

International Group of
Funding Agencies for
Global Change Research

IGFA

Meeting Report No. 11

Beijing International Convention Center
Beijing, China
October 24 - 28, 1999

The International Group of Funding Agencies for Global Change Research (IGFA) is an informal group of representatives of agencies and ministries of 21 countries and the EU, responsible for the funding of global change research. The purpose of the Group is to facilitate international global change research in the natural, social and economic sciences by bringing the perspective of these national funding agencies to strategic planning and implementation of such research.

IGFA's goals are:

- (i) internal communication about funding issues;
 - (ii) communication with the international organizations dealing with global research issues;
 - (iii) addressing specific issues related to global change research and its funding.
- Once a year IGFA has a plenary meeting

Additional copies of this report may be found in PDF format on the web at www.igfagcr.org or obtained upon request from:

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EXECUTIVE SUMMARY¹

In the 1999 Plenary Meeting of IGFA representatives from 18 IGFA countries, the international global change programmes WCRP, IGBP, IHDP and DIVERSITAS, and ICSU, SCOPE, CEOS, APN and START discussed a wide range of issues related to the funding of global change research.

The national updates reflected an overall stable funding situation for global change research, with increases seen in a few countries. The four international programmes reported good scientific progress. At the same time, however, they indicated that the comparatively small amount of money they need for co-ordination and integration of research activities (glue money) seems to be a bigger problem than ever: DIVERSITAS is in a financial crisis and is without an executive director due to insufficient funding; IHDP is still experiencing serious funding problems; and IGBP is facing problems in funding the major scientific synthesis of programme results.

New funding mechanisms

As a consequence of the above, availability of glue money was extensively discussed throughout the meeting, in particular in the session on new funding mechanisms. A distinction was made between short-term critical issues and issues that will need action in the medium and longer term.

Short- term glue money issues

All IGFA members present, as well as the representatives of the international programmes, agreed on the following actions:

IGFA members will act on concrete glue money proposals from the international programmes by making sure that the proposals are channelled through their national funding systems.

IGFA will establish a new process for reception and consideration of glue money proposals from the international programmes. The Steering Group / Staff Group will prepare a suggestion before the next plenary meeting of IGFA.

The international programmes are invited/asked to strongly encourage the scientific community to send strong signals about the importance of glue money into their national funding systems. Scientists should include requests for glue money in their research proposals.

¹ Action items are highlighted with the symbol '=>'. Items that require that some concrete action be taken before the next plenary are in bold. The other action items do not have specific deadlines. They should be kept in mind and used in the daily work of IGFA and/or its individual members. The need for progress reports with regard to all action items should be considered before each plenary meeting.

These commitments to act should be embodied in a document that should be endorsed both by IGFA member agencies and the international programmes. The Steering Group / Staff Group will prepare a draft document for circulation during the next year.

DIVERSITAS was asked and agreed to prepare a proposal for a two-year bridging phase for the programme, with the aim to continue after a positive evaluation.

All IGFA agencies will prepare an overview of their present glue money funding possibilities, including conditions for access, and inform the IGFA secretariat on further notice.

IGFA members that have not yet responded to the issue of IHDP support will do so as soon as possible.

Medium-term issues

'Two-track model': IGFA members and the programmes discussed a model in which the programmes would give early indications to IGFA when they are considering new initiatives for Programme Elements. Such indications would initiate a two-track process in which scientific planning takes place in parallel with the work of an ad hoc group involving funding agencies of countries with potential interest in funding the research and supporting the infrastructure for the Programme Element. The Steering Group / Staff Group will prepare a concrete proposal for the implementation of this model, to be discussed at the next plenary meeting of IGFA.

Longer-term issues

Glue money: IGFA members agree that glue money funding possibilities should be created at the national level, if they do not already exist. IGFA agencies should look into possibilities for harmonising the procedures to access such funds. A major first step would be co-ordination of access at the national level. A global 'super glue fund' was not considered realistic.

New partnerships: It was noted that at the national level public-private partnerships in research funding involving IGFA agencies, companies and NGOs are developing. With regard to developing partnerships with the private sector, it was therefore decided that IGFA should not take a leading role.

With regard to the *public sector*, the international programmes were encouraged to develop close links with the scientific and technical bodies of the Conventions.

IGFA agencies should inform policy makers at the national level about the contributions made by the international programmes to policy relevant information.

Partnerships of IGFA agencies with development aid agencies are considered valuable, but difficult to achieve.

Resource Assessment

The Staff Group presented a concrete proposal for a third resource assessment. The discussion that followed revealed that not all IGFA members were positive about the exercise. The representatives of the programmes expressed reservations about the value of doing another such detailed resource assessment from their perspective. It was agreed, therefore, with the concurrence of the Staff Group, that their proposal not be considered further. As a consequence,

IGFA decided to defer consideration of a third resource assessment. There was, however, a general view that a basic compilation of some data regarding the support for global change research is needed, and it was suggested that this information could be collected in connection with the written communication of national highlights each year. The Steering Group / Staff Group will further explore how this option can be implemented in conjunction with the preparations for the next plenary.

Funding Inter- and Multidisciplinary Science

Focused discussions on barriers of funding inter- and multidisciplinary research and possible solutions to overcome them resulted in the following suggestions for how funding agencies can help foster interdisciplinary research:

- Set up appropriate peer review mechanisms tailored for assessing interdisciplinary proposals;
- create separate funding modes for disciplinary and interdisciplinary research, and involve the academic community in research agenda setting;
- seek funding partnerships for interdisciplinary research;
- fund capability-building measures that ease the transition to interdisciplinary research.

These measures are meant to support a co-evolution of complementary mechanisms within academia.

IGFA members are encouraged to use the suggestions above, as appropriate, within their own funding agencies and countries.

IGFA as an organisation should promote the importance of interdisciplinary research, reiterating the above suggestions as appropriate during international meetings and discussions. However, IGFA should also learn from the experience of non-IGFA agencies by relaying their suggestions at IGFA Plenary meetings.

Regional Approaches to Global Change Research

From discussions on current and future funding mechanisms for regional research it was concluded that instruments for supporting regional activities exist in principle, but that the possibilities for extraterritorial transfer of funds are very limited. In addition the level of glue

money is too low and unstable. Substantial changes will presuppose political willingness. It emerged from the discussion that intermediate options could include:

- Adapting positive experiences of one funding agency to another ('IGFA style');
- increasing multilateral agreements;
- intensified lobbying for glue money by the scientific community;
- increasing transfer of national funds to recognised international bodies with joint peer reviewing (cf. ICSU White Paper, discussions within ESF).

IGFA's role should be to discuss these and other options, recommend what is feasible, and consider a suggestion for a roundtable with high profile experts.

The four regional networks (APN, ENRICH, IAI, and START) are encouraged to make a common analysis of the organisation and funding situation of the networks (similarities and differences) and the co-operation between them.

Observations and Data

Current issues of observations and data were discussed, resulting in the following conclusions:

IGFA members agree to provide current oversight of relevant initiatives in the international arena, as they are integral parts of global change research.

Individual IGFA members should pay particular attention to dialogue and work with their responsible national counterparts in observations and data in order to fully introduce global change aspects in their programmes.

The plenary agreed to re-establish the Working Group on Observations and Data and endorsed new Terms of Reference. Tom Spence was invited to be Chair of the Working Group.

IGFA members are invited to nominate appropriate members to the Working Group at the earliest opportunity by communicating their names to Tom Spence.

Human Dimensions

Revised Terms of Reference for the Working Group on Human Dimensions were endorsed.

IGFA members are invited to nominate appropriate members to the Working Group at the earliest opportunity by communicating their names to Uno Svedin.

Search for new Chair

A search committee consisting of the present and former chairs of IGFA, Kirsten Broch Mathisen, Bob Corell and John Marks, was nominated and charged with the task of proposing a successor to the present Chair in time for the next meeting

Next meeting

The next plenary meeting of IGFA will be hosted by the Swiss National Science Foundation in Zürich, 22-26 October 2000.

INTRODUCTION

In the 1999 Plenary Meeting of IGFA representatives from 18 IGFA countries, the international global change programmes WCRP, IGBP, IHDP and DIVERSITAS, and ICSU, SCOPE, CEOS, APN and START exchanged information on the funding of global change research and discussed the state of and developments in the international global change research programmes. The meeting agenda was organised in seven thematic sessions, each with a separate chair.

Theme A Horizontal Theme 1: Funding Inter- and Multidisciplinary Science

Chair: *Elizabeth Boston*, Canada; Assistant: *Ian Dwyer*, UK

Theme B Horizontal Theme 2: Regional Approaches to Global Change Research

Chair: *Johannes Karte*, Germany; Co-chair: *Sun Shu*, China; Assistant: *Lou Brown*, USA

Theme C National Updates

Chair: *Martine Vanderstraeten*, Belgium; Assistant: *Cara M. Sucher*, USA.

Theme D Observations and Data

Chair: *Christian Patermann*, EU; Assistant: *Julia M. Kundermann*, EU

Theme E International Global Change Programmes

Chair: *Katja Remane*, Switzerland; Assistant: *Terje Mørland*, Norway

Theme F New Funding Mechanisms / General Funding Issues

Chair: *John Marks*, The Netherlands; Assistant: *Hans de Boois*, The Netherlands

Theme X Miscellaneous: Opening, Third Resource Assessment Survey, Tour the Table, Summary and Thanks

Chair: *Kirsten Broch Mathisen*, Norway, Assistant: *Terje Mørland*, Norway

Note: The discussion and the conclusions regarding the third resource assessment survey is reported on under Theme E.

OPENING OF THE MEETING

On behalf of the National Natural Science Foundation of China (NSFC) Sun Shu welcomed the participants to Beijing and wished for a successful meeting with many fruitful discussions. In his welcome address he underlined the importance of international collaboration in global change research and emphasised the strategic role IGFA plays by bringing the perspective of national funding agencies to strategic planning and implementation of international global change research efforts.

The chair of IGFA, Kirsten Broch Mathisen, welcomed everyone to the 11th plenary meeting of IGFA, in particular the representatives participating in an IGFA meeting for the first time. She noted that there were no new countries present around the table this year, but was very pleased to inform IGFA that representatives from Denmark, Russia, and South Africa

had expressed their interest in participating in IGFA, although they were unable to attend the meeting this year because of other heavy duties. The chair expressed the gratitude of IGFA to NSFC for hosting this meeting of IGFA. She further thanked the Staff Group for their efforts in preparing the meeting and Cara Sucher for the construction of the new IGFA web page (<http://www.igfagcr.org>).

THEME A: FUNDING INTER- AND MULTIDISCIPLINARY SCIENCE

Introduction

Understanding the complex problems involved in global change and its consequences requires collaboration between researchers from different scientific disciplines. Such interdisciplinary research is required, for example, within and across natural sciences, social sciences and economics, health sciences and engineering.

To foster and enable interdisciplinary research it is essential that appropriate methodological techniques and organisational conditions be developed. This can be problematic as barriers include:

- conceptual and methodological differences between disciplines;
- discipline-based academic institutions;
- discipline-based funding mechanisms.

Focused discussion of these problems and possible solutions to them took place in a parallel session. During National Presentations many countries reported an increased emphasis on interdisciplinary research.

Report from Parallel Session

The purpose of the session was to identify and discuss common barriers to the funding and fostering of interdisciplinary research, and to suggest possible solutions, using examples and best practices.

Barriers were divided into two categories: those principally within the funding agencies and those principally within academia. The group decided to concentrate on issues that funding agencies could possibly do something about.

Barriers within funding agencies

Peer review

In many funding agencies the system for peer reviewing proposals is weighted against interdisciplinary bids because review committees are often organised by discipline and review criteria focus on novelty and excellence within each discipline rather than across disciplines.

The group suggested that peer review of interdisciplinary proposals should be done by specially constructed committees containing:

- representatives from different disciplines;
- researchers with interdisciplinary experience.

Furthermore, review criteria for interdisciplinary proposals should focus on:

- excellence of the individual scientists as well as the overall merit of the proposed research, rather than the novelty and excellence of the science within each discipline;
- the expertise balance of the research team;
- effectiveness of proposed mechanisms for delivering interdisciplinary research;
- opportunities for the training of young scientists in interdisciplinary skills and experience;
- policy/ user/ societal relevance of the research.

Available funding

Tensions often arise when funds are given to interdisciplinary modes or programmes. It can be seen as taking funds away from discipline-based research. Nevertheless, interdisciplinarity is a need which must be addressed, a need which often coincides with user-relevant research agendas.

The group suggested that funding agencies alert academic communities of likely shifts in funding towards interdisciplinary programmes so the community can position itself accordingly. Nevertheless, concerns about erosion of disciplinary science funding can be partially mitigated by:

- protecting discipline-based science funding modes to ensure a minimum level of such research, while using new funds (when available) to support interdisciplinary programmes;
- seeking flexible partnership funding with users to increase the value of interdisciplinary funds;
- involving the scientific community in interdisciplinary agenda setting to foster a sense of ownership and inclusion;
- utilising the international programmes to provide incentive, rationale, and support for national interdisciplinary research programmes.

Barriers within academia

Lack of capability

As interdisciplinary research is relatively new, some academic communities lack interdisciplinary skills and experience. Capability building initiatives could include:

- funding workshops and networks to initiate communication, collaboration, and proposal planning;

-
- funding interdisciplinary professorships to help foster an interdisciplinary research culture within universities and research institutes;
 - adequately funding project management and co-ordination aspects of interdisciplinary research, as an integral part of the project support;
 - developing more cross-council initiatives.

Academic structures and reward systems

Few interdisciplinary academic journals exist, so publication in respected journals is predominately discipline oriented. Thus, as the reward system is largely publication based, it is also therefore largely discipline focused. Similarly, departments in universities and research institutes are generally set up along disciplinary lines, forcing discipline-based career paths.

It is difficult for funding agencies to directly change this system, but they can influence it. By placing importance on interdisciplinary research, in the ways suggested above, research institutions will position themselves accordingly by, for example, setting up interdisciplinary departments and reward systems to attract the available interdisciplinary funds. This could in turn influence researchers to consider careers in interdisciplinary research.

Conclusions

In summary, funding agencies can help foster interdisciplinary research by:

- setting up appropriate peer review mechanisms for assessing proposals;
- creating separate funding modes for disciplinary and interdisciplinary research, and involving the academic community in research agenda setting;
- seeking funding partnerships for interdisciplinary research;
- funding capability building measures that ease the transition to interdisciplinary research.

These measures are meant to support a co-evolution of complementary mechanisms within academia.

What can IGFA members do?

IGFA members can use the suggestions above, as appropriate, within their own funding agencies and countries.

What can IGFA itself do?

IGFA can promote the importance of interdisciplinary research, repeating the above suggestions as appropriate during international meetings and discussions. However, IGFA can also learn from the experience of non-IGFA agencies by relaying their suggestions at IGFA Plenary meetings.

THEME B: REGIONAL APPROACHES TO GLOBAL CHANGE RESEARCH

Introduction

The session chair introduced this session by outlining the fundamental differences between globally oriented and globally/regionally operating research and the overall nationally operating funding mechanisms. So far these mechanisms have not resulted in the stable and sufficient funding required for the support of operational research or for its co-ordination (glue money).

In a keynote lecture Bob Corell summarised the mechanisms which have developed to plan, develop, fund and implement global change research on a regional basis. He emphasised that in particular the science-policy link, as expressed in the IPCC assessment process, has revealed the growing importance of global change research at a regional scale. He pleaded strongly for IGFA to take a leading role to reconsider the funding issues related to this development and suggested a roundtable to explore new mechanisms of funding.

In the discussion the ideas expressed in the keynote were strongly supported. For the proposed roundtable additional participation from outside IGFA (e.g. ministries of the environment, stakeholders) was suggested. New mechanisms to provide and secure glue money were once again identified as the key problems of funding regional approaches to global change research.

Regional networks: IAI, APN, ENRICH

Brief presentations from three regional networks were given in a parallel session.

IAI

Bob Corell gave an overview of the development and present state of IAI. Besides core funding of infrastructure and workshops on the base of intergovernmental agreements there are corporately managed voluntary contributions to joint programs and specific project funds from various sources including the GEF. In the discussion it became evident that the political willingness of participating countries and formal joint funding agreements between them have proved to be essential elements in the success of IAI.

APN

Hiroaki Takagi, the new director of APN, reported on some major recent developments of APN including the completion of a 5-year Strategic Plan and the opening of the new APN Centre in Kobe. In 1999/2000 the overall budget, that was previously mainly for networking and infrastructure, but now also for funding research projects, has increased significantly. These funds are often used to leverage funds from other organisations.

ENRICH

Julia Kundermann reported on ENRICH which is funded as part of the 5th Framework Programme of the EU. The programme has a European focus but extends outside Europe when it is of interest to Europe. It provides mainly money for networking, infrastructure etc. As to geographical coverage there has been less focus on Africa than originally anticipated.

The following conclusions were reported to the plenary:

- the overall development of the networks IAI, APN and ENRICH is positive;
- the three networks have very different approaches of funding and systems of management. These differences are partly determined by different funding cultures;
- the overall amount of funding of the networks is small but sufficient, with a high degree of organisational complexity and fund raising efforts;
- Glue money in various forms is a major funding instrument for the networks as a whole, with some core money for infrastructure and capacity building as well as multidonor project money;
- the funding of the networks presupposes political willingness of the countries involved for joint funding (agreements);
- some inherent problems are:
 - instability of funding and risk of underfunding,
 - insufficient co-operation with aid agencies,
 - that some important regions in Africa and Asia sensitive to global environmental change are not covered by these networks.

In the discussion of these conclusions, several discussants noted that there is far more networking, also in sensitive regions, on an inter-institutional level than manifested by IAI, APN and ENRICH. It was suggested that at the next meeting IGFA should get an overall overview of the state of and developments of the networks.

START

As a joint IGFA-START activity on the occasion of the START Scientific Steering Committee (SSC) in Beijing, a specific session was devoted to the development of START with a focus on East Asia. Peter Tyson, the chairman of the START SSC, thanked IGFA for this opportunity and gave an introduction to START. Roland Fuchs outlined the development of START and its projects in greater detail and emphasised the specific role of START to achieve syntheses of the global change research programmes at a regional scale. A major remaining problem of START is that there is no formal mechanism to provide and secure adequate and stable core funding. Congbin Fu gave an overview of the regional START centre in Beijing which was established in 1994 and which has made significant progress both scientifically and in capacity building.

In the following discussion issues of co-operation with the other networks, strategies for the dissemination of research results and core funding were raised. With regard to core funding the importance of developing new partnerships was underlined. The fact that funding agencies fund research and development aid agencies fund capacity building implies the need for developing partnerships of IGFA agencies with development aid agencies. This was discussed in more detail in the following session on 'New funding mechanisms'. The chair concluded the START session by concluding that the development of START is very impressive and that the key funding issue of providing and securing glue money has to be dealt with in a broader context.

Conclusions

The conclusions of this horizontal session were summarised as follows:

- Funding instruments for supporting regional activities exist in principle, but possibilities for extraterritorial transfer of funds are very limited;
- the level of glue money is too low and unstable;
- substantial changes presuppose political willingness;
- intermediate options include:
 - adapting positive experiences of one funding agency to another ('IGFA style'),
 - increasing multilateral agreements,
 - intensified lobbying for glue money by the scientific community,
 - increasing transfer of national funds to recognised international bodies with joint peer reviewing (cf. ICSU White Paper, discussions within ESF).
- IGFA's role should be to discuss these and other options, recommend what is feasible and consider the suggestion for a roundtable with high profile experts.
- The four regional networks (APN, ENRICH, IAI, and START) are encouraged to make a common analysis of the organisation and funding situation of the networks (similarities and differences) and the co-operation between them. This could be done in much the same way as the programmes have already done (cf. 'ICSU White Paper').

As the funding issues raised in this session converged with the issues raised in the session on new funding mechanisms, the final sessions of both were merged. The conclusions are reported on under 'New Funding Mechanisms'.

THEME C: NATIONAL UPDATES

Introduction

The aim of the session was to provide participants, including those representing international research programmes, with insight into highlights and trends in national attitudes and support towards global change research. Each country was invited to make a five-minute presentation concentrating on news and recent developments such as funding situations, new national initiatives, etc. Participants were specifically requested to provide updated information on issues related to the two horizontal themes of the meeting agenda: 'funding inter- and multidisciplinary science' and 'regional approaches to global change research'.

Individual detailed country reports are available in a separate volume.

National Highlights

Many topics were touched on during the presentations. Most reports were quite encouraging in that funding for global change research appears to be fairly stable across the board (with increases seen in a few countries) and many new initiatives focusing on human dimensions and biodiversity (as well as in the broader 'sustainable development' area) have been either planned or started.

There also appears to be an increase in interest for programme integration and synthesis as well as interagency co-operation to varying degrees (e.g. dialogue level, programme level, funding level). The glue money issue is still approached in a variety of ways, where some countries have specific mechanisms available for providing these funds while others still work on an *ad hoc* basis. Additionally, some countries addressed education and training, where these are integral parts of the research programme.

Some specific highlights include:

- The UK is setting up a new interdisciplinary climate change centre.
- The EU highlighted their successful proposal call under the fifth framework programme (except for the area on adaptation and mitigation).
- The Dutch science community will host the IGBP Millennium Conference in July 2001 in Amsterdam.

Funding of Interdisciplinary and Multidisciplinary Science

The present and future importance of interdisciplinary and multidisciplinary research was generally acknowledged and supported. Presentations described various approaches to initiate and incorporate interdisciplinary and multidisciplinary research into new and existing research programmes. These approaches included multidisciplinary advisory panels, specifically defined multidisciplinary projects and programmes, and co-operation between different agencies and/or centres. They have been met with varying degrees of success.

Though the extent of national support for interdisciplinary and multidisciplinary research varies widely from country to country, the need for establishment of research councils specifically for interdisciplinary issues was emphasised. Specific obstacles, experiences and solutions to these issues were the focus of a major session at this meeting.

Regional Approaches to Global Change Research

Approaches to funding regional global change research varied widely, from bilateral and multilateral co-operation to inclusion of foreign researchers in national projects (though usually on the condition that they work in the funding country). Private, international (e.g. FAO, WorldBank), and non-governmental organisations also support various aspects of regional global change research.

THEME D: OBSERVATIONS AND DATA

Introduction

Recognising the need for research and systematic observations, the UN Framework Convention on Climate Change (FCCC) has charged Annex I countries to assess their efforts in support of Convention requirements. These national reports will soon include elements of observing systems and data policies to provide an effective global observational database for climate characterisation, attribution, and prediction, as well as assessments of the efficacy of future policies to reduce the threat of climate change.

Since IGFA resources provide a major source of support for research efforts on climate, the Convention offers an opportunity to highlight these IGFA national research activities and to demonstrate their significance in meeting both national and international requirements. Regarding systematic observations, the Convention offers an opportunity for countries to specifically address inadequacies of current observing systems and, it is hoped, take steps to improve the situation. The Convention has also acknowledged a continuing requirement for global and regional data for climate assessment and prediction. Countries will be asked to document relevant data policies and indicate any barriers to sharing data sets.

The Committee on Earth Observing Satellites (CEOS), with other organisations, initiated plans for an Integrated Global Observing Strategy (IGOS). The strategy emphasises a combination of space-based and *in situ* observing systems intended to support the research community and also meet many other requirements for systematic observation. Once the strategy was articulated, IGFA representatives proposed a partnership among the appropriate groups (CEOS, WCRP, IGBP, the global observing systems and the intergovernmental agencies supporting them, and IGFA). Since then, several meetings have been held to develop a suite of pilot programmes and prepare documents outlining and articulating the strategy. IGFA has been and continues to participate actively in such meetings.

Further development of IGOS will require a commitment by the research programmes sponsored by IGFA, and continuing oversight and advice from IGFA members. New pilot programmes will be developed under a theme concept. These projects will benefit from the IGFA-supported programmes, and will in turn benefit the IGFA-supported programmes. IGFA and the research programmes have the capability to enhance the limited *in situ* observing components and to co-ordinate field campaigns with satellite missions to improve the quality of the global observational database.

Conclusions

Against this background the IGFA Plenary discussed current issues of observations and data and concluded as follows:

- IGFA members agree to provide current oversight of relevant initiatives in the international arena, as they are integral parts of global change research.
- Individual IGFA members should pay particular attention to dialogue and work with their responsible national counterparts in observations and data in order to fully introduce global change aspects in their programmes.
- The plenary agreed to re-establish the Working Group on Observations and Data and invited Tom Spence to be its Chair. Taking into account discussions during the Oslo and Tucson Plenary meetings, members agreed to elaborate the existing Terms of Reference of the Working Group to reflect their current interests and concerns. The revised Terms of Reference were endorsed by the plenary and are appended to this report (Appendix B). Each of the IGFA members is invited to nominate appropriate members to the Working Group at the earliest opportunity by communicating their names to Tom Spence.

THEME E: INTERNATIONAL GLOBAL CHANGE PROGRAMMES

Programme presentations

The international global change programmes were invited to present scientific developments and other news related to the organisation of the programme and the funding situation. In connection with the IHDP presentation, the Chairman of the Working Group on Human Dimensions gave a status report of the work of the group.

Statement from ICSU

On behalf of ICSU, Anne Larigauderie gave a statement about the difficult glue money situation. To solve the crisis, the heads of the GEC programmes have proposed a new funding strategy: the public sector support needs to be strengthened and stabilised and complemented by private sector support (as referred to in the “white paper”). As the common sponsor of these programmes, ICSU is fully supportive of this initiative and suggests that glue money should primarily be provided by IGFA members.

Anne Larigauderie also announced that Larry Kohler had been appointed and would assume responsibilities as new executive director of ICSU on 1 January 2000.

WCRP

Michael Manton, representing WCRP, informed IGFA that, due to departure of its former director Hartmut Grassl and several other staff changes, the programme is currently in a transition phase.

Nonetheless, scientific progress has been made in all the major WCRP projects: GEWEX, CLIVAR, WOCE, SPARC, ACSYS, and CLIMATE MODELLING (a foundation of WCRP).

Manton further stated that funding problems, including a deficit in IPO funding, could become a limiting factor and underlined the importance of WCRP maintaining strong and effective links to other GC programmes, especially IGBP, GCOS/GOOS and IPCC.

IGBP

Funding issues

Peter Tyson, Chair of START SSC and member of the IGBP Scientific Committee, briefed IGFA on funding challenges, concentrating on issues specific to IGBP. Since the 1998 IGFA plenary meeting, where stable funding for IGBP activities was reported, the situation has deteriorated both at the central and the IPO level. The three main reasons for this are:

- a weakening of national contributions;
- a sharp fall in support from Latin American countries (This may be due to competition with IAI for national contributions, and there is some concern that a similar problem could arise in the APN region);
- a sudden and unexpected major drop of ICSU's contribution for 2000.

Further, two IPOs are in a sharp financial crisis. LUCC is currently without an IPO, and the support for the IGAC IPO ends on 31 December 1999 (IGAC has requested continuation of its funding.).

Scientific progress

Neil Hamilton reported on IGBP's scientific progress. Highlights include:

- IGBP is undertaking a synthesis of its GC research activities over the past 10 years. This synthesis, which is to be completed by July 2001, will set the framework for global change research in the 21st century.
- IGBP is currently in a process of restructuring and developing cross cutting themes (Food and Fibre, the Global Carbon Cycle, and Water),
- A new draft communication strategy has been developed, including a much enhanced interaction with media, under the guidance of a professional science communicator.
- IGBP has decided to establish a regional global change research initiative, to be known as Regional Aspects of Global Change (RAGC), with the overall goal of assisting IGBP

and START to assemble the 'global picture' from an increasing number of regional studies of global change.

- IGBP, in collaboration with WCRP and IHDP, will hold an Open Science Conference in July 2001, in Amsterdam. It will present the latest results of Global Change research at three levels: (i) IGBP as a whole; (ii) cross cutting research involving WCRP and IHDP; and (iii) individual research projects contributing to IGBP networks.

IHDP and IGFA Working Group on Human Dimensions

Scientific progress

Jill Jäger, the new Executive Director of IHDP, informed IGFA that as a result of the work of the past two years, IHDP is moving quickly into the implementation phase of its scientific projects. In addition to the four priority projects summarised below, there are a number of initiatives that are being explored, in particular the topic of Environment and Health. Highlights include:

- The project on Land Use and Land Cover Change (LUCC), co-sponsored by IGBP, now has an approved Implementation Strategy.
- The Science Plan of the project on Institutional Dimensions of Global Environmental Change (IDGEC) was published in May 1999 and a Scientific Steering Committee (SSC), chaired by Professor Oran Young, has been established. The International Project Office (IPO) has been set up at Dartmouth College, New Hampshire, USA.
- The Global Environmental and Human Security (GECHS) project's Science Plan was approved by the SC-IHDP in April 1999 and was published in June 1999. An SSC has been nominated and the IPO is being established at the University of Victoria, British Columbia, Canada.
- The Industrial Transformation (IT) project presented its Draft Science Plan at an Open Science Meeting in Amsterdam in February 1999. On the basis of comments received at that meeting and through a broad-scale review process, the draft is being revised and is expected to be approved and published in the second half of 1999. Support is being sought for the establishment of the IT IPO in Amsterdam.
- All four projects have concrete plans, some already implemented, for strong collaboration with other projects in partner global environmental change programmes, especially IGBP and START, and with other organisations. The projects were strongly represented at the Open Meeting on the Human Dimensions of Global Environmental Research Community held in Japan in June 1999.

A number of other initiatives are strengthening human dimensions activities, in particular the publication of a Directory of National Human Dimensions Committees and Activities and a series of workshops to support networking among these committees and with the IHDP. A "seed money initiative" using a grant from UNESCO/ISSC has stimulated activities in a number of developing countries, including Yemen, Senegal, the Ivory Coast, Nigeria, the Philippines and Fiji.

Funding issues

Jill Jäger reported that the German Federal Ministry for Education and Research and the US National Science Foundation had renewed their support for the IHDP Secretariat for a further three years. The support from Germany and the USA amounted to more than 80% of the support for the Secretariat in 1999. As of October 1999 contributions had also been received from the Netherlands, Sweden, Norway, Austria, China (Taiwan) and Switzerland.

Uno Svedin, chairman of IGFA's Working Group on Human Dimensions, commented on the response to the letters about support for IHDP that IGFA had sent to members since the last plenary. Although a few more countries had expressed positive signals, the response in the collective view had been rather meagre. He then once again underlined the importance of getting new contributions now. Large contributions are, of course, most important, but in this case it is also important to see an increase in the number of countries financially involved. It was later concluded that those who had not responded to the letter should do so by the end of 1999.

IGFA and human dimensions in a broader sense

Unos Svedin reported on the activities of the working group (Appendix C). He suggested based on the results of the 1999 Open Meeting on the Human Dimensions of Global Environmental Research (cf. Report in appendix C) that the Working Group should concentrate on the following points in 1999/2000:

- *Further active involvement* in promoting a clear knowledge about funding options from IGFA members in the human dimensions area and especially aimed at IHDP.
- *Involvement* in the negotiations about the next Open Meeting on the Human Dimensions of Global Environmental Research.
- *Probing* the impact on IGFA of the increased importance of "the South". Should earlier IGFA activities regarding interaction with development aid agencies be connected to this new human dimensions interest?
- *Investigating* the consequences for IGFA of the increased importance expected to be assigned over the next three to five years to integration of social science/humanities, natural science and technology.
- *Further searching for ways* to promote the link between research and policy making.

It was considered important to improve the Working Group's mode of operation by upgrading inter-plenary communication in the working group also through means other than meetings. Revised Terms of Reference for the Working Group on Human Dimensions were endorsed (Appendix D). Each of the IGFA members is invited to nominate appropriate members to the Working Group at the earliest opportunity by communicating their names to Uno Svedin.

DIVERSITAS

José Sarukhàn, Chairman of the DIVERSITAS SSC, reported that the programme had been launched in 1991 and was devised as a bridge to cover the gap between disciplines of biodiversity science among international organisations and efforts related to biodiversity. DIVERSITAS is organised in core projects and special target areas (Stars). The expertise supplied by virtually all these programme elements is relevant to the aims of Agenda 21 and the Convention on Biological Diversity. The programme also supports the International Biodiversity Year initiative 2001-2002 (IBOY).

The presentation of content and scientific progress was, however, overshadowed by the serious financial crisis the programme is experiencing. DIVERSITAS suffers from extreme shortage of funds for its core activities, and it was made clear that, unless extra financial support for these activities can be secured, the programme will not be able to run any longer.

Conclusions

- The session chair concluded that, despite difficulties with regard to glue money (with different degrees of severity), there seems to be good scientific progress in all programmes.
- IHDP is still experiencing serious funding problems. IGFA members who have not responded to the letters about funding of IHDP should do so by the end of 1999.
- Revised Terms of Reference for the Working Group on Human Dimensions were endorsed (Appendix D). Each of the IGFA members is invited to nominate appropriate members to the Working Group at the earliest opportunity by communicating their names to Uno Svedin.
- DIVERSITAS is in a financial crisis and was invited to prepare a proposal for a two-year bridging phase for the programme, with the aim to continue after a positive evaluation. This proposal should be ready before the next meeting of the Steering Group on 17 December.

3rd IGFA Resource Assessment

The 1998 IGFA plenary meeting decided to conduct a third resource assessment with 2000 as base year. Several participants at that meeting had, however, expressed serious concern that the second resource assessment had been very labour intensive. As a consequence, the Staff Group had made a concrete proposal on how to conduct the next resource assessment with much less effort than in the previous round. Hans de Boois presented the proposal to the plenary.

The discussion following the presentation revealed that not all IGFA members were positive about the exercise. Some countries indicated that they would not be able to provide project-level information. In particular information on the increasing volume of projects funded by other sources would not be accessible. The representatives of the programmes also expressed reservation about the value of doing another resource assessment. From their point of view, glue money is the problem, not funding of actual

science projects. Against this background, a drafting group consisting of IGFA members and representatives of the programmes was formed to discuss the feasibility of the proposal presented by the Staff Group for the Third Resource Assessment.

The drafting group concluded that without the specific project-level information it would not be possible in an allocation survey to distinguish Categories I, II and III (resp. Core Research, Contributing Research, Relevant and other Research); nor would it be possible to compare the needs of the programmes with the allocated funds (in particular category I and II). The possibility to compare results with those of the Second Resource Assessment would become very limited. Based on these conclusions, the Staff Group decided to withdraw the proposal. The IGFA-members of the drafting group recommended, however, that at least a compilation should be undertaken of the national support for global change research by IGFA members.

The report of the drafting group is included in Appendix E.

Conclusions

- Based on the recommendations of the drafting group it was decided to defer consideration of a third resource assessment. There was, however, a general view that a basic compilation of some data regarding the support for global change research is needed, and it was suggested that this information could be collected in connection with the written communication of national highlights each year. The Steering Group / Staff Group will further explore how this option can be implemented in conjunction with the preparations for the next plenary.

THEME F: NEW FUNDING MECHANISMS

Introduction

The scale and complexity of scientific questions in global change requires unprecedented global collaboration among scientists from a broad range of disciplines, both in the natural sciences and in the socio-economic sciences. The mechanisms for research funding, mainly national or regional, are largely adequate. The international programmes in this area add considerable value to national research, and do so very cost effectively.

The 'new funding mechanisms' for global change research, and related activities, encompass two main elements: i) regular and stable funding of the value adding activities (glue money) and ii) new partnerships.

Funding of the value adding activities should be considered by science funding agencies as important as the funding of individual research projects. Fundraising for the value adding activities requires a lot of effort from the scientific management. There is a need to make the funding mechanisms for support of the value adding activities more stable.

The societal significance of a better understanding and prediction of global change requires that new partnerships be forged. At the international level this means

partnerships e.g. between the international programmes and the scientific bodies of the Conventions. At the national level the science funding agencies should take the initiative to develop partnerships with policy ministries and agencies with operational environmental responsibilities. The aims should be to create awareness in the policy community of the role of the programmes; to let the policy community assist in priority setting from a societal perspective; and to develop co-funding mechanisms, in particular for synthesis and integration.

Business and industry are increasingly interested in the best available independent knowledge on global changes because of the implications for their future operations (e.g. the insurance sector and the energy sectors). The benefits of expanded sponsorship of international research programmes which includes governments, the private sector and independent science funding agencies is that it will underline the significance of the programmes, and hence will strengthen the credibility of the results. It would also provide the private sector with early information on new developments in a useful format.

The private sector could bring to the programmes their experience in running large-scale global operations. Companies could also provide access to certain unique experimental facilities or global datasets, or could give access to e.g. aeroplanes or drilling platforms as carriers for experimental equipment. Finally the development of co-funding mechanisms should be explored.

It is also essential to increase the participation of scientists from developing countries in the international research programmes. This can be realised only through a partnership of science funding agencies, which are able to fund collaborative research with and in developing countries, and development aid agencies, UN bodies and the WorldBank which have mandates for funding capacity building.

Discussion and Conclusions

The 1997 IGFA plenary in Tucson recommended with regard to glue money that IGFA members:

"...provide marginal additional funding for international global change research programmes to improve scientific co-ordination and to help realise the additional value of the research programmes."

This additional value consists of:

- priority setting and the development of a coherent research agenda;
- providing a framework for efficient allocation of scarce scientific resources;
- stimulating scientific network building;
- developing common methodologies and experimental protocols;
- organising model inter-comparisons and data standardisation;

- synthesis papers and executive summaries for the policy and resource management sectors.

Glue money is needed to assist and promote the scientific planning of the programmes; the central fabric of the programmes: the scientific steering committees, secretariats and international project offices; synthesis and integration; and involvement of developing country scientists.

In the discussion a distinction was made between action items to be dealt with in the longer term, the medium term and the short term.

Longer term issues

New partnerships

Developing new partnerships was clearly seen as a long-term issue. It was noted that at the national level public-private partnerships in research funding involving IGFA agencies are developing. This bottom up approach was felt to be the way to go. Care should be taken that private sector funding should not lead to limitations on the publication of results. It was stressed that not only companies, but also NGO's are important stakeholders, and hence should be included in partnerships. It was decided that if ICSU would initiate discussions with the private sector or with Foundations, IGFA could take part. However, it was decided that IGFA should not take a leading role with respect to developing partnerships with the private sector.

With regard to developing partnerships with the policy sector, the international programmes were encouraged to develop close links with the scientific and technical bodies of the Conventions. Further, it was concluded that there is a particular role for IGFA agencies in informing policy makers at the national level about contributions made by the international programmes to policy relevant information.

Partnerships of IGFA agencies with *development aid agencies* were considered valuable, but not easy to achieve, as has become clear from the efforts to create multidonor support for START.

Glue money

IGFA members agree that glue money funding possibilities should be created at the national level, if they do not already exist. IGFA agencies should look into possibilities for harmonising procedures to access such funds. A major first step would be co-ordination of access at the national level. A global 'super glue fund' was considered neither realistic nor desirable because of the political and bureaucratic problems such a fund would entail.

Medium term issues*Two track model for developing new programme elements*

IGFA members and the programmes discussed a model in which the programmes would give early indications to IGFA when they are considering new initiatives. Such indications would initiate a two-track process in which scientific planning would take place in parallel with the work of an ad hoc group involving funding agencies of countries with potential interest in funding research and supporting infrastructure associated with the new initiative. The science plan and the resource plan resulting from these two tracks should then be integrated into an implementation plan that indicates resources needed, including those for glue money. The Steering Group / Staff Group will prepare a concrete proposal for implementation of this model, to be discussed at the next plenary meeting of IGFA.

Short term issues

In the short term there is an existing crisis in DIVERSITAS; due to lack of funding the programme does not currently have an executive director. IHDP is still experiencing serious funding problems. IGBP is facing problems in funding the major scientific synthesis of programme results.

The discussion led to agreement on the following:

- IGFA members will act on concrete glue money proposals from the international programmes by making sure that the proposals are channelled through the appropriate branches of the national funding system.
- IGFA will establish a new process for reception and consideration of glue money proposals from the international programmes. The Steering Group / Staff Group will prepare a suggestion before the next plenary meeting of IGFA.
- The international programmes will prepare concrete proposals for glue money in conformity with the usual standards for project proposals, i.e. that such proposals can be judged in a peer review procedure on the basis of the expected outputs.
- The international programmes are invited to strongly encourage the scientific community to send strong signals about the importance of glue money into their national funding systems. Scientists should include requests for glue money in their research proposals.
- These commitments to act should be embodied in a document that should be endorsed both by IGFA member agencies and the international programmes. It is recognised that signing such a document would require an approval process within the national agencies, even though it would not entail direct financial commitments. However, the time has come to make our councils and governing bodies party to the process in order to strengthen the commitment to act. Such a document would also clarify for the scientific community the respective roles of the IGFA agencies and the international

programmes. The Steering Group / Staff Group will prepare a draft for circulation during the next year, with the aim to reach an agreement at the next meeting.

- DIVERSITAS was asked and agreed to prepare a proposal for a two-year bridging phase for the programme, with the aim to continue after a positive evaluation. This proposal will be ready before the meeting of the Steering Group on 17 December.
- All IGFA agencies will prepare an overview of their present glue money funding possibilities, including conditions for access, and inform the IGFA secretariat on further notice.
- Those members who have not yet responded to the letter of Uno Svedin and Kirsten Broch-Mathisen regarding IHDP support, will do so as soon as possible.

All IGFA members present, as well as the representatives of the international programmes, agree on these actions.

PRACTICAL ISSUES / CLOSING OF THE MEETING

Tour the table

Due to lack of time, the scheduled Tour the Table was deleted.

Search for new Chair

A search committee consisting of the present and former chairs of IGFA, Kirsten Broch Mathisen, Bob Corell and John Marks, was nominated and charged with the task of proposing a successor to the present Chair in time for the next meeting

Next meetings

The next plenary meeting of IGFA will be hosted by the Swiss National Science Foundation (SNSF) in Zürich, 23-26 October 2000.

The Swedish representative indicated that Sweden might be prepared to host the 2000 meeting.

Closing

The Chair concluded the meeting by giving a brief summary of major conclusions and expressing her thanks to everyone who had participated in or played a role in organising the meeting.

Appendix A**REPORT OF THE WORKING GROUP ON OBSERVATIONS AND DATA****Background**

Shortly after its initiation, IGFA recognized the importance of data and observational issues to the research programs that were supported by the IGFA Members. To emphasize the significance of observations in support of the various research programs it supports, IGFA invited representatives of the developing observing systems (GCOS, GOOS, GTOS) to participate in IGFA Plenary meetings to explore the relationships between the research programs and observing systems. Over the past few years many collaborations between the two have been fostered. To provide an additional forum to explore data issues and to foster sustained observations, IGFA established a Working Group on Data and Observations. With the inception of the Integrated Global Observing Strategy (IGOS), IGFA became a Partner and has actively participated in the subsequent development of the strategy. At this Plenary, it is proposed that IGFA review the role of its Working Group and establish its expectations and priorities for the future work of the Group.

Working Group on Observations and Data

The Working Group apparently has no fixed membership and has not met in the past several years. In this interval, a number of important developments in both data management and systematic observations have occurred. Many of the research programs supported by IGFA Members will be affected by a variety of intergovernmental, international, and national initiatives currently under discussion or development. Examples of these initiatives may illustrate the issues of concern to IGFA Members and provide a focus for discussing the work program for the Working Group.

Intergovernmental Initiatives

Recognizing the need for research and systematic observations, the UN Framework Convention on Climate Change (FCCC) has charged Annex I countries to assess their efforts in support of Convention requirements. These national reports will soon include elements of observing systems and data policies to provide an effective global observational database for climate characterization, attribution, and prediction, as well as assessments of the efficacy of future policies to reduce the threat of climate change.

Since IGFA resources provide a major source of support for the research efforts on climate, the Convention offers an opportunity to highlight these IGFA national research activities and to demonstrate their significance in meeting both national and international requirements. Regarding systematic observations, the Convention offers an opportunity for countries to specifically address the inadequacies of current observing systems and, it is hoped, take steps to rectify the situation. The Convention has also acknowledged a continuing requirement for global and regional data for climate assessment and prediction.

Countries will be asked to document relevant data policies and indicate any barriers to sharing datasets.

International Initiatives

In 1995, the Committee on Earth Observing Satellites (CEOS) initiated plans for an Integrated Global Observing Strategy (IGOS). The strategy emphasizes a combination of space-based and in situ observing systems intended to support the research community and also meet many of the needs for systematic observation. Once the strategy was articulated, IGFA representatives proposed a partnership among the appropriate groups (CEOS, WCRP, IGBP, G3OS and the intergovernmental agencies supporting them, and IGFA). Since then, several meetings have been held to develop a suite of pilot programs and prepare documents outlining and articulating the strategy. IGFA continues to be represented at and to participate actively in such meetings.

The development of IGOS will require a commitment by the research programs sponsored by IGFA, and continuing oversight and advice from IGFA Members. New pilot programs will be developed under a theme concept and will benefit from the IGFA-supported programs. IGFA and its research programs have the capability to enhance the limited in situ observing components and coordinate field campaigns with satellite missions to improve the quality of the global observational database.

National Initiatives

As a result of the recognition and growing significance of global change issues on the national agenda of IGFA countries, IGFA Members may have new opportunities to marshal additional support to foster the development of comprehensive observing capabilities and responsive data policies.

As noted above both intergovernmental and international activities provide opportunities for IGFA Members to raise their national profile and secure additional support for research and observing programs. IGFA Members should be able to: 1) assist in building national support for international conventions (e.g., FCCC) and international activities (e.g., IGOS) through collaboration with appropriate national agencies engaged in space-based and/or in situ observing activities, 2) develop cooperative programs with national mission-oriented agencies, and 3) benefit from enhanced national focus on their research activities.

Future Strategy for the Working Group

Data Issues

In Tucson, IGFA members proposed to continue a “passive watching brief” with respect to data management and data policy. Such a stance may provide Members with information about the status quo with regard to data issues, but it would not effectively engage them in the vigorous debate on them that is currently underway in both national and international forums. Issues such as data sharing, proprietary database legislation, or free and open

access to information are vital to international research programs. It is proposed that the Working Group assume a more active role in understanding and expressing the views of IGFA Members on such issues in appropriate forums.

Observational Issues

In recent plenary meetings, IGFA Members have agreed to be active partners in the development of the Integrated Global Observing Strategy (IGOS). Such a partnership will require IGFA Members to explore ways and means whereby they can participate in the planning, development, and implementation of the strategy. This may involve: 1) encouraging research programs to participate in activities that are closely related to their research interests, 2) undertaking national activities to secure additional resources, 3) fostering closer collaborations among participating agencies to ensure successful implementation of the strategy, and/or 4) establishing mechanisms to monitor progress toward goals and outcomes desired by IGFA Members.

Organizational Issues

IGFA Members are invited to consider and recommend a strategy for the Working Group to conduct its activities. Although meetings may be impractical, informal contact may be inadequate to meet the IGFA needs. Intersessional activities, including representation at appropriate meetings, should be proposed and agreed upon by the Members with regular reporting at IGFA Plenary sessions.

Tom Spence

October 1999

TERMS OF REFERENCE OF THE WORKING GROUP ON OBSERVATIONS AND DATA

In order to support the objectives of IGFA, the Working Group on Observations and Data is established to address the issues of:

- Data availability and accessibility
- Development and implementation of the Integrated Global Observing Strategy (IGOS)
- Observing systems of relevance to IGFA Members

The tasks of the Working Group are to:

- Serve as liaison to agencies and organisations engaged in observations and/or data relevant to global change research programs at both the national and international levels
- Represent the views of IGFA at meetings of the IGOS Partnership and through the IGOS Partners Liaison Group
- Provide assistance to IGFA Members in responding to opportunities related to global observing systems.

The Working Group shall be composed of IGFA representatives with experience and competence in national administration and in observations and data. Membership is open to all IGFA Members. The Working Group will conduct its business mainly through electronic communications, informal contacts, and meetings as appropriate.

The Chair shall be appointed by the IGFA Chair with the approval of the IGFA Plenary. The Chair shall be an ex officio member of the IGFA Steering Group. The Chair shall report regularly to the IGFA Plenary, or to the IGFA Steering Group intersessionally as necessary.

Appendix C

REPORT OF THE WORKING GROUP ON HUMAN DIMENSIONS

The activities of IGFA have during the year in the field of "Human Dimensions" been concentrated around two issues:

- A further investigation on the actual as well as the potential funding of IHDP among IGFA-members.
- A probing presence at the world conference on Human Dimensions Issues (the Third Open Meeting) in Shonan Village, Japan, June 24-26, 1999.

IHDP funding

About the first topic the chair of IGFA and the chair of the IGFA WG on Human Dimensions Issues have jointly addressed the IGFA-members by letter twice during the year in order to probe the situation for the IHDP financing. The background is the presentation last year at the 1998 annual IGFA meeting at Ispra of the favourable IGFA review of IHDP that was adopted at that meeting. The result of the dialogue with IGFA members about their funding aims with regard to IHDP has been mixed. In some instances strong confirmation to act has been communicated as a response to the question on further or new support. In some instances the response has been processed but been reluctant in content. In several cases no answer has reached the secretariat and thus the situation with regard to these countries is uncertain. A table covering the situation of responses by 1999-10-01 is given in appendix 1. In those cases where no response so far has been presented the hope is that reports directly to the plenary in Beijing may clarify the situation.

At an overall level the strategic issue has been, and will remain to be so, that given the positive IGFA review, it is necessary that a sufficient number of countries show by some kind of financial commitment that they consider the IHDP to be a worthwhile endeavour. In so doing they will reinforce the assessment of IHDP to be of really international concern. This will in turn help decisions about the highly crucial German funding for the main office in Bonn to continue without disruption as well as provide a broader international framework for the already considerable and important US contribution in this field. Favourable German indications at this stage should not be misinterpreted as a signal to other interested parties to be restrained in their financial commitments. The situation now calls for something parallel at the financing level to the growth of the internationalisation of IHDP itself in terms of consolidating programs and new or potential national member organisations, i.e. a broadening of an IGFA related financing pattern. It has been said already at the last year's IGFA plenary in ISPra that the situation really calls for active movements now, or there are distinct risks that the entire endeavour of a truly international Human Dimensions Program effort may be jeopardised. The statement is still valid 1999 at the same time as several IPO's are consolidating and the activities around science plans in several areas move forcefully to implementation phases.

The World conference at Shonan Village, Japan

The sequence of conferences at world level started at Duke University 1995, was followed by the conference at IIASA 1997 and has now this summer been again manifested through the Shonan Village Conference.

This, "the 1999 Open Meeting of the Human Dimensions of Global Environmental Change Research Community" had about 330 participants from all continents. Some 500 abstracts had been submitted of which less than 200 papers were selected to be presented. The host institution (IGES of Japan) had provided excellent facilities and substantial personal support. The new IHDP Director Jill Jäger provided since the beginning of the planning process strong management capacities. Financial support was provided by the Environment Agency of Japan, the Asian Pacific Network, the Inter-American Institute, the US National Science Foundation, the IHDP, the MacArthur Foundation and IGES.

In the final plenary I contributed by making a summary in a few points. Having confirmed the success of the conference and the basis for such a statement a reflection was done about the sequence from the Duke University 1995 conference to the present one in Japan. The basic observation was the consolidation and legitimisation of the field as such, the growth of the international Human Dimensions community and the improvement of the quality of work, especially in terms of the link between theory and empirical data.

For the future the following points were raised:

- The need to broaden the international scope "to the South".
- The need to further scrutinise the ways in which questions are posed and "for whom".
- Further presence of a pluralised set of stakeholders.
- The need to encourage both moves towards consensus as well as critical dissent.
- The need to work to close the gap between social science/the humanities and the natural science without any part keeping hegemonic ambitions.
- The need to further address the relationship between Human Dimensions research and the policy world.
- The call for further synthesis work.

In a meeting with the outgoing Organising Committee, which I attended as IGFA representative, a decision was taken that a fourth Open Meeting should be organised in approximately two years and preferably in a developing country, i.e. in "the South". A small transition committee was formed.

Activities concerning the conference content have been summarised in the IHDP Update 3/99 and in the abstract volume to be ordered at the IGES Secretariat at hdgec@iges.or.jp.

IHDP gathered a meeting for National Human Dimensions Programme/National Committee representations. 17 countries were represented (Japan, Senegal, P.R. of China, the Netherlands, China (Taiwan), Nepal, Sweden, Austria, New Zealand, Nigeria, Germany, India, Fiji, Canada, Botswana, Australia, U.S.A).

IGFA (through the IGFA WG chair) gathered a meeting for persons interested in financial and organisational matters. Some 25 persons representing a broad spectrum of countries participated. This was the only meeting during the conference period that addressed these issues.

Lines for future work

As was outlined in the work plan for IGFA activities during 1998/99 the experiences from the Shonan Village Conference should be at the centre for further elaboration of directions of IGFA work. Based on the short presentation above the suggestion by the WG chair is the following:

- *Further active involvement* in promoting a clear knowledge about funding options from IGFA members in the Human Dimensions area and especially aimed at IHDP.
- *Involvement* in the negotiations about the next 4th World Open Conference.
- *Probing* what the increased importance of "the South" means for IGFA. Should perhaps earlier IGFA search activities towards contacts in the "Foreign Aid" domain be connected to this new Human Dimensions interest.
- *Investigating* IGFA consequences for the increased importance the next 3-5 years for integration of social science/humanities, natural science and technology.
- *Further searching for ways* to promote the research-policy making link.

On the process for further work it is considered important to upgrade inter-plenary communication through means other than meetings (as the Shonan Village). Parallel activities aiming at different types of topics could be run through subgroups. The membership of the WG could thus be extended on a nomination basis to other circles than just IGFA plenary members.

Stockholm in September 1999

Uno Svedin

Chairman, WG for Human Dimensions

TERMS OF REFERENCE OF THE WORKING GROUP ON HUMAN DIMENSIONS

The Human Dimensions Working Group shall

- Follow up the unsettled parts of the financing situation for IHDP
- Develop the new context for human dimensions research activities in terms of e.g.:
 - what it means for the interface between the social sciences / humanities and the natural sciences;
 - human dimensions-oriented policy-oriented aspects;
 - new actorships in terms of countries in the south or actors of non-academic kind.

Appendix E**REPORT OF DRAFTING GROUP FOR THE 3RD RESOURCE ASSESSMENT**

The group was composed of:

Hans de Boois, The Netherlands, rapporteur
Helmut Kuehr, Germany
Ian Dwyer, United Kingdom
Katja Remane, Switzerland
Neil Hamilton, IGBP
Jill Jaeger, IHDP

The group discussed the feasibility of the proposal presented by the Staff Group for the Third Resource Assessment, against the background of the comments made by IGFA-members and representatives of the Global Change Research Programmes (GCRPs).

1. The representatives of the GCRPs consider project-level information (like: PI, project title, budget) of marginal value. Also, the GCR Programmes could not be expected to produce figures of the needs (requirements) of the Project Elements.
2. It was noted that not all IGFA members could be expected to produce project-level information. In particular information on the increasing volume of projects funded by other sources would not be accessible.
3. It was concluded that without the specific project-level information: it would not be possible in an allocation survey to distinguish Categories I, II and III (resp. Core Research, Contributing Research, Relevant and other Research); nor would it be possible to compare the needs of the programmes with the allocated funds (in particular category I and II). The possibility to compare results with those of the Second Resource Assessment would become very limited.
4. Against this background, the drafting group concluded that the proposal of the Staff Group is not any more opportune and the members of the Staff Group decided to withdraw this proposal.
5. The IGFA-members of the drafting group recommend that at least a compilation should be undertaken of the national support for GCR by IGFA members in the year 2000, which could be done by much less effort and would hardly require preparation far in advance. The nature of such a compilation should depend on the decisions that IGFA takes about its future role and could be decided upon in IGFA's plenary meeting in 2000.
6. In view of this, the question of funding the execution of the Staff Group's proposal can be taken off the table.

25 October 1999

MEETING AGENDA

Plenary meeting of IGFA, 24-28 October 1999, Beijing International Convention Center, Beijing, China

The meeting agenda was organised in the following thematic sessions:

- A Horizontal Theme 1: Funding Inter- and Multidisciplinary Science**
Chair: *Elizabeth Boston*, Canada; Assistant: *Ian Dwyer*, UK
- B Horizontal Theme 2: Regional Approaches to Global Change Research**
Chair: *Johannes Karte*, Germany; Co-chair: *Sun Shu*, China; Assistant: *Lou Brown*, USA
- C National Updates**
Chair: *Martine Vanderstraeten*, Belgium; Assistant: *Cara M. Sucher*, USA.
- D Observations and Data**
Chair: *Christian Patermann*, EU; Assistant: *Julia M. Kundermann*, EU
- E International Global Change Programmes**
Chair: *Katja Remane*, Switzerland; Assistant: *Terje Morland*, Norway
- F New Funding Mechanisms**
Chair: *John Marks*, The Netherlands; Assistant: *Hans de Boois*, The Netherlands
- X Miscellaneous: Opening, Third Resource Assessment Survey, Tour the Table, Summary and Thanks**
Chair: *Kirsten Broch Mathisen*, Norway, Assistant: *Terje Mørland*, Norway

Notes:

Joint IGFA-START activities

The START Scientific Steering Committee met at the same venue on 26-29 October. During the meeting, there were some joint IGFA-START activities. These activities are listed within shaded boxes in the agenda.

Changes in the agenda for 27 October

As usual the agenda was changed during the course of the meeting. The most notable change this year was that the final sessions (parallels) of Theme B and F on Wednesday 27 October were merged into a plenary discussion on funding issues. It was decided to allocate as much time as possible to this discussion, and as a consequence, the Tour the Table at the end of the meeting had to be taken off the agenda.

Sunday 24

17:00-18:00 Joint Steering committee / Staff group meeting

18:00 Registration and reception

Monday 25

08:45-09:15 Session chairs and assistants meeting

09:30-10:15 X Opening (Welcome/host/logistics)
(*Kirsten Broch Mathisen, Sun Shu, Terje Mørland*)

10:15-11:00 A Inter- and multidisciplinary science – Introduction
Kirsten Broch Mathisen, Uno Svedin, Jill Jaeger

11:00-11:30 Coffee break

11:30-12:30 B Regional approaches to global change research – Introduction
Robert Corell

12:30-14:00 Lunch break

14:00-15:00 C National updates I

15:00-15:30 Introductions in plenary to parallel sessions I
(By the session chairs, 10' each):

- A • Funding inter- and multidisciplinary science
Elizabeth Boston
- B • IAI, APN, ENRICH
Johannes Karte / Sun Shu
- D • Data and observations
Christian Patermann

15:30-16:00 Coffee break

16:00-17:00 Parallel discussions I:
A • Funding inter- and multidisciplinary science
B • IAI, APN, ENRICH
Incl. Presentations by *N.N, Kazuko Watanabe / Hiroaki Takagi, Julia M. Kundermann* (15' each)

17:00-18:00 Parallel discussions I:
A • Funding inter- and multidisciplinary science (cont.)
D • Data and observations
Incl. Presentation by *Thomas Spence*

18:00 Adjourn

19:30 Dinner by hosts

Tuesday 26

09:15-10:30 Reports from parallel sessions I (By the session chairs):

	A	• Funding inter- and multidisciplinary science <i>Elizabeth Boston</i> (20' incl. Comments and discussion)
	B	• IAI, APN, ENRICH <i>Johannes Karte / Sun Shu</i> (20' incl. Comments and discussion)
	D	• Data and observations <i>Thomas Spence</i> (15' general presentation on data and observation issues) <i>Christian Patermann</i> (20' report from the parallel discussion incl. Comments and discussion)
10:30-11:00		Coffee break
11:00-12:00	C	National Updates II
12:00-12:30	X	Project plan for the next Resource Assessment Presentation by <i>Hans de Boois</i> + discussion
12:30-14:00		Lunch break
		International Global Change Programmes – Reports and discussions:
14:00-14:45	E	WCRP <i>Michael Manton</i> (30' presentation + 15' discussion)
14:45-15:30	E	IGBP <i>Peter Tyson / Neil Hamilton</i> (30' presentation + 15' discussion)
15:30-16:00		Coffee break
16:00-17:00	E	IHDP and General human dimension issues <i>Jill Jaeger</i> (20' presentation) and <i>Uno Svedin</i> (20' presentation) + 20' discussion
17:00-17:30	E	DIVERSITAS <i>José Sarukhán</i> (20' presentation + 10' discussion)
17:30-17:50		Introductions in plenary to parallel sessions II (By the session chairs, 10' each):
	B	• Supporting regional activities: issues and approaches <i>Johannes Karte / Sun Shu</i>
	F	• New funding mechanisms <i>John Marks</i>
17:50		Adjourn
Evening:		Steering com. meeting / ad. hoc meetings / informal START reception

**Wednesday
27**

09:00-10:00	C	National updates III
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10:00-11:00	B	START presentation and discussion: START Regional Networks <i>Roland Fuchs</i> The Example of East Asia <i>Congbin Fu</i>
11:00-11:15		Coffee break
11:15-12:30	B	Parallel discussions II: • Supporting regional activities: issues and approaches
11:15-13:00	F	• New funding mechanisms
13:00-14:15		Lunch break
14:15-14:55	B	Reports from parallel sessions II (By the session chairs): • Supporting regional activities: issues and approaches (20' incl. Comments and discussion) <i>Johannes Karte / Sun Shu</i>
	F	• New funding mechanisms (20' incl. comments and discussion) <i>John Marks</i>
14:55-15:15		Coffee break
15:15-15:25	C	National presentations summary <i>Martine Vanderstraeten</i>
15:25-16:15	X	Tour de Table
16:15-16:30	X	Summary & thanks
16:30		Adjourn
18:30		Trip to Opera (19.00-20.30)
Thursday 28		See next page for details
Morning:		<i>Host presentation:</i> Venue: START regional office in Beijing (TEA)
Afternoon:		Excursions (Two options): Great Wall Forbidden City and Tiantan Temple Please sign up for the excursions during the meeting.

Programme for the 'host presentations' at START Regional Center for Temperate East Asia (TEA)

- 9:00-9:30 Opening
Welcome Address (Director, Institute of Atmospheric Physics)
Progress Report (Congbin Fu, Director, START Regional Center for TEA)
- 9:30-11:00 Science Presentations:
- Chen Ming
Nested Regional Climate Model (RCM) and Its Application in Long-term
Climate Simulation in East China
- Xiong Zhe
Regional Climate Model (RCM) Simulation Application: Multi-year Mean and Its
Seasonal Cycle of Temperature and Precipitation in East Asia
- Lu Jianhua
An Atmosphere - Vegetation Interaction Model (AVIM) and its Application
- Ma Zhuguo
A Retrieving Model Used for Initialising Soil Moisture in RCM Over East Asia
- Wang Shuyu
The Variation of Radiation and Its Relationship with Dust in West China
- Yan Xiaodong
Simulating the North East China Forests with Climate Changes
- Li Yinpeng
Modelling Estimations of Carbon Exchange between Global Terrestrial
Biosphere and the Atmosphere
- Huang Gang
Anomalous Meridional Activity of the East Asian Summer Monsoon in
Regional and Global Viewpoint
- Zhao Maosheng
Detection of Vegetation Cover/Change Based on NOAA/AVHRR Data in
China
- Yang Chi
Trends of Climate Extremes in China
- 11:00-11:30 Visiting START Regional Center for TEA
- 11:30 Lunch (Provided by the START Regional Center for TEA)
- 14:00 Excursion (Great Wall or Forbidden City)

Appendix G
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