



# The GPNM Update

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

## Highlights

### Publication of a Technical paper on Nitrogen Use Efficiency (NUE) and Performance Indicators

This paper, was drafted by GPNM's NUE Task Team led by Dr. Terry Roberts and Dr. Rob Norton (International Plant Nutrition Institute) and Dr. Eric Davidson (University of Maryland Center for Environmental Science). It offers the technical basis and supporting research for using Nitrogen Use Efficiency (NUE) as a performance indicator to improve global food production, and control the potential harmful environmental impacts of excess nitrogen-based compounds from manufactured and animal waste fertilizers. NUE implies a more precise application of nutrients that is based on current agronomic principles, in combination with other factors like soil health, water availability, climate, and type of crop. The work on NUE is intended to support the assessment tools and techniques related to the eventual articulation of targets within the scope of the Sustainable Development Goals (SDGs). [Read more](#)

### GPA celebrates its 20<sup>th</sup> Anniversary



UNEP's Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA) turns 20 this year! The GPA emerged out of the Washington Declaration signed in Washington DC in 1995 by

108 countries. Preparations are underway by the GPA to mark the anniversary celebrations commencing in November 2015. A review document capturing the achievements and lessons of the programme will also feature the work under the nutrient management portfolio.

### New Members to the GPNM



**WORLD  
RESOURCES  
INSTITUTE**

The GPNM warmly welcomes the World Resources Institute (WRI) as our newest member. WRI is a respected global partner with a vast portfolio of

experience in a wide range of natural resource management issues. WRI has been supporting the work of the GPNM through contributions to the nutrient management Toolbox under the GEF-GNC Project.

## GPNM Task Team Updates

### Nutrient Use Efficiency

The main achievement of the team has been the publication of the technical paper on Nitrogen Use Efficiency (NUE) and Performance Indicators. The Task Team has also been providing advice to the GPNM Secretariat within UNEP toward the definition of metrics to support targets under Goal 14.1 of the new Sustainable Development Goals relating to prevention of pollution to the oceans. This Task Team is chaired by Dr. Terry Roberts of the International Plant Nutrition Institute (IPNI).

### Communications

This relatively new Task Team has focused its work on the finalization of the GPNM Communications Strategy and the continued development of GPNM's Nutrientchallenge.org website. The outputs of the various components of the GEF-GNC Project continue to be uploaded to the site. Discussions are currently underway between the Secretariat and the Task Team to build in the capability for the web portal to support access to distance-learning on nutrient management, through tools such as massive open online courses (MOOCs). The team has also been supporting the Secretariat in making enhancements to the Nutrient Runoff video with the developer Jim Toomey, to make the film more global in scope. This team is chaired by Albert Bleeker of the Energy Research Centre of the Netherlands.

### Phosphorus

The GPNM's newest Task Team, the Phosphorus Task Team was launched in Edinburgh, Scotland between the 15<sup>th</sup> and 16<sup>th</sup> September 2015. The key achievement of the meeting was to gain consensus on a coordinated approach to research and advocacy on the phosphorous management agenda amongst lead stakeholders through the GPNM. The Task Team includes representation from government, the private sector, the research community, intergovernmental and policy agencies. The Task Team is chaired by Arnoud Passenier, Director, Value Chains Sustainable Innovations within the Ministry of Infrastructure and the Environment of the Netherlands.



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) in order to achieve the twin goals of food security through increased productivity and conservation of natural resources and the environment. The United Nations Environment Programme (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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## Update on the GEF-funded Global Nutrient Cycling Project

**Component A: Strengthening the Global Partnership on Nutrient Management**

This component supports the strengthening of the GPNM partnership and is mainly executed through the GPNM Secretariat within UNEP-GPA. Planning continues for activities to support the strengthening of the Regional Nutrient Management Platforms. A special planning session of the Asian Nutrient Management Platform is to be convened within the [East Asian Seas Congress](#) to be held in Vietnam in November 2015. This will be facilitated in collaboration with PEMSEA. A focus-group planning meeting is being planned for the Caribbean in February 2016 (dates to be confirmed) in Trinidad & Tobago, in collaboration with UNEP's Caribbean Regional Seas Programme and the Institute of Marine Affairs of Trinidad and Tobago. There have been discussions with the regional chair of the International Nitrogen Initiative regarding a joint presentation of the African Platform within an INI meeting to be convened in October 2015. The project and its achievements were presented at a meeting of regional focal points of the Regional Organization for the Protection of the Marine Environment (ROPME - covering the Persian Gulf and Gulf of Oman) in Kuwait, May 2015. This opened the possibility for cooperation with stakeholders within the Middle East region on the nutrient management agenda.

### Component B: Analyzing relationships between nutrient sources and impacts

Led by the Intergovernmental Oceanographic Commission (IOC)-UNESCO, work continues on the development of a global database and modelling applications on coastal conditions, non-land based nutrient sources, and coastal effects. This also includes comparative analysis of historic nutrient loading and spatial distribution of hypoxic events. This component also continues to support nutrient cycle modelling within the Manila Bay watershed using tools such as the Global NEWS and the DELFT3D models.

Farmlands in the vicinity of Chilika Lake, Odisha State, India, one of the demonstration sites under the GEF-GNC Project



**Component C: Strengthening capacity through policy and technological options**

A successful training activity was convened at Lake Chilika in partnership with the Chilika Development Authority, World Resources Institute, the US Department of Agriculture, KIIT University and Winrock International. The training workshop, held between the 20<sup>th</sup> and 22<sup>nd</sup> July 2015 was intended to validate the utility and applicability of the nutrient management toolbox, its development spearheaded by the Global Environment & Technology Foundation (GETF) and the Energy Research Centre of the Netherlands (ECN). The lead workshop facilitators were Sara Walker of WRI and Norm Widman of the US Department of Agriculture. A total of 40 participants included farmers from the surrounding area, technical officers from the Ministry of Agriculture and rural development NGOs. The feedback from the workshop will assist the development partners in refining the toolbox and further tailoring it to user needs. We proudly note that our training activity attracted the attention of the local press!! [Read More](#)



### Component D: Nutrient source-impact modelling and practice measures in the Manila Bay watershed

Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) and local partners in the Philippines continued work on the completion of the State of the Coasts Report and the Updated [Environmental Atlas of Manila Bay](#). The technical review and consolidation of drafts for the Atlas is ongoing, with the draft Atlas expected to be completed by September 2015. Articulation of nutrient load reduction strategies continues, with stakeholders supported by watershed nutrient modelling (linked to Component B). A second Workshop on the Development of the Ecosystem Health Report Card for Laguna de Bay was conducted on the 2<sup>nd</sup> and 3<sup>rd</sup> June 2015 with the participation of the Laguna Lake Development Authority, the University of Maryland Center for Environmental Science and external experts from the University of the Philippines-Marine Science Institute, the University of the Philippines-Los Baños, the University of Santo Tomas and the Bureau of Fisheries and Aquatic Resources.



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## News & Emerging Issues

### The Sargassum Invasion!



Photo: credit H. Luiz

Beaches across the islands of the Caribbean, coastal areas of Central America, the Gulf Coast of the United States as well as the coasts of western Africa, notably Sierra Leone, Senegal and the Gambia have been experiencing invasions of Sargassum since 2011. In 2015

fluxes of the seaweed have significantly increased, with thick pile-ups on beaches and other coastal areas. This has been causing major concerns particularly in the hotel sector where the vast floating mats of seaweed compromise coastal recreational water quality, and where they wash up on the shore (in places up to a few meters-thick), emit foul odours as they rot. This has led to hotel booking cancellations with significant financial implications for many countries in the Caribbean and West African regions, prompting calls for action and mitigation strategies. The phenomenon, now under active research, is being linked to excessive nutrient fluxes into the Atlantic from the Amazon River basin and airborne dust loading from the Sahara on to the Atlantic; occurrences which may otherwise be normal, but with rising ocean temperatures and changes in ocean current circulation driven by climate change, may be triggering the unusual proliferation of the sargassum. [Read more](#)

### Prolific Algal Blooms in China



The city of Qingdao in the eastern Chinese province of Shandong in China has recently experienced the influx of thousands of tonnes of 'green tide' algae at one of its most popular seaside tourist attractions. The unusual blooms, occurring since July 2007 have attracted public curiosity given the exceptional

levels of buildup. As is typically the case for algal bloom proliferation, excessive nutrient runoff from agricultural fields, livestock facilities and other commercial and industrial sites are the likely causes, where rivers, lakes and the coastal waters become over-fertilized from nitrogen and phosphorous compounds. [Read More](#)



## GPNM Partners Corner

**IFA reiterates the fertilizer industry's commitment to the Sustainable Development Goals.** GPNM partners from the International Fertilizer Industry Association (IFA) endorsed the Sustainable Development Goals during an outreach mission to the United Nations in New-York. [More](#)

**For more information, contact the GPNM Secretariat:**

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Photo: cincynorthhealingrooms

- Special workshop of the Asia Regional Nutrient Platform within the East Asian Seas Congress, November 16-21 2015, Danang, Vietnam. [Read More](#)
- GPNM/GEF-Global Nutrient Cycling Project Steering Committee meeting, December 2015 (dates to be confirmed), Manila, Philippines.
- Focus group planning meeting for the Caribbean Regional Nutrient Platform, February 2016 (dates to be confirmed), Trinidad & Tobago.



Global Programme of Action for the Protection of the Marine Environment from Land-based Activities

