

SOIL POLICY AND DEVELOPMENTS IN THE MANAGEMENT OF CONTAMINATED SITES IN EUROPE



Ana Paya Perez

*Institute for Environment and
Sustainability*

<http://ies.jrc.ec.europa.eu>

*Serving society
Stimulating innovation
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Outline presentation

- 1. European Policy and Soil Protection**
- 2. Management of Contaminated Sites in EU**
- 3. EU Funding of Research Projects**
- 4. International developments**

What is the Joint Research Centre?



The JRC is a Directorate General of the European Commission

European Council

European Parliament

European Commission
28 Commissioners

Commissioner (2014-2019)
Education, Culture, Youth and Sport
Tibor Navracsics



JRC Director General
Vladimir Sucha



DG
RESEARCH

DG
JRC

DG
ENVIRONMENT

OTHER
DGs

**Scientific and technical support to EU
policy development and implementation**

1. European Policy and Soil Protection

Why should we care about Soil protection at European level?

Major threats affecting soils in Europe



Soil sealing: some **1000 km² per year** = 270 ha/day are taken mainly from agriculture for urban and infrastructure development ... In 10 years an area of the size of Cyprus



Soil erosion: **1.3 million km²** in EU-27 estimated to be affected by soil erosion by water



Soil contamination: estimate of **3.5 M sites** potentially contaminated with **0.5 M sites** really contaminated (2006) – 4.5 M sites, Ernst & Young study (2013)



Landslides: Over 630,000 landslides currently registered in national databases. Estimated affected surface areas are: 7% Italian territory, 5% Slovakian territory, 1% Portuguese territory

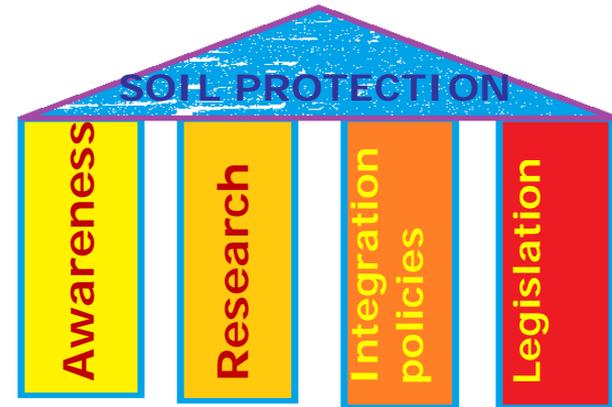
The Soil Thematic Strategy

Overall objective is the protection of **soil functions** and **sustainable use** of soil, based on the following guiding principles:

Prevention of soil degradation

Restoration of degraded soils

Sets out the **four pillars** of EU soil policy



↓ **7 years**

REFIT Communication COM(2013) 685, 2.10.2013

Withdrawal of a proposal for a Soil Framework Directive

The Commission remains committed to the objective of the protection of soil and will examine options on how to best achieve this. Any further initiative in this respect will however have to be considered by the next college.



EU legislation with relevance for soil contamination

- **Polluter pays:** Environmental Liability Directive (2004/35/EC) defining “land damage”, which is any land contamination that creates a significant risk of human health. Aims at ensuring the rehabilitation of the environment.
- **Waste:** EU Waste Framework Directive (2008/98/EC) addresses the prevention of pollution from waste and defines any contaminated materials, substances or products resulting from remedial action with respect to land as waste
- **Water:**
 - EU Water Framework Directive (2000/60/EC) requires a program of measures, including measures to address land contamination that causes water pollution
 - EU Groundwater Directive (2002/118/EC) aims to prevent or limit pollutants, including pollutants from historical contamination of land, into groundwater



EU legislation with relevance for soil contamination (2)

- **Emissions:** The EU Integrated Pollution Prevention and Control Directive (2008/1/EC) requires the permitting of new or existing industrial and agricultural activities with a high pollution potential – replaced by the Industrial Emissions Directive (IED)



Industrial Emissions Directive

- IED - 2010/75/EU - to be transposed nationally by 2013.
- Covering around 52,000 industrial and agricultural installations with a high pollution potential, from refineries to pig farms.
- Major changes as far as soil is concerned:
 - Introduction of periodic monitoring of soil (and groundwater)
 - Establishment of a **baseline report** prior to operating the installation/first update of permit
 - Obligation to remediate the site to its original state upon closure of the installation (**no-degradation approach**)
- EC published guidance document for baseline report (as requested by Article 22 of the directive)

WHAT NEXT?

The Soil Framework Directive was withdrawn but...
Commission is still committed to achieve soil protection:

- ***The Soil Thematic Strategy is still alive***
- ***Resource Efficiency Roadmap*** « by 2020 EU policies take into account their direct and indirect impact on land use in the EU and globally... with the aim to achieve no net land take by 2050; soil erosion is reduced and the soil organic matter is increased, with **remedial work on contaminated sites well underway** »
- *The Commission is further developing the scientific knowledge-base (...) leading to a Communication on land use (in 2016).*
- ***7th EAP provisions on land and soil protection (2014-2020)***
- ***Rio+20 Outcome Document 'The Future We Want' (2013)***
EU will strive to achieve a land degradation neutral world in the context of sustainable development.

General Union Environment Action Programme (7th EAP) to 2020 'Living well, within the limits of our planet'



Priority objective 1:

To protect, conserve and enhance the Union's natural capital

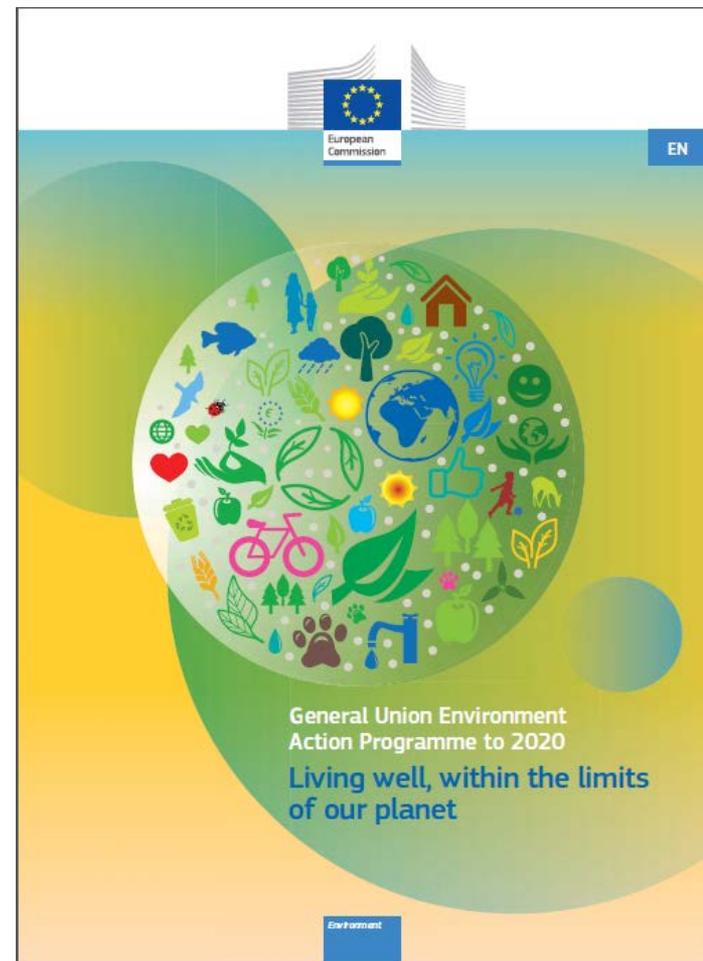


25. To reduce the most significant man-made pressures on land, soil and other ecosystems in Europe...



28. ... , the 7th EAP shall ensure that by 2020 (...) (e) land is managed sustainably in the Union, soil is adequately protected and the remediation of contaminated sites is well underway

From November 2013 until 2020



Steps for a new initiative

- ***Meeting of the Director General of DG ENV with the Directors General of Environment in September 2014 – gap analysis of soil legislations and policies needed***
- ***A study on soil legislations and policy instruments will be launched in 2015 for knowledge update (IA done in 2006)***
 - *For soil contamination regulatory context analysed in details (Ernst & Young study, 2013)*
 - *Feed-back required from EIONET WG*
- ***Need to improve knowledge e.g. on soil biodiversity, soil contamination etc.***
- ***Lessons learnt exercise***
- ***Network to be rebuilt – objective of EIONET***
- ***Dialogue with stakeholders – using existing platforms***

2. Management of Contaminated Sites in EU



Progress in the management of **Contaminated Sites** in Europe

Marc van Liedekerke, Gundula Prokop,
Sabine Rabl-Berger, Mark Kibblewhite,
Geertrui Louwaghe

2014

Science for Environment Policy

IN-DEPTH REPORT

Soil Contamination: Impacts on Human Health

September 2013
Issue 5



Environment

Key policy questions addressed

PQ1 What is the estimated extent of soil contamination?

PQ2 How much progress is being achieved in the management and control of local soil contamination?

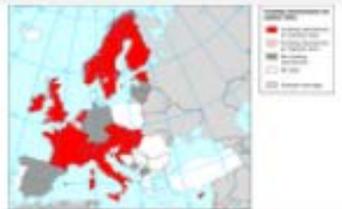
PQ3 Which sectors contribute most to soil contamination?

PQ4 Which are the main contaminants affecting soil and groundwater in and around contaminated sites?

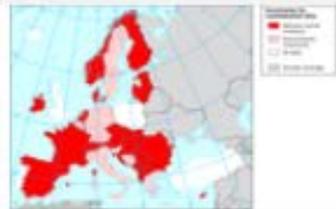
Indicators of contaminated sites in EU



The European
Pollutant Release and



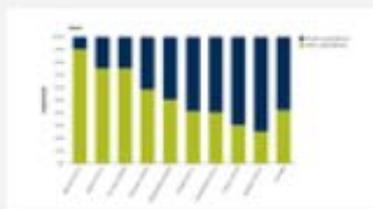
Funding mechanisms
for orphan sites



Inventories for
contaminated sites



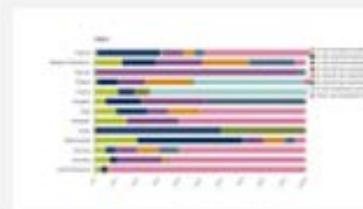
Progress per
management step



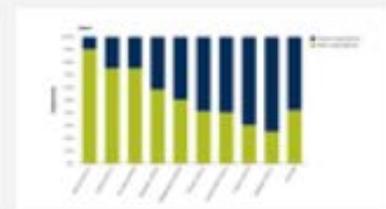
Estimated allocation
of public and private



Identified sites



Most frequently
applied remediation



Progress in
management of

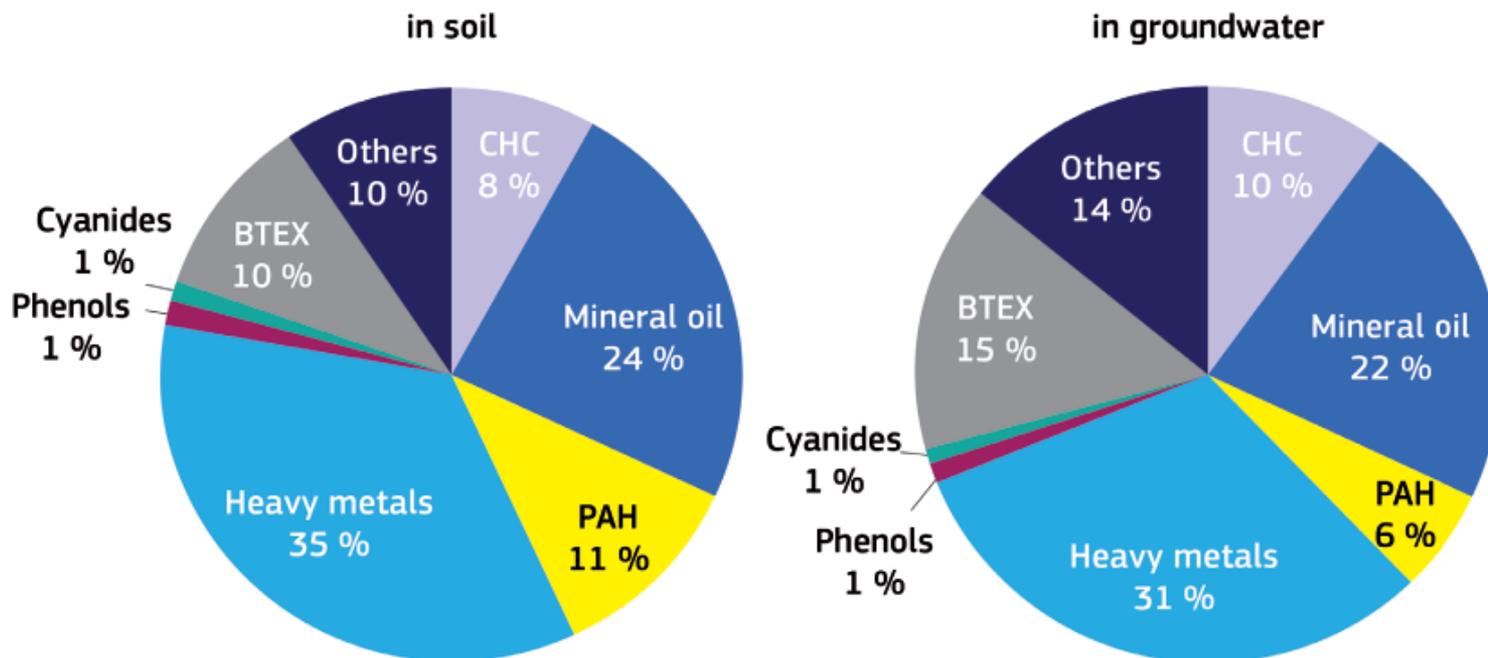
Source: EEA <http://www.eea.europa.eu/data-and-maps>

Reference Report on the management of contaminated sites in Europe (JRC, 2014)

- There are an estimated 2.5 million potentially contaminated sites in Europe, where soil contamination is suspected and detailed investigations are needed.
- Of the circa 115 000 contaminated sites that have already been identified in Europe, nearly half of them (46%) have already been remediated.
- Contaminated sites are mainly managed using 'traditional' techniques such as excavation and off-site disposal, which together account for about one third of management practices.
- Mining activities, metal industries and gasoline stations are the most frequently reported sources of soil and groundwater contamination. However, the range of polluting activities varies considerably from country to country.
- The most frequently occurring contaminants are mineral oils and heavy metals.

The results of the questionnaire compiled by the JRC.
 The questionnaire was sent to 39 European countries;
 27 countries returned the questionnaire.

Most frequently applied occurring contaminants



National Targets

Austria	2025	Identification of CS completed
Denmark	2016	Site identifications and preliminary investigations are completed nationwide
Estonia	2030	All contaminated areas to be remediated or sustained
Romania	2020	Environmental remediation of the majority of polluted areas
Switzerland	2025	Remediation or containment of historic soil contamination

1st EIONET NRC soil ad hoc WG on CS & Brownfield meeting (10-11 March 2015)

16 Member Countries represented + DG ENV , JRC and EEA

1. Proposals for the revision of the indicator "Progress in the management of contaminated sites in Europe"
2. EIONET meeting conclusions and follow-up actions

Proposals for the revision of the indicator "Land and Soil Indicator" LSI003

Proposal 1.- To consider as baseline the year 2001 when CSI015 was established. In case the country started building a national programme after 2001 a different baseline – year will be specified by this country.

Proposal 2.- New expressions were proposed to replace the parameters PCS, CS and Remediated Sites (RS)

The new expressions are ranked from 1 to 6 as following:

- 1. Sites where polluting activities took place (e.g. based on Annex 2 of proposed SFD, but usually based on country-specific list) - (rather than 'Sites registered');*
- 2. Sites in need of investigation/still to be investigated – clear suspicion of contamination (not relevant to all countries, in some countries there is a transition from situation 1 to situation 2 following risk assessment);*
- 3. Sites that have been investigated, but no remediation needed (unless land use change, i.e. fit for current use);*
- 4. Sites that need remediation or RRM (risk-reduction measures, including natural attenuation if monitored) – see definition remediation of Common Forum;*
- 5. Sites under/with on-going remediation (probably common for all countries);*
- 6. Sites remediation completed (probably common for all countries);*



Proposals for the revision of the indicator "Land and Soil Indicator" LSI003

- Proposal 3.-** New "sites where polluting activities took place" be counted separately from the "Baseline" and reported separately...
- Proposal 4.-** To ask the 11 EIONET countries, for which it is not clear if they keep a comprehensive national/regional or local inventory for contaminated sites, in which way are they monitoring the progress in the management of contaminated sites.
- Proposal 5.-** With no common European legislative framework on soils, there is no formal working group to develop a harmonised approach to setting environmental standards for soil quality. The Chair invited the experts to share the information and methodology available in their countries.
- Proposal 6.-** For 22 EIONET countries it is not clear if they have established policy targets relating to the management of contaminated sites. They will be invited to submit their targets relating to the management of contaminated sites.



Way forward of the EIONET Soil

- To recollect information for the revision of the (new) indicator LSI003 Countries are invited to submit questions to EC-JRC by e-mail to **ana.paya-perez@ec.europa.eu** until **31 July 2015**
- A story book of "good/bad/successful stories of soil land restoration" will be jointly published by Commission DG ENV, JRC and EEA as contribution of the "*EIONET Soil Group on Contaminated Sites and Brownfields*" to the International Year of Soil. Countries to send by e-mail to **ana.paya-perez@ec.europa.eu** up to 10 stories, summarized in maximum of 6 pages including graphics and pictures. Submissions are accepted **until 30th June 2015**.
- **Next meeting of EIONET NRC Soil** on 14-15 of October 2015 in Copenhagen (DK).

3. EU Funding of Research Projects

a) LIFE

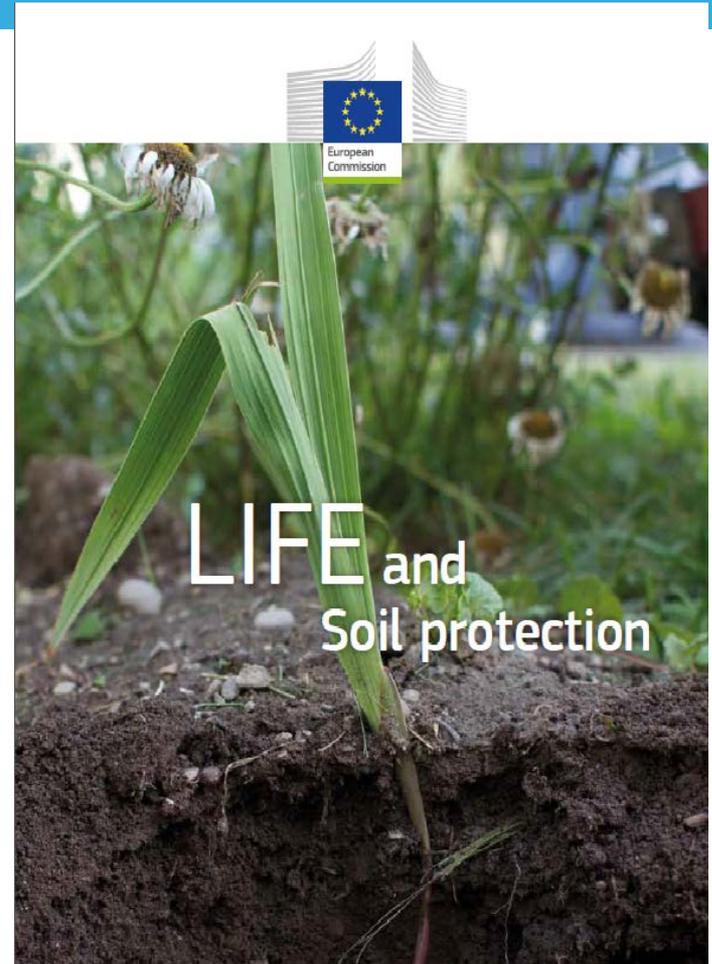
b) EUREKA

c) Regional Policy



- Publication 'LIFE and Soil protection', DG ENV (2014) providing information on LIFE projects on Soil protection (147)
- **21 projects Soil sealing**
- 13 projects Soil biodiversity
- 24 projects Soil carbon capture
- 11 projects Soil monitoring
- 12 projects Water and soil
- 43 projects Sustainable agriculture
- **23 projects Land contamination**

<http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=home.getProjects&themeID=42&projectList>



LIFE Calls 2015 indicative table

Provisional Calendar 2015: Summary Table

Grant Type	Phase	Opening Date	Closing Date
Traditional Projects		01 June 2015	15 September 2015
Preparatory Projects		01 June 2015	30 October 2015
Technical Assistance Projects		01 June 2015	Mid September 2015
Integrated Projects	Concept Notes	01 June 2015	01 October 2015
	Full Proposals		Mid April 2016
NGO Framework Partnerships		May 2015	July 2015

<http://ec.europa.eu/environment/life/funding/life2015/index.htm>

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Innovation across borders

EUREKA innovation across borders

Raising the productivity and competitiveness of European businesses through technology. Boosting national economies on the international market, and strengthening the basis for sustainable prosperity and employment.

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Projects > Calls for projects > Danube Region Call for Projects

COMMON CALL FOR CROSS-BORDER CO-OPERATIVE PROJECTS IN THE DANUBE REGION 2015

Supporting
Shaping
Improving

EVENTS CALENDAR

26-May-2015 to 26-May-2015 Roadshow 2015 - Eurostars-2 Info Day (Bulgaria)
26-May-2015 to EurActiv workshop -

EUREKA Call FOR PROJECTS 2015-2016

EUREKA PROJECT 5362 IBATCOMM

Innovation is changing energy at the source

Supporting your market-oriented R&D project

Shaping a European Research Area

Improving your daily life

• READ MORE

Opening of the Call	March 9, 2015
Deadline for Project Outlines	April 30, 2015, 17:00 CET
Deadline for Project Submission	June 17, 2015, 17:00 CET
Labeling of successful Applications	October 2015 / January 2016

Participating Countries

The countries participating in the initiative are, in alphabetical order: [Austria \(AT\)](#), [Bosnia and Herzegovina \(BA\)](#), [Bulgaria \(BG\)](#), [Croatia \(HR\)](#), [Czech Republic \(CZ\)](#), [Germany \(DE\)](#), [Hungary \(HU\)](#), [Montenegro \(ME\)](#), [Romania \(RO\)](#), [Serbia \(RS\)](#), [Slovak Republic \(SK\)](#).

To check the availability of budget and the funding opportunities in your country please download the [call information](#).

[The Danube region call for project - Funding regional innovation from EUREKA Secretariat](#)

More information → <http://www.eurekanetwork.org/calls>



Rehabilitation of brownfield sites

Within Regional Policy Investment priorities relating to the environment (Art.5(6) ERDF and Art. 3(c) CF) include

- Protecting and restoring biodiversity, soil protection and restoration and promoting ecosystem services including NATURA 2000 and green infrastructures;
- Action to improve the urban environment, revitalisation of cities, [...] regeneration and decontamination of brownfield sites (including conversion areas), reduction of air pollution and promotion of noise-reduction measures;
- The objective is to limit land take on Greenfields and recycling of land, including remediation of contaminated sites. The special ERDF objective is 'Sustainable urban development'.

Promote the regeneration of brownfield sites and more generally the remediation of contaminated sites, respecting the 'polluter pays' principle



GLOBAL SOIL
PARTNERSHIP



Global Soil Forum
Institute for Advanced Sustainability Studies e.V.



**European Confederation
of Soil Science Societies**



4. International developments



- Proclamation by the UN General Assembly of the **World Soil Day** (5 December) & of the **International Year of Soils 2015**
- FAO's **Global Soil Partnership (GSP)** and its **Inter-governmental Tech Panel on Soils (ITPS)**
 - May 2014 – **1st European Soil Partnership**
 - July 2014 **Adoption of four GSP pillars of action**
 - June 2015 - **The Third Plenary Assembly (PA) of the Global Soil Partnership** will take place from 22 to 24 at FAO headquarters in Rome



- **Global Soil Week** (in Berlin, April 2015)
- **Economics of Land Degradation** initiative
- LDNW Inter-governmental WG under **UNCCD**
- **IPBES** and its land degradation assessment
- **G8** Russian initiative on healthy soils
- **Expo 2015** in Milan:
Feeding the World. Energy for Life
- UN adoption of **Sustainable Development Goals** in 2015



EUROPEAN SOIL PORTAL

<http://eusoils.jrc.ec.europa.eu/>

Thank you for your attention!

2015
International
Year of Soils

