

| 33. If you have any comments on the survey or the SCOPE review in general, please use the space below. | |
|--|----------------|
| | Response Count |
| | 20 |
| <i>answered question</i> | 20 |
| <i>skipped question</i> | 84 |

| 34. If you would like to participate further in this review, please provide your contact details. | |
|---|----------------|
| | Response Count |
| | 28 |
| <i>answered question</i> | 28 |
| <i>skipped question</i> | 76 |

Appendix 6: Preliminary work on SCOPE biometrics



In order to evaluate the impact of SCOPE on the broader scientific community, to find whether SCOPE is successfully reaching this key audience and to start understanding if SCOPE is positioning to compete in a changing information environment (see ToR b and c) several strategies were implemented:

1. Quick search of Web of Science (WoS)
2. Use of Publish or Perish (PoP) software
3. Question to Contributing authors through the SurveyMonkey questionnaire

Description of the work:

1. WoS³:

The WoS is a major component of ISI Web of Knowledge and has become one of the most currently used search platforms in the academic world. The WoS supports all levels of scientific and scholarly research within academic, corporate, government or non-profit environments. Quick searches in this platform were run to find out if the SCOPE Reports could be easily identified at the platform and if it was possible to get a Citation Index for them.

2. PoP:

PoP is a free software that uses Google Scholar to retrieve and analyze academic citations. Google Scholar provides raw citations that the software then analyses and uses to calculate a series of citations metrics. Some of the citations metrics calculated by PoP are:

- Total number of papers
- Total number of citations
- Average number of citations per paper
- Average number of citations per author
- Average number of papers per author
- Hirsch's h-index

The h-index quantifies both the scientific productivity and the scientific impact of an author and it is based on the set of the author's most quoted papers and the number of citations that it had received in other people's publications. The index can also be applied to the productivity and impact of a group of scientists, such as a department or university or country.

3. Question through SurveyMonkey Questionnaire:

The question put forward to the Contributing authors was: Do you use and cite SCOPE reports, trade books and policy briefs in your own reports, publications or national assessments? If yes give us examples.

Results

1. WoS:

It is important to remember that for the Review we have limited the overall analysis to the last ten year publications (SCOPE 58 to SCOPE 68) so the searches on the WoS were done taking this into account.

³ The Web of Science provides access to current and retrospective bibliographic information, author abstracts, and cited references found in 8,700 of the world's leading scholarly science and technical journals covering more than 100 disciplines and going back to 1900.

a. We ran a general search using the key words: SCOPE and SCOPE Reports. The SCOPE Series Vols. 62-65 were found on Current Contents and a record was found in the WoS:

Mosier, AR, Syers, JK, Freney, JR: **Global assessment of nitrogen fertilizer: The SCOPE/IGBP nitrogen fertilizer rapid assessment project**

SCI CHINA SER C 48: 759-766 Sp. Iss. SI DEC 2005

b. Specific search using the name of SCOPE Volumes:

- Sustainability indicators: A Scientific Assessment (**No results**)
- The Silicon Cycle: Human perturbations and impacts on aquatic systems (**No results**)
- Agriculture and Nitrogen Cycle: Assessing the impacts of fertilizer use on food production and the environment (**No results**)

c. Specific search using name of editors and specific authors:

- Editors: Hák, T. Moldan, B and Dahl, A.L; Mosier, A.R., Syers, J.K and Freney, J.R.; Ittekkot, V., Unger, D., Humborg, C., Tac An, N., (**No results**)
- Hall, S: The development of UK Sustainable Development Indicators: Making indicators work (**No results**)
- Havlin, J: Impact of management Systems on Fertilizer Nitrogen Use Efficiency (**No results-can be found on Current Contents**)
- Chou, L. and Wollast, R. : Estuarine Silicon Dynamics (**No results**)

d. Specific search Springer volumes produce under the Nitrogen Cycling project (Howarth, et al):

Nitrogen Cycling in the Americas: Natural and anthropogenic influences and controls. Report of the International SCOPE Nitrogen Project. Martinelli, Luiz A. and Howarth, Robert W. (eds). 2006, Springer Verlag, Dordrecht, Netherlands. Reprinted from Biogeochemistry Volume 79, Nos. 1-2, May 2006 (**Papers in volume have few cites though it is young**)

The Nitrogen Cycle at Regional to Global Scales: Report of the International SCOPE Nitrogen Project. Boyer, Elizabeth W. and Howarth, Robert W. (eds). 2002, Kluwer Academic Publishers, Dordrecht, Netherlands. Reprinted from Biogeochemistry Volume 57-58, No. 1, April 2002. (**Some papers in this volume, but not all, have high citations >50**)

New Perspectives on Nitrogen Cycling in the Temperate and Tropical Americas: Report of the International SCOPE Nitrogen Project. Townsend, Alan R. (ed.). 1999, Kluwer Academic Publishers, Dordrecht, Netherlands. Reprinted from Biogeochemistry Volume 46, Nos. 1-3, July 1999. (**Some papers in this volume, but not all, have high citations >50**)

Nitrogen Cycling in the North Atlantic Ocean and Its Watersheds: Report of the International SCOPE Nitrogen Project. Howarth, Robert W. (ed.). 1996, Kluwer Academic Publishers, Dordrecht, Netherlands. Reprinted from Biogeochemistry Volume 35, No. 1, October 1996 (**Papers in this volume, but not all, have high citations >50**)

Note: For the Springer volumes found in the WoS it is hard to tell which are papers from SCOPE.

2. Pop Results:

The software have the possibility to run general searches using different fields. For the first search the key words SCOPE and SCOPE Report were use in the Author's field. The second search used the same key words but in the Publication field. The results for both searches were the same:

| | | |
|-------------|------|----------------------|
| Papers: | 25 | Cites/paper: 4.12 |
| Citations: | 103 | Cites/author: 66.14 |
| Years: | 37 | Papers/author: 15.45 |
| Cites/year: | 2.78 | Authors/paper: 2.08 |
| h-index: | 5 | |

According to these results in 37 years SCOPE (as author or publication) had published 25 papers and those paper have 103 citations, which correspond to an h-index of 5 (very low). The article with the highest citation (19 cites) is Martins and Probst 1991 chapter on the Biochemistry of major world rivers (see the 6 most cited articles in the table below):

| |
|---|
| 19 , 'O Martins, JL Probst', 'Biogeochemistry of major African rivers: Carbon and mineral transport', 1991, In: Biogeochemistry of Major World Rivers. SCOPE Report', |
| 17 , 'T Rosswall', 'The internal nitrogen cycle between microorganisms, vegetation and soil', 1976, In: Nitrogen, phosphorus and sulphur-global cycles. SCOPE Report', |
| 12 , 'L Granat, H Rodhe, RD Hallberg', 'The global sulphur cycle', 1976, In: 'Nitrogen, phosphorus and sulphur—global cycles. Scope report', |
| 12 , 'U Pierrou', 'The Global Phosphorus Cycle', 1976, In: 'Nitrogen, Phosphorus and Sulfur-Global Cycles. SCOPE: Report', |
| 9 , 'L Granat, H Rodhe, RO Hallberg', 'The global sulfur cycle', In: 'Nitrogen, Phosphorus, and Sulfur-Global Cycles (SCOPE Report) |
| 5 , 'JR Freney, CH Williams', 'The sulfur cycle in soil', 1983, In: 'The global Biogeochemical Sulphur Cycle. SCOPE Report' |

Note: the number in bold corresponds to the number of citations

However when the SCOPE Report key word was used in the Publisher field the results were quite different:

| | | | |
|-------------|------|----------------|--------|
| Papers: | 68 | Cites/paper: | 4.00 |
| Citations: | 272 | Cites/author: | 164.80 |
| Years: | 40 | Papers/author: | 47.80 |
| Cites/year: | 6.80 | Authors/paper: | 1.91 |
| h-index: | 9 | | |

SCOPE as publishers produced in 40 years 68 papers and those papers have 272 citations, increasing the h-index to 9. In this search the most highly cited paper was Sibbesen and Runge-Metzger, 1995. The list below shows the 10 most highly cited papers:

| |
|--|
| 26 , 'E Sibbesen, A Runge-Metzger', 'Phosphorus balance in European agriculture—status and policy options', 1995, 'SCOPE', |
| 23 , 'T Takahashi, WS Broecker, AE Bainbridge', 'The alkalinity and total carbon dioxide concentration in the world oceans', 'Scope 16', 'globalecology.stanford.edu' |
| 18 , 'H Nielsen, J Pilot, LN Grinenko, VA Grinenko, AY ...', 'Lithospheric sources of sulphur', 1991, SCOPE |
| 17 , 'B Moss', 'Shallow lakes biomanipulation and eutrophication', 1998, 'Scope Newsletter' |
| 16 , 'WS Reeburgh, MJ Alperin', 'Studies on anaerobic methane oxidation', 1988, 'SCOPE/UNEP' |
| 5 , 'JR Freney, CH Williams', 'The sulfur cycle in soil', 1983, In: 'The global Biogeochemical Sulphur Cycle. SCOPE Report' |
| 16 , 'P Haygarth', 'Agriculture as a source of phosphorus transfer to water: sources and pathways', 1997, 'SCOPE Newslett', |
| 15 , 'GW Luther, TM Church', 'An overview of the environmental chemistry of sulphur in wetland systems', 'SCOPE', |
| 11 , 'M Stuiver, HG Östlund, TA McConnaughey', 'GEOSECS Atlantic and Pacific 14 C distribution', 1981, 'SCOPE' |
| 10 , 'SA Telang, R Pocklington, AS Naidu, EA Romankevich ...', 'Biogeochemistry of Major World Rivers', 'SCOPE' |
| 9 , 'DM Whelpdale', 'An overview of the atmospheric sulphur cycle', 1992, 'SCOPE' |

It is important to note that these papers (above) are different from the papers we get from the first two searches.

When specific name of authors (or publishers) are used in the authors field we can trace some interesting facts, such as the fact that 'B Moldan, S Billharz, R Matravers', 'Sustainability indicators. A report on the project on indicators of sustainable development.' 1997 (SCOPE 58) is a very popular book with 133 citations (many of these citations are in recent articles: 2005, 2006).

3. Results from Question 30 in the web based questionnaire:

Eighty people answered question 30, of them 80% responded that yes and 20% answered no. However it is interesting that 23% of the respondents skipped this question⁴. The people that gave examples (42 respondents) normally use and cite the report (s) they contribute to (10 answers in this category), example of answer:

'In my specific area of research the information has been useful to supervised post graduation students; research articles (soil C sequestration; N2O emissions and other greenhouse gas publications)'

What is really interesting is that for many of the respondents (16 answers in this category) the SCOPE Reports and other outputs are valuable and authoritative sources of information (and inspiration!):

'SCOPE reports are among the sources that I use the most. For example, the series of biodiversity and ecosystem functioning has been central in developing my thinking and my career path. Books on nutrient cycling (including carbon) have been the basis for global change science'.

'Yes, very very frequently. I like to incorporate historical perspectives into my current papers and frequently cite SCOPE syntheses, including some of the earliest volumes. I frequently cite the SGOMSEC volumes in which I and colleagues published papers (e.g. bioavailability, gender toxicology). I lament that one SGOMSEC workshop (Hazardous waste) was never published'.

'As I am still working in the same field (Sustainability indicators) for more than ten years and my SCOPE participation still is an essential part of this work I naturally use the SCOPE reports frequently. I use other SCOPE books in my work too (as textbook for students etc.)'

A few of them (4) use the SCOPE reports in their own agencies newsletters and reports. Some respondents also use them in environmental reports:

'In all communications with National and State Governments on E&S issues, I draw attention to SCOPE and its work. I provide list of SCOPE publications'.

'In reports of the European Environment Agency, in national reports on the state of the environment, in teaching, in talking to the media, etc'

'I've been involved with national assessments of effects of excess reactive nitrogen and both the INI and the Major Biogeochemical Cycles book have been helpful'.

'The SCOPE Nitrogen Project special journal issues were at the core of the Millennium Ecosystem Assessment chapter on nutrients (2005, Chapter 9). They also were used by a committee of the US National Academy of Sciences on coastal eutrophication (2000) and by the Pew Oceans Commission (2003) and the US National Commission for Ocean Policy (2004). They formed the basis for the 2007 UNEP report on nitrogen pollution. And they have served as the basis for briefings I have given to the US Congress and to the White House'.

A couple used them for funding:

'We cite many articles published in SCOPE books in our reports for funding agencies and scientific publications'

'Recently developed training materials quote from SCOPE assessments as essential references. Citing two SCOPE volumes helped a project win significant European funding'.

Some others think they intend to cite them in the future and other are very vague about it. Normally the examples cited are whole SCOPE Reports (volumen 42, 51, 58 etc) and only one person gave specific citation:

'I have several times cited chapters from Breymeyer AI, Hall DO, Melillo JM, Ågren GI. 1996. #IGlobal Change: Effects on Coniferous Forests and Grasslands; SCOPE 56, Chichester: John Wiley & Sons'

⁴ The survey was completed by 103 people.

There was one instance that a person reported not finding useful one of the volumes:

'Being away from my library I can only give instances eg publication on the Oceans, Sustainability Indicators, the volume on Outreach I did not find useful and indeed I thought the IAU were well ahead there'

Some concluding thoughts

It is important to understand that to carry out a comprehensive evaluation of the impact of SCOPE outputs in the academic community a comprehensive and detail Citation Index analysis of the different SCOPE outputs is necessary, this review did not have the time or the resources to carry out such analysis. The different strategies we used for this review give us a general picture of SCOPE impact and also provide us with some interesting details.

It could be argued that not finding SCOPE reports in the WoS means that its work is not reaching the scientific community, as individual authors (and chapters) could be have high citations indexes (as illustrate for example in the PoP exercise). This is valid argument; however we can reason that what we were trying to do with this review is not only to find out if SCOPE is reaching its key audiences (one of which is the scientific community) but also that SCOPE (as entity) is visible to those audiences.

If we look at the WoS and the PoP results, we can see that SCOPE (as entity) gets 'lost' or is hidden to the wider scientific audiences. This could be due to the fact that currently books and book chapters are not the best way to reach academic audiences that more and more rely on journal articles; it could be also due to the fact that SCOPE does not appears consistently as an author or in the titles of all chapters produced by its projects, meaning that in case of highly cited articles (produced by SCOPE projects) the 'SCOPE factor (brand)' disappears as databases and bibliographies carried only certain amount of information.

What is interesting to note here that this is happening also when Google Scholar is used. Ideally SCOPE should be more visible here as the Google Scholar searches are less academic restrictive that those carried out in the WoS. But again we can see by the results obtained by PoP only 25 articles are clearly identifiable as SCOPE (as author). The situation improves a lot when SCOPE is used as Publisher (68 articles) however these articles are different from the other searches, meaning that as with the WoS the 'SCOPE factor (brand)' gets somehow lost. Again here we can argue that this is due to the inconsistency in referencing and the way databases are designed. But what is clear it that SCOPE is suffering from a branding problem, maybe chapter authors are receiving lots of citations for the work they have done with SCOPE (such as the case of Moldan, Billharz and Matravers) but this is not giving SCOPE the visibility it needs. How different it would be if SCOPE was consistently the author or the publisher of all the outputs it produces? SCOPE's visibility will be enormous and more and more academics will get interested in its work.

Another issue about SCOPE's visibility is the fact that SCOPE is a real word and not just an acronym, so it is very difficult to stand out in a web search.

From the answers of the contributing authors on question 30, it is important to note that a good percentage of respondents (23%) skipped the question and another 20% said they are not using or citing SCOPE outputs, and on those answering positively some said they do not yet use any reports. This means SCOPE is losing a very high percentage (more that 40%) of its own contributing authors to use or cite SCOPE work. Also the majority of the respondents that use SCOPE work only cite the reports (outputs) they contribute to, this do not helps to increase SCOPE visibility further from the authors that contribute to the different projects.

Appendix 7: SCOPE Scientific Programme and Directory (at November - 2007) ■■■■■

Ongoing projects

Cluster I - Managing Societal and Natural Resources (MSNR)

Cluster coordinators:

P.G. Risser (USA), N.O. Adedipe (Nigeria)

1. Peri-Urban Environmental Change (PU-ECH) (2001—) Ian Douglas
2. Adaptive Ecopolis Development to Meet the Challenge of Environmental Change (2002—) Wang Rusong, Ian Douglas
3. Consequences Animal Production Production Systems (CAPS) (2005—) Hal Mooney, Laurie Neville
4. Understanding ecosystem function and environmental constraints to guide the land management strategies of the future—IAI-SCOPE IICA (RAP) (2006—) Holm Tiessen
5. Biofuels: environmental benefits and costs (2007—) R.W. (Bob) Howarth

Cluster II - Ecosystem Processes and Biodiversity (EP&B)

Cluster Coordinators:

C. Heip (Netherlands), C.B. Field (USA)

1. Earth Surface Processes, Material Use and Urban Development (ESPRUMUD) (1992—) Ian Douglas
2. Monsoon Asia Integrated Regional Studies (MAIRS) (2003-07) John Stewart, John Freney
3. International Nitrogen Initiative (INI) (launched 2003 – this programme including successive and/or simultaneous projects) Jim Galloway
4. Microbial environmental genomics (2003—) George Kowalchuk
5. Altitude referenced biological databases - a tool for understanding mountain biodiversity (2006—) Christian Körner, Eva Spehn
6. Dynamics of semi-enclosed marine ecosystems (PACKMEDS) (RAP) (2005—) Paola Rizzoli, Bjorn Sundby, Jerry Melillo, Edward Urban
7. Ecological foundations of sustainability in a constantly changing world: a workshop to develop a synthesis and conceptual framework (RAP) (2006—) Gus Shaver, Osvaldo Sala

Cluster III - Health and Environment (H&E)

Cluster Coordinator: V.P. Sharma (India)

1. Cadmium in the Environment (1997—) Michael Gochfeld, J. Keith Syers
2. Biodiversity, Health and the Environment (2004—) Osvaldo Sala

Current outreach activities

- i. UNEP Year Book – Emerging Challenges section

Marion Cheatle (UNEP), Norberto Fernandez (UNEP)

2003 Nitrogen cascade; Overfishing

2004-05 Infectious diseases and environmental change; Climate change and ocean circulation

2006 Crop production in a changing climate; fish and shellfish farming in marine ecosystems

2007 Environmental benefits and risks of nanotechnologies

2008 Arctic methane and climate feedbacks

- ii. UNESCO-SCOPE Policy Briefs Series (soon to be UNESCO-SCOPE-UNEP PB Series) Salvatore Arico (UNESCO)
- iii. MENTOR – UNEP-SCOPE-UNESCO e-learning programme Ivar Baste (UNEP), Gerry Cunningham (UNEP)
- iv. Assessment of research and institutional needs to cope with the effects of climate change on Andean biodiversity (2007/08)
Contribution to IAI science plan development. Holm Tiessen
- v. Land use change, rural development and climate change : La Plata Basin biodiversity (2007/08)
Contribution to IAI science plan development. Holm Tiessen

Candidate projects in development

- Dynamics and management of social-ecological systems: analysing the role of agent-based models to provide major insights in this field
- Risks and opportunities in hybrid landscapes
- Ecosystems processes and restoration: long-term ecological research in arid and semi-arid zones
- Citizen science contributions to the future of biodiversity
- Global soil change: networking long-term soil experiments to improve the science and management of global soil change

Recently terminated

- Soils and sediments biodiversity and ecosystem functioning (SSBEF) (1996–2004) Diana Wall
- Urban Solid Waste Management (1996–2006) Nimbe Adedipe, Joe Baker
- The Southern African Savannas Network (1997–2007) Jem Woods, Helen Watson
- Endocrine Active Substances (1998–2004) Joanna Burger
- Land-Ocean Nutrient Fluxes: Silica Cycle (2001–2007) Venu Ittekkot
- Biodiversity and Ecosystem Functioning (BD-EF) (2003–2006) Andreas Pfisterer
- Bridging the gap between ecology researchers and managers of protected areas (2003–2006) Regino Zamora
- Assessment of Sustainability Indicators (ASI) (2004–2007) Bedrich Moldan

Appendix 8: Notes on SCOPE finances - status and trends ■■■■

By Véronique Plocq Fichelet

The SCOPE budget includes its core operation (Executive Committee and General Assembly meetings, information/communication, Secretariat) and scientific programme (projects, outreach activities and publications).

SCOPE accounts are kept in US\$. In rough terms, 90% of the SCOPE income comes in US\$ while expenditure is made 50% in US\$ and 50% in Euros. This situation has become a major source of financial problems for SCOPE over the past 3-4 years as the exchange rate between the US dollar and the Euro changed dramatically: the same €10,000 cost only US\$ 7,500 in early 2002 when the Euro was launched, US\$6,700 a year later but US\$15,000 in early 2008.

The core operation of SCOPE is funded through Member dues and overheads on scientific activities plus (limited) royalties on publications. The scientific programme is entirely funded on external resources, i.e. funds raised from donor agencies on an ad hoc basis.

A) Income

Core Funding

- Dues paid annually by Member Countries (International Unions have a concerted policy not to pay dues for their participation in ICSU's interdisciplinary bodies) represent about \$230,000 per year. Over recent years, this income tends to stagnate in dollar terms as yearly increases voted by the General Assembly are counteracted by the resignation of some member countries, and the failure of others to cover their participation in due time (one Member country has accumulated \$49,000 in arrears but has confirmed by letter dated December 2007 that it is taking steps to cover this sum). When considered in Euro terms, income from Dues has decreased by circa 40% over the past 6-7 years.
- Overhead on project funds that are administered through the Secretariat amounts ideally to 15%, more often 5-10%, depending from prerequisites from a donor agency or to the relative 'wealth' of a given project. This source of income became significant after 1995 to reach circa \$80-100,000 per year 4-5 years ago. With the slowing down of the SCOPE programme and the tendency of projects to administer their funding directly whenever they can, overhead from projects has gone down to \$30-40,000 over the past 2 years. We expect a slightly better result in 2007 and definitely better in 2008 when larger grants pledged or under negotiation materialise (grant just approved by the Packard Foundation for the INI and new application discussed in 2008 for biofuels; joint projects with the IAI; joint outreach activities with UNESCO and UNEP).
- Royalties on publications increase slowly and steadily as our publication list with Island Press grows longer, but this shall remain a marginal source of income (\$5-10,000 per year). SCOPE is fortunate enough to deal with a publisher that is not-for-profit and shares with us a common ambition to promote access to scientific publications, including by keeping the price of books as low as possible. The drawback is of course that royalties keep low accordingly.
- Bank interest: this is no longer a source of income as our cash balance is much too low nowadays to generate any real profits (this may change if large grants expected in 2008 are delivered up front and we can invest the balance even for a few months). For the time being, bank charges and loss on exchange more or less compensate bank interest and gain on exchange.

Scientific programme

- The scientific programme of SCOPE is funded strictly on an ad hoc basis and on external resources. It is no longer possible for SCOPE to provide seed money up front for a planning meeting in order to develop or finalise a project plan (last time we were able to provide such seed money was in 2001-2005 via a AW Mellon Foundation grant to develop the RAP programme). This impedes our capacity to respond quickly enough to the demands and concerns of our Members, prospective partners and, more generally, our target audiences.
- Donor agencies supporting SCOPE projects in recent years range from
 1. ICSU itself (via its grant programme); and the ICSU constituency (IUPAC, IGBP, SCOR, DIVERSITAS) contributing to joint projects

2. UN (mainly UNEP and UNESCO; more recently the FAO; GEF) and other intergovernmental agencies (JRC, EEA, IAI),
 3. Governmental agencies (in recent years, mainly in Belgium, China/CAST, Czech Republic, France, Germany, India, Italy, Japan, the Netherlands, South Africa, Switzerland, UK, USA)
 4. Private foundations, principally in the US & Europe (AW Mellon Foundation, D&L Packard Foundation, UN Foundation, HWK, ESF)
 5. Industry (IFA, IMPHOS, Petrobras via IAI, chemical industry, American Copper Association)
 6. Others (Cornell University for biofuels; individual grants)
- Funding may be granted either to SCOPE to administer on behalf of project chairs, or directly to the institution of the project chair. In the former case SCOPE claims an overhead (10 to 15%) to compensate for the time of its staff administering project funds, helping with the fundraising, organising meetings, etc. It is generally not possible to obtain an overhead on funds given to the project chair's institution.
 - As regards donor agencies for environmental science projects all trends point in the same direction. Although new windows of opportunity are opening here and there, altogether there is less funding available than 10 years ago:

More competition for the same funds:

1. there are more and more international science programmes working on environment and global change issues, including within ICSU itself;
2. there is increased competition from intergovernmental assessment programmes (MA, IPCC, IAASTD, etc) which require significant resources (typically 15-30M\$ over 2-3 years);
3. there is increased competition from outreach programmes (information, awareness raising, capacity building, advocacy) trying to bridge the gap between environmental science and decision makers; and
4. as environmental issues are now high up on the political agenda, there seems to be a new spread of the 'post-Rio syndrome' (governments have now grasped it all, taking over the baton from scientific experts; all resources can thus be directed to operational programmes, there is no need for more science).

Less money to distribute:

5. donor agencies have the same or often less resources to distribute for environmental research;
6. with the decrease of UNESCO's contribution to the ICSU grant programme, ICSU was obliged to reduce drastically this programme, a major source of funding for environment and sustainability projects over the past 10 years;
7. long-established foundations with a large environmental portfolio all suffered heavy losses on the stock exchange a few years back, especially but not only in the USA; the financial crisis that started mid-2007 is not going to make the situation any better;
8. a major donor to SCOPE projects over the past 30 years, the AW Mellon foundation, has suspended its environmental research programme since 2004;
9. UN agencies struggle with thoroughly depleted budgets with corresponding cuts applied mainly or only to programme resources. Typically, a senior programme officer is often responsible for a budget that represents only a minor percentage of his/her own salary costs.

Donors, partners, customers or clients? New ways of operating:

10. Funding programmes developed by most donor agencies are much more specific than in the past, and there is less and less provision for serendipity, for new ideas and for new projects that haven't been foreseen into a given agency science plan. This is true for foundations as well as for governmental agencies.
11. It is no longer possible (and it hasn't been for a number of years) to find a donor that accepts to fund a project entirely. Most agencies will require at least matching funds from another source. Many agencies frown at the fact that SCOPE is not able to contribute from its own funds into its own projects. And finally most agencies are interested only in funding specific components of a given project (typically: anybody can be convinced to cover the costs of developing country experts to a workshop held outside Europe/North America; only North American agencies will support North American experts to attend the same workshop; and nobody wants to pay for the follow up, in particular the costs of the resulting publications).

12. With shrinking budgets, UN agencies are no longer willing to act as donors: their funds go to their own programme and projects, whether administered directly or via a partnership with another agency (for example SCOPE). SCOPE in that case contributes to another agency's programme and derives some funding from it, but there is no longer a contribution from that agency to the SCOPE programme. The brighter aspect of such partnerships is, of course, the excellent opportunity to reach out to decision makers in a more policy relevant way. The drawback is the risk that SCOPE become driven by the demand and concerns of its partners rather than by its own scientific priorities.
11. When some partners, especially in the industry, but also UNEP or UNESCO, come to SCOPE with a detailed request to undertake a specific review or other task on a given issue, at which stage does the partner become a client, and at which stage does the outreach activity (legitimate within the mandate of SCOPE) become a consultancy (probably outside the mandate of an ICSU interdisciplinary body)?

B) Expenditure

Operational costs

- The cost of organising general meetings (Officers, Executive Committee or General Assembly meetings) has grown significantly over the past few years: airfares have become more expensive in US\$ terms; hotel costs have increased significantly everywhere in the world; and as SCOPE has made a real effort to reach appropriate geographic balance in the election of its Executive Committee this adds also to the airfare costs. As a consequence, a general meeting costs a minimum US\$40,000 to the central budget nowadays.
- Salaries and related charges decreased steadily in Euro terms over 2000-2007. It is of note that the number of hours **paid** to staff has decreased by half, from 127 hours per week for 4 persons in 2000 to 63 hours to 3 persons in 2007 (which does not mean that the real number of hours worked has decreased accordingly). Salary increases have been granted up to early 2005 to keep pace with the inflation, but not over the past 3 years (additional loss for staff in real terms due to inflation, 5.60%). At present, all staff members are paid only a part of their full 2005 salaries and their schedule is theoretically reduced accordingly (VPF at 68%, SGE at 70%, FP at 80% of their previous salaries). However, due to the unfavorable exchange rate, the cost in US\$ keeps above US\$200,000 (US\$228,000 in 2007).
- It is of note that terminating the contract of any staff member would be very costly - circa 12 months of monthly salary for FP, 18 months for VPF or SGE - between the departure bonus due to employee, and the penalties to be paid to social programmes. This could become even more expensive depending of ongoing negotiations between the trade unions and government.
- Other operational costs at the Secretariat have been reduced by half in US\$ terms (i.e. by more than 2/3 in Euro terms) over the past 5 years, to circa US\$25,000 per year. This, however, does not take into account provisions made for the move of the SCOPE Secretariat to the new ICSU premises in 2007 (total cost in the vicinity of \$6,000).
- Travel budget has become quite inexistant, which greatly impedes the capacity for Officers to visit national members as well as prospective new members, a prerequisite to maintaining the SCOPE network active and extending our geographic basis.

Scientific programme

- Expenditure incurred during the course of a SCOPE projects concerns primarily international meeting costs, whether planning meetings, workshops or editorial meetings. Meeting costs typically represent about 2/3 of a project budget.
- Publication costs come next and include the preparation of the manuscript for publication as well as the purchase and worldwide dissemination of a number of copies of the final volume (the range of this complimentary distribution is 200-800 copies). It is expected that, in the future, most projects will also produce a policy brief and/or other outputs specifically targeted to decision makers and other stakeholders. The policy brief programme of UNESCO, SCOPE & UNEP is funded so far on resources provided by the sponsors, but it may be envisaged to ask the projects for a contribution at some stage in the future.
- Coordination costs are whenever possible covered by an overhead (from 0 to 15% according to donor agency prerequisites and... to the capacity of the project budget to bear an overhead at all).

- Scientists contributing to SCOPE projects donate their time and work to SCOPE and there is normally no fee or honorarium paid them. A project officer (usually a graduate student or post doc scientist) may be recruited to assist the chairperson on more complex and longer projects. These staff people are generally paid on fellowships that do not pass through SCOPE books.
- The Rapid Assessment Projects (RAP) were established in 2001 in order to provide a more timely response and encourage projects to seek a more integrated synthesis and appraisal of the knowledge rather than detailed analyses that can be addressed as well by other organizations. As a compressed workplan (one planning meeting followed by a single workshop; the entire project wrapped up within less than 2 years) is also less costly, RAPs have proved to be an answer to the funding shortage, but only to an extent. More traditional, larger SCOPE projects with multiple workshops and multiple publications made for costs between US\$500,000 to US\$1,000,000 (and beyond). A RAP budget ranges from US\$140,000 to \$180,000, a much lesser sum but still significant, especially as, because of the short duration of such projects, most of it needs be raised upfront.

C) 2007 Results

The audited SCOPE accounts for 2007 show an improvement over previous years, with a positive balance of US\$19,500+ for the year 2007 in spite of raising exchange rates of the Euro vs US\$. The deficit accumulated over recent years decreases correspondingly from US\$75,600 to US\$ 56,000 at 1st January 2008.

This improvement is the result of measures taken to reduce operational expenses, in particular by i) reducing staff salaries as explained above, ii) not convening the Executive Committee and making do with conference calls instead and iii) cutting drastically on travel not covered within a specific project. As regards programme expenses, there were no small grants or other seed money allocated for the development of new projects. All set of measures, necessary in the short term, impede critically on the capacity of SCOPE to be proactive and look beyond the horizon as its mandate requires.

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