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Environment  
Programme**

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**UNEP Working Group on Nitrogen**

**Third meeting**

Bucharest (hybrid), 27 April 2023

**Draft report of the third meeting of the UNEP Working Group  
on Nitrogen**

**Introduction**

1. The UNEP Working Group on Nitrogen was convened by UNEP's Executive Director to facilitate the implementation of resolutions 4/14 and 5/2 on sustainable nitrogen management and to strengthen the engagement and ownership of the implementation process by Member States and stakeholders.
2. The third meeting of the UNEP Working Group on Nitrogen took place on 27 April 2023 in Bucharest, Romania, and online.

**Item 1**

**Opening of the meeting.**

3. The Co-Chairs, Mr. Mihai Constantinescu, Institutional Coordinator, Ministry of Environment, Waters and Forests of Romania and Ms. Purvaja Ramachandran, Director, National Center for Sustainable Coastal Management, Ministry of Environment, Forest and Climate Change of India, opened the third meeting of the UNEP Working Group on Nitrogen.
4. Ms. Tessa Goverse, Chief of the Source to Sea Pollution Unit at the Ecosystems Division of UNEP and Coordinator of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities welcomed everyone on behalf of UNEP and highlighted the importance of nitrogen and how in excess, it can be detrimental to our environment.
5. In her welcome remarks, Ms. Goverse reminded the meeting of the cross-cutting and transboundary impacts of nitrogen pollution and the need to address it:
  - a. Nitrogen pollution is disrupting life on land and underwater. When the availability of nitrogen compounds exceeds the consumption by plants, excess nitrogen gets into the environment, often into the aquatic ecosystems. This then leads to an increase of harmful algal blooms which deplete oxygen in water and can create coastal dead zones, significantly affecting underwater life.

- b. Wastewater is another key source of nitrogen in the water system.
- c. Nitrogen pollution is also one of the most influential global drivers of human-made biodiversity decline together with habitat destruction and the emission of greenhouse gases.
- d. A landmark global agreement to save biodiversity was finalized in December 2022 – the Kunming-Montréal Global Biodiversity Framework (GBF) – includes Target 7 (to reduce, by 2030, the use of nutrients, such as nitrogen, by half). Failure to address nitrogen pollution impacts the world’s ability to meet biodiversity goals.
- e. Nitrogen is a key contributor to climate change.
  - i. When nitrogen in its active form, such as in fertilizers, is exposed to soil, microbial processes take place that release nitrous oxide. This gas is three hundred times more potent at warming the atmosphere than carbon dioxide and remains active in the atmosphere for more than a hundred years.
  - ii. Algal blooms in lakes and water ways also emit greenhouse gases, such as methane, when plants start to decay.
  - iii. Another issue is ammonia, a gaseous form of nitrogen emitted into the atmosphere from the housing, storage and spreading of animal manure and spreading of synthetic fertilizer. While ammonia is not a greenhouse gas, it is an indirect emitter of nitrous oxide.
- f. Nitrogen pollution is a threat to human health.
  - i. Water containing elevated levels of nitrate raises the risk of infants developing the ‘blue-baby syndrome’, which can be fatal. High levels of nitrate in drinking water can also increase the risk of cancer.
  - ii. Ammonia emissions generate substantial health impacts by causing air pollution. Ammonia is an important driver for fine particulate matter (PM<sub>2.5</sub>), as it reacts with other air pollutants to create tiny particles that can get lodged deep into the lungs, causing asthma, bronchitis.
- g. Nitrogen waste weighs on the economy, costs the global economy between U.S. Dollars (USD) 340 billion and 3.4 trillion annually when considering the impact on human health and ecosystems. Most of the UN Sustainable Development Goals (SDGs) – humanity’s blueprint for a better future – are linked with sustainable nitrogen management. Using nitrogen more efficiently in food production and addressing nitrogen waste and emissions at every stage of the cycle is key to reducing the surplus release to the environment.
- h. Mr. Govere also emphasized the importance of the discussions of the Working Group:
  - i. The discussions will support progress in addressing nitrogen pollution.
  - ii. Focal points have been designated to facilitate the implementation of the two resolutions passed by the United Nations Environment Assembly (UNEA) on sustainable nitrogen management.
  - iii. The discussions are an important step in advancing the implementation of these two resolutions and making substantive progress towards UNEA 6.
  - iv. It is essential that the process is inclusive and considers the opinions of the civil society, academia, indigenous people, youth, trade union organizations and private sector.
- i. The format of this meeting was supported by an informal technical expert group meeting on the following day (28 April) which was championed by the Global Partnership on Nutrient Management (GPNM).

- j. With this, Mr. Goverse thanked all the delegates for their participation and the Co-Chairs for their commitment, hard work, and guidance through the process in order to make a meaningful contribution to UNEA 6.
  - k. Mr. Goverse also thanked the Government of Denmark for their generous financial support to the process, and the Government of Romania for having hosted the third meeting of the Working Group.
6. The Co-Chairs drew the meeting's attention to the provisional agenda and presented the scope of the Working Group, which is to facilitate the implementation of resolution 4/14 and 5/2 on sustainable nitrogen management and to strengthen the engagement and ownership of the implementation process by Member States and stakeholders.
  7. The Co-Chairs drew the meeting's attention to the Terms of Reference of the Working Group which built on provisions of the two resolutions on sustainable nitrogen management and reminded the meeting that the documentation was made available through the meeting webpage.

## Item 2

### Update by the Co-Chairs.

8. The Co-Chairs presented an update on the progress made by the Working Group since its second meeting in January 2023 with the following highlights:
  - a. Since the second meeting of the Working Group, focal points were requested to provide written feedback on the draft template for the collection of information on action plans titled "Country level baseline screening on actions for sustainable nitrogen management", and on the report by the Task Team titled: *Discussion paper on options for facilitating improved coordination of policies across the global nitrogen cycle: Implementing United Nations Environment Assembly (UNEA) Resolution 4/14 and UNEA Resolution 5/2 on sustainable nitrogen management*.
    - i. Written feedback on the draft template was received from five focal points: Argentina, Cambodia, Canada, Germany, and the United States of America.
    - ii. The template was revised considering the comments received during and after the second meeting of the Working Group, especially the addition of questions 13 and 14.
    - iii. Focal points were then invited to submit inputs to the country level baseline screening template on sustainable nitrogen management, for which the results were discussed in depth under Item 5.
    - iv. At the second meeting of the Working Group focal points were invited to provide comments to the discussion paper on options for facilitating improved coordination of policies across the global nitrogen cycle: Implementing United Nations Environment Assembly (UNEA) Resolution 4/14 and UNEA Resolution 5/2 on sustainable nitrogen management prepared by the Task Team. Feedback was received from five focal points: Argentina, Canada, Germany, Japan, and the United States of America.
  - b. The Co-Chairs thanked the focal points for having provided their valuable feedback and comments. The follow-up to these comments resulted in a revised template and the Co-Chairs informed the meeting that the comments to the discussion paper were made available on the meeting webpage.
9. The Co-Chairs proposed that the third meeting of the Working Group focus on the preparation of the template for national action plan and that the next meeting of the Working Group (to be conducted in September 2023) would focus on the improved coordination of policies across the global nitrogen cycle and possible modalities to do so.

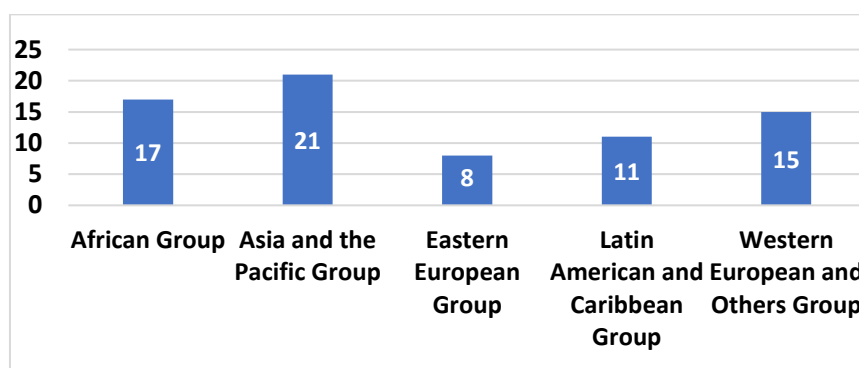
### Item 3

#### Briefing by the UNEP secretariat.

10. The Co-Chairs invited the UNEP secretariat to brief the meeting and present updates on progress.

11. The UNEP secretariat presented the following highlights:

- a. An update on focal point nominations to the Working Group since the second meeting: as per 27 April 2023 of total of 73 nominations was received. The following regional breakdown was presented:



- b. The Terms of Reference of the Working Group have been updated based on comments received during and after the second meeting of the Working Group.
- c. The secretariat made a presentation of the work of the Working Group to the Coordinating Body on the Seas of East Asia (COBSEA). The Co-Chairs had also been invited to present the work of the Working Group at several meetings, including meetings of the International Nitrogen Initiative, the task force for reactive nitrogen and at the G20 meetings that will take place in India. The Working Group will be made aware of other such invitations in the future.
- d. The UNEP secretariat presented the highlights from the UN Environment Management Group (EMG) Nexus Dialogue on sustainable nitrogen management which took place 20 April 2023.
  - i. The aim of the Nexus Dialogue, which was organised upon suggestion from UNEP and the Food and Agricultural Organisation of the UN (FAO), was to provide further understanding of the topic amongst EMG members, pave the way for a more system wide approach to sustainable nitrogen management bringing together the strengths and different perspectives from UN entities, and to look at synergies and policy coherence.
  - ii. The dialogue provided a space for concrete conversation about the linkages between nitrogen and food systems as well as climate change, biodiversity and environmental pollution.
  - iii. The dialogue also looked at the strength of the UN system to mobilise and support countries to address the various aspects, as well as the potential for improved policy coordination and scaling-up of integrated approaches contributing to sustainable nitrogen management.
  - iv. A summary of the meeting was made available by the EMG secretariat on the webpage dedicated to this event.

12. The Co-Chairs thanked the UNEP secretariat for the briefing and opened the floor for questions, comments, or reflections and no comments or questions were raised.

**Item 4****Timeline of the UNEP Working Group on Nitrogen.**

13. The Co-Chairs presented the timeline of the Working Group meetings, which included the main outcomes that are expected before UNEA 6. They highlighted the following:
  - a. The third meeting of the Working Group will aim:
    - i. Primarily, to share information on key aspects of action plans, with an analysis of inputs received from Member States on the country level nitrogen baseline screening template with conclusions towards the preparation of a national action plan template.
    - ii. To initiate knowledge sharing on two main topics: the administrative challenges and scientific evidence to support the preparation of national action plans.
  - b. The fourth meeting of the Working Group, tentatively scheduled to take place in September 2023, will aim:
    - i. To consolidate a draft of an action plan template that can be used voluntarily by Member States.
    - ii. To discuss the options for improved coordination of policies across the global nitrogen cycle with potential options and modalities.
  - c. The fifth meeting of the Working Group, tentatively scheduled to take place in February 2024, will aim:
    - i. To have an exchange of experiences by Member States on the preparation of action plans, also with an ambition to identify barriers for the implementation of action plans.
    - ii. To have conducted the knowledge sharing roundtables aiming at actions to significantly reduce nitrogen waste globally by 2030 and beyond, on specific topics as requested by Member States.
    - iii. To focus on UNEA 6 and beyond.
  - d. Knowledge sharing will be supported by the GPNM through scientific, technical and policy webinars and meetings on topics requested by focal points.
14. The Co-Chairs invited the participants to raise questions and comments on the timeline as proposed.
15. A focal point raised a question about the discussion on options for improved coordination of policies across the global nitrogen cycle that is planned to take place at the fourth meeting, and if it will be discussed during the fifth meeting as well. The Co-Chairs clarified that if this is required, the fifth meeting will also allow for further discussion.
16. Another focal point commended the work that was proposed by the Co-Chairs.
17. A focal point enquired about the plan to present a briefing to the Committee of Permanent Representatives (CPR) on the draft International Nitrogen Assessment. The UNEP secretariat mentioned that the assessment is currently being developed and that a briefing on the implementation of both UNEA resolutions on sustainable nitrogen management was presented to the CPR at its 159<sup>th</sup> session which took place in September 2022. The Co-Chairs emphasised the relevance of the assessment as a tool for Member States to benefit from, not only for reporting

purposes. Mr. Mark Sutton, Vice Chair of the GPNM and Chair of the INMS<sup>1</sup>, also provided some reflections and updates to the assessment:

- a. He reminded the meeting about having provided updates about the assessment at the first Working Group meeting, for which the minutes have been made available on the webpage. During the first meeting, the outline of the assessment and the draft chapters were also presented to receive feedback from Member States.
  - b. The first feedback the INMS received from Member States was that information should be provided at a country level. Mr. Sutton informed the meeting that estimates were being made at a regional and global level for the global modelling aspects of nitrogen, not at country level. To address this feedback from Member States, action is being taken to provide a compendium of national estimates on key indicators such as emission numbers and efficiency terms. Though the compendium isn't ready, an update will be provided with information ahead of UNEA 6.
  - c. A summary will also be prepared for policy makers which members of the Working Group could find useful.
18. The Co-Chairs reminded the meeting that all the relevant documents have been shared on the meeting webpage. The deadline for further receiving comments and inputs to the country level nitrogen baseline screening template is end of May 2023.

#### **Item 5**

#### **National action plans on sustainable nitrogen management.**

19. The Co-Chairs introduced the agenda item 5 on national action plans, and presented the following highlights on the progress made:
- a. A draft template on national action plans, titled "Country level baseline screening on actions for sustainable nitrogen management", was presented at the second meeting for feedback from focal points.
  - b. A first analysis of actions taken towards sustainable nitrogen management was initiated based on information collected through the country level baseline screening template on actions for sustainable nitrogen management.
  - c. The completed templates were received from 13 focal points: Cambodia, China, El Salvador, Ethiopia, France, Germany, Italy, Japan, Madagascar, Mauritius, Romania, Sweden, and the United States of America. The Co-Chairs thanked the focal points for their feedback.
  - d. The preliminary analysis of results and its initial findings will be revised and updated before the fourth meeting based on additional information collected and considering the feedback received from all focal points at the third meeting.
  - e. The Co-Chair emphasised the fact that all information received through the screening would be disclosed only with prior consent from the focal points.
20. The Co-Chairs presented the analysis conducted based on inputs from focal points, which was compiled in an anonymised matrix and made available prior to the third meeting of the Working Group through the webpage of the meeting.
21. The Co-Chairs invited focal points to share feedback and discussion on the analysis summary.
22. A focal point thanked the Co-Chairs for the review, commented on the value of the review and asked to what extent should the focus be on nitrogen losses in terms of units of measurement. Or should the focus be on environmental and human health as the two topics are different and

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<sup>1</sup> UNEP/GEF project entitled "Towards the Establishment of an International Nitrogen Management System" (INMS).

wondered if there would be some national action plans that don't focus on quantifying losses, rather targeting environmental quality, such as nitrate concentration in drinking water. The focal point encouraged the meeting to consider this aspect as well while developing the national action plans. The Co-Chairs welcomed the feedback and recommended having a blend of quantitative and qualitative data.

23. A focal point commented that their country did not have a specific plan related to agriculture for nitrogen reduction. However, action is being taken regarding fertilizer use.
24. A focal point raised a question on what kind of strategy would be implemented to incorporate all sectors related to nitrogen pollution and address the challenges faced by them to make an impact. The Co-Chairs noted the comment and addressed the question by stating that providing an integrated approach to national action plans and policies on nitrogen has been a gap that needs to be examined. The information received is usually pertinent to one impacted area such as air or water pollution and so there is currently no national action plan that can integrate all topics, concluding that this is a challenge faced at a global level and needs to be addressed.
25. Mr. Sutton reflected on the contents of the analysis and commented the following:
  - a. It was interesting to see a lot of actions related to agriculture however, he noted a lesser amount related to wastewater and nitrogen oxides and noted the opportunities for existing work on these topics to be more visible.
  - b. Another point he reflected on was the lack of terms such as recovery and recycle, recommending these are included in future action plans.
  - c. The term non-technical measures related to consumption patterns, which could mean energy use, food choice or other related topics. Mr. Sutton noted an increase in interest in this topic, and that if ambitious goals such as the GBF Target 7 is to be achieved, a combination of technical and non-technical measures would need to be taken, also taking into consideration consumption patterns.
  - d. Mr. Sutton noted the merit of qualitative and quantitative indicators and targets and the benefits to the environment. On the other hand, the advantage of a quantitative indicators is that it helps view nitrogen as a resource and so the future development of action plans could be done by combining both these criteria.
26. As a guided follow-up, the Co-Chairs invited the Working Group to provide further written comments to the secretariat until the end of May after which a further revision would be done.
27. The Co-Chairs thanked the focal points for their comments and feedback, then brought the attention of the meeting to emerging elements of the analysis from which the zero draft of the national action plan template was prepared. This document has been made available on the webpage for the meeting.
  - a. The document takes full recognition of the actions already taken by Member States as a part of the national action plans and encourages further action to significantly reduce nitrogen waste as per the UNEA resolution 5/2.
  - b. The Co-Chairs stated that the document is a zero draft and the actions recommended are not mandatory. They emphasised the difference between actions taken and a developed national action plan.
  - c. Focal points were invited to take into consideration the implementation of these actions or the option to prepare a national action plan, noting that these are recommendations.
  - d. The Co-Chairs then proceeded to highlight the key elements of the document and encouraged focal points to provide their comments and questions.
28. The Co-Chairs invited focal points to share feedback and comments.

29. A focal point asked for clarification regarding the campaigns, as it was mentioned that awareness campaigns will be conducted to also inform farmers on the impacts of farmers.
30. Another focal point provided a few comments on the document:
  - a. Mentioning an output from a workshop conducted in 2022, which was the creation of a guidance document on developing national action plans to address nitrogen. The guidance could be integrated into the proposed zero draft.
  - b. The regular monitoring should be carried out by a state agency, however in some cases, the best data may not be from a state agency. The focal point emphasised the importance of taking multiple data sources into consideration and using the best data source.
  - c. The focal point emphasized to include other sources of pollution, not only agricultural sources. Furthermore, the focal point also suggested that the current bullet point 2 – Actions should be more integrated, with the consideration of water quality, air quality, climate and biodiversity – under the heading of action programmes. This should be moved to the top of the list as they are interconnected topics and should be a basis for the development of an integrated plan.
  - d. The focal point also suggested that as the document is a voluntary one, words such as ‘mandatory’ and ‘prohibition’ in the text could be rephrased.
31. A focal point emphasised the importance of involving the private sector and other relevant stakeholders in the process.
32. Mr. Sutton, under the topic of preparing voluntary guidelines/codes of good practices, suggested using the existing guidance under the UNECE air convention (which could be adapted to the local context as required).
33. The Co-Chairs thanked the focal points for their comments and noted these would be reflected in the revised version. They also reminded the focal points to continue sharing their feedback to the document, and the deadline for this was end of June 2023.

## **Item 6**

### **Informal expert meeting on 28 April 2023 in Bucharest, Romania and online.**

34. The Co-Chairs introduced the agenda item 6, informal expert meeting, which was organised in collaboration with the GPNM and scheduled to take place following the third meeting of the Working Group, on 28 April. They highlighted the informal expert meeting would be a good opportunity for focal points to further discuss questions and knowledge needs.
35. The Co-Chairs invited the Chair of the GPNM, Mr. Ramesh Ramachandran, to provide remarks on how the GPNM intended to support the Working Group and to provide an overview of the agenda for the informal expert meeting.
36. Mr. Ramachandran thanked the Co-Chairs and the Working Group for welcoming the GPNM’s support to the processes to achieve sustainable nitrogen management and provided the following highlights:
  - a. Mr. Ramachandran reminded the meeting about the challenges faced from nitrogen pollution, not only on the magnitude and complexity of the nitrogen pollution, but also from the efforts being taken to tackle this issue in many regions. Identified solutions have not been sufficiently scaled-up in many countries.
  - b. Sustainable nitrogen management seeks to balance efficient production and consumption to avoid inefficient wastage of this valuable resource. Emerging regulation of the way nitrogen links key environmental issue leads to major policy opportunities to mobilise change.



- c. The GPNM aims to promote sustainable nutrient management practices to protect human health, ecosystems and the climate. The primary goal of the GPNM is to support the implementation of sustainable nutrient management practices worldwide to achieve the SDGs.
  - d. The following objectives have been set by the GPNM to achieve the goals:
    - i. To foster international cooperation and partnerships among governments, civil society, research institutions and the private sector.
    - ii. To develop and share knowledge, tools, and technologies.
    - iii. To provide technical support and guidance to Member States to implement sustainable nutrient management practices, to promote policy and governance, to raise awareness and facilitate outreach activities.
  - e. Through this, the GPNM could provide technical support to the Working Group by providing a knowledge base for the development of national action plans.
  - f. The GPNM could support the Working Group in the following ways:
    - i. To conduct the informal expert meetings along with the Working Group meetings.
    - ii. To conduct relevant webinars on topics as requested by focal points.
    - iii. To utilise the expertise that GPNM partners provide.
37. Mr. Ramachandran also provided a brief overview of the agenda for the informal expert meeting. He welcomed feedback from focal points on the topics to be discussed.
38. The Co-Chairs thanked Mr. Ramachandran and opened the floor for discussions.
39. No further matters were discussed.

#### **Item 7**

##### **Other matters.**

- 40. The Co-Chairs invited the Working Group to raise any other matters pertinent to the meeting.
- 41. A focal point enquired about how the Working Group will report to UNEA 6 and the scope of the report. The secretariat clarified that in UNEA resolutions 4/14 and 5/2 on sustainable nitrogen management the ED is requested to report back to UNEA-6. The report would highlight progress made by the Working Group up to the fourth meeting of the Working Group.
- 42. The Co-Chairs proposed for the fourth meeting of the Working Group to take place in-person in Nairobi, Kenya.
- 43. A focal point requested for the same to be conducted in hybrid format due to travel constraints. Other focal points echoed this comment.
- 44. After seeking consensus, the decision was then made to conduct the fourth meeting in hybrid format (in-person in Nairobi, and online).
- 45. No further matters were raised.

#### **Item 8**

##### **Closure of the meeting.**

46. The Co-Chairs thanked focal points for their participation and the secretariat for the work in preparation of the meeting.
  47. The Co-Chairs reminded the meeting to submit written feedback on the analysis of the baseline screening on nitrogen actions and on the zero draft to the secretariat and confirmed that a fourth meeting of the Working Group would take place in the third quarter of the year in Nairobi, Kenya, and online.
  48. The Co-Chairs closed the third meeting of the UNEP Working Group on Nitrogen.
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**Annex****List of Member States in attendance (in person or online):**

Australia  
Austria  
Benin  
Bosnia and Herzegovina  
Cambodia  
Canada  
Chile  
China  
Colombia  
Dominican Republic  
Egypt  
El Salvador  
Ethiopia  
France  
Germany  
India  
Indonesia  
Italy  
Japan  
Kenya  
Libya  
Madagascar  
Malawi  
Maldives  
Mauritius  
Morocco  
Niger  
Nigeria  
Philippines  
Romania  
Rwanda  
Somalia  
South Africa  
Spain  
Sweden  
Trinidad and Tobago  
Türkiye  
Uganda  
United Kingdom of Great Britain and Northern Ireland  
United States of America  
Vanuatu