pokljuka-2019-summary/>

<sup>110</sup> [http://www.kis.si/en/Research\\_and\\_projects\\_2](http://www.kis.si/en/Research_and_projects_2)

## 4. Soil-related art products and communication materials

### 4.1. Video materials including short films, movies and documentaries

Soil-related movies, short videos and documentaries that were reviewed cover topics such as soil health restoration, soil carbon sequestration, videos about soil health related initiatives, documentaries about organic farming and forestry.

A particularly good example of a popular documentary is the full length (1h and 24m) film “[Kiss the ground](#)”<sup>111</sup> developed by the Kiss the ground movement of grassroot stakeholders in the United States that promotes regenerative agriculture. The film was widely recognised as an inspiring message that regenerating the world’s soils could stabilise the Earth’s climate, restore lost ecosystems and create abundant food supplies. The film was streamed in 2020 and since then has received more than 25 awards worldwide.

Documentaries usually present scientific opinion and tell important, often unknown stories and bring awareness to a wider audience, for example the short documentary [Experience Soil \(Boden erLeben\)](#)<sup>112</sup> (Austria) presented in the table below.

Table 12. A Soil-related documentary – Experience soil

Name	Mission Soil objectives	Producer	Description
<a href="#">Experience Soil (Boden erLeben)</a> <sup>113</sup> - short film	<ul style="list-style-type: none"><li>• Increase soil literacy in society.</li></ul>	Environmental department of the state of Upper Austria.	A short documentary (19 minutes) produced in 2018 by Prospera Medienproduktion GmbH on behalf of the Environmental department of the state of Upper Austria. The film shows how fascinating our soil is: from fantastic insights to the exciting world of soil organisms to the importance of soil for the environment and people.

Source: Desk research

Some video materials aim to educate about soil and its services such as [The Living Skin of Planet Earth – GEODERMA](#)<sup>114</sup> presented in Text box 15 below. This is a short documentary featuring the soil biologist Ladislav Miko, who talks about soil characteristics and functions in an easy to understand way suitable for anyone interested in the topic. The documentary shows the uniqueness of soils and raises awareness of the importance of soil for all life on earth.

<sup>111</sup> <https://kisstheground.com/about-us/>

<sup>112</sup> <https://www.youtube.com/watch?v=-GnjMGd1Nbs>

<sup>113</sup> <https://www.youtube.com/watch?v=-GnjMGd1Nbs>

<sup>114</sup> <https://www.youtube.com/watch?v=IC1Dem7cbHI>

### Text box 15. The Living Skin of Planet Earth - Geoderma

<https://www.youtube.com/watch?v=IC1Dem7cbHI>

#### Relevance to the objectives of the EU Mission “A Soil Deal for Europe“:

Increase soil literacy in society.

#### Where:

Czech Republic

#### When?

2017

#### Who?

*SkyFilms, Director:* Ladislav Miko, Ivan Střiteský; *Script:* Ladislav Miko; *Photographer:* Ota Blahoušek, Petr Juračka, Ladislav Miko, Bohuslav Pacholík, Ivan Střiteský.

#### What and how?

Soil supports life on Earth and people cannot exist on this planet without it. What do we know about soil? And how do we deal with this knowledge? How do people care for our planet's skin? Soil biologist and the host of the documentary Ladislav Miko answers these questions. The film is a short documentary (26 minutes), describing the nature, functions and importance of soil for all living organisms.

The documentary features numerous photos of soils, forests, landscapes and the environment in general, but there are also parts which show in-close shooting of the living organisms in soils – worms, bugs, fungi and even microorganisms shown under a microscope. Miko is often shot in a forest or on a field, exploring the soil and showing and explaining its characteristics, functions and diversity.



*Photo credit: The Living Skin of Planet Earth – Geoderma documentary*

Producers of movies on soil can be associations, governmental bodies, international organisations and private companies as well as individual citizens who, for instance, participate in a film festival or just share their views and experience on an issue related to soil in a video format.

An example of this is a short (10 minutes) movie called [Livet på Handnesgården](#)<sup>115</sup> (see Text box 16) about Organic Farming in North Norway, produced by Antonius Vladislavius who spent 6 weeks on a self-sufficient organic farm in North Norway and then shared his experience in this short film.

The target audience depends on the type of movie/video and is generally represented by people visiting film festivals, citizens, other scientists (research and knowledge exchange), businesses and the farmer sector (for introduction of new technologies).

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<sup>115</sup> <https://www.youtube.com/watch?v=fDwO26RstT0>

#### Text box 16. Livet på Handnesgården

<https://www.youtube.com/watch?v=fDwO26RstT0>

#### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

Reduce soil pollution and enhance restoration; Improve soil structure to enhance soil biodiversity

#### Where?

Norway

#### When?

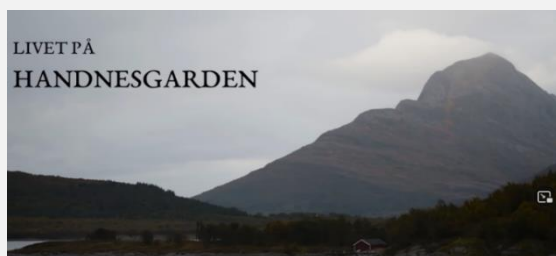
2018

#### Who?

Antonius Vladislavius

#### What and how?

The film is a story about an organic farm close to the North Pole, as told by the 57-year-old husband of the farm owner. The main message is that organic farming is not old-fashioned: on the contrary - this is a method of sustained and self-sufficient farming that cares for the future, the planet's resources and reasonable use of local resources. It teaches farmers how to avoid implementing policies that may eventually result in the depletion of resources elsewhere in world.



*Photo credit: Livet på Handnesgården*

The films and videos have an educational value and/or promotional character of good practices and initiatives, but in some cases, the goal is to discredit a widespread belief about the advantages of a certain soil-related practice, as exemplified by the movie presented in Text box 17 below.

#### Text box 17. More of Everything

<https://www.moreofeverything-film.com/>

#### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

Improve soil structure to enhance soil biodiversity; Increase soil literacy across society

#### Where?

Sweden

#### When?

2018

#### Who?

Protect the Forest, Sweden & Greenpeace Nordic, Sweden

#### What and how?



How we manage the world's forests is central to maintaining soil and biodiversity, protecting ecosystem functions and preserving the climate. Can we really say that a planted monoculture of pine or spruce in straight lines is a forest? Halting the destruction and fragmentation of natural forests and maintaining forest soil and biodiversity is vital to life on the planet.

*Photo credit: More of Everything*

Films and videos can be used as an educational material and as an awareness raising tool among society in general. Other examples of soil-related movies, videos and documentaries are presented in the table below.



Table 13. Soil-related movies, videos and documentaries

Name	Mission Soil objectives	Producer	Description
<a href="#">Soil is a living organism</a> <sup>116</sup> – short film	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	Planet Health Cure (PHC), Netherlands	A short video about the nature of soil and how to restore soil health. It was produced in 2017 by Plant Health Cure (PHC) – a small informal organization working towards soil preservation and sustainability.
<a href="#">Iceland Is Growing New Forests for the First Time in 1,000 Years</a> <sup>117</sup> – short film showcase	<ul style="list-style-type: none"> <li>• Reduce land degradation relating to desertification.</li> <li>• Increase soil literacy in society.</li> </ul>	European Forest Genetic Resources Programme (EUFORGEN <sup>118</sup> ); National Geographic Iceland	The video was produced in 2018 and in about 5 minutes shows a case combating the consequences of deforestation in Iceland. Within a few centuries, almost all of the island's trees were slashed and burned to make room for farming. This rapid deforestation has resulted in massive soil erosion that puts the island at risk of desertification. With the help of forestry societies and forest farmers, Iceland's trees are slowly beginning to make a comeback.
<a href="#">Link4Soils</a> <sup>119</sup> – educational videos	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	The Alpine Soil Partnership (AlpSP)	On the Alpine Soil Platform and produced with the support of the <b>EU Interreg programme</b> , there have been uploaded numerous videos about the nature and biology of soils: how to use their full potential, how climate change affects soils, what is the importance of earthworms for soil health; connection between healthy soils and food and wood.
<a href="#">Salt-affected soils: discovering a missed reality</a> <sup>120</sup>	<ul style="list-style-type: none"> <li>• Reduce land degradation relating to desertification.</li> <li>• Increase soil literacy in society.</li> </ul>	FAO, Global Soil Partnership	A campaign video on soils produced by FAO in 2021 with the financial support of the <b>EC</b> , Switzerland and the Ministry of Finance of the Russian Federation. Soil salinization and sodification are recognized as being among the most important soil health problems globally.

Source: Desk research

<sup>116</sup> <https://www.youtube.com/watch?v=8ugaL6wsXME>

<sup>117</sup> <https://www.youtube.com/watch?v=pnRNdbqXu1I>

<sup>118</sup> <http://www.euforgen.org/>

<sup>119</sup> <https://alpinesoils.eu/videos/>

<sup>120</sup> <https://www.youtube.com/watch?v=kQcax3Rv4oA>



## 4.2. Festivals, agricultural fairs, art projects, exhibitions and competitions

Art activities connected to the topic of soil such as festivals, fairs, art projects, exhibitions and competitions are usually organised with the aim of showcasing what people do and produce in connection with soil – from posters, paintings and books to organically grown food and good practices of soil and land protection and management in the agricultural sector.

[Soil and Land Management Award](https://www.europeanlandowners.org/awards/soil-land-award)<sup>121</sup> (See text box 18 below) of the European Landowners Organization, rewards land use and soil management practices mitigating soil threats.

### Text box 18. Soil and Land Management Award

<https://www.europeanlandowners.org/awards/soil-land-award>

#### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

Reduce soil pollution and enhance restoration; Improve soil structure to enhance soil biodiversity

#### Where?

EU

#### When?

Since 2008

#### Who?

European Landowners Organization

#### What and how?

#### Land and Soil Management Award

About the Award



This award was launched in 2008 by the European Landowners' Organization (ELO), under the auspices of the European Commission (DG Environment and the Joint Research Centre) and in association with the University of Natural Resources and Life Sciences (BOKU) of Vienna, Syngenta International AG, as well as the Centre for Soil and Environmental Sciences of Ljubljana University. Since then, the award jury has selected outstanding achievements throughout the European Union in the field of sustainable soil and land management. The prize rewards new concepts of land and soil protection and their

implementation in land management and aims to enhance awareness about the importance of land and soil functions. Farmers, landowners, land managers, groups of farmers, on their own or in collaboration with research institutes, universities and/or private companies from all European countries can apply. 5.000 € is awarded to the winning project every year. The Jury can also award a Diploma of Recognition. The award is given to the winner at the Forum for the Future of Agriculture Gala Dinner.

FAO's competition and contest initiatives presented in the table below provide another example of soil-related promotional activities.

<sup>121</sup> <https://www.europeanlandowners.org/awards/soil-land-award>

Table 14. Soil-related competitions

Initiative	Mission Soil objectives	Organizer/ Stakeholder	Description
<a href="#">Agricultural country-wide competition</a> <sup>122</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	FAO, Ministry of Environment Protection and Agriculture of Georgia, Austrian Development Fund, and Agricultural Development Association, Georgia	A country-wide competition in Georgia was conducted in 2020-2021. It aimed to reach out to all age groups to generate new interest in and knowledge of agriculture. There were four categories – farmer, student, schoolchildren, practitioner – with the ten top performers (in online tests) from each category progressing to the final. The prizes included internship opportunities for students and schoolchildren, agricultural-supplies vouchers for farmers, and research grants for practitioners.
<a href="#">Video contest on Salt-affected Soils</a> <sup>123</sup>	<ul style="list-style-type: none"> <li>• Improve soil structure to enhance soil biodiversity.</li> <li>• Increase soil literacy in society.</li> </ul>	FAO Global Soil Partnership	In the framework of the Global Symposium on Salt-Affected Soils (GSAS21), in October 2021 FAO Global Soil Partnership launched a Video Contest on Salt-Affected Soils. The purpose was to offer to participants the opportunity to share successful practices and technologies aimed at rehabilitation and sustainable management of saline and sodic soils.

Source: Desk research

The Belgium [Soilmates](#)<sup>124</sup> (see Text box 19) and international [Save Soil](#)<sup>125</sup> movements are examples of citizen networks and cooperation in the area of soil and art.

The [Save Soil](#)<sup>126</sup> movement was initiated and inspired by Sandhgugu – a yogi dedicated to raising human consciousness. The movement strives to bring together people from around the world in a joint effort to protect and revitalise soil.

Soilmates is an informal network that promotes sustainable food production with a focus on soil. It involves farmers, chefs and restaurant owners, soil scientist, artists and citizens (see Text box 19 below).

<sup>122</sup> <http://www.agroolimpiada.ge/en/page/Concept>

<sup>123</sup> <https://www.fao.org/events/global-symposium-on-salt-affected-soils/video-contest/en>

<sup>124</sup> <https://soilmates.be/>

<sup>125</sup> <https://www.consciousplanet.org/>

<sup>126</sup> <https://www.consciousplanet.org/>

### Text box 19. Soilmates

<https://soilmates.be/>

#### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

Increase soil literacy in society.

#### Where?

Belgium

#### When?

2020 - present

#### Who?

The movement was initiated by 4 soil lovers: restaurant owners Caroline Baerten and Nicolas Decloedt (Humus & Hortense), farmer Dries Delanote (Le Monde des Mille Couleurs) and artistic director Alexandra Swenden (Swenden Studio).

#### What and how?

Soilmates is a non-profit initiative engaging wild farmers and soil scientists, mindful chefs and conscious eaters, artists and earth-activists. The aim is to transform the way people think about culinary and art experiences by shifting the focus on fertile soils rather than on the chef or the artist. Raising awareness about the importance of soil and sustainable production and consumption is done through culinary experiences and artistic performances at events.



*Photo credit: Soilmates movement*

The SOIL BUS initiative (see Text box 20 below) of the University for Life Sciences and Natural Resources (BOKU, Austria) aimed to bring soil knowledge to the people. It started as a pilot project and since 2013 the bus has travelled to several locations in Austria. The trips were planned based on requests. The topics could be tailored to the needs of the participants (e.g., farmers, winemakers, forest workers, schools, kindergartens or other educational institutions). When the BOKU-Mobil visited a community, all citizens, irrespective of their age were invited to attend. The experiments were easily understandable and presented in an exciting way.

### Text box 20. SOIL BUS

<https://boku.ac.at/humusplattform/boku-mobil>

#### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

Increase soil literacy in society.

#### Where?

Austria

#### When?

2013-2018

#### Who?

University for Life Sciences and Natural Resources (BOKU)

#### What and how?



In the period 2013-2018, the BOKU Mobil travelled around the country with a team of researchers and students in order to communicate the latest scientific findings in plain and understandable language and establish a connection to practice and daily life, as based on experiments and on-site investigations while taking into account and responding to the practical concerns of the participants. The aim of this initiative was to bring soil knowledge to the people.

*Photo credit: Soil Bus*

Campaigns and demonstrations aim to increase awareness of soil-related issues, such as clean organic food production and consumption, and engage more people in caring for the soil and hence, the environment and society, in general. An interesting and innovative example is [the Soil Selfie Campaign 2020](https://www.nessling.fi/soil-at-risk/2020/11/18/post-a-soilselfie/)<sup>127</sup> (see Text box 21) which motivated people to talk about their relationship with soil and raised awareness of the importance of soil in an interactive and modern way by using selfies and hashtags.

#### **Text box 21. Soil Selfie Campaign**

<https://www.nessling.fi/soil-at-risk/2020/11/18/post-a-soilselfie/>

#### **Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:**

Increase soil literacy in society.

#### **Where?**

Finland

#### **When?**

2020

#### **Who?**

Baltic Sea Action Group, Helsinki Designmuseum, Maj and Tor Nessling Foundation Forum for Environmental Information

#### **What and how?**

The initiatives aimed to raise public awareness of soil issues and the importance of soil in sustaining life. The participants were encouraged to talk about their relationship with soil by taking a picture with soil and posting a #SoilSelfie and share a message in to celebrate the World Soil Day 2020.



*Photo credit: Soil Selfie Campaign*

Some of the initiatives have a broader scope – nature conservation, environment protection or organic farming, where soil is very often a focal point of discussions. Some of them have already been established as a tradition and now take place on a regular basis, while others are sporadic events held on specific occasions.

The organizers comprise NGOs, governmental institutions (mostly the Environmental Ministry, Environmental Protection Agency, Agriculture Ministry and National Agricultural Agency of a given country), municipalities (e.g. the municipality of Žabljak which hosts the [Montenegro Film Fest](https://greenmontenegro.me/en/)<sup>128</sup>) international organizations (e.g. FAO), the EU and various European organizations for agriculture (e.g. [European Landowners Organisations](https://www.europeanlandowners.org/)<sup>129</sup>). Such festivals, fairs, projects and competitions are funded by the EU or other funds (e.g., the Austrian Development Fund), municipalities and governments, or environmental organisations, as well as private funds (e.g. [Soilmates](https://soilmates.be/)<sup>130</sup>). Participants vary depending on the type of activity - farmers, NGOs and non-for-profit organizations, filmmakers, artists, writers, schoolchildren, etc..

<sup>127</sup> <https://www.nessling.fi/soil-at-risk/2020/11/18/post-a-soilselfie/>

<sup>128</sup> <https://greenmontenegro.me/en/>

<sup>129</sup> <https://www.europeanlandowners.org/>

<sup>130</sup> <https://soilmates.be/>

Other examples of art activities related to soil are presented in the table below.

Table 15. Soil-related art initiatives

Initiative	Mission Soil objectives	Stakeholder/ Organizer	Description
<a href="#">The poetic soils</a> <sup>131</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	Olafur Arnalds, Iceland	In 2017, Olafur Arnalds contributed to the book “Dialogues on Soil and Art in the Anthropocene” (A. Toland, JS Noller and G Wessolek eds) by writing a poem about soil genesis.
<a href="#">Soil Procession</a> <sup>132</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	Flatbread Society, Norway	On 13 June 2015, a procession of farmers carried soil from their farms through the city of Oslo to Losæter. The Soil Procession was a ground building ceremony that used the soil collected from over 50 Norwegian farms, to build the foundation of the Flatbread Society Grain Field and Bakehouse. A procession of soil and people through Oslo drew attention to this historical, symbolic moment of the transition of a piece of land into a permanent stage for art and action related to food production.

Source: Desk research

### 4.3. Information and communication materials

Soil-related information and communication materials range from data bases and data hubs ([Soil Data Hub](#)<sup>133</sup> – see Text box 22 below) and interactive soil maps ([Soil Revealed](#)<sup>134</sup>, [Open Soil Atlas](#)<sup>135</sup>, [Soil Atlas of Europe – ESDAC](#)<sup>136</sup>, [Irish Soil Information System and Map](#)<sup>137</sup>) to books and booklets, reports, comics, leaflets and presentations.

<sup>131</sup> <https://www.moldin.net/soil-poems.html>

<sup>132</sup> <http://flatbreadsociety.net/actions/29/soil-procession>

<sup>133</sup> <https://data.isric.org/geonetwork/srv/eng/catalog.search#/home>

<sup>134</sup> <https://soilsrevealed.org/>

<sup>135</sup> <https://actionproject.eu/citizen-science-pilots/open-soil-atlas/>

<sup>136</sup> <https://esdac.jrc.ec.europa.eu/content/soil-atlas-europe>

<sup>137</sup> <https://www.teagasc.ie/environment/soil/irish-soil-information-system/>

## Text box 22. Soil Data Hub

<https://data.isric.org/geonetwork/srv/eng/catalog.search#/home>

### Relevance to the objectives of the EU Mission “A Soil Deal for Europe”:

Increase soil literacy in society.

#### Where?

International (Netherlands)

#### When?

1989

#### Who?

International Soil Reference and Information Centre (ISRIC)

#### What and how?

A soil data hub stores data sets on soil that could be searched and downloaded. The World soil database has been compiled by ISRIC in collaboration with its partners for over 50 years. The data base stores data on soils and their properties all over the Globe. The data sets include soil specimens, country documentation, as well as a range of geo-referenced databases. They can be used to underpin a wide range of studies.

*Photo credit: ISRIC”*

Most information and communication materials are developed by environmental NGOs, soil scientists and academic experts, citizen organizations, not-for-profit (international) associations. It is very common that a multiple-actor approach is undertaken in creating such materials that are the result of a close collaboration between, for instance, NGOs, farmer organizations, government institutions, research institutes and academia.

The EU and [FAO](https://www.fao.org/soils-portal/en/)<sup>138</sup> are also frequently actively involved in the production or dissemination of soil and art materials, leaflets, reports, maps, videos and the organization of events like competitions and campaigns. Examples of their contribution include the [World Soil Day](https://www.fao.org/world-soil-day/en/)<sup>139</sup> and the related [map](https://www.fao.org/world-soil-day/worldwide-events/en/)<sup>140</sup> with World Soil Day events around the world, the [Global assessment of soil pollution report](https://www.fao.org/documents/card/en/c/cb4894en)<sup>141</sup> produced by FAO and United Nations Environment Programme (UNEP), and congress events with workshops organised by the [European Network on Soil Awareness](https://esdac.jrc.ec.europa.eu/networkcooperations/european-network-soil-awareness)<sup>142</sup>.

The materials are disseminated via social media, published on the websites of organizations and projects, and newsletters are sent in order to reach people and interested stakeholders.

<sup>138</sup> <https://www.fao.org/soils-portal/en/>

<sup>139</sup> <https://www.fao.org/world-soil-day/en/>

<sup>140</sup> <https://www.fao.org/world-soil-day/worldwide-events/en/>

<sup>141</sup> <https://www.fao.org/documents/card/en/c/cb4894en>

<sup>142</sup> <https://esdac.jrc.ec.europa.eu/networkcooperations/european-network-soil-awareness>

In case the material in question is an article for example, it is published in a journal, or on open repositories.

Citizens usually act as consumers, readers, and/or contributors to soil-related communication and awareness raising materials and their development (e.g. the [SoilBook project](#)<sup>143</sup> and the [Open Soil Atlas](#)<sup>144</sup>). The table below presents some examples of information and communication materials on soil.

Table 16. Information and communication materials on soil

Initiative	Mission Soil objectives	Publisher	Description
<a href="#">Irish Soil Information System and Map</a> <sup>145</sup>	<ul style="list-style-type: none"> <li>• Reduce soil pollution and enhance restoration.</li> <li>• Improve soil structure to enhance soil biodiversity.</li> </ul>	Teagasc – the Agriculture and Food Development Authority, Ireland	The Irish Soil Information System project (2008-2015) developed a national soil map for Ireland at a scale of 1:250 000 together with an associated digital soil information system, providing both spatial and quantitative information on soil types and properties across the country. Both the map and the information system are freely available to the public.
<a href="#">Open Soil Atlas</a> <sup>146</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	Forschungsverbund Berlin e.V. (FVB) Germany	In 2019-2020 in Berlin, a website was created to educate citizens on soil quality and fertility and empower them to improve soil quality. Through workshops citizens were taught how to make observations, test soil, interpret results and draw conclusions. Citizens' observations of soil quality data resulted in high-resolution soil quality map. Open Soil Atlas's virtual co-learning Centre provided easily accessible knowledge to allow citizen, scientists and gardeners to understand the quality of soil and implement remediation techniques - engaging them in a co-learning and knowledge sharing process, building community and citizen engagement. The initiative was part of the <b>EU Horizon 2020 ACTION</b> project.
<a href="#">The Soil Book</a> <sup>147</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	<a href="#">TB Unterfrauner GmbH</a> <sup>148</sup> , Austria	The Soil Book is an interactive tool to instil awareness not only of soil types but also of their endangered status. Different soil profiles and soil-insights from 8 countries

<sup>143</sup> <https://www.soilbook.info/>

<sup>144</sup> <https://actionproject.eu/citizen-science-pilots/open-soil-atlas/>

<sup>145</sup> <https://www.teagasc.ie/environment/soil/irish-soil-information-system/>

<sup>146</sup> <https://actionproject.eu/citizen-science-pilots/open-soil-atlas/>

<sup>147</sup> <https://www.soilbook.info/?lang=en>

<sup>148</sup> <https://www.bodenoekologie.com/en/>

Initiative	Mission Soil objectives	Publisher	Description
			around the world can be viewed in spectacular 3D images.
<a href="#">Soil Atlas of Europe – ESDAC</a> <sup>149</sup>	<ul style="list-style-type: none"> <li>• Improve soil structure to enhance soil biodiversity.</li> <li>• Increase soil literacy in society</li> </ul>	EC JRC – European Soil Data Centre (ESDC)	A Soil Atlas of Europe was published in 2005 by the <b>European Commission JRC-ESDC</b> . A geographic soil database of Europe at a scale of 1:1 000 000 was created. Various maps were created, including specific ones to illustrate particular threats such as soil erosion, organic matter decline, and soil sealing by housing and infrastructure. In addition to the maps, an introduction highlighting the role and importance of soil and how soil is created is included. Soil mapping and classification are explained together with an illustrative and informative guide to the major soil types of Europe. The publication is intended for the public, aiming to 'bridge the gap' between soil science and popular knowledge.
<a href="#">Guide to soil protection</a> <sup>150</sup>	<ul style="list-style-type: none"> <li>• Reduce soil pollution and enhance restoration.</li> </ul>	Klimabündnis Österreich/Climate Alliance, Austria	The "Soil Protection" chapter is part of the "Climate Protection in Municipalities" guide published in 2016 by the Austrian Climate Alliance on behalf of the Federal Ministry for Agriculture and Forestry, Environment and Water Management.
<a href="#">Soils Revealed</a> <sup>151</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	The Nature Conservancy, Cornell University, ISRIC, Woodwell Climate Research Centre	Interactive soil map by Soils Revealed - a platform for visualizing how past and future management changes soil organic carbon stocks globally. The platform provides a novel and dynamic way of displaying and comparing areas with the greatest potential to increase soil organic carbon and advance food security, soil health and climate action.
<a href="#">Global assessment of soil pollution report</a> 2021 <sup>152</sup>	<ul style="list-style-type: none"> <li>• Increase soil literacy in society.</li> </ul>	FAO and United Nations Environment Programme (UNEP)	The report was produced in 2021 and provides information for policy-makers and other stakeholders, including citizens, about the state of pollution of global soils.

Source: Desk research

<sup>149</sup> <https://esdac.jrc.ec.europa.eu/content/soil-atlas-europe>

<sup>150</sup> [https://www.klimabuendnis.at/images/doku/3\\_kbu\\_lf\\_bodenschutz.pdf](https://www.klimabuendnis.at/images/doku/3_kbu_lf_bodenschutz.pdf)

<sup>151</sup> <https://soilsrevealed.org/>

<sup>152</sup> <https://www.fao.org/documents/card/en/c/cb4894en>



## 5. Conclusions

Various types of initiatives and activities related to soil have been or are currently implemented in EU MSs and Horizon Europe ACs. **The initiatives dealt with in this report are in line with the EU Mission “A Soil Deal for Europe”** and can contribute to achieving its objectives. Many activities support the increase of soil literacy in society while others focus on specific challenges such as land degradation and desertification, soil erosion and pollution. A significant number of initiatives are targeted at the implementation of sustainable agricultural practices that preserve and improve soil fertility while increasing soil organic carbon stocks and enhancing soil biodiversity. Urban gardening is one of the most popular soil-related practices in urban areas. Tree planting activities initiated by citizen organisations and NGOs and biowaste composting are implemented in both rural and urban areas.

**Citizen involvement in initiatives varies.** In some projects citizens are consulted through surveys, focus groups, on-line platforms, social media, or other communication channels. Some initiatives involve citizens in various activities such as training, citizen science experiments, soil protection and restoration practices. There are also examples of actions initiated by citizens as urban gardening and tree planting, informal networks and movements, production of videos and art materials.

The topic of **soil is introduced to schoolchildren** in the form of lessons, practical exercises, and competitions mostly through project-related initiatives of national or local authorities, NGOs, civil society organisations, soil science societies and partnerships, international organizations, and research institutions. Soil as a topic is covered more extensively in educational programmes of environmentally oriented schools such as eco-schools. The most popular practical activities related to soil that involve pupils are school gardens.

There is a **variety of art products and communication materials dedicated to soil** such as video materials and movies, books, reports, leaflets, maps and data hubs. Festivals, art fairs and other types of art performances related to soil aim to raise awareness and educate on the topic. Some of these activities are initiated and implemented by citizen and civil society organisations.

Awareness of soil issues is a **key enabling factor** ensuring an active position and involvement of interested parties in topics related to soil health and food. Availability of funding is another important enabling factor for the implementation of soil-related activities and projects. **EC programmes, such as the Horizon 2020 Programme (and currently Horizon Europe), LIFE, and the funding available through EAFRD, Interreg, URBACT and Urban Innovative Actions are among the key sources of funding that support soil-related initiatives in Europe.** International funding from the EEA and Norway Grants, UNEP and FAO, is also available. National and local funding usually comes from governmental agencies and local government budgets. Other sources of funding include various public and private foundations that support research and education and environmental protection. Businesses, usually those operating in the area agriculture, can also be involved and financially support activities aimed at improving soil health.

## Annex 1. Sources of information

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18. Webpages of programmes, projects and initiatives

19. [Cordis database](#)
20. [FAO webpage](#)
21. [The Alpine Soil Partnership webpage](#)
22. [European Network on Soil Awareness](#)
23. [European Network for Rural Development](#)
24. [ISRIC – World Soil Information](#)

## Interviews conducted

Organisation	Country	Date of the interview
Alpine Soils Platform	Austria	8/11/2021
Urban Gardening Sofia	Bulgaria	15/11/2021
Federal Office for the Environment	Switzerland	9/12/2021
European Society for Soil Conservation	Italy	10/01/2022
Soil Science Society of the Czech Republic	Czech Republic	12/01/2022
NORSØK	Norway	14/01/2022
Ökoregion Kaindorf Association	Austria	18/01/2022
Soil Service of Belgium (BDB)	Belgium	20/01/2022
Soil Science Society of Lithuania	Lithuania	21/01/2022
Soil Science Society of Latvia	Latvia	1/02/2022

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The report highlights examples of soil-related activities and initiatives launched by, co-developed with or targeted at citizens across Europe. Global initiatives that have been found to be of particular relevance or a source of inspiration for good practices are also presented in this report.

The study aims to inspire citizen engagement initiatives in the protection and restoration of soils. It was developed in the context of the implementation of the Horizon Europe Mission “A Soil Deal for Europe” (Mission Soil).

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