

ENGAGING POLICY: IGBP's three-decade legacy

Although IGBP has primarily contributed to knowledge creation and synthesis, it also has a robust track record of interacting with policy processes. **Ninad Bondre** and **Sybil Seitzinger** take stock of the programme's key contributions and how they have evolved during its three-decade history.

IGBP's first report¹ made it clear that "the purposes of IGBP are both fundamental and practical." The programme would focus primarily on understanding the Earth system and its response to human actions. Yet the report also emphasised the need for active involvement from the world's governments so as to use the knowledge generated by the programme to make policy and economic decisions. This was echoed in 1989 by the UN General Assembly resolution A/RES/44/207, which recommended that governments "increase their activities in support of the ... International Geosphere-Biosphere Programme"².

The IGBP community has involved itself with policy processes ever since its launch, although the nature of this interaction has evolved through time. Whereas the early focus was on climate change, many other topics – biodiversity and ecosystems, ocean acidification and the Sustainable Development Goals, for example – have subsequently received attention, particularly during the last decade. Then there is the somewhat unsung story of our national committees all over the world. These committees have served as a crucial link between local/regional and global science, and helped to inform local and national policies.

Here we dwell briefly on IGBP's interaction with policy during its three-decade history. We focus on the efforts at the programme level coordinated by the Secretariat; individual projects informed policy too, some quite successfully, but we refer to only such interactions

initiated by the projects that involved the IGBP Secretariat. Although by no means comprehensive, this review should serve to give a flavour of the efforts.

International assessments and conventions

The introduction to the 2009 review of IGBP³ states: "The success and recognition of the Intergovernmental Panel on Climate Change (IPCC) and the Millennium Ecosystem Assessment (MA) both owe a huge amount to the work of IGBP." The IPCC, which was set up in 1988 – soon after IGBP launched – is indeed the poster child of the programme's engagement with policy (see Figure 1).

This engagement began quite early, which is not surprising given that the Swedish academic Bert Bolin, who was strongly involved in setting up IGBP, was also the first chair of the IPCC. IGBP and the World Climate Research Programme (WCRP) find prominent mention in several of the IPCC reports. For example, the Working Group I summary for policymakers of the IPCC's first assessment anticipated that the planned research endeavours of IGBP and WCRP would provide the observations and models that would help to reduce uncertainties⁴. Similarly, the Working Group II summary for policymakers foresaw three of IGBP's core projects providing valuable data in the years to come⁵.

Minutes of IGBP's 1993 Scientific Committee meeting reveal substantial input to the IPCC's second assessment, which was published in 1995⁶. IGBP

nominated authors and reviewers, provided specific advice on the content of some chapters and commented on the coordination between Working Groups I and II as well as on the frequency of assessments. The Working Group I report noted that IGBP and WCRP provided an international framework for climate studies and an international climate agenda. More recently, IGBP and WCRP were mentioned in the first sentence of the acknowledgements of Working Group I's report in the 2007 assessment.⁷

The interaction hasn't been only one way. The IPCC assessments themselves have informed the research and synthesis agendas of IGBP and its core projects. For example, in 2009 IGBP launched a series of synthesis topics that sought to address gaps in our understanding, identified in part by the fourth assessment report and in consultation with the IPCC⁸. IGBP and the IPCC have also conducted joint workshops: for example, two workshops in 2009 focused on the fifth assessment report and impacts, vulnerability and adaptation in developing countries, respectively. In 2013, IGBP organised a public event in Stockholm to communicate the findings from IPCC's fifth assessment to a broad audience⁹.

Two important conventions were launched soon after the 1992 Rio Earth Summit: the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD). IGBP has contributed significantly to the former, particularly to its Subsidiary Body on Scientific and Technological Advice (SBSTA). For example, each year

The 2012 Planet Under Pressure conference fed into the UN's Rio+20 conference later that year. Here, Elizabeth Thompson (left), who was Executive Coordinator for the UN's Rio+20 conference and is a former Minister for Energy and Environment of Barbados, addresses a press conference as IGBP's Sybil Seitzinger looks on.



Photo: Philip Weide Photography

IGBP has been invited to annual research dialogues, where it has discussed the latest research findings on climate-related topics and sought feedback from governments. Moreover, IGBP organised a package of activities at COP15, which was held in Copenhagen in 2009. It put together side events, set up a booth and launched its climate-change index (see page 7).

Although the CBD has been less of a focus, which is understandable given IGBP's research agenda, it has nevertheless received important inputs from IGBP-related activities. For example, a publication resulting from a synthesis on the ecosystem impacts of geoengineering informed aspects of a 2012 report of the CBD¹⁰. IGBP's Surface Ocean-Lower Atmosphere Study (SOLAS) had a key role in developing a summary for policymakers on ocean fertilisation to inform the CBD and other processes. The IGBP Secretariat, via its liaisons, followed the drafting process and also ensured wide distribution of the final product.

Ocean acidification and carbon

IGBP's review in 2009, while noting the programme's previous input to policy, nevertheless stated that the programme "should consider as a matter of urgency how to maximize the scientific, policy, and practice impacts of IGBP-related science". Taking this review seriously, IGBP diversified its engagement with policy. A prominent success story of the past six years or so is its role – along with partners such as the Scientific Committee on Oceanic Research (SCOR), the International Oceanographic Commission (IOC) and UNESCO – in bringing ocean acidification to the centre of the international policy agenda.

IGBP has been co-sponsoring symposia on the ocean in a

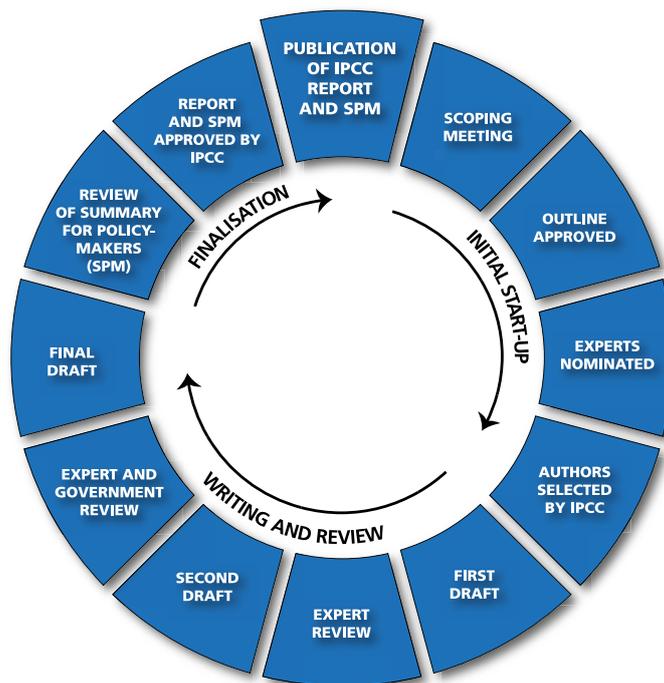


Figure 1. The IPCC assessment cycle. The IGBP community interacts with IPCC in various ways: IGBP/affiliated scientists participate in scoping meetings, nominate experts and contribute to drafting and reviewing the report itself. The IGBP Secretariat advises during the outline and review stages, identifies new directions for the next report and nominates authors and reviewers. IPCC and IGBP hold joint meetings throughout the assessment process and, in the recent past, have coordinated their communications efforts.

IGBP organised a package of activities at COP15.

high-CO₂ world since 2008. In 2011 IGBP and its partners published a summary for policymakers on this topic¹¹. This summary, one of the first of its kind and available in several languages, was distributed widely. The 2012 symposium held a policy day led by Prince Albert of Monaco and former NOAA chief Jane Lubchenco, with participants from the US Congress, the shellfish industry, NGOs and the media. An updated summary, emerging from the 2012 symposium, was released in November 2013 at the UNFCCC climate talks in Warsaw¹².

IGBP had revamped its communication team following the 2009 review; this team set about raising the profile of ocean acidification in international media outlets that would be likely to be read by key policymakers. Findings from the 2012 symposium, for example, attracted headlines in *The Economist*, *The Washington Post* and other outlets. In view

of the rapid developments in our understanding of ocean acidification, IGBP and partners set up an ocean acidification portal in 2014 to inform policymakers and others about the latest findings¹³.

The Global Carbon Project (GCP), co-sponsored by the four global-change programmes through the Earth System Science Partnership, has been producing carbon budgets since 2007¹⁴. During the past few years, the IGBP Secretariat has worked with the project to ensure that the budget receives wide publicity. Not only has it targeted prominent media outlets for news articles but also arranged for commentaries in top journals. It has also advised GCP on the Global Carbon Atlas, a user-friendly interface to visualise and access data on all aspects of the carbon cycle, a tool that is aimed at policymakers, researchers and the general public¹⁵.

Rio+20 and the Sustainable Development Goals

IGBP led the organisation of the 2012 Planet Under Pressure conference in London together with its sister global-change programmes and ICSU. The conference, with its overt emphasis on solutions, was acknowledged by the UN as the major scientific conference in support of its Rio Conference on Sustainable Development (Rio+20) to be held later that year.

IGBP and its partners invested special effort on engaging policymakers along with representatives of businesses from all over the world. In this respect the conference has served as a model for subsequent conferences. Planet Under Pressure, in addition to activities that preceded and followed it, placed IGBP in a strong position to inform the emerging Sustainable Development Goals (SDGs).

In 2010 IGBP had established contact with the UN Secretary-General's chief climate advisor and published an interview with him in the *Global Change* magazine¹⁶. The following year, the IGBP Secretariat organised a workshop on planetary stewardship that included a senior advisor to the Secretary-General's High Level Panel on Global Sustainability. Such activities put the SDGs firmly on IGBP's agenda and that of the Planet Under Pressure conference. Indeed, the first science-policy dialogue on SDGs took place at the Conference.

The IGBP Secretariat led the development of a series of policy briefs targeted at Rio+20 that drew on white papers emerging from the London conference¹⁷. A short film on the Anthropocene developed by IGBP served to launch Rio+20, and Ban Ki-moon referred to the State of the Planet declaration emerging from the Planet Under Pressure conference¹⁸. These efforts were complemented by commentaries and opinion pieces relevant to the SDGs in high-profile journals¹⁹.

Towards Future Earth

Future Earth has made co-design and co-production of knowledge the central pillar of its approach. It seeks to engage a wide range of stakeholders including policymakers, and is seeking to target processes such as the SDGs. IGBP's experience, particularly during the past few years, provides a strong foundation that Future Earth can build on.

As discussed above IGBP, particularly during its most recent phase, established links with diverse policy processes at the international level. This insured that it could maximise the relevance of the information produced by its many core projects. Future Earth will inherit this network

as well as other networks from former programmes such as the International Human Dimensions Programme on Global Environmental Change (IHDP) and the biodiversity programme DIVERSITAS. This network is capable of informing many processes in addition to the SDGs, which have been the focus of recent Future Earth efforts. Future Earth would thus do well to engage with as broad a set of policy processes as feasible.

IGBP has provided inputs to Future Earth, both via regular discussions as well as via a taskforce on policy that was set up to advise Future Earth's leadership. Moreover, many individuals closely associated with IGBP are now in leading positions at Future Earth and the global-change research community is expected to participate actively in this initiative. Many ingredients for its success are thus in place.

A stable and well-resourced secretariat backed up by a strong communications team was critical to the success of IGBP's policy engagement; this was fully supported by the programme's scientific committee. The Secretariat was able to have a bird's-eye view on developments within various projects and networks, distil relevant findings and communicate those to the right audiences. In our view Future Earth will need its distributed secretariat to be similarly well staffed, resourced and coordinated to implement its ambitious agenda. ■

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