

Opinion of the European Economic and Social Committee on the 'Land use for sustainable food production and ecosystem services'

(exploratory opinion at the request of the Estonian Presidency)

(2018/C 081/10)

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1. Conclusions and recommendations

1.1. A joint EU reference framework would be of decisive importance for the sustainable use and protection of agricultural soil with a view to monitoring progress in data collection and use; it could also be used to define good soil status and lay down uniform terminology and harmonised criteria for monitoring, as well as for defining priorities and the various policy measures for achieving good soil status.

1.2. In all Member States, the loss of agricultural land due to soil degradation, the abandonment of land, climate change and urbanisation poses a serious problem. The EESC therefore proposes that the existing EU framework be updated in order to protect agricultural land in the Member States that is valuable for food production and the provision of other ecosystem services, and to preserve its fertility, and at the same time to improve monitoring and make reliable information available.

1.3. As owners and users of agricultural land, farmers have a special role in the provision of ecosystem services, which must be recognised and supported. The soil provides the most important ecosystem services. Soils are the basis for the major part of global food production and are necessary for the production of biomass. Soil stores carbon and thus contributes to climate change mitigation.

1.4. The aim of modernising the CAP should be, inter alia, to continue protecting the health and fertility of farmland and soil, which is essential for maintaining and further improving the productivity and sustainability of agriculture.

1.5. In accordance with the climate agreements, existing and new initiatives should be promoted to bring the carbon cycle of soils into balance, in a manner that does not threaten food production. In order to increase the carbon content of the soil, the EESC proposes that the principles of sustainable soil management should be incorporated into EU policy measures. Support should be given to the production of biomass by improving access to water and other soil factors (soil

structure and aeration, availability of nutrients, pH value, biological activity of soil), careful tillage, pasture farming and sustainable management of grassland, integrated agricultural production, including best practices from organic and conventional farming, i.e. crop rotation, the cultivation of leguminous crops, the recovery of organic waste, composting and creating winter plant cover for fields, etc. Carbon-rich soils and grasslands must be managed in a sustainable way in order to promote carbon sequestration by soil and plants.

1.6. The Member States should also be encouraged and motivated, in the framework of the second pillar of the CAP, to adopt appropriate soil protection measures.

1.7. Additional investments in environment- and climate-friendly technologies and land improvement systems must be supported with a view to sustainable land and soil use.

1.8. Knowledge-based agriculture (i.e. precision agriculture and agro-ecological approaches) should be encouraged. The potential of resource-, soil- and environment-friendly precision farming develops through the integration of soil, fertiliser, pesticide, weather and yield data, which requires, inter alia, better access to usable data contained in national databases, greater mobility and greater user-friendliness, on the understanding that farmers are the owners of the data generated. The precondition for this is internet access and the use of information and communication technologies by farmers.

1.9. Increased use should be made of soil data in land-use policy-shaping and decision-making. At the same time, the quality and availability of soil data needs to be improved, especially in areas where not enough research has so far been carried out. Uniform monitoring of soil must be agreed at EU level.

1.10. Awareness of the importance of soil must be raised at all levels of the education system. To this end, use should be made of modern teaching resources and the subject of soil should be incorporated into the curricula of the various levels of education.

1.11. Measures to provide farmers with information on soil and good farming practices also have an important role to play. To this end, the involvement of advisory services is particularly important.

2. Introduction

2.1. This EESC opinion is being drawn up at the request of the Estonian presidency and aims to emphasise the crucial importance of sustainable land ⁽¹⁾ and soil ⁽²⁾ use for food production and the delivery of ecosystem services.

2.2. At the request of the Estonian presidency, the Committee will look at how the issue of agricultural land is dealt with in the various EU policy areas. It will also consider what can be done by policy-makers and businesses in the EU to promote sustainable and effective use of soil, a resource that is essential for food production and the provision of other ecosystem services.

2.3. There are at present numerous soil protection rules at EU level. Although the various EU policies contribute to the protection and sustainable management of agricultural land, soil protection is mostly not their main objective. The EESC believes that now is an appropriate time to begin the debate on how different measures could be better coordinated at EU level.

⁽¹⁾ 'Land' means the part of the earth's surface that is not covered by water.

⁽²⁾ Soil can be defined as the topmost layer of the Earth's crust, being made up of mineral particles, organic substances, water, air and living organisms. It is the interface between earth, air and water and the habitat of most of the biosphere (<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52006DC0231>).

2.4. Both the EU and the Member States must base their policy-making on the UN's Sustainable Development Goals for the period up to 2030 ⁽³⁾. These goals include promoting ecosystems, combating desertification, halting and reversing land degradation, sustainably managing natural resources and using them efficiently, and integrating climate change measures into national policies, strategies and planning. A precondition for sustainable agriculture and food production is the protection of agricultural land, as well as the sustainable use of soils, which are a finite and in principle non-renewable resource.

2.5. In addition, a number of initiatives ⁽⁴⁾ have been launched to promote sustainable soil management and to raise awareness of the important role of farmland for food security and climate change mitigation.

2.6. The EESC also draws attention to the planetary boundary concept. This could be used for establishing environmental limits, which must not be exceeded if damage to the environment is to be avoided. The Committee notes that three of the nine boundaries (climate change, biodiversity loss and the nitrogen cycle) have already been exceeded ⁽⁵⁾. At the same time the Committee acknowledges that global food security is also an urgent challenge that Europe has to consider as part of its global responsibility.

3. The main land- and soil-use issues in relation to agricultural production

3.1. Global demand for food will rise in the coming decades. In some regions of the world agricultural land will therefore have to be farmed even more intensively, which could have negative effects on soils and the wider environment, if land use is not subject to environmental principles. In order to ensure an adequate supply of food, the productivity of available land must be maintained and fertility must be preserved in biological, chemical and physical terms.

3.2. The EESC's opinion on More sustainable food systems ⁽⁶⁾ describes the consequences of unsuitable farming practices in food production: loss of biodiversity, soil degradation, water and air pollution and greenhouse gas emissions. It must therefore be ensured that these resources are used efficiently and sustainably in order to safeguard food supplies. This must also be part of a comprehensive food policy, as set out in the EESC opinion on Civil society's contribution to the development of a comprehensive food policy in the EU, currently being drafted.

3.3. Climate change also has consequences for the availability of basic natural resources — water and soil. Although a number of measures have been taken against climate change, the carbon content of the soil is falling year by year, based on top soil data. Additional information on the deeper layers would, however, reflect the trend more realistically.

3.4. In its report entitled *The European environment — state and outlook 2015* ⁽⁷⁾, the European Environment Agency (EEA) warns that soil ecosystem services — including food production, protection of biodiversity, and the storing of carbon, water and nutrients in soil — are increasingly under threat. Depending on the region, the main problems identified in the report are soil erosion, loss of organic matter in soil, soil contamination and sealing, as well as urbanisation, land abandonment and the consequences of increasingly intensive agricultural production for natural and semi-natural habitats. Declining soil fertility is also among the generally acknowledged threats to soil.

⁽³⁾ <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

⁽⁴⁾ These initiatives include, for example, the International Decade of Soils, the Global Soil Partnership of the United Nations' Food and Agriculture Organization (FAO), the French initiative 4 %: Soils for Food Security and Climate Protection, the European Citizens' Initiative 'People4Soil', etc.

⁽⁵⁾ J. Rockström, et al., 2009, 'Planetary Boundaries: Exploring the Safe Operating Space for Humanity, Ecology and Society', Vol. 14, <https://www.consecol.org/vol14/iss2/art32/main.html>

⁽⁶⁾ OJ C 303, 19.8.2016, p. 64.

⁽⁷⁾ <https://www.eea.europa.eu/soer>

4. Agricultural land issues in various EU policy areas

4.1. A report drawn up for the European Commission analysed the soil protection measures of the 28 EU Member States⁽⁸⁾. The analysis identified 35 EU and 671 national soil protection policy measures. The EU measures include strategy documents, directives, regulations and various accompanying measures. Three quarters of the national measures are primarily binding rules.

4.2. The variety of measures in the Member States is an opportunity to better address soil in its complexity, but also for improved coordination. EU law offers some valuable and strict rules on soil protection, but the system has some weaknesses. National policies are not enough to close the gaps in EU soil protection law and the rules differ significantly from country to country.

4.3. The 7th Environmental Action Programme, in force since the beginning of 2014, recognises soil degradation as a serious problem and sets the 2020 target for the EU of achieving sustainable soil management and adequate soil protection and making progress on the rehabilitation of contaminated land. The EU and its Member States have also committed to stepping up measures against soil erosion and improving soil organic matter.

4.4. The following EU measures, among others, may be considered as relevant to soil protection and as relatively effective: the Industrial Emissions Directive (IED), the Environmental Liability Directive (ELD), and the rules on water protection (Water Framework Directive (WFD), Nitrates Directive (NiD), cross-compliance system of the CAP and Good Agricultural and Environmental Conditions (GAEC)). Implementation of the measures could be made more effective, however, with a view to improving the soil situation, if account were taken of local conditions in a flexible way and the measures were better coordinated.

4.5. Soil protection issues could also be addressed by use of various kinds of financial support available via the Cohesion Fund, the European Regional Development Fund, Life + and the Horizon 2020 programme.

4.6. Direct payments under the first pillar of the CAP, which cover around 90 % of utilised agricultural land in the EU, are an important economic incentive for decisions on the use and management of land by farmers. Direct payments are strictly linked to the maintenance of agricultural land in good agricultural and environmental condition and to cross-compliance and greening requirements under the basic CAP regulations. Member States have a degree of flexibility in their decision-making. 30 % of direct payments are subject to environmental requirements which aim to improve soil quality, protect biodiversity and promote carbon fixation⁽⁹⁾. It is important to ensure that the benefits of greening are not negated by excess red tape when implementing the measure.

4.7. The rural development programmes also offer Member States, under the second pillar of the CAP, opportunities for implementing EU soil protection measures, adapted to local conditions in each Member State.

4.8. A number of planned legislative initiatives (such as the Climate and Energy Package, the Regulation on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry (LULUCF), the Effort Sharing Regulation (ESR) etc.) could also offer suggestions for soil protection and climate change mitigation and adaptation.

4.9. The modernisation of the EU fertilisers regulation — being discussed in connection with the Circular Economy Package — which will ensure that organic and waste-based fertilisers can be used more easily, is also highly relevant to soil protection issues. The recycled material to be used as soil amendment or fertilizers should not, however, contain hazardous substances (xenobiotics). Although the Commission proposal sets limit values for concentrations of pollutants in mineral or

⁽⁸⁾ Updated Inventory and Assessment of Soil Protection Policy Instruments in EU Member States <http://ecologic.eu/14567>

⁽⁹⁾ https://ec.europa.eu/agriculture/direct-support/greening_en

organic fertiliser, there is still a need for new, clean technical solutions for producing fertilisers and soil improvers that pose no problems for land use, without affecting primary productivity. In its opinion the EESC welcomes the Commission's initiative, pointing out that soil fertility and protection are key objectives for the review of the Regulation ⁽¹⁰⁾.

5. Proposals to promote sustainable use of soils as essential resource for food production and the delivery of ecosystem services in the European Union

5.1. A joint EU reference framework would be of decisive importance for the sustainable use and protection of agricultural soil with a view to monitoring progress in data collection and use; it could also be used to define uniform terminology and good soil status and to establish priorities, monitoring criteria that take account of different soil and climate conditions and various policy measures for achieving good soil status. This is a prerequisite for appropriately assessing soil conditions and taking the necessary measures.

5.2. In all Member States, the loss of agricultural land due to soil degradation, the abandonment of land, climate change and urbanisation poses a serious problem. Agricultural areas are disappearing in favour of the development of artificial surfaces. Between 2006 and 2012, the annual land take in the European countries was approximately 107 000 ha/year. The types of land most frequently taken for artificial development were arable land and permanent cropland, followed by pastures and mixed agricultural areas ⁽¹¹⁾. The EESC therefore proposes that the existing EU framework be updated in order to protect agricultural land in the Member States that is valuable for food production and the provision of other ecosystem services, and preserve its fertility. To this end, more technical means should be established, in order to facilitate better monitoring and provide reliable information.

The European Union's Common Agricultural Policy

5.3. With a view to the modernisation of the CAP, efficient and sustainable management of agricultural land should be ensured in the coming financial programming period. The aim should be, inter alia, to continue protecting the health and fertility of farmland and soil, which is essential for maintaining and further improving the productivity and sustainability of agriculture.

5.4. In the framework of the greening measures of the first pillar of the CAP, better solutions should be found to improve the state of soils. First and foremost, crop rotation using leguminous or grass species should be promoted. The discussions on the effectiveness of greening focus mainly on biodiversity issues, but the positive impact of the cultivation of leguminous crops on soil fertility should be given greater weight than hitherto ⁽¹²⁾.

5.5. Agriculture does not only produce high-quality food. It is also responsible for maintaining biodiversity and open landscapes. It also plays an important role in climate change adaptation and mitigation. The provision of public goods is primarily ensured by measures for the sustainable management of natural resources that add value and address the impact of agriculture on soil, water and biodiversity.

5.6. The Member States should be encouraged and motivated, in the framework of the second pillar of the CAP, to adopt soil protection measures, which would allow them maximum flexibility to take account of local circumstances, different conditions (including soil types) and specific problems.

5.7. The EESC calls on the European Commission to take greater account of the specific proposals of the Member States for improving the quality of soil and using it sustainably (for example through promoting liming to combat soil acidification, or irrigation and drainage to combat water scarcity or excess water content). When managing organic soils, no management option should be excluded, but a range of measures should be provided for soil protection and care.

⁽¹⁰⁾ EESC Opinion on Fertilisers (OJ C 389, 21.10.2016, p. 80).

⁽¹¹⁾ <https://www.eea.europa.eu/data-and-maps/indicators/land-take-2/assessment-1>

⁽¹²⁾ Rhizobia, bacteria that are active in the root nodules of many species of leguminous crop (clover, melilot, lupines, peas, beans, etc.), are the most important organisms involved in nitrogen fixing, which is of great importance for the maintenance of soil fertility.

5.8. Additional investments in environment- and climate-friendly technologies must be promoted with a view to sustainable land and soil use. In order to ensure sustainable food production, knowledge-based farming (including precision farming and agro-ecological approaches) should be promoted, thus ensuring that agricultural inputs are used in the right quantity, in the right place and at the right time. It is crucially important to improve biological activity by introducing organic material and achieving a balance of nutrients in the soil, as over-fertilisation poses environmental risks through nutrient run-off, while a shortage of nutrients reduces soil fertility. It is also necessary to ensure compliance with the law of the minimum⁽¹³⁾, because, if a specific nutrient (such as phosphorus) is missing, this increases the risk of run-off of the other nutrients.

5.9. Livestock farming plays an important and often crucial role in land use by supporting nutrient cycling and maintaining soil fertility⁽¹⁴⁾ and carbon sequestration. In the EU there is a great deal of agricultural land, including pasture, that is suitable only for livestock grazing and fodder grass production, so that in certain regions stock farming must continue to be encouraged so that farmers do not give up this land. The practice, which is widespread in some parts of the EU, of maintaining permanent grassland only by mowing offers no alternative to pasture farming, either with a view to food production or to resource efficiency or soils. Measures are therefore needed within the CAP ensuring the profitability of livestock farming in the various regions of the EU, and solutions must be found that permit active and sustainable land use for food production.

5.10. In some EU regions outdated agricultural drainage systems are a major problem; with a view to climate change, more emphasis than hitherto should therefore be placed on long-term investment in agricultural infrastructure, such as the modernisation of drainage systems, in order to maintain the use of agricultural land for food production and preserve soil fertility.

Land use and ecosystem services

5.11. The 2005 Millennium Ecosystem Assessment⁽¹⁵⁾ defines ecosystem services as the environmental, social and economic goods provided by ecosystems. Soil formation is an ecosystem service and a prerequisite for all other ecosystem services, such as food production. Sustainable food production is therefore inconceivable without soil protection.

5.12. Farmers play an essential role in the provision of ecosystem services, which must be recognised and supported. The soil provides the most important ecosystem services⁽¹⁶⁾. It is the life source for microbes, plants and animals and an important reservoir of biodiversity; it filters water and stores water needed for plant growth, it regulates flooding, stores nutrients and makes them available to plants; it is also able to transform toxins. Soils are the basis for the major part of global food production and are necessary for the production of biomass. Soil can store carbon and thus contribute to climate change mitigation.

5.13. Greater attention must be paid to land use, which influences the functioning of ecosystems and thus the delivery of ecosystem services. Soil degradation, unsustainable use of land and the fragmentation of habitats due to urbanisation and construction of houses and roads is jeopardising the provision of several key ecosystem services, threatening biodiversity and reducing Europe's resilience to climate change and natural disasters. They are also exacerbating soil degradation and desertification⁽¹⁷⁾. To remedy these problems, greater account should be taken of the principles set out by the European Commission's 2012 guidelines on best practice to limit, mitigate or compensate soil sealing⁽¹⁸⁾.

⁽¹³⁾ https://en.wikipedia.org/wiki/Liebig%27s_law_of_the_minimum

⁽¹⁴⁾ EESC opinion on More sustainable food systems (OJ C 303, 19.8.2016, p. 64).

⁽¹⁵⁾ <http://www.millenniumassessment.org/en/index.html>

⁽¹⁶⁾ http://www.iuss.org/index.php?article_id=588

⁽¹⁷⁾ <https://www.eea.europa.eu/soer-2015/synthesis/report/3-naturalcapital>

⁽¹⁸⁾ <http://ec.europa.eu/environment/soil/pdf/guidelines/EN%20-%20Sealing%20Guidelines.pdf>

5.14. The functions and ecosystem services of soil are subjects only rarely addressed in legislation, as there is no market for these services and they are insufficiently recognised by society. Thus, for example, there are some references in the CAP direct payments basic regulation to soil quality but no references to soil biodiversity and its synergies with primary productivity. Apart from its chemical and physical characteristics, the key functions of soil are determined by the state of the micro-organisms and fauna in soil and the biological processes based on them, including nitrogen fixing, carbon sequestration, water filtration, and the ability to prevent nutrient leakage. In addition to the properties of soil, crop health is also important in ensuring that the full potential of soil can be harnessed for food production and carbon sequestration.

5.15. In the EESC opinion on a possible reshaping of the CAP⁽¹⁹⁾, it is stated that environmental, climate change and biodiversity measures under CAP Pillar 2 could be targeted more than hitherto at the delivery of enhanced ecosystem services by farmers. With regard to soils and land use, support measures should primarily be focused on managing grassland and organic soils in such a way that carbon sequestration in soil is promoted. In the interest of soils, tillage should be reduced to a minimum, but because of nutrient accumulation on non-tilled soil surfaces, some tillage is needed to mix nutrients into the root zone and prevent the danger of nutrients being flushed out. Soil compaction also reduces soil's capacity to prevent nutrient loss.

5.16. In some regions of the EU, the conversion of arable land into grassland, the reduction of stocking density on grassland, while respecting a minimum livestock density, the maintenance of peat bogs and measures to limit soil erosion and reduce desertification in arid areas should be promoted.

5.17. In some regions, the greatest challenges facing agriculture are maintaining biodiversity on agricultural land, further promoting sustainable farming practices and increasing production efficiency without further intensifying farming. Other regions are faced with the main task of reducing the pressure on land use, soils and natural ecosystems. In the southern regions, water scarcity is also a major challenge.

5.18. These aspects of agricultural production, which are very important for the ecosystem, must be taken into account when shaping and re-shaping the Common Agricultural Policy and other policy areas.

Soil and climate change

5.19. As soil is the world's largest terrestrial carbon reservoir⁽²⁰⁾, it plays an important part in tackling climate change and in carbon sequestration. In the international climate protection framework, sustainable management of soils is assigned a key role in stabilising and increasing the content of organic materials that help to preserve soil functions and prevent soil degradation. In accordance with the Paris Climate Agreement (COP 21), existing and new initiatives should be promoted to bring the carbon cycle of soils into balance, in a manner that does not threaten food production, as stated in Article 2 of the Paris Climate Agreement.

5.20. In accordance with Principle 9 of the World Soil Charter⁽²¹⁾ of the Food and Agriculture Organization of the United Nations (FAO), all soils provide ecosystem services which are of crucial importance for global climate regulation. In order to increase the carbon content of the soil, the EESC proposes that the principles of the Voluntary Guidelines for Sustainable Soil Management⁽²²⁾ adopted in 2016 by the FAO be incorporated into EU policy measures. Support should be given, inter alia, to the production of biomass by improving access to water (e.g. construction of irrigation systems, taking account of local environmental conditions), reducing tillage to a minimum, pasture farming, integrated production, organic farming, crop rotation, the cultivation of leguminous crops, the recovery of organic waste, composting and creating winter plant cover for fields. Carbon-rich soils and grasslands must be managed in a sustainable way.

5.21. Major climate change initiatives need to be supported at European level. It should not be forgotten, however, that the situation of soils varies greatly between Member States, so that regional differences need to be taken into account in the context of existing and new measures.

⁽¹⁹⁾ OJ C 288, 31.8.2017, p. 10.

⁽²⁰⁾ Twice as much carbon is contained in soil as in the atmosphere, and three times as much as in flora during the growing season.

⁽²¹⁾ <http://www.fao.org/soils-2015/news/news-detail/en/c/293552/>

⁽²²⁾ <http://www.fao.org/documents/card/en/c/5544358d-f11f-4e9f-90ef-a37c3bf52db7/>

Availability of soil-related data and its use

5.22. Increased use should be made of soil data in land-use policy-shaping and decision-making in order to implement fact-based policies and for the purposes of land-use planning at national, regional and local level. Data sharing should be coordinated with due regard to data ownership within an agreed regulatory framework.

5.23. At the same time, the quality and availability of soil data need to be improved, especially in areas where not enough research has so far been carried out (for example soil carbon data). To improve data availability, we need clear short- and long-term goals.

5.24. In order to improve access to soil data and to promote its use, soil maps must be updated and the minimum requirements with which the Member States must comply with regard to the scale of soil maps must be further increased. However, account should be taken of the challenges of soil mapping in some regions of the European Union.

5.25. Uniform and permanent soil monitoring should be agreed at EU level, together with a limited number of indicators relating to changes in soil status and the effectiveness of soil protection measures.

5.26. Farmers have to take complex decisions concerning their production planning on a daily basis. Resource-, soil- and environment-friendly precision farming would be unthinkable without the use of information and communication technologies. Promotion of the use of digital solutions by farmers is a precondition for this, with options and flexibility according to pedo-climatic conditions.

5.27. The potential of precision farming can be realised through the integration of soil, fertiliser, pesticide, weather and yield data, which requires, inter alia, better access to data contained in national databases, greater mobility and greater user-friendliness. Solutions should be promoted that enable farmers to have access to big data stored in the national databases in the course of their daily work, using software solutions from public or private suppliers, also in cooperation with advisory services. Software suppliers must, for example, with the consent of those affected, be given easier access to the most accurate possible data on agricultural soils and soil samples. Farmers should keep ownership of the data they produce.

Developing the knowledge base and applying research and innovation

5.28. Science has an important role to play in the creation of new knowledge, the dissemination of innovations, the development of technologies and the establishment of the conditions for the sustainable use of land and soil. The EESC agrees with the recommendation of the Vienna Soil Declaration⁽²³⁾ that the 'relationships between human activities and soils and their effects on other components of the environment should be a major focus of soil science'. Collaboration between soil science and allied sciences is also important.

5.29. Relatively good financing opportunities for research into soil and food production have been created in the framework of the EU's Horizon 2020 programme, which should be retained when preparing the 9th Framework Programme for Research and Innovation.

5.30. Particular emphasis must be placed on the transfer of R & D results to companies, which would ensure that land and soils are used for sustainable food production. The EESC calls on scientists, farmers, advisers and other stakeholders to develop cooperation in this field, taking advantage of the possibilities offered by the European Innovation Partnership (EIP-AGRI).

⁽²³⁾ http://www.iuss.org/index.php?article_id=588

5.31. Agriculture is making increasing use of various biostimulants to improve soil structure, the nutritional efficiency of plants and the water supply in order to enhance crop yields and quality. Given that every soil is unique and that its composition is constantly changing, the impact of the use of biostimulants on the biological balance of the soil is under-researched, and more independent studies should be carried out in this area.

Awareness-raising

5.32. In order to raise the awareness of farmers, political decision-makers and other stakeholders of the importance of agricultural soils for sustainable food production and the provision of ecosystem services, a wide-ranging debate is needed, involving a broad range of stakeholders, on the state of soils and opportunities for soil protection. Greater awareness will help to ensure that more is invested in sustainable use of soils and in research.

5.33. Awareness of the role of soils must be raised at all levels of the education system, by promoting opportunities to gather practical experience. Modern teaching methods should be used when dealing with issues related to land use and soil protection.

5.34. Measures to raise farmers' awareness of different soil compositions, good land management, the importance of crop rotation, fertilisers etc. have a particularly important role to play. The participation and involvement of advisory services are crucial.

Brussels, 18 October 2017.

*The President
of the European Economic and Social Committee
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