

First Stakeholder Workshop for the Global Nitrogen Assessment

London
24-25 July 2012

Organized by



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The meeting was organized under the lead of the International Nitrogen Initiative (INI), a joint project of IGBP and SCOPE, in cooperation with the Global Partnership on Nutrient Management (GPNM) with financial support from UNEP/GEF project “Global foundations for reducing nutrient enrichment and oxygen depletion from land based pollution, in support of Global Nutrient Cycle”. The detailed agenda of the meeting and the list of participants are annexed to the report.

Day 1

Morning session: Chaired by Sir Bob Watson

Introduction: Mind setting

1. After the general introduction, a presentation was given by Mark Sutton, including background information on the Global Nitrogen Assessment (GNA).
2. The discussion addressed:
 - a. Do we need a global nitrogen assessment and why?
 - b. Who are the customers that GNA would support?
 - c. What would be the GNA products?
 - d. What would be the expected consequences of a successful GNA?

The second part of the morning was dedicated to the authorization process for GNA.

3. The discussion recognized that much is already known about nitrogen sources, flows and its intended and unintended consequences. It was highlighted that:
 - GNA should be clearly targeted to support future policy and decision making among all relevant sectors. The analysis must be demand driven.
 - GNA should foster and integrate the work of regional assessments, including the European Nitrogen Assessment and the developing work on the USA, Chinese, Indian, African and South American nitrogen assessments, linking different scales.
 - GNA should be structured in a manner that it stimulates a wider societal dialogue. It should involve natural, social, economic and political scientists, governments, NGOs and communicators.
 - There is no global nitrogen convention, and little current appetite among governments to set up new institutions. The present challenge for N must be to work with and stimulate synergies between existing bodies.
 - The modest level of ambition in existing N relevant agreements points to the need to address the ‘barriers to change’, including those related to technical measures, lack of integration, human consumption patterns and societal aspirations.

4. There was agreement that: the science of nitrogen is out there, but there is a lack of its 'implementation'. This is also the problem with many existing assessments. This implied the need to link the teragrams of N flows to dollars (and science to implementation). The scientific analysis must therefore focus on information collection and integration as a basis to allow the translation to major economic and social messages to stimulate decision making.

5. It was noted that the lack of an existing global agreement on nitrogen could be a barrier limiting the political traction for a nitrogen assessment. Similarly, it should be considered who might oppose such an assessment, or its possible conclusions. Both supporters and opponents should be brought on-board in a fully transparent process to develop necessary consensus, and demonstrate the gains to be made by all parties.

6. While providing a basis to support future decision making, it should be made clear that GNA is not directed toward new treaty commitments (as the fear of these could form barrier against conducting the scientific and technical work). Work in GNA on the full costs/benefits of future decisions should quantify the consequences of N management choices.

7. The analysis must clearly highlight the economic gains to be made by improving nitrogen management. While a cleaner environment (with less adverse impacts on water, air, climate, biodiversity, soils) may be a powerful driver for some – the group, however, acknowledged that this was not the most powerful public and political driver. It must be demonstrated how each of *polluting sectors* (agriculture, industry, transport, waste management), *politicians* and the *public* will gain by improved nitrogen management. Net benefits for *food security*, *public health* and *green economy* must be quantified.

8. The discussion highlighted the need for both *global and regional elements* in GNA:

- *Global analysis* is necessary to bring together the different nitrogen issues, as these operate from local/regional scales (N water and air pollution) to global scales (climate, food security, air pollution).
- *Global analysis* is needed because of the global nature of barriers to change. For example, competition associated with world trade in agricultural products often cited as a barrier to improved N management.
- For many regions, a *global framework* is needed to stimulate necessary regional assessment, while ensuring comparability of the regional efforts.
- *Regional examples* are needed to share lessons learned, including bad and good management practices, relationship to adverse impacts and the benefits of change.

9. The discussion reflected on the chemical focus of *GNA: nitrogen or nutrient*, noting that:

- Nitrogen is of especial interest because of its essentially unlimited potential for increase, while contributing to a web of multiple interactions.
- A nutrient assessment with wider scope (including addressing P and micronutrients) would increase the complexity of conducting GNA, and could alter the 'centre of gravity', away from mutli-sector, multi-effect interactions (water, air, climate, biodiversity, soils) to a predominant focus on agriculture in relation to water pollution.

- Nitrogen links with multiple biogeochemical cycles, with the primary links differing by issue, e.g. nitrogen-carbon links for climate, nitrogen-sulphur links in air pollution, nitrogen-phosphorus links in water pollution, nitrogen-micronutrients in food security. In principle, all interactions should be addressed.
- Centering GNA on nitrogen has the advantage of tighter focus allowing a higher chance of success and a simpler communication strategy.

10. It was agreed not to take a final decision on the exact positioning and scope at this stage, as this would also depend on further stakeholder discussions. The working position taken at present is to centre GNA on the multiple issues related to nitrogen, while considering the interactions with other biogeochemical cycles relevant for each issue.

11. Further issues mentioned included:

- The need to show how reducing post-harvest waste and avoiding overconsumption of certain food categories can improve nitrogen use efficiency (NUE) and reduce N pollution, including scenario analysis.
- The need to relate the consequences of meeting food consumption targets/optima (minima and maxima) in both overfed and underfed parts of the world, relating the N pollution consequences to other social and health issues.
- The need for GNA to contribute to the development of a 'menu' of options/toolkits, allowing information and development of the messages to pass both ways between policy end-users and the science community.

12. It was agreed that the global N challenge is multi-sector, linking human consumption patterns, scientific and social analysis of impacts and barriers, cost-benefit analysis and future options. Key economic sectors to include are arable and livestock agriculture, electricity generation, transport and chemical industry, together with the product supply chains.

Authorization Process

13. It was agreed that establishing a clear authorization pathway for GNA was essential to its eventual success, with agreed channels for using the results. The discussion addressed the challenges in the authorization process and options for adoption of GNA into different international processes.

14. Options for authorizers of GNA discussed included:

- Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services (IPBES)***. This process has the advantage of being multi-issue, in which a nitrogen assessment could fit as a cross-cutting Thematic Assessment (for which provisions are being developed). However, the IPBES process is developing slowly and as a broad body will be subject to many different calls in different directions (e.g. CBD, CITES, Desertification Convention are included). *In short:* potentially a high impact route, but a slow and complex one.
- Intergovernmental Panel on Climate Change (IPCC)***. This process has the potential to establish special reports on key issues, which are again high profile.

The process towards agreement is slow, with complex formal procedures. This route would naturally lead to a GNA that is focused on climate change as the central issue, with other N issues treated to the extent that they interact with climate. *In short*: high visibility, but procedural challenges and scope limiting.

- c. **United Nations Environment Programme (UNEP)**. There is potential for direct authorization under the lead of UNEP, with possible partner authorizers (note how IPCC itself is under joint authorization from UNEP and WMO). This approach allows a broad flexibility on scope, and may be easier to implement (e.g. approach of the Ozone and Black Carbon Assessment). It was recommended to engage fully the UNEP Governing Council as a basis for endorsement by the key countries. *In short*: a potentially flexible approach that needs further investigation.
- d. **Convention on Biological Diversity (CBD)** could be a lead authorizer directly, as N is already well established on the CBD agenda, including nitrogen pollution in the Aichi targets (INI being the delivery partner for this indicator). Given the increased application of the 'ecosystem services' approach, CBD authorization would allow a broad focus. Conversely, like IPBES, CBD is a busy of many issues, which may make it hard to achieve maximum visibility of GNA through CBD. *In short*: a relevant convention to some extent already engaged, which needs further investigation. INI/GPNM to offer side event on widening stakeholder involvement in GNA to the CBD COP-11.
- e. **Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA)**. This process brings together governments and regional programmes and conventions on the marine environment, having recently conducted its third intergovernmental review meeting (IGR-3) in Manila, Philippines in January 2012. It is much smaller and more focused than CBD and UNFCCC: it has no legally binding protocols, focusing on action plans. The Governments attending the IGR3 asked the GPA secretariat to focus its attention for the next five years on 3 lead themes (nutrient management, waste water, marine litter). GPA has a specific need for nutrient assessment, with emphasis on protecting the marine environment. There is also potential to strengthen GPA to work in partnership toward joined up land-management for improve nutrient use efficiency, counting all benefits for water, air, climate etc. *In short*: a smaller focused programme, but highly relevant. Note that GPNM established under the lead of GPA has been endorsed by the governments through the Manila Declaration adopted during the GPA/IGR3.
- f. **Global Environment Facility (GEF)** is the environmental financing arm of the UN system, working in partnership with UNEP, UNDP, UNESCO, World Bank etc. The Scientific and Technical Advisory Panel (STAP) of through the GEF International Waters Focal Area recently made a report on coastal hypoxia, which identified a nitrogen assessment as a priority. Several recent meetings have been had with the STAP of GEF and Eric Davidson will soon attend the STAP meeting as he is requested to make a presentation of Global Nitrogen Assessment. UNEP has appointed a consultant (Peter Whalley) to work with INI and GPNM partners to

prepare a project concept which in GEF language called Project Identification Form (PIF) for submission to GEF Secretariat for funding under its International Waters Focal Area. At present the dialogue focuses on tuning the scope of GEF scientific interest within feasible procedures – bearing in mind a lead from International Waters branch and the simultaneous requirement for integration with other N related challenges to air, climate, biodiversity etc. Note also that GEF require a practical approach linked to case studies and demonstration of management options. *In short*: a key funding mechanism within the UN system with major catalytic potential.

- g. **Multiple Authorization and Role of Lead Countries.** Several of the above bodies could co-authorize GNA. It was noted, however, that even with organizations like UNEP, CBD, GPA and GEF standing behind GNA, it was vital to have support from leading countries in different world regions. Key active countries/bodies identified included: African Union, Brazil, China, EU, Germany, India, Netherlands, Philippines, UK, USA. This would require national dialogues with countries and regional bodies as a basis to confirm the key supporting countries.

15. **Financing issues related to GEF and other sponsors**

- a. Based on experience from previous assessments, the chair strongly recommended to establish a 'blind trust fund' managed by a GNA steering body to allow effective management of the resources. Peter Whalley is requested to investigate options and views from GEF. If we are talking about GEF resources e.g., project preparation grant then we must select an agency to lead this process, and for that UNEP will be the logical choice in the given circumstance.
- b. Regarding GEF lead, it was noted that procedurally, it is only the International Waters Focal Area that can easily take a lead, as the budgets under other domains are already tightly pre-allocated.
- c. Regarding financing, the approach of GEF is to seek a 1:5 level of co-funding. e.g. if GEF were to provide 5 million USD, then they would be looking for co-funding of the order of 25 million USD. Note that this co-funding can be a combination of a) additional cash contributions and b) contributions-in-kind from contributing organizations to which an estimated financial value is associated.
- d. Information on the co-funding of GEF proposals needs to be provided in two stages: a) Stage 1 for the Project Identification Form (PIF): an outline of willingness to support the project (indicative pledges), b) Stage 2, for the full proposal: agreement on co-funding contributions and contributions-in-kind. Based on the success of the pre-proposal and PIF, GEF may award a project preparation grant (max 200k USD) to develop the full project with necessary co-financing commitment, typically the full project document is submitted 1 year later.
- e. It is anticipated to prepare a Stage 1 proposal for submission in early Spring 2013, and a full proposal in Spring 2014. During the autumn 2012 further information would be sent out to stakeholders informing them of the path and timescales. All stakeholders, including contributors, are requested to consider the possibility to make cash and/or in-kind contributions, and to consider their requirements and priorities for GNA.

- f. It was agreed that key conferences could be used to hear the views of stakeholders and develop further buy-in. In addition to CBD COP11, the UNEP Governing Council meeting (2013) and the International Nitrogen Conference (Kampala, October 2013) are key milestones.
16. Conclusions on authorization process. It was agreed:
- a. to prioritize working with UNEP-GC and GEF in establishing the outline of GNA.
 - b. to engage further with CBD, including a side event at CBD COP-11, with a view to widening the stakeholder authorization and considering the possibility of CBD being a lead authorizer of GNA.
 - c. to engage further with GPA as a possible lead authorizer of GNA, especially considering its need for input in support of its nutrient management objectives.
 - d. to put the possible association with IPBES on the back burner, as this process is moving slowly. As GNA and IPBES develop the possibility for co-authorization could be revisited later.
 - e. to develop further contacts with a view to possible co-authorization with other bodies, such as OECD, World Health Organization, Food and Agriculture Organization, and regional contributions, such as the United Nations Economic Commission for Europe (UNECE Air and Water Conventions).

*Afternoon session: **Chaired by Prof Mark Sutton***

Relationship with the Global Environment Facility

17. The discussion continued in further detail to describe the GEF proposal process. Evaluation of the first stage proposal (submitted early spring 2013) would be known in April 2013. It was recognized that the main challenge is to prepare the way with possible funding partners, both for actual funding contributions and contributions in-kind. It was emphasized that for GEF a GNA project must incorporate examination and demonstration of the policy options including case studies and pilot projects.

18. It was agreed that a central body would need to be responsible for managing the funding contributions with full transparency.

Discussions with different stakeholder groups

19. The following comments summarize the discussions associated with key stakeholder groups, avoiding attribution by individuals.

Convention on Biological Diversity (CBD)

20. With CBD being a convention, it is mainly a platform for discussion/network. CBD is not a funding party; normally the finances are run through GEF. At the moment there is no specific call for a nitrogen related assessment under CBD. CBD Secretariat can commit its

staff time as co-financing for the GNA if the scope of GNA appeals to them. This could be explored during the PIF development phase or full project development phase.

21. CBD has already established the link with nitrogen/nutrients, with the most obvious link with the Aichi targets - Target 8 (pollution). In the context of these targets, national parties have to have developed national assessments with respect to nitrogen loads by 2014. Assisting national parties to get this job done would be a very helpful 'deliverable' of a GNA and would fit well within the current CBD frame and its work on targets. Providing national parties with tools and information about required data for assessing the nitrogen loads for individual countries, is considered to be a helpful outcome. This could also help in identifying demonstration, pilot case studies are expected deliverables under GEF

22. Capacity building is recognized as being important for both CBD and GEF. There is scope for integrating: capacity building for national governments and information collection. Improving of monitoring systems is seen as an important part of the capacity building. See above

Organization for Economic Cooperation and Development (OECD)

23. The interest of OECD in nitrogen links to a recent publication with an outlook to 2050, which had highlighted nitrogen as a key future challenge. This has placed N on the OECD agenda for the period 2013-14. Within this work there is a focus on nitrogen indicators, like the one that is proposed by the UNECE Task Force on Reactive Nitrogen.

24. Furthermore there is a focus on toolkits for policy development. The timing of the current GNA process is therefore very good. OECD normally provides the economic dimension to different processes and could be able to deliver input in that respect. Another item is 'Policy Dialogues', which OECD could contribute to when needed for the GNA.

25. The discussion supported that example countries be included, especially countries that are interested in going into policy changes within their territories.

26. There is a question about the timing, since short projects make it hard to fully explore the success of different measures. Reducing pollution mostly combines with reducing rates: however, this is very site specific and depends heavily on where you are on the 'growth curve'. Therefore, for examining the full consequences, a longer period might be

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