Остановим эрозию почв
Спасем наше будущее
Всемирный день почв
5 декабря 2019

Global Soil Partnership
Yuxin Tong
Soil erosion: a global challenge

Yuxin Tong, GSP Secretariat, FAO
Soils

The foundation for life

No soil, no life!

Protecting our soils means moving towards #Zerohunger
Soils provide key ecosystem services
Global soils at risk

Number 1 threat

<table>
<thead>
<tr>
<th>Region</th>
<th>Soil erosion</th>
<th>Organic change</th>
<th>Imbalance</th>
<th>Salinization</th>
<th>Sealing</th>
<th>Biodiversity</th>
<th>Pollution</th>
<th>Acidification</th>
<th>Compaction</th>
<th>Logging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-Saharan Africa</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Fair</td>
<td>Good</td>
<td>Poor</td>
<td>Good</td>
<td>Poor</td>
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<tr>
<td>Asia</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
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<td>Poor</td>
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<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Fair</td>
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<tr>
<td>Europe and Eurasia</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Fair</td>
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<tr>
<td>Latin America and the Caribbean</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Fair</td>
</tr>
<tr>
<td>Near East and North Africa</td>
<td>Very Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Good</td>
</tr>
<tr>
<td>North America</td>
<td>Fair</td>
<td>Poor</td>
<td>Good</td>
<td>Fair</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Poor</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>Southwest Pacific</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
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</tbody>
</table>
Soil erosion

Natural causes

« Accelerated removal of topsoil from the land surface » (FAO & ITPS, 2015)

WATER EROSION / SPLASH EFFECT

(Fernandez-Raga et al., 2017)

WIND EROSION

Dust and storm, Nyngan, Australia

Photo: Peter Robey/DPIE
Soil erosion
*Human-induced causes*

« *Accelerated removal of topsoil from the land surface* » (FAO & ITPS, 2015)

Soil erosion is significantly increased and accelerated by unsustainable human activities (up to 1 000 times)
Different patterns of soil erosion

GULLY

SHEET AND RILLS

SUBSURFACE

STREAM-BANK

COASTAL

CROP/ROOT-HARVESTING
Soil erosion
The issue

33% of the Earth's soils are already degraded and over 90% could become degraded by 2050

Half of the topsoil on the planet has been lost in the last 150 years.

“One of the biggest soil threat”
(FAO & ITPS, 2015)
Consequences of soil erosion

On-site consequences

Loss of soil quality and C emissions
**Consequences of soil erosion**

**On-site consequences**

<table>
<thead>
<tr>
<th>Crop production loss</th>
<th>Farm profitability and revenues</th>
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<tbody>
<tr>
<td>0.3% of annual global crop yield reduction per year, equivalent to a <strong>total reduction of about 10% by 2050</strong>.</td>
<td>At EU level, soil erosion affects over 12 million hectares of land – about 7.2% of the total agricultural land – and leads to <strong>€1.25 billion loss in crop productivity</strong> and €155 million in the gross domestic product (GDP) loss</td>
</tr>
</tbody>
</table>

**Land abandonment and migration**

*Over 68 million people have been displaced from their homes worldwide*, many for issues related to climate. Soil erosion only exacerbates the effects of climate change.
Consequences of soil erosion

Off-site consequences

- Increased risk of landslide and flooding
  Soil erosion can affect the infiltration, storage and drainage of water in the soil, which amplifies hydrogeological risk.

- Increased risk of soil and water pollution
  Soil particles displaced by wind and water can lead to off-site soil and water pollution which has implications on our health.

- Significant losses in soil biodiversity
  Our soils host about 1/4 of our planet’s biodiversity. By removing the most fertile layer of soil, erosion causes a soil biodiversity decline.
Consequences of soil erosion

Off-site consequences

Even seen from space

A worldwide issue with no borders
How does the Global Soil Partnership address soil erosion?

“The mandate of the GSP is to improve governance of the limited soil resources of the planet in order to guarantee healthy and productive soils for a food secure world, as well as support other essential ecosystem services.”

Pillar 1
Promoting SSM

Pillar 2
Encourage investment, technical cooperation, policy, education, awareness and extension

Pillar 3
Promoting research and development

Pillar 4
Improvement of soil information and data

Pillar 5
Harmonization of methods, measurements and indicators

Soil erosion, Key focus of the GSP/ITPS in 2019

May 2019 – GSER19

World Soil Day

Implementation

STOP SOIL EROSION SAVE OUR FUTURE

Food and Agriculture Organization of the United Nations

GLOBAL SYMPOSIUM ON SOIL EROSION
15-17 MAY 2019 - ROME, ITALY
OUTCOME DOCUMENT

ОСТАНОВИМ ЭРОЗИЮ ПОЧВ СПАСЕМ НАШЕ БУДУЩЕЕ
ВСЕМИРНЫЙ ДЕНЬ ПОЧВ | 5 ДЕКАБРЯ 2019
Implementation of the GSER recommendations

THEME 1: Soil erosion assessment tools and data; creation, consolidation and harmonization

THEME 2: Policies and practices in action to address soil erosion

THEME 3: The economics of soil erosion prevention, management, remediation

Capacity-development Awareness-raising Data and information

Country-driven
More references…


http://www.fao.org/3/a-bl813e.pdf


http://www.fao.org/3/i5199e/i5199e.pdf
STOP SOIL EROSION
SAVE OUR FUTURE