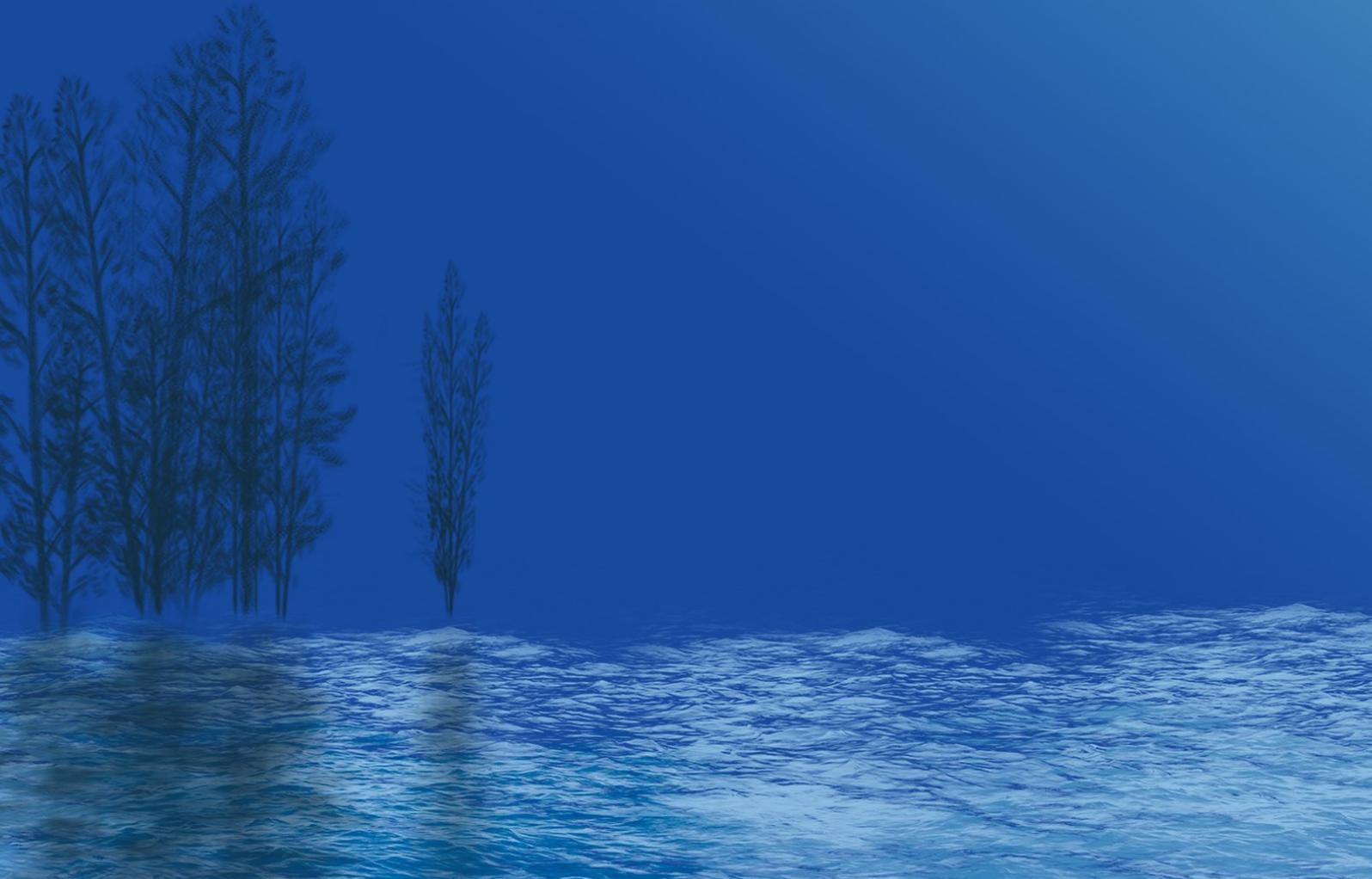




HOT NEWS

ISSUE 05, 2022





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Liujiaxia Reservoir conducts water and sediment regulating operation to clear out mud

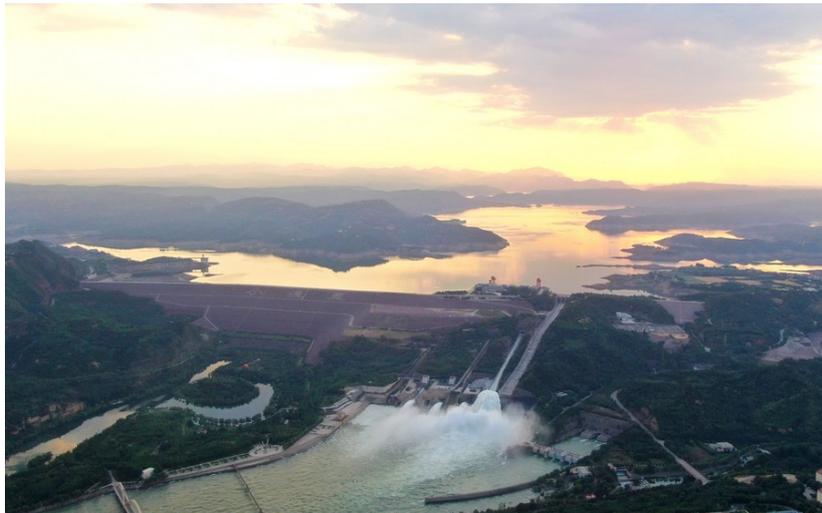


Photos taken on Aug. 22, 2022 shows water gushing out from Liujiaxia Reservoir on the Yellow River, northwest China's Gansu Province. The reservoir has conducted the water and sediment regulating operation to clear out the mud due to recent heavy rains.

(Photo by Shi Youdong/Xinhua)

Source: <https://english.news.cn/20220823/46427d81e28b4963adf5d9d353b6b3fb/c.html>

Water-sediment regulating operation carried out at Xiaolangdi Reservoir



Aerial photos shows a water and sediment regulating operation carried out at Xiaolangdi Reservoir on the Yellow River in Jiyuan, central China's Henan Province. (Xinhua/Hao Yuan)



(UAV photo) Photo by Jia Yuhang issued by China News Agency

A water and sediment regulating operation has been carried out at Xiaolangdi Reservoir on the Yellow River since June 19 in central China's Henan Province.

Over 40 million tonnes of mud and sand were expected to be released and the water level of the Xiaolangdi Reservoir dropped from 254 meters to about 221 meters by the time the sand-washing operation finishes.

The riverbed in the lower reaches of the Yellow River has lowered 2.6 meters after the previous 20 water-sediment regulating operations.

Sources: <https://english.news.cn/20220628/514a1f2905af41b080d7286522702ea3/c.html>

https://www.tellerreport.com/life/2022-07-06-yellow-river-xiaolangdi-water-and-sand-adjustment---chinanews-com.SJUy_-s7o9.html

Europe facing worst drought in 500 years: EU agency



A goose looks for water in the dried bed of Lake Velence in Velence, Hungary on August 11, 2022. © Anna Szilagy, AP

Europe is facing its worst drought in at least 500 years, with two-thirds of the continent in a state of alert or warning, reducing inland shipping, electricity production and the yields of certain crops, a European Union agency said on Tuesday.

The August report of the European Drought Observatory (EDO), overseen by the European Commission, said 47% of Europe is under warning conditions, with clear deficit of soil moisture, and 17% in a state of alert, in which vegetation is affected.

"The severe drought affecting many regions of Europe since the beginning of the year has been further expanding and worsening as of

early August," the report said, adding that the western Europe-Mediterranean region was likely to experience warmer and drier than normal conditions until November.

Much of Europe has faced weeks of baking temperatures this summer, which worsened the drought, caused wildfires, set off health warnings, and prompted calls for more action to tackle climate change.

The current drought appeared to be the worst in at least 500 years, assuming final data at the end of the season confirmed the preliminary assessment, the Commission said in a statement.



A dried sunflower field is seen as a severe drought hits France, in Puisieux-Pontoise, about 30 km northwest of Paris, France, Aug 18, 2022. [Photo/Xinhua]

Summer crops have suffered, with 2022 yields for grain maize set to be 16% below the average of the previous five years and soybean and sunflower yields set to fall by 15% and 12% respectively.

Hydropower generation has been hit, with further impact on other power producers due to a shortage of water to feed cooling systems. Low water levels have hampered inland shipping, such as along the Rhine, with reduced

shipping loads affecting coal and oil transport. The EDO said mid-August rainfall may have alleviated conditions, but in some cases it had come with thunderstorms that caused further damage.

The observatory's drought indicator is derived from measurements of precipitation, soil moisture and the fraction of solar radiation absorbed by plants for photosynthesis.

Sources:

<https://www.france24.com/en/europe/20220823-europe-is-facing-its-worst-drought-in-500-years-eu-agency-says>

<https://www.chinadaily.com.cn/a/202208/24/WS63057dcaa310fd2b29e73eb3.html>

Public Consultation on a possible EU Soil Health Law for protecting, sustainably managing and restoring EU soils

The public consultation on the Soil Health Law is now open for your feedback! Share your views by filling in the online questionnaire until 24 October 2022.

<https://ec.europa.eu/eusurvey/runner/EUSoilHealthLaw2023?surveylanguage=en>

More about EU Soil Strategy for 2030

The EU soil strategy for 2030 sets out a framework and concrete measures to protect and restore soils, and ensure that they are used sustainably. It sets a vision and objectives to achieve healthy soils by 2050, with concrete actions by 2030. It also announces a new Soil Health Law by 2023 to ensure a level playing field and a high level of environmental and health protection.

The new EU soil strategy for 2030 is a key deliverable of the EU biodiversity strategy for 2030. It will contribute to the objectives of the European Green Deal. Healthy soils are essential for achieving climate neutrality, a clean and circular economy and halting desertification and land degradation. They are also essential to reverse biodiversity loss, provide healthy food and safeguard human health.

The Mission 'A Soil Deal for Europe is rooted in research and innovation. It supports the implementation of the strategy by finding solutions to protect and restore soil health.

Objectives

The EU soil strategy aims to ensure that, by 2050

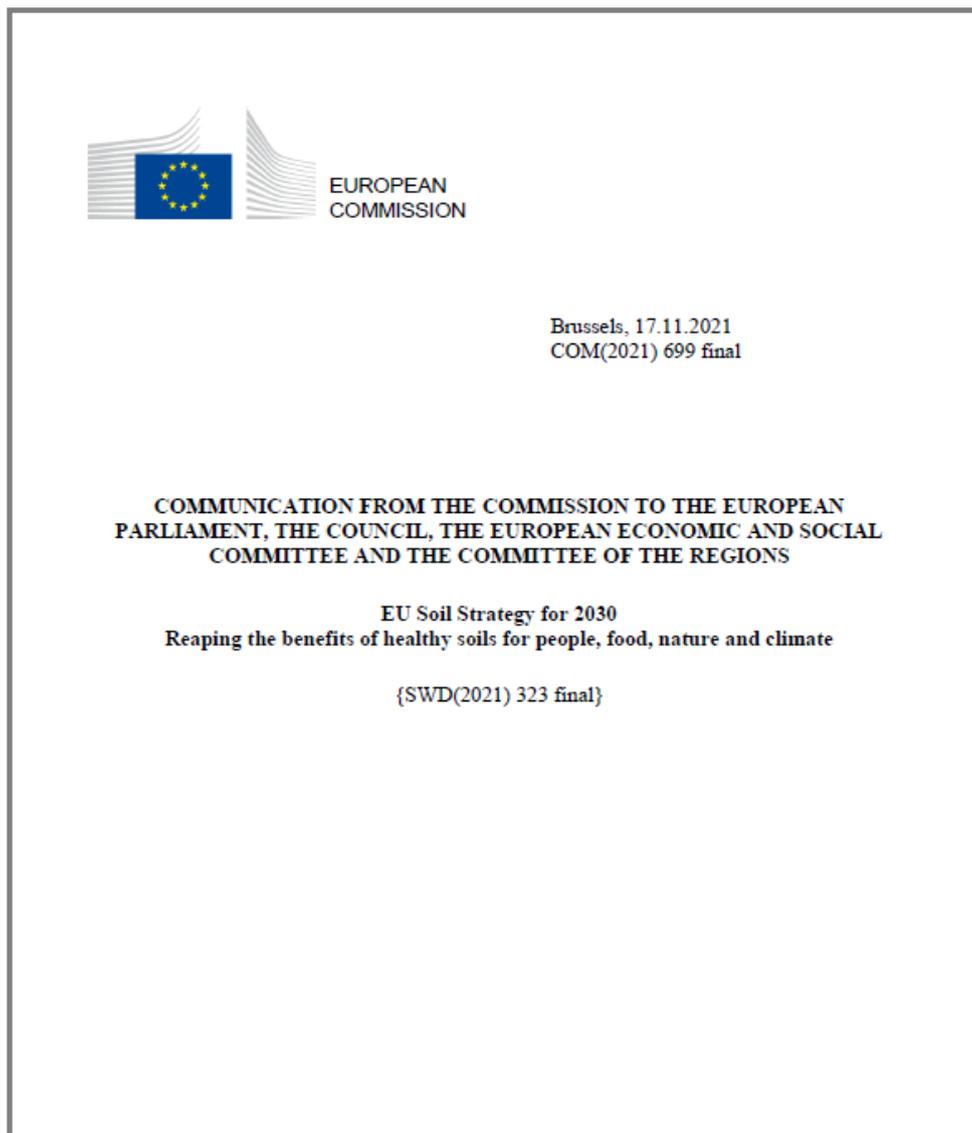
- all EU soil ecosystems are healthy and more resilient and can therefore continue to provide their crucial services
- there is no net land take and soil pollution is reduced to levels that are no longer harmful to people's health or ecosystems
- protecting soils, managing them sustainably and restoring degraded soils is a common standard

Actions

The strategy contains several key actions

- tabling a dedicated legislative proposal on soil health by 2023 to enable the objectives of the EU soil strategy and achieve good soil health by 2050
- making sustainable soil management the new normal, by proposing a scheme for land owners to get their soils tested for free, promoting sustainable soil management through the CAP and sharing best practices
- considering proposing legally binding objectives to limit drainage of wetlands and organic soils and to restore managed and drained peatlands to mitigate and adapt to climate change

- investigating streams of excavated soils and assessing the need and potential for a legally binding “soil passport” to boost circular the economy and enhance reuse of clean soil
- restoring degraded soils and remediating contaminated sites
- preventing desertification by developing a common methodology to assess desertification and land degradation
- increasing research, data and monitoring on soil
- mobilising the necessary societal engagement and financial resources



Download the **EU Soil Strategy for 2030** here:

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021DC0699&from=EN>

Drought risk climbs 29 percent 'In 20 Years'

Drought risk – a global problem – has climbed by 29 per cent in the last 20 years, a new report has revealed, indicating that as the climate emergency grows, more and more people all over the world will face water shortages, including an estimated one in four children by 2040.

The study, from the UN Convention to Combat Desertification, notes that water stress and scarcity are global issues, but the most vulnerable parts of the world are now sub-Saharan Africa, parts of Latin America, Eastern Europe and southern Asia, the Independent reports.

Published during the recent UNCCD conference in Abidjan, Côte d'Ivoire, the research paper identified drought as a multi-pronged threat that will have far-reaching consequences for human health and essential societal systems.

It was further noted that, since the year 2000, over 1.4 billion people have felt the impact of drought, with Africa seeing the most droughts of any continent.

One of the problems associated with drought and water shortages is how it affects agriculture and such issues can hinder food production and impact local economies. For example, in Australia, crop productivity fell by 18 per cent in a multi-year drought at the start of the

2000s.

Lead scientist with the UNCCD Barron Orr told the news source: “[This report] unambiguously tells the world: Everybody’s problem is drought. It’s everywhere. And it’s very large.”

There are potential solutions to protecting the world from extreme drought risk, the report went on, such as restricting global warming to 1.5 degrees C... although the World Meteorological Organization did just recently note that the world has a 50 per cent chance of at least temporarily hitting 1.5 by 2026.

Agroforestry, erosion control, forest and grassland regeneration could also help those in the industry adapt to and limit the potential impacts of drought.



Source: <https://www.environmental-expert.com/news/drought-risk-climbs-29-percent-in-20-years-1067287>

1.5 billion people, living with soil too salty to be fertile



© FAO There are more than 833 million hectares of salt-affected soils around the globe

The information is part of the Global Map of Salt-Affected Soils, a new tool launched this Wednesday by the Food and Agriculture Organization (FAO).

These soils are less fertile and less productive, creating a threat to the global fight against hunger and poverty. They also reduce water quality and soil biodiversity, and increase soil erosion.

With the new map, a joint project involving 118 countries and hundreds of data-crunchers, FAO is hoping to better inform policy makers when dealing with climate change adaptation and irrigation projects.

The launch took place on the opening day of the Global Symposium on Salt-Affected Soils, a three-day virtual conference gathering more than 5,000 experts which runs through Friday.

Opening the symposium, FAO Director-General, QU Dongyu, said the world “must look for innovative ways to transform our agri-food systems to be more efficient, more inclusive, more resilient and more sustainable.”

Growing threat

Saline or sodic soils occur naturally, and are home to valuable ecosystems, including a range of plants that have adapted to the salty conditions.

In total, there are more than 833 million hectares of salt-affected soils around the globe, or 8.7 per cent of the planet. Most of them can be found in naturally arid or semi-arid environments in Africa, Asia and Latin America.

But they can also be caused by human activity, due to mismanagement, excessive or inappropriate use of fertilisers, deforestation, sea level rises, a shallow water table which affects the rootzone, or seawater intrusion into groundwater that is then used for irrigation.

Climate change

At the same time, climate change is raising the stakes, with models suggesting that global drylands could expand by as much as 23 per cent, mostly in developing countries, by the end of the century.

According to FAO, salinization (an increase in water-soluble salts) and sodification (an increase in high sodium content) of soils is among the most serious global threats to arid and semi-arid regions, but also for croplands in coastal regions and in the case of irrigation, with wastewater in any climate.

Combating the problem requires a variety of tools, from raising awareness to adopting sustainable soil management practices, promoting technological innovation, to stronger political commitment.

Knowledge sharing opportunity

Healthy soils are a pre-requisite to achieve the United Nations' Sustainable Development Goals (SDGs) and form the basis of FAO's Four Betters: better production, better nutrition, a better environment, and a better life, leaving no one behind.

The main objective of the Global Symposium on Salt-Affected Soils is to share knowledge on salinity prevention, climate change and ecosystem restoration and to connect policy makers with food producers, scientists, and practitioners.

The gathering will also feature a photo contest offering participants the opportunity to share their testimonies on the effects of soil salinity and sodification.

The event takes place ahead of World Soil Day on December 5, which this year is dedicated to salt-affected soils with the motto, "Halt soil salinization, boost soil productivity".

Source:

<https://news.un.org/en/story/2021/10/1103532>

Why the global soil shortage threatens food, medicine and the climate

Andrea Miller



Soil can be considered black gold, and we're running out of it.

The United Nations declared soil finite and predicted catastrophic loss within 60 years.

"There are places that have already lost all of their topsoil," Jo Handelsman, author of "A World Without Soil," and a professor at the University of Wisconsin-Madison, told CNBC.

The impact of soil degradation could total \$23 trillion in losses of food, ecosystem services and income worldwide by 2050, according to the United Nations Convention to Combat Desertification.

"We have identified 10 soil threats in our global report ... Soil erosion is number one because it's taking place everywhere," Ronald

Vargas, the secretary of the Global Soil Partnership and Land and Water Officer at the Food and Agriculture Organization of the United Nations, told CNBC.

According to the U.N., soil erosion may reduce up to 10% of crop yields by 2050, which is the equivalent of removing millions of acres of farmland.

And when the world loses soil, food supply, clean drinking water and biodiversity are threatened.

What's more, soil plays an important role in mitigating climate change.

Soil contains more than three times the amount of carbon in the earth's atmosphere and four times as much in all living plants and

four times as much in all living plants and animals combined, according to the Columbia Climate School.

“Soil is the habitat for over a quarter of the planet’s biodiversity. Each gram of soil contains millions of cells of bacteria and fungi that play a very important role in all ecosystem services,” Reza Afshar, chief scientist at the regenerative agriculture research farm at the Rodale Institute, told CNBC.

The Rodale Institute in Kutztown, Pennsylvania, is known as the birthplace of modern organic agriculture.

“The projects we do here are centered around improving and rebuilding soil health. We have a farming system trial that’s been running for 42 years,” Afshar said. It is the longest-running side-by-side comparison of organic and conventional grain cropping systems in North America.

The research has found regenerative, organic agriculture produces yields up to 40% higher during droughts, can earn farmers greater profits and releases 40% fewer carbon emissions than conventional agricultural practices.

How’s that possible? The Rodale Institute says it all starts with the soil.

“When we talk about healthy soil, we are talking about all aspects of the soil, chemical, physical and biological that should be in a perfect status to be able to produce healthy food for us,” Afshar said.

It’s critical, of course, because the world relies on soil for 95% of our food production. But that’s just the beginning of its importance.

“The good news is that we know enough to get to work,” Dianna Bagnall, a research soil scientist at the Soil Health Institute, told CNBC.

Source:

<https://www.cnb.com/2022/06/05/why-the-global-soil-shortage-threatens-food-medicine-and-the-climate.html>

The 3rd global soil biodiversity conference



After the long delay due to the pandemic, we are thrilled to invite the world's soil biodiversity researchers, educators, and policy supporters to join us in Dublin, Ireland on 13-15th March 2023 for the 3rd Global Soil Biodiversity Conference.

The Global Soil Biodiversity Initiative, launched in 2011, is a major stakeholder in the development of soil biodiversity policy, and the accelerating scientific knowledge underpinning the vast biological diversity contained in terrestrial soils worldwide. Among its various activities, the GSBI launched the Global Soil Biodiversity Conference held in Dijon (France, 2014) and more recently in Nanjing (China, 2017).

The 3rd Global Soil Biodiversity Conference to be held in Dublin (Ireland) in 2023 will expand on previous GSBI conferences and convene the world's leading experts in this interdisciplinary field of soil biodiversity science to present and discuss recent advances addressing the urgency of meeting global challenges which link to human, animal and plant health

and a more sustainable world. The conference will be the top meeting for all scientists, technologists, experimentalists and modellers, students and practitioners working on any aspects of soil biodiversity science and its linkages to the functioning of our global biosphere. The conference will provide the latest updates on soil biodiversity research and knowledge for scientists, policy makers, regulators, environmental agencies, conservationists, land user managers and other stakeholders in the sustainable use and conservation of soil biodiversity.

Website:

<https://gsb2023.org/>

www.globalsoilbiodiversity.org

International Conference on Aeolian Research (ICAR) XI



The Conference Organisers and ISAR Board are pleased to announce the next ICAR conference that will be held in **Las Cruces**, New Mexico, USA from **July 9th - 14th, 2023**.

More detailed information will follow in the coming months including a call for abstracts, registration details, detailed itinerary (e.g., field trips), hotel recommendations, call for pre and post field trips and more!

Registration open on October 1, 2022 and abstract submission begins on January 1, 2023.

For more information please visit the official website here:

<https://aeolianresearch.com/icar/>

Some pictures of past ICAR meetings:



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Waseem Hassan, Yu'e Li, Tahseen Saba, Fanta Jabbi, Bin Wang, Andong Cai, Jianshuang Wu

Download full issue here:

<https://www.sciencedirect.com/journal/international-soil-and-water-conservation-research/vol/10/issue/3>

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