



# The GPNM Update

Chairman's review of the work of the Global Partnership on Nutrient Management

## Highlights

### Training of trainers and technology validation on the GPNM Global Nutrient Management Toolbox

A training-of-trainers workshop on application of [GPNM's Global Nutrient Management Toolbox](#) was held at the University of the Philippines Diliman, Quezon City, the Philippines over 20-24 March 2017. The training workshop, attended by 11 participants from research institutes from the major global regions, aimed to build capacity in the application and validation of modelling methodologies offered in the toolbox on estimating nutrient pollution discharges to the marine environment, based on watershed management scenarios. Participants used data from their home countries to test the tools. It introduced trainees to the [Index of Coastal Eutrophication Potential \(or ICEP\)](#), an index that corresponds to the likelihood of a coastal water body becoming eutrophic from nutrient runoff. The capability to apply the ICEP is linked to reporting on the [SDG 14 indicator for the target on oceans pollution](#). The training was delivered by the [Utrecht University](#) and the [Marine Science Institute of the University of the Philippines](#). The GPNM Toolbox was developed under the GEF-Global Nutrient Cycling Project.



### Nitrogen Efficiency of Whole-cropping Systems (NEWS) ; India - UK cooperation



NEWTON-BHABHA VIRTUAL CENTRE ON  
NITROGEN  
EFFICIENCY OF  
WHOLE CROPPING  
SYSTEMS

On February 25-26 2017 a workshop of the Indo-UK Virtual joint Nitrogen Centre was held at the [Indian Agricultural Research Institute](#), New Delhi,

under a bilateral research project being headed by Mark Sutton of the [Centre for Ecology and Hydrology](#), UK and N. Raghuram of the [Guru Gobind Singh Indraprastha University](#), India, on the [Nitrogen Efficiency of Whole-cropping System \(NEWS\)](#). The initiative is examining strategies for nutrient use efficiency (NUE) enhancement at the plant level, agronomic level, farm level and national level in rice-wheat and rice-rice farming systems in different agro-climatic conditions in India. The website of NEWS was also launched on the occasion; see <http://news-india-uk.international/>. Following on (February 27), a planning workshop was held to discuss start of implementation of the South Asian Regional Demonstration component of the [GEF-funded International Nitrogen Management System \(INMS\) Project](#). The workshop, held at the [Indian Agricultural Research Institute](#) in New Delhi was jointly organized by the Indian Nitrogen Group and Sustainable India Trust. Representatives were from the [International Nitrogen Initiative](#), [South Asia Co-operative Environment Programme](#), the GPNM, and the [South Asian Nitrogen Centre](#) India.

### Governors affirm commitment to combat pollution of Manila Bay, the Philippines - GPNM work presented

Addressing pollution including that from nutrient runoff into Manila Bay in the Philippines continues to receive attention at the highest policy levels. A Governor's Forum held at the Taal Vista Hotel, [Tagatay City](#) on 23 March 2017, was attended by governors from the eight provinces surrounding Manila Bay, where they affirmed commitment to clean up the Manila Bay. Dr. Gil Jacinto of the [University of the Philippines Marine Science Institute](#) presented the results of nutrient load modeling work, including watershed management policy recommendations from the Global Environment Facility-Global Nutrient Cycling (GEF/GNC) Project that is being implemented by UN Environment under the GPA Programme in support of the GPNM. The highlight of the forum was the signing of an MOU for the establishment of the Manila Bay Network of Local Governments. The [Partnerships in Environmental Management for the Seas of East Asia \(PEMSEA\)](#) facilitated the forum and is among the lead partners delivering the GNC Project work on addressing nutrient pollution of Manila Bay.



### Preparations toward the UN Oceans Conference to support implementation of SDG 14

The President of the UN General Assembly convened a two-day preparatory meeting in the lead-up to the UN Ocean Conference to Support the Implementation of Sustainable Development Goal 14: 'Conserve and sustainably use the oceans, seas and marine resources for sustainable development' to be held in New York from 5 to 9 June 2017. The meeting, held over the 15-16 February 2017 at the UN Headquarters in New York, was chaired by H. E. Mr. Álvaro Mendonça Mura, Permanent Representative of Portugal, and H. E. Mr. Burhan Gafoor, Permanent Representative of Singapore to the UN. The discussions considered the main themes for Partnership Dialogues to be held in the June conference and elements for a "Call for Action". The high-level United Nations Conference is being co-hosted by the Governments of Fiji and Sweden and will coincide with [World Oceans Day](#). The issue of nutrient pollution is being taken up under conference theme 1 on marine pollution. The GPNM is registered as a [voluntary commitment](#) under the conference. For more information click [here](#).



THE  
**OCEAN**  
CONFERENCE  
UNITED NATIONS, NEW YORK, 5-9 JUNE 2017

The Global Partnership on Nutrient Management (GPNM) is a multi-stakeholder partnership comprising of governments, the private sector, the scientific community, civil society organizations and UN agencies committed to promoting effective nutrient management (with a focus on nitrogen and phosphorus) to achieve the twin goals of food security through increased productivity and conservation of natural resources and the environment. UN Environment (UNEP), through the Coordination Office of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA), provides the Secretariat of GPNM. Read more at [www.nutrientchallenge.org](http://www.nutrientchallenge.org).



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## News & Emerging Issues

### Making Romania a Healthier Place by Controlling Nutrient Pollution

Source: *The World Bank*

Romania has faced challenges with nutrient runoff and pollution of its water resources mainly associated with small-scale farming, where the vast majority of farms do not have proper controls to help lower nitrate emissions from manure and other waste containing high amounts of nitrates. This, coupled with underdeveloped sanitation, creates adverse health and environmental conditions that impact the well-being of citizens across the country. The **Romania Integrated Nutrient Pollution Control Project**, funded by the [Global Environment Facility](#) and supported by the World Bank seeks to reduce nutrient discharges to water bodies, promote behavioral change at the communal level, and strengthen institutional and regulatory capacity. Approximately 30,000 small farms in about 100 communes are benefiting from equipment, training, and updated infrastructure to help reduce pollution and improve the health and livelihoods of people around the country. The project investments have led to 10% reductions in more than 60% of the areas where the project is being implemented, with a goal of reducing nitrogen loads by 600 tons per year by the end of the project.

The project is also assisting the country meet the [EU Nitrates Directive](#) requirements. The US\$81 million project approved by the GEF in 2007 will run up until March 2022. More on the project [here](#); read the full World Bank article [here](#).



### Nitrogen pollution slows down forest decomposers

Source: *MONGABAY, Shreya Dasgupta*

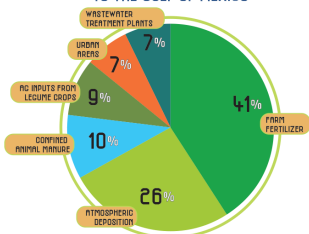
In a new study by van Diepen et al (2017) in the journal [Ecology](#) it was reported that excess nitrogen from air pollution slows down decomposition of plant matter by soil fungi, which in turn reduces the amount of nutrients available to plants for their growth. The researchers analyzed two kinds of soil fungi samples - those collected from a long-term study area at the Harvard Forest, where researchers have been adding nitrogen to the soil for the past 28 years to simulate chronic industrial pollution, and those collected from cleaner, unpolluted soils in the forest. The researchers then reared these fungi samples in the lab for 14 weeks and found that the fungi grown in polluted soils had evolved. Overall, the fungi species reared on polluted soils decomposed far less plant material than the same species collected from less polluted soil. Even when fungi from polluted areas were grown in un-polluted petri dishes, they still could not decompose as well as fungi collected from cleaner soils. The conclusion was that nitrogen pollution could be altering how fungi metabolize nitrogen which in turn may have ecological implications for forest floor communities. One of the researchers noted that "...when decay is slowed, nutrient recycling is slowed, meaning that plants have reduced access to the nutrients they need for optimum growth." Read the MONGABAY article [here](#) and the full scientific article [here](#).



### The Challenge of Tracking Nutrient Pollution 2,300 Miles down the Mississippi River

Source: *USGS News*

SOURCES OF NITROGEN DELIVERED TO THE GULF OF MEXICO



Credit: USGS

Minnesota state in United States has identified a tool along with other data to help set goals and targets for nutrient reduction and evaluate load reduction in watersheds. The tool is known as **SPARROW model** which has two web based applications. The first is a mapper that helps identify nutrient spots, sources and their movement downstream. The second is a decision support tool. The state is collaborating

with universities, agricultural organizations and local stakeholders to tackle this challenge. For more information on the initiative read [here](#).

## GPNM Partners Corner



### New Nutrient Management Handbook

The [International Fertilizer Association](#) a GPNM partner, the [World Farmers Association](#) and the [Global Alliance for Climate Smart Agriculture](#) have published a handbook that provides farmers and farmers' organizations with useful and straightforward practical information on the combination of fertilizers and their effects on plant growth and on soils, including guidelines on efficient nutrient management techniques. The handbook is available for download at [link](#).

### UPCOMING EVENTS

- 85th Annual Conference of the International Fertilizer Industry Association (IFA 2017), 22 - 24 May 2017, Marrakesh, Morocco
- UNECE Convention on Long-range Transboundary Air Pollution. Working Group on Strategies & Review, 31 May-2 June 2017, Geneva
- UN Ocean Conference, 5-9 June 2017, New York

