

SUMMARY

Soil degradation is a major EU and global challenge. Many of the Sustainable Development Goals (SDGs) put forward in the UN Agenda 2030 refer to land and soil either directly (SDG 2, 3, 15) or indirectly (SDG 6, 11, 13, 14). The European Commission has stressed its intention to mainstream SDGs into EU policies and recognises the need for a concrete, long-term strategy in order to progress.

SoilCare investigates and promotes the use of Soil-Improving Cropping Systems (SICS) to improve soil quality for positive effects on sustainability and profitability. SICS are a holistic approach to soil management, consisting of long crop rotations and an 'integrated' combination of inputs and management techniques. Here we present how SICS contribute to SDGs and the need for their concrete monitoring and long-term planning.



Mulch and direct drilling



Landscape mosaics

POLICY OPTIONS








Political leadership is needed to operationalise a transition into sustainable land management, inclusive of SDGs. The following options can help provide a policy-led transition:

- **Clearly define a methodology for monitoring the SDGs - coordinate a standard approach**
- **Incorporate guidelines and quantitative targets at Member State level to reduce soil degradation**
- **Promote regionally-specific good practice via SICS with long-term vision**
- **Enable transitions to holistic SICS methods for all farmers through policy support**

SICS
address soil
health threats
and contribute to
SDGs through a
holistic approach
to farming



This table shows how each soil threat and its recommended SICS type can contribute to the SDGs shown along the top of the table.

	<div>2</div> <div>ZERO HUNGER</div> <div></div>	<div>3</div> <div>GOOD HEALTH AND WELL-BEING</div> <div></div>	<div>6</div> <div>CLEAN WATER AND SANITATION</div> <div></div>	<div>11</div> <div>SUSTAINABLE CITIES AND COMMUNITIES</div> <div></div>	<div>13</div> <div>CLIMATE ACTION</div> <div></div>	<div>14</div> <div>LIFE BELOW WATER</div> <div></div>	<div>15</div> <div>LIFE ON LAND</div> <div></div>
SOIL THREATS	SICS TYPE						
Erosion (wind and water)	Zero-tillage, landscape management, Contour traffic						
Decline in organic matter	Minimum tillage, Residue return, Mulching Manuring						
Compaction	Controlled traffic Low wheel load, low tyre pressures						
Decline in biodiversity	Minimum tillage, residue return, No pesticides, Minimal fertilizer						
Floods and landslides	Drainage Landscape management						
Local and diffuse contamination	No use of polluted inputs Trees to scavenge air-born pollution						
Salinisation	Drainage Targeted irrigation Ridging						
Acidification	Liming, manuring						
Desertification	Landscape management						

How do SICS contribute to SDGs?

Soil threats across Europe have been mapped by the SoilCare project. This gives a good basis for Member States to understand the issues that need to be addressed, which will subsequently help move towards achieving the relevant SDGs, as overleaf. The table illustrates that adopting SICS can contribute to achieving multiple SDGs.

Through assessing farms on a local scale and whole landscapes on a regional scale, the most suitable SICS can be identified for implementation. SICS allow practitioners and other stakeholders to consider multiple management techniques for multiple benefits.

For example: reducing tillage and trafficking, growing multi-species cover crops, introducing trees, reducing fertilisers and other chemicals for pests and weeds can help to reduce the physical pressure on soils thus reducing compaction, increase nutrients and organic matter to improve soil health, protect soils through plant cover from wind and rain erosion and reduce the negative effects of chemicals on biodiversity. Therefore SICS contribute to improving conditions for life on land, below water, aiding clean waterbodies for human consumption and to sustainable food production and consumption (i.e. SDGs 2, 3, 6, 11, 13-15).

Using multi-stakeholder groups of policy-makers, researchers and community groups whilst empowering farmers to take the lead can help to foster these good agricultural practices. Farmers can be empowered through support and advice in transitioning to new methods. In order to track the progression of soil threat reduction, baselines need to be measured and then monitored on farm as SICS are put into practice. Equally, the progression of SDGs will need to be tracked through wider monitoring across the landscape and society.



Farmer & stakeholder empowerment

Soil threat:

Organic matter decline

SICS example

Reduced tillage & residue management

SDGs positively affected:

2, 3, 13-15

How can SICS be implemented through EU policy?

Currently, few Member States have dedicated land or soil policies or strategies to adopt SDGs. Exceptions are Portugal who are addressing this issue through national law and Italy having committed to Land Degradation Neutrality. In order to see how best SICS can be implemented through EU policy frameworks, see our policy brief on 'Soil health policies for CAP and Agri-environment Directives':

<https://www.soilcare-project.eu/en/resources/policy-briefs>

For more detail on SICS and SDGs see the European Commission report '**Providing support in relation to the implementation of soil and land related Sustainable Development Goals at EU level**' here: https://ec.europa.eu/environment/soil/index_en.htm



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