

WORKING PAPER **313**

Global Engagements with
Global Assessments: The Case of
the International Assessment of
Agricultural Knowledge, Science and
Technology for Development (IAASTD)

Ian Scoones
November 2008



Citizenship DRC



Institute of
Development Studies

About IDS

The Institute of Development Studies is one of the world's leading organisations for research, teaching and communications on international development. Founded in 1966, the Institute enjoys an international reputation based on the quality of its work and the rigour with which it applies academic skills to real world challenges. Its purpose is to understand and explain the world, and to try to change it – to influence as well as to inform.

IDS hosts five dynamic research programmes, five popular postgraduate courses, and a family of world-class web-based knowledge services. These three spheres are integrated in a unique combination – as a development knowledge hub, IDS is connected into and is a convenor of networks throughout the world.

The Institute is home to approximately 80 researchers, 50 knowledge services staff, 50 support staff and about 150 students at any one time. But the IDS community extends far beyond, encompassing an extensive network of partners, former staff and students across the development community worldwide.



For further information on IDS publications and for a free catalogue, contact:
IDS Communications Unit
Institute of Development Studies
at the University of Sussex
Brighton BN1 9RE, UK

Tel: +44 (0) 1273 678269
Fax: +44 (0) 1273 621202
E-mail: bookshop@ids.ac.uk
Web: www.ids.ac.uk/ids/bookshop

IDS is a charitable company, limited by guarantee and registered in England (No. 877338).

IDS WORKING PAPER 313

Global Engagements with
Global Assessments: The Case of
the International Assessment of
Agricultural Knowledge, Science and
Technology for Development (IAASTD)

Ian Scoones
November 2008

Global Engagements with Global Assessments: The Case of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD)
Ian Scoones
IDS Working Paper 313

First published by the Institute of Development Studies in November 2008
© Institute of Development Studies 2008
ISBN: 978 1 85864 550 6

A catalogue record for this publication is available from the British Library.
All rights reserved. Reproduction, copy, transmission, or translation of any part of this publication may be made only under the following conditions:

- with the prior permission of the publisher; or
- with a licence from the Copyright Licensing Agency Ltd., 90 Tottenham Court Road, London W1P 9HE, UK, or from another national licensing agency; or
- under the terms set out below.

This publication is copyright, but may be reproduced by any method without fee for teaching or non-profit purposes, but not for resale. Formal permission is required for all such uses, but normally will be granted immediately. For copying in any other circumstances, or for re-use in other publications, or for translation or adaptation, prior written permission must be obtained from the publisher and a fee may be payable.

Available from:
Communications Unit
Institute of Development Studies
at the University of Sussex
Brighton BN1 9RE, UK
Tel: +44 (0) 1273 678269
Fax: +44 (0) 1273 621202
E-mail: bookshop@ids.ac.uk
Web: www.ids.ac.uk/ids/bookshop

Typeset by IDS, Brighton UK. Printed by RPM Print & Design, Chichester UK.
IDS is a charitable company limited by guarantee and registered in England (No. 877338).

Global Engagements with Global Assessments: The Case of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD)

Ian Scoones

Summary

The IAASTD – the International Assessment of Agricultural Knowledge, Science and Technology for Development – which ran between 2003 and 2008, involving over 400 scientists worldwide, was an ambitious attempt to encourage local and global debate on the future of agricultural science and technology. Responding to critiques of top-down, northern-dominated expert assessments of the past, the IAASTD aimed to be more inclusive and participatory in both design and process. But how far did it meet these objectives? Did it genuinely allow alternative voices to be heard? Did it create a new mode of engagement in global arenas? And what were the power relations involved, creating what processes of inclusion and exclusion? These questions are probed in an examination of the IAASTD process over five years, involving a combination of interviews with key participants and review of available documents. The paper focuses in particular on two areas of controversy – the use of quantitative scenario modelling and the role of genetically-modified crops in developing country agriculture. These highlight some of the knowledge contests involved in the assessment and, in turn, illuminate four questions at the heart of contemporary democratic theory and practice: how do processes of knowledge framing occur; how do different practices and methodologies get deployed in cross-cultural, global processes; how is ‘representation’ constructed and legitimised; and how, as a result, do collective understandings of global issues emerge? The paper concludes that, in assessments of this sort, the politics of knowledge needs to be made more explicit, and negotiations around politics and values, framings and perspectives needs to be put centre-stage in assessment design.

Keywords: agriculture; policy; science; innovation; participation; deliberation.

Ian Scoones is a Professorial Fellow at the Institute of Development Studies, University of Sussex, UK and a member of the local-global citizen engagement group of the Citizenship, Participation and Accountability Development Research Centre. His interdisciplinary research links the natural and social sciences and focuses on the relationships between science and technology, local knowledge and livelihoods and the politics of policy processes, with a particular focus on public participation and citizen engagement in agricultural research and innovation systems. He is currently co-director of the ESRC Social, Technological and Environmental Pathways to Sustainability (STEPS) Centre at Sussex and is Joint Convenor of the Future Agricultures Consortium. Key publications include *Science and Citizens: Globalization and the Challenge of Engagement* (ed. with M. Leach and B. Wynne, Zed, 2005).

Contents

Summary, keywords	3
Author note	4
Preface	7
Acknowledgements	8
1 Introduction	9
2 The International Assessment of Agricultural Knowledge, Science and Technology (IAASTD)	10
3 Tracing the local and the global: shifting spaces for citizen engagement	14
4 Globalisation and civil society: the place of international assessments	15
5 Consulting Africa	16
6 Framing the future: the use of scenario modelling	19
7 Confronting controversy: GM crops	23
8 Experts and citizens	27
9 The politics of knowledge in global assessments	36
9.1 How do processes of knowledge framing occur in global engagements?	36
9.2 How are different methodologies deployed in global assessments?	37
9.3 How is representation constructed and legitimised, and what does this mean for notions of citizenship?	38
9.4 How do collective understandings of global issues emerge?	40
9.5 How are 'reflexive institutions' constructed and negotiated?	41
10 Conclusion	42
References	46

Preface

Working paper series on citizen engagements in a globalising world

Around the world, globalisation, changes in governance and emerging transnational social movements are creating new spaces and opportunities for citizen engagement. Indeed, some would argue that citizenship itself is being de-linked from territorial boundaries, as power is becoming more multi-layered and multi-scaled, and governance increasingly involves both state and non-state actors, which often are transnational.

One of the research programmes of the Development Research Centre on Citizenship, Participation and Accountability, the Working Group on Citizen Engagements in a Globalising World explores the significance of these changes to poor and disenfranchised citizens. In particular, the group's work explores how of the diffusion of power and governance resulting from globalisation gives rise to new meanings and identities of citizenship and new forms and formations of citizen action. The research programme is asking questions across local-national-regional scales related to

- The dynamics of mobilisation, paying particular attention to new forms and tensions of alliance-building and claim-making;
- The politics of intermediation around representation, legitimacy, accountability;
- The politics of knowledge around framing issues, the power to frame, dynamics of contestation across forms of expertise and ways of knowing; and
- The dynamics and processes of inclusion and exclusion to ask examine who gains and who loses.

The group's work is a unique contribution to a vast literature on transnational citizen action in the way in which each project examines the vertical links from the local to the global from a citizen's perspective, looking up and out from the site of everyday struggles. And while much normative and conceptual literature examines the concept of global citizenship, few studies of the theme are actually grounded in empirical study of concrete cases that illustrate how global reconfigurations of power affect citizens' own perceptions of their rights and how to claim them.

The group is made up of 15 researchers carrying out field projects in India, South Africa, Nigeria, Philippines, Kenya, The Gambia, Brazil and South Africa, as well as other cross-national projects in Latin America and Africa. The projects examine new forms of citizen engagement across a number of sectors, including the environment, trade, education, livelihoods, health and HIV/AIDS, work and occupational disease, agriculture and land – and across different types of engagement, ranging from transnational campaigns and social movements, to participation of citizens in new institutionally designed fora.

The Working Papers in this series on Citizen Engagements in a Globalising World will available on the Citizenship DRC website www.drc-citizenship.org, as they are completed. The Citizenship DRC is funded by the UK's Department for International Development.

Acknowledgements

This paper has been produced as part of the ongoing work of the Citizenship, Participation and Accountability Development Research Centre based at the Institute of Development Studies, University of Sussex. I would like to thank colleagues in the 'local-global' working group, together with Jan Aart Scholte, for feedback on earlier versions of this paper, and to Stephen Biggs, John Gaventa, Marcia Ishii-Eiteman, Janice Jiggins, Beverly McIntyre, Erik Millstone, Marcelo Saguier and Rajesh Tandon who provided detailed comments on different drafts. I would also particularly like to thank the many people who were involved in the IAASTD process in different capacities I have discussed with over the last few years. I hope the final paper will offer a useful point for reflection and discussion.

1 Introduction

Global assessments have become all the rage. The IAASTD is one of many, coming on the back of the IPCC (International Panel on Climate Change), the MA (Millennium Ecosystem Assessment), the Millennium project's MDG task forces, among others. The IPCC even won the Nobel Peace Prize in 2007, the first assessment to do so.¹ All of these attempt to combine 'expert assessment' with processes of 'stakeholder consultation' in what are presented as global, participatory assessments on key issues of major international importance. In many respects they respond to the critiques of the top-down, northern-dominated, expert assessments of the past and make attempts to be both more inclusive and participatory in their design and process. But how far do they meet these objectives? Do they genuinely allow alternative voices to be heard? Do they create a new mode of engagement in global arenas? How do local and global processes articulate? And what are the power relations involved, creating what processes of inclusion and exclusion?

Taking the case of the IAASTD, this paper explores these issues through a focus on the underlying knowledge politics of a global process. Four intersecting questions at the heart of contemporary democratic theory and practice are posed: how do processes of knowledge framing occur; how do different practices and methodologies get deployed in cross-cultural, global processes; how is 'representation' constructed and legitimised; and how, as a result, do collective understandings of global issues emerge? Drawing on a detailed analysis of the IAASTD process between 2003 and 2008, the paper argues that in such assessments the politics of knowledge need to be made more explicit, and that negotiations around politics and values must be put centre-stage. The black-boxing of uncertainty, or the eclipsing of more fundamental clashes over interpretation and meaning, must be avoided in order for processes of participation and engagement in global assessment processes to become more meaningful, democratic and accountable. Following Mouffe (2005), the paper offers a critique of simplistic forms of deliberative democratic practice, and argues there is a need to 'bring politics back in'.

Following a brief introduction to the IAASTD process, in the following sections the paper looks at the spaces available for citizen engagement, the relationships between 'citizens' and 'experts', processes of framing around scenario development and the broader politics of knowledge involved in creating the assessment. The paper concludes with a reflection on the wider questions of whether global assessments of this sort can genuinely achieve the lofty aims set out for them, and how, given the lessons learned from this examination of the IAASTD, citizen engagement in global assessment processes might be achieved.

1 http://nobelprize.org/nobel_prizes/peace/laureates/2007/index.html

2 The International Assessment of Agricultural Knowledge, Science and Technology (IAASTD)

The overall purpose of the IAASTD, which concluded with a final plenary session in Johannesburg in April 2008, was ‘to assess agricultural knowledge, science and technology in order to use it more effectively to reduce hunger and poverty, improve rural livelihoods, and facilitate equitable, environmentally, socially and economically sustainable development’.² No-one could argue with that of course. But how was this ambitious aim to be realised?

The IAASTD was announced during 2002, and was initiated on five continents in early 2003 with a series of consultation meetings. Since then five regional reports and one global report were produced, all contributing to a synthesis and summaries for decision-makers for each continental and the global report. A total of 400 authors were recruited to write the reports, and an overall framework was hammered out in a series of meetings.³

For the global report the geographical distribution of authors was certainly wide, if uneven, with around half being from Europe or North America.⁴ Drafts were posted on the web for open review twice, and chapter reviewers were responsible for ensuring authors dealt with each point. In addition, invited peer reviewers looked at each chapter and report. This was a laborious process. One author commented:

Quite a number [of comments] were in the form of ‘delete this sentence’ – with no justification given. As an author, one could only intuit what might lie behind such a comment from the name/organisation of the individual posting it. In general, each point was either: ‘rejected, with justification’; accepted,

2 www.agassessment-watch.org/docs/IAASTD_on_three_pages.pdf

3 Global authors’ meetings were held in Turkey (Nov 2005), Bangkok (May 2006), Costa Rica (Nov 2006 and Cape Town (June 2007). Africa report meetings were held in Nairobi (Jan 2006), Dakar (June 2006), Addis Ababa (Nov 2006) and Cape Town (June 2007).

4 Draft global report authorship – regional origins (from Butters 2007).

	Lead	Contributing
1) Central and West Asia and North Africa (CWANA)	2	7
2) East and South Asia and the Pacific (ESAP)	3	15
3) Latin America and the Caribbean (LAC)	3	13
4) North America and Europe (NAE)	10	58
5) Sub-Saharan Africa (SSA)	4	13

The drafting team for the synthesis report negotiated at the final plenary in 2008 had the following regional author profile CWANA (3), ESAP (5), LAC (4), NAE (20) and SSA (9) (see: www.agassessment.org/docs/SR_Exec_Sum_210408_Final.pdf). The drafting team for the global summary for decision-makers had the following profile: CWANA (0), ESAP (0), LAC (2), NAE (11) and SSA (4) (see: www.agassessment.org/docs/Global_SDM_050508_FINAL.pdf). Final versions were negotiated at the final plenary, and so did not have authorship.

often with additional comments; noted; or sometimes simply discussed, with counter arguments and references, indicating that the author group would give more thought to the points raised.

(Author, pers. comm., 8 August 2008)

This process has been overseen by a complex governance structure. According to the IAASTD website (www.agassessment.org):

The IAASTD has an intergovernmental governance structure, which resembles that of the Intergovernmental Panel on Climate Change (IPCC), but contains a Bureau similar to the Millennium Ecosystem Assessment (MA) Board of Directors. The geographically based multi-stakeholder Bureau, is comprised of 30 government representatives [Sub-Saharan Africa (6); Latin America and the Caribbean (5); Central and West Asia and North Africa (4); North America and Europe (9); and East and South Asia and the Pacific (6)], 22 representatives from civil society [the private sector (6); non-governmental organizations (6); consumer groups (4); and producer groups (6)], representatives from 8 institutions, and 2 co-chairs. The cosponsoring agencies serve as ex-officio members of the Bureau. The Plenary (i.e. the Panel of participating governments) elected the government representatives of the Bureau, with each region selecting its own members, taking into account areas of expertise and gender balance. Decisions are taken by the panel of participating governments and the Bureau, where appropriate. The Plenary is comprised of representatives from the member states of the 7 cosponsoring agencies. At the first Plenary, the governments approved the scope, goals, structure (global and sub-global assessments), governance and management structures, budget and timetable for the IAASTD. At the conclusion of the IAASTD process, the Panel will be responsible for accepting the Full Report and for subjecting the Global and Sub-Global Summaries for Decision Makers to a final line-by-line approval in a session of the Plenary. The IAASTD has a distributed Secretariat with the major component being in Washington DC and other components in FAO (Rome), UNEP (Nairobi), and UNESCO (Paris). The Secretariat provides management and oversight of the project, as well as liaising with governments, civil society organizations and the Bureau to ensure project implementation. Other members of the distributed Secretariat include staff located at the Sub-global Management Entities. The inter-governmental process ensures ownership by governments, while the integrated Bureau allows the full range of stakeholders to meet as a single body creating opportunities for constructive exchanges and building consensus.

A key role was played by the Secretariat, and particularly the co-chairs. They had to guide, cajole and facilitate the process. This was a major learning process, and one that involved some difficult decisions being taken. According to informants, heated debates took place over overall scope, framing and what was an acceptable contribution from the beginning. The assessment overall was directed by Robert Watson (formerly Chief Science Advisor at the World Bank, now Chief Scientific Advisor at the UK's Department for Environment, Food and Rural Affairs). He has been the inspiration and driver behind the assessment, bringing his experience from the IPCC and MA to bear on this enterprise. Originally from

the UK, and a chemist by training, he has had a high profile career at the forefront of science policy, particularly in the US where he was adviser to the Clinton administration.⁵ The co-chairs of the assessment are Kenyan Judi Wakhungu, director of the African Centre for Technology Studies in Nairobi, a geologist by original training and formerly Associate Professor of Science, Technology and Society at Pennsylvania State University and Swiss-born entomologist and World Food Prize winner, Hans Herren, who was director of the International Centre of Insect Physiology and Ecology (ICIPE) in Nairobi, Kenya from 1994 to 2005, and has since become the President of the Millennium Institute in Arlington, Virginia.⁶

The IAASTD has had very substantial financial backing from a wide range of bilateral donors, UN organisations and the World Bank, with a total budget of over US\$15m.⁷ With agriculture and technology rising up the development agenda again, many agencies saw this as an excellent opportunity to map out a way forward. A combination of a multi-stakeholder and an inter-governmental UN process appealed, as this offered the combination of inclusion and dialogue, including civil society and private business actors, as well as formal decision-making and buy-in by nation states. Was this perhaps the model for the future – picking the best of the IPCC and the MA and combining them in an approach to global decision-making that was at once scientifically sound, politically legitimate and participatory?

The process that emerged was certainly large, complex and ambitious. It aimed ‘to share views and gain a common understanding and vision for the future’.⁸ The intention was that the results would provide a global consensus for investing in agricultural science and technology into the future, setting priorities for national and global organisations alike. The final report was produced in April 2008, with the text of the summary documents being agreed by the member governments in the final plenary. By its close the assessment will, by some estimates, have involved over 900 people across 110 countries as authors, reviewers and contributors to consultations of different sorts. It has been no small undertaking. And as a global process, with professed strong local links, convened to deliberate on a major international issue, it certainly deserves proper scrutiny and reflection on successes and limitations.

A number of unique attributes are highlighted by the director, Robert Watson, including: an advisory structure which encompasses governmental representatives as well as civil society; the ‘inclusion of hundreds of experts from all relevant stakeholder groups’; an ‘intellectually consistent framework’; a global, multi-scale and long term approach, resulting in ‘plausible scenarios’ to 2050; the ‘integration of local and institutional knowledge’; and a multi-thematic approach, encompassing nutrition, livelihoods and human health, linking science and technology

5 http://en.wikipedia.org/wiki/Robert_Watson_%28scientist%29

6 www.acts.or.ke/about/council/profwakhungu.pdf; http://en.wikipedia.org/wiki/Hans_Herren

7 The formal hosts are FAO, GEF, UNDP, UNEP, UNESCO, World Bank and WHO. DFID is a significant backer of the assessment.

8 www.agassessment.org/index.cfm?Page=Overview&ItemID=3

issues to policies and institutions.⁹ As a multi-stakeholder process involving everyone from grass roots groups to scientists and representatives of large corporations, with the final product being signed by national governments, there has to date been no parallel. As such it provides fascinating insights into processes of participation and global engagement, and the implications this has for the contestation of global knowledge and the construction of global citizenship.

A quick review of the available documentation on the IAASTD website highlights a number of familiar buzzwords. The assessment is described *inter alia* as: open, transparent, consultative, participatory, (multi-)stakeholder-led, integrative, neutral, objective, making use of best science, based on expert peer review, linking local and institutional knowledge and aiming at balance and consensus. In sum, it appears to offer the best of global governance, but without any of the awkward features of conflict, contest or competition.

One of the NGO groups involved – the Pesticide Action Network (North America) – argued early on that:

The IAASTD also represents a new way of setting international public policy. Because the final Assessment report will be policy relevant (not prescriptive) it will avoid the typical inter-governmental process of making public policy based on the lowest common denominator generated by consensus between government delegates with widely differing agendas. Uniquely, the Assessment will not be an exercise in consensus, but rather a platform on which to evaluate a range of issues and review them in a scientific forum.¹⁰

This commentary emphasises the potentials for important innovations in process, and in particular the way knowledge is negotiated in global arenas of this sort. In contrast to the IPCC, which focused at least initially only on the technical science, and the MA, which emphasised integrative modelling and scenarios, that preceded it, the IAASTD had to deal very explicitly with normative and political issues from the beginning. The wide scope of the assessment unnerved some who argued for a narrow, science and technology focus. This was rejected in favour of a more holistic analysis, but, as we will see, this provoked some major controversies among participants.

The rest of this paper will explore whether these ambitions have been met, and some of the challenges faced along the way. In examining the process, the paper asks whether the ideals of consensual, deliberative global governance through new forms of multi-stakeholder institution, such as international expert assessments, can be realised in practice. In particular the paper probes the role of science and expertise in the construction of global knowledge, and the contested relationships that emerge when the politics of knowledge comes to the fore (Leach and Scoones 2006). The paper of course represents a necessarily very partial reflection on the process. It focuses in particular on the interaction of the overall global process (and report production) and the regional process and

9 See www.agassessment.org

10 www.panna.org/campaigns/agAssessment/agAssessmentGP02En.dv.html (PANNA report from 2004 Nairobi plenary).

outputs in Africa. The focus is especially on the role of ‘civil society’ actors,¹¹ and their engagements at different levels and around different issues. The forms of mobilisation and alliance building to push particular ideas are explored, as well as the way ‘local’ knowledge – from particular places and particular people (and especially the ultimate clients, ‘poor farmers’) – is mediated and translated. The overall aim has been to explore both the pitfalls and potentials of global assessment processes, with the aim of identifying key challenges for the future.

3 Tracing the local and the global: shifting spaces for citizen engagement

In tracing the linkages from the local to the global, some qualifications of these terms must be added up front. This shorthand can, as the paper will show, be potentially misleading. In discussion around the IAASTD, ‘the local’ is sometimes described in terms of the assessment regions, demarcating sub-Saharan Africa, a massive, diverse continent, as ‘local’. The term ‘local’ is often used to conjure up reference to ‘local people’ or ‘local – or indigenous – knowledge’, often referring to poorer people that NGOs have worked with in the field, rather than the ‘local’ sites in Washington, Rome or London, and their own very particular, culturally-located indigenous knowledges. Discussions with different people thus present ‘the local’ in very different ways, highlighting the contested nature of the term.

But, whatever the interpretation, ‘the local’ is of course always mediated and subject to fluid interpretations. In certain strands of NGO discourse, it is seen to represent the good, more progressive alternative, in contrast to the perceived problems with global, modern and western versions. Thus, ‘the local’ is constructed in opposition to ‘the global’, but with a definite ideological and political complexion. In the same way, ‘the global’ is seen in different ways. For others it is simply international – issues that cut across nation states; yet for others it represents a particular form of (globalised) capitalist relationship, most associated with North America and Europe. For some involved in the IAASTD, the global was thought about as the centre – the location of the secretariat and decision-making with a Washington DC address. This ‘centre of calculation’ (cf. Latour 1987) is seen by some as the hub of the networks of knowledge and power around which other perspectives must revolve.

Thus in tracing global and local linkages all these versions – and more – must be taken account of. This is not just a geographical tracing (from Africa to the world), or one of levels (from the small-scale to the large), but one of social relationships

11 In particular, the focus is on non-government organisations who were active intermediaries for a wide range of civil society organisations and local groups. Their interaction with players from governments, the private sector and international organisations is explored. The confrontations between these participants in the assessment highlight the intense involvement in knowledge politics of all actors.

(from the less connected/networked to the more), interconnectedness, power and politics (from less to more powerful and influential). This, in turn, presents some important methodological and interpretive challenges. What follows is based on a number of sources, including a detailed analysis of the available documentation on the IAASTD website, including each of the drafts of the reports, along with all reports from the consultation meetings, as well as various presentations and supplementary papers prepared for these.¹² In particular the subsequent analysis has sought to gain insights into the overall ‘narratives’ and ‘framings’ of the documents – what stories are being told and what assumptions are embedded in the statements being made? And what, indeed, are the stories that are not being told, or are being sidelined, discredited or obscured?

A particular focus has been to look at the role of scenarios as framing devices, and how scenario analyses have constructed particular visions of future options, while potentially constraining others. The involvement of different actors at different points of the assessment process was explored through an examination of author, reviewer and meeting participant lists. Internet searches revealed more about the positioning of these diverse players – their institutional origins and histories, their networks and affiliations, their professional and disciplinary backgrounds and their personal experiences and origins. Basic analysis explored who was involved in what, and where they came from helping to explain the processes of inclusion and exclusion going on.

In order to get a more comprehensive insight into the underlying processes and practices involved – and some deeper clues to the overarching politics of knowledge – interviews have taken place with around 30 different actors involved, including a co-chair of the assessment, sub-Saharan African authors, members of the scenarios team, donor and NGO representatives on the Bureau and a number of authors and reviewers of the global report. Clearly this is a minute fraction of the total number of people involved, but an attempt to get a representative overview of different positions and perspectives. Early plans to attend meetings and shadow processes in more detail came to nothing, as a certain reluctance for such an engagement was registered and invitations were not forthcoming.

4 Globalisation and civil society: the place of international assessments

The IAASTD, as with the other global assessments, is seen therefore by its proponents as a brave attempt at engaging a diverse group of stakeholders on a key topic with major global ramifications. In this regard it is a major departure from previous models of global expert decision-making, where attempts at dialogue and

¹² Some of this work was carried out by Saul Butters who sorted, collated and extracted material from a vast array of web material and through the different drafting stages.

debate were largely absent and processes were open only to an exclusive expert elite.

In this way, the IAASTD chimes with a central theme of the more optimistic strands of the literature on globalisation and civil society. These suggest that, with the opening up of opportunities for engagement at the global level, and the increasing connections between local level actors and issues and those in global arenas, the opportunities for participation and influence increases through a 'global civil society' (Edwards and Gaventa 2001; Keane 2003). With this opening up, processes become more complex and require increasingly sophisticated forms of mobilisation by activists and movements in order to engage (Tarrow 1994). But the net result is a pluralisation of knowledges, claims and inputs into cosmopolitan global contexts, resulting, it is argued, ultimately in a more democratic and accountable system of governance and policymaking (Held and McGrew 2002; Heater 2002).

The IAASTD could be seen as one avenue for such new styles of engagement, knowledge production and claim making; and indeed the rhetoric associated with it suggests that this is in part the wider aim. A vision of cosmopolitan diversity and democratic decision-making is portrayed, governed by rules and procedures allowing rational decisions and objective science to prevail.

A closer look at the processes and practices of the IAASTD, however, reveals some major limits to such a vision. In particular it highlights, following Fischer (2000), the important contemporary tensions between professional expertise and democratic governance, and, as Jasanoff and Martello (2004) argue, that, with the of reassertion of local knowledge claims in global environmental processes, 'the construction of both the local and the global crucially depends on the production of knowledge and its interactions with power'. Tracing these knowledge-power interactions is thus central to any understanding of local-global engagements. The aim has been to go beyond the well-rehearsed rhetoric of participation, inclusion and citizen engagement and ask: what has been the practice, experience and underlying politics of the IAASTD? The next section, then, looks at the particular experience of African engagement with the process.

5 Consulting Africa

The initial consultations in Africa took place in 2003, and were intended to provide a basis for framing the Africa contribution to the assessment, as well as recruiting authors and resource people. But how open and inclusive was this process and what voices were heard?

The Nairobi meeting was held in January and was hosted by the World Bank and the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA). Around 50 participants attended, drawn from government departments, CGIAR (Consultative Group for International Agricultural Research) centres and other international agencies. The participants' list was heavily skewed to the mainstream research organisations with good international links, notably the CGIAR Centres (ILRI, ICRAF and ICRISAT were all represented).¹³ In addition

key advocates of private sector-led biotechnologies were present, notably the industry-funded lobby group ISAAA (the International Service for the Acquisition of Agri-biotech Applications). There seemed to be no NGOs or CSOs present at all, and discussions focused very much on a fairly conventional agenda of technology transfer, markets and adoption gaps in Africa.¹⁴

The Addis Ababa meeting that followed in June had a wider diversity among the 70 participants from 19 countries, including those from universities, farmer organisations and NGOs, alongside the more mainstream governmental and international agency representatives. The consultation was organised and hosted by ILRI, ASARECA and the Ethiopian Ministry of Agriculture. The final meeting report concluded that any assessment should have a poverty focus and that 'the scope of the assessment should be kept broad but at the same time incisive'.¹⁵ A participant at this meeting reflected on the process:

We went along because we didn't really know what this was all about. We were told how it would work, but it was not really very clear how farmers and others could become involved. The discussion was heavily dominated by scientists who smelled funds.

(Interview, NGO representative, Addis Ababa, 2006)

In the African consultations, certain CGIAR Centres have targeted the IAASTD as a potentially important route to raising profile and ultimately funds for their mission. Being powerful, well-resourced organisations, populated by articulate international scientists (who, while many are African, cannot be expected to 'represent' Africa), it is easy to see how particular views dominate. This was apparent in both African consultations, and, although participants at the Addis meeting acknowledged the genuine attempts at getting a wider discussion going, this was limited both by format (presentation followed by question and answer response, involving prior framing by those convening) and participation (with articulate, international scientists dominating the floor).

There were of course attempts at wider legitimisation through the invitation of NGO groups as civil society players, but, at their own admission, these participants too were offering a particular perspective based on their own, rather elite position. NGO participants did see themselves as countering the dominant mainstream position, however. And, ultimately, this effort at mobilisation and alliance-building, as we will see, paid off. One commented, for example, how issues of food sovereignty, sustainable agriculture and the problems of GM crops were raised, but these 'got squashed' (Interview, NGO representative, UK, 2007). In addition to inviting NGOs, the organisers of the Addis meeting also invited farmers' groups and local traditional healers, for example, as those who could offer legitimate 'indigenous knowledge'.

13 ILRI (International Livestock Research Institute), ICRAF (International Centre for Research on Agroforestry), ICRISAT (International Crops Research Institute for the Semi-Arid Tropics).

14 www.agassessment.org/docs/nairobi_notes.pdf

15 www.agassessment.org/docs/AAreport.pdf

Following these consultation meetings, the writing team for the Africa report was recruited under the leadership of Judi Wakhungu. With limited funds and involving already over-committed people there was substantial turnover of the team. Teams with varied compositions met four times between January 2006 and June 2007. The final authors of the sub-Saharan Africa synthesis report were only four – a plant genetic resources specialist from Ghana, an animal nutritionist from a university in Zimbabwe, an agroforester from an international research organisation in Kenya, and a livelihood specialist from a UK research institute. Members of the wider Africa team were encouraged to engage further with stakeholders in their own countries. However, this often proved difficult, as one African author explained:

There is no money to do consultations. We are based here and try to reflect the situation, but we cannot go out and have discussions with farmers. We must look at the literature and find our way.

(Interview, University Researcher, Zimbabwe, 2007)

The process of putting together the draft chapters involved much iteration between the lead authors and others. It was at this stage, authors described, that things became difficult. Different interpretations and perspectives were highlighted as things began to be put onto paper. Lead authors often had to ‘square bracket’ issues or create compromise language to incorporate different perspectives. Debates surfaced more vociferously at the meetings. These were, by all accounts, good natured events ably facilitated by Professor Wakhungu. The one area of contention was the role of the scenarios and how these should – or should not – influence thinking (see below). Authors described how the Africa writing team gelled over time, partly seeing themselves as a group trying to influence the global report and summary.

In discussion with authors it was the practical difficulties of communicating and discussing under intensive deadlines that were the major constraint. As one put it:

The time is too tight. The chapter draft comes, we have to revise it, and then we must go to the next meeting. My email was down for weeks here at the university so we are very behind on our chapter.

(Interview, University Researcher, Zimbabwe, 2007)

The final draft report was produced in 2006 and was available for consultation on the web. This had changed substantially from the earlier draft. A strong storyline about the importance of institutions and governance and local knowledge emerged, and the way Africa fitted into the global scenarios was downplayed.

What have been the underlying processes which have influenced the Africa report? Clearly there have been attempts at engaging different networks of actors, enrolling them in the wider endeavour. This has been variably successful. The strong arguments made by NGO players at the consultations about local knowledge and alternative agriculture have been featured, sometimes awkwardly alongside other perspectives. Certainly the sub-Saharan Africa report has a substantial emphasis on these issues, and the global report devoted a whole theme to ‘traditional and local knowledge and community-based innovation’.¹⁶ But

this inclusion has had its limits, with the controversial issues surrounding GM crops, for example, being skirted around (see below).

From my discussions, the Africa writing group clearly identified with the process and their output, and invested considerable energy and effort in its production. In some ways, they saw themselves as a counterpoint to the global report, and some of the perspectives presented there. Thus, through the process, different groupings have emerged within the Assessment, offering different views to the overall mix. The degree to which these groups are representative of 'local' perspectives is a moot point, and something which is discussed further below.

First, however, the paper turns to an area where substantial debate – both at the Africa and the global levels – emerged: the use of scenarios to define alternative possible futures.

6 Framing the future: the use of scenario modelling

Different scenarios of 'plausible futures' had been used extensively in the Millennium Ecosystem Assessment which was undertaken between 2001 and 2005, again under the leadership of Robert Watson. The MA offered four scenarios of the future – Global Orchestration, Order from Strength, Technogarden and Adapting Mosaic¹⁷ – around which possible options and trade-offs were constructed. A number of those involved in the MA, including Watson, had thought that this approach had allowed a searching analysis of alternatives, opening up alternative thinking and bringing together natural and social science perspectives in an overall assessment. For these reasons, the use of scenarios was seen as a central tool for the IAASTD from its inception.

A number of key players in the IAASTD thought the scenarios work could, in this case, be taken a step further including a more quantitative assessment of options. Making use of the quantitative models developed by IFPRI, notably the IMPACT (International Model for Policy Analysis of Agricultural Commodities and Trade) model looking at the impact of different agricultural development options (Rosegrant *et al.* 2001), the idea was to extend the MA approach and ground it in some hard numbers. With this in mind Mark Rosegrant from the International Food Policy Research Institute (IFPRI, one of the CGIAR Centres based in Washington DC) and colleagues from the UN Food and Agriculture Organisation in Rome were drafted in to come up with some ideas, and funds from the Australian government were made available explicitly for this work.

16 That said, in contrast to most reports of this sort, the emphasis on local knowledge in the IAASTD is substantial, and exists as a cross-cutting theme. Along with reference to food sovereignty, this is seen as a major breakthrough, and was supported in the final plenary sessions by African delegates (IAASTD author, pers. comm., August 2008).

17 www.millenniumassessment.org/en/index.aspx

At the Rome meeting in 2005, Rosegrant, together with FAO colleagues Monica Zurek and Prabhu Pingali, laid out his ideas in a series of PowerPoint presentations.¹⁸ This took the four MA scenarios and showed how options could be evaluated using the IMPACT model and data from each of the IAASTD assessment regions. It was an ambitious vision, one led by a technical, quantitative framework which defined limits and possibilities. At the Bangkok meeting of May 2006, the IAASTD Scenario Working Group reported on progress, proposing a series of chapters of the final report on the scenario work. These defined in turn a framework (involving drivers, plausible futures and models), a series of storylines to 2050 and an analysis of scenario outputs.¹⁹

As a core part of both the global and regional reports, the scenarios work became hotly debated from the beginning. Many feared that the scenarios, and particularly their quantitative incarnations, were narrowing the framing of the assessment, excluding other alternatives through the assumptions being made in the process. The scenario group was heavily dominated by the IFPRI modelling expertise, but others found the approach intimidating and exclusive; so dense and complex were the models that underlay the computer runs. Indeed, the peer reviews of the scenarios work were heavily critical. One participant commented:

Many of us considered that in any truly 'scientific' assessment, the IFPRI models would not have been used at all, given the technical weaknesses identified, and given that there are more advanced models available that are better able to handle distributional impacts, gendered impacts, and energy flows/ecosystem service issues; and that do not rest on outmoded assumptions of neo-equilibrium economics ... and so on.

(Pers. comm., August 2008)

All regional groups were expected to engage with the scenarios work, but this proved difficult for the Africa group as it was deemed that only those with certain expertise should get involved. As a consequence the role of the scenarios in the Africa work became highly contentious. As one author observed:

In the Africa group we had intensive debate about the scenarios. Where did they come from? Did they apply to our contexts? Many of us did not like them, but the process imposed them. We had our own scenarios group, but there are not many of us who have expertise in doing scenarios so it was run by the Washington group.

(Interview, University of Zimbabwe, 2006)

For others among the NGO/civil society groups, the whole process was geared to exclude their perspectives and alternatives. Benny Haerlin, the Greenpeace representative on the Bureau, commented in a note from the Montpellier meeting in 2005 posted on the NGO website tracking the process:

18 See Presentations at the 18–22 July Scenarios Workshop Rome, Italy by Mark Rosegrant, IFPRI: 'Scenario Development for IAASTD' and Monica Zurek and Prabhu Pingali (FAO): 'The Global Scenarios of the Millennium Ecosystem Assessment'.

19 www.agassessment.org/docs/Rosegrant-Scenarios-final.ppt

In addition to our ongoing criticism of the ambiguous character of this scenario exercise (between science, fiction and dire presentation of political assumptions as scientific findings) working on the further development of the scenarios seems to be one of the big challenges for NGOs in this context ...²⁰

The critique of the scenarios work continued, although the group continued to operate. By the time of the Bangkok meeting in 2006, the scenario names had changed, but not a lot else. Mapping on to the MA scenarios, the four scenarios were now: policy and markets (global orchestration), local learning (adapting mosaic), green technologies (techno-garden) and self sufficiency/sovereign interest (order from strength). The IMPACT and IMAGE models were used in particular to run some of the quantitative analyses, but many remained unimpressed by the computer wizardry.

The Greenpeace representative on the Bureau recognised their potential value, commenting:

They are extremely fashionable now in international and government circles and play an increasing role in informing decision makers at this level. They certainly do have merits with respect to widening the horizon of participants as to how the world may look like in 20 to 50 years time, i.e. beyond the time limits of serious predictions.

As he noted in 2005, much was up for grabs, and argued to his NGO/civil society constituency through the web report of the importance of engaging with the scenario process:

Selecting and nominating 'broadly forward thinking persons' who could make a critical and constructive impact especially on this last meeting [of the scenario group] will be crucial. A lot of the methodology seems to be still open to discussion, especially the question what can be seriously modelled by computing available quantitative data (see indicators) and which parts should be 'narrative', i.e. just described in a qualitative manner.

Participants from the NGO community argued that the use of quantitative scenario models was excluding and narrowing, and not open to rigorous debate by multiple stakeholders. They argued that alternative perspectives – including alternative quantitative representations – could be offered if the conceptual frame of the scenarios had been appropriate to their experience. According to one commentator, they offered 'twenty-first century critiques of twentieth century tools and assumptions', including offering alternatives based on advanced quantitative approaches (pers. comm., September 2008). By contrast, the original modelling team argued that, for legitimacy and authority, the use of well-tested models and their scenarios was critical, as this gave a grounding that was objective and clear.

This division, not surprisingly, has persisted with the dividing lines often clearly drawn between different camps. In the writing groups and in the review process

20 Benny Haerlin 31 May 2005 (to complement the official minutes of the meeting) *Report on the 2nd Meeting of the IAASTD Bureau in Montpellier, 24–28 May 2005*, http://agassessment-watch.org/docs/montpellier_report.pdf

this equally became evident. What was rigorous evidence for making a case? Were data required or were case studies sufficient? In their attempt to develop an evidence base for their arguments, from the beginning the NGO community requested readers of the website (and numerous listservs supporting a variety of causes) to send in 'success stories' of sustainable agriculture to expand the 'grey literature' source material accepted under the IAASTD principles and procedures.²¹ The hope was to influence the argument through examples and grounded experience, rather than abstract reasoning, quantitative analysis and the formal literature.

How was this debate dealt with in the end? After much debate, the scenarios work had been dropped from the final chapter outlines. While the final drafts showed echoes of this earlier work, a different framing had emerged which rejected the narrow assumptions of the proposed scenario models, much to the disappointment and annoyance of the scenario group leaders. Many IAASTD participants argued that developing scenarios could prove useful, but only if agreement could be achieved on the up-front framing. This had been achieved for the MA, but remained highly contested for the IAASTD. As one informant put it: 'It was more than a quantitative versus qualitative exchange ... It is a pity from my viewpoint that there was not a different group of people doing the scenario work as it could have been done in a different way' (Pers. comm., September 2008).

The failure to achieve agreement on the scenarios work highlighted the tensions inherent in the process – both between different knowledge framings and different practices of knowledge-making. The hope had been that scenarios work would offer a focus, bringing diverse contributions together. The intensely contested knowledge politics meant this convergence did not happen. The end result is, as many have commented, a bit of fudge: what someone described as a 'lowest common denominator' analysis, with bits of everything mixed up in an 'unsavoury cocktail' (Interview, London, 2007). For some this is the consequence of attempts at consensus when the politics of the process are not made explicit and controversies, dissent and debate are not surfaced and explicitly addressed – or even identified. For others this is an inevitable outcome of an intensive and inclusive deliberation which unavoidably surfaced political sensitivities, but which had to be finally cast in a language that allowed diverse governments to sign off on the document. Yet in the debates around the quantitative scenario modelling, dissent and objection was possible and, although untidy, the final result, perhaps contrary to initial expectations, was not the one the most powerful would have wished. Thus, through the assessment, power relations, conflicting views, positions and interests had to be confronted – from the peer review discussions around the scenarios to the fraught scenes at the final plenary when the US delegation fought to water down conclusions.

21 *'Real-life Experiences – Can you Contribute?'* In order to achieve as wide a consensus as possible, Greenpeace is encouraging the inclusion into the assessment of the experiences of farmers and NGOs working in related fields in the developing world (go to 'call for authors' to contribute) www.farmingsolutions.org/intro/content.asp?id=2.

7 Confronting controversy: GM crops

Perhaps the biggest controversy that dogged the IAASTD process was that surrounding GM (genetically-modified, and specifically transgenic) crops. When the assessment was being proposed in 2002, this was a raging debate particularly in Europe and across NGO and civil society groups around the world. While some from mainstream scientific institutions and biotechnology corporations dismissed this uproar as a diversion, one that was not based on sound understandings of science and one that resulted in the undermining of poverty reduction and development by withdrawing new scientific and technological opportunities, it was a debate that would not go away.

Many in the NGO community feared that the IAASTD was simply going to be a front for the backers of GM crops and that the enlistment of NGOs and civil society groups under an umbrella of participation and consultation was going to provide an illegitimate justification for recommending GM crops be central to future agricultural R and D strategies globally. Given the keen interest of some important industry players, as well as some major GM advocates within the CGIAR system for example, this was, given the timing, probably a justified fear. For example the pro-biotech, industry-funded website run by the ISAAA, argued that the IAASTD would provide a scientific assessment of biotech crops, and so perhaps 'proof' of their utility.²²

Among the NGO groupings, there was much debate as to whether this was simply a process of cooption. The launch of the agassessment-watch website, with regular inputs from Greenpeace and PANNA, was an indication of the caution, as were the comments made by a number of key players in the international NGO community about the IAASTD. For example, in a presentation to DFID in 2003, Patrick Mulvany of the UK Food Group presented a CSO perspective, and, while welcoming the initiative, offered some important cautions.²³

Following the report of the steering committee and the subsequent first plenary session in Nairobi,²⁴ alongside the 30 government representatives, six members of NGO/civil society groups had accepted invitations to be on the Bureau of the assessment (including Greenpeace International, the Pesticide Action Network and Practical Action), and so were central to the overall governance. But so had representatives from 'industry' (including Syngenta, Unilever), 'consumers' (including the Center for Science in the Public Interest and Consumers

22 'IAASTD to Conduct Agri-biotech Assessment', 7 April 2006, *CropBiotech Update*, www.isaaa.org/kc

23 www.ukabc.org/iard/NGO_DFID_Ag/sld001.htm; see also the CSO position following the Dublin consultations at: www.ukabc.org/iard/Dublin_final.pdf

24 *Final Report of the Steering Committee for the Consultative Process on Agricultural Science and Technology* (12 August 2003) (www.agassessment-watch.org/docs/final_report.pdf); Nairobi Plenary, minutes, August–September 2004; www.agassessment-watch.org/nairobi_minutes.html.

International), 'producers' (including International Federation of Agricultural Producers and the International Federation of Organic Agriculture Movements) and 'institutions' (including the Third World Academy of Sciences, the World Conservation Union (IUCN), the CGIAR and CAB International). This group of 60–30 government, 30 non-government – was not an easy group to convene, let alone get to agree on anything. A co-chair of the assessment reflected:

This was a difficult time. No one trusted anyone else. X kept walking out. It was very disruptive, and we could not make much progress for a while. We had to be patient. The GM issue was a diversion. We had to get down to the real issues.

(Interview, Sussex, September 2007)

While the GM debate continued to be discussed, and remained often the 'elephant in the room', the overall framework and approach of the assessment cast the debate much wider. Indeed, by framing the overall debate in relation to broader questions of agricultural knowledge, science and technology (AKST) within a loose framework that looked fundamentally at outcomes relating to poverty reduction and environmental management, a much larger – some would say poorly focused – discussion could take place. This was framed not in terms of whether GM crops are somehow 'good' or 'bad', but what combination of technologies make sense given the diverse, future requirements of different people's needs in different parts of the world. Thus the overall framing, and the decentralised process, managed, at times, to get away from the narrow perspective of the GM debate dominating discussion at that time by either firmly pro or anti camps. Debates centred on whether new GM crops met the exacting IAASTD goals on the basis of well-documented evidence. The challenge, of course, was that much talk of new biotechnology application in agriculture, by the science establishment and the corporate alike, is one of prospect and promise. The evidence from the field is weak and limited. The argument presented is that 'if only companies are given the freedom to operate, then all sorts of panaceas for the world's ills will be unleashed'. This is countered by the argument that current evidence does not stand up to scrutiny, and a highly precautionary stance must be applied to future options. Wider questions of corporate control, intellectual property and biosafety were also introduced as arguments against a simple endorsement of GM crops. A stalemate therefore quickly emerged, with fundamentally different framings competing with each other.

The sense among Bureau members interviewed was that the GM issue was not the one to confront; yet it persisted through the writing and reviewing process with attempts by different groups to insert elements of their positions. The final global synthesis report ended up quite equivocal, and is reflected in the summary which states:

A problem-oriented approach to biotechnology R&D would focus investment on local priorities identified through participatory and transparent processes, and favor multifunctional solutions to local problems. These processes require new kinds of support for the public to critically engage in assessments of the technical, social, political, cultural, gender, legal, environmental and economic impacts of modern biotechnology.²⁵

The Africa summary for decision-makers (second draft of March 2007: 12) was even more circumspect, particular on the issue of intellectual property:

The patenting of biotechnologies and GM technologies by private organizations in industrialized countries could limit access to technologies for both poor country farmers and scientists. In SSA, most food and feed crops are grown from farmer-saved seeds and farmer-developed varieties with very little intergovernmental or donor support. A key concern over agricultural biotechnology and GM in particular is that it can lead to the decommodification of these seeds that farmers use from one season to another to the benefit of developed countries and at the expense of poorer countries.

There are different interpretations (inevitably) of this final outcome. Some view this as a fudge, a failure to address the issues; while others view this is a sensible way forward, one that parks an unhelpful debate and moves on. Certainly the private sector company representatives involved in GM technology found it unacceptable and stormed out of the process in late 2007 before the conclusion, provoking a storm of controversy, and much frustration among certain writing teams who had been subject to foot-dragging delays over months.²⁶ A representative of CropLife International, a biotech industry umbrella body, indicated that this decision was prompted by 'the inability of its members to get industry perspectives reflected in the draft reports'.²⁷ In a clearly heart-felt opinion piece for the *New Scientist*, Syngenta scientist Deborah Keith explained why she, along with other industry representatives, walked out:

Despite our active participation, the draft IAASTD report does not adequately represent the contributions of plant science to sustainable agriculture ... The decision was not taken lightly, given our commitment to agricultural development and sustainability. But there was blatant disregard for the benefits of existing technologies, and for technology's potential to support agriculture's efforts to meet future crop needs. I think this was in part because the differences between various participants' perceptions about these technologies, and the scientific facts, were not maintained and highlighted. Sadly, social science seems to have taken the place of scientific analysis.²⁸

25 www.agassessment.org/docs/SR_Exec_Sum_210408_Final.pdf (page 15).

26 See: *Monsanto and Syngenta Withdraw from the Assessment* (17 January 2008) http://knowledge.cta.int/en/dossiers/cta_and_s_t/developments/iaastd_monsanto_syngenta_withdraw_from_the_assessment (although actually Monsanto were not involved directly). CLA finds IAASTD report 'seriously lacking', criticises failure to recognise modern agricultural practices. www.croplifeamerica.org/design_06/viewer.asp?pageid=246 and from *Croplife International*: www.croplife.org/library/attachments/0889ff92-3ffa-41a6-91bd-9e01fc9993bb/2/2008%2004%2015%20-%20Science%20and%20Technology%20are%20Key%20to%20Growing%20More%20Food.pdf; 'International Initiative on World Hunger Deserted by Biotechnology Companies' (*Frontiers in Ecology*, 03/08, PDF); Anonymous (2008) 'Deserting the Hungry?' *Nature* 451: 223–4; Anonymous (2008) 'Off the Rails' *Nature Biotechnology* 26: 247 and Stokstad, E. (2008) 'Dueling Visions for a Hungry World' *Science* 319: 1474–76. See also a commentary on the media response to IAASTD at www.bioscienceresource.org/commentaries/documents/BSRcommentary10.pdf.

27 *Nature*, 17 January 2008.

28 'Why I Had to Walk out of Farming Talks' (Opinion, *New Scientist*, 4 May 2008, PDF)

Of course this sort of naive appeal to a particular set of ‘scientific facts’ and a dismissal of what she calls ‘social science’ has been typical of many interventions by the biotechnology industry over time, but the impasse that this created, with the industry lobby unable to countenance a compromise framed by interests other than their own, proved a big, and late, stumbling block, allowing certain governments to pull back from the process, and back their industry lobbies.

Although approved by 57 countries, the final document has remained unsigned by the US, Canada and Australia, with the UK, in the end, signing up.²⁹ Objections are contained in the annexes of the agreed documents. The Canadian government, resorted to a similar argument about ‘objectivity’, complained that ‘there remain a number of assertions and observations that require more substantial, balanced and objective analysis’.³⁰ Many in the NGO community believe that the real reason for the reluctance of certain countries to sign up was because of the pro-GM position of key governments and their unwillingness to back a document that, if not explicitly anti-GM, is certainly not gung-ho in favour (phone interview, UK, 2008). This is apparent, for example, in the US objection noted in the Annex to the Global Summary for Decision Makers: ‘the USA does not believe that there is sufficient balance in reflecting the use/range of new technologies, including modern biotechnology in Key Findings 10 and 11’.³¹

Despite the failure of some governments to sign up, the conclusion of the final plenary session and the majority agreement of the final document by governments from across the world was the scene of exuberant celebrations by the NGO grouping who had worked so hard to influence the process. The press releases highlighting particular passages of the final document emphasising how ‘the old paradigm of industrial, energy-intensive and toxic agriculture is a concept of the past. The key message of the report is that small-scale farmers and agro-ecological methods provide the way forward’.³² In numerous press interviews,

29 www.publications.parliament.uk/pa/cm200708/cmhansrd/cm080609/wmstext/80609m0001.htm#column_6WS

30 www.agassessment.org/docs/Global_SDM_050508_FINAL.pdf

31 www.agassessment.org/docs/Global_SDM_050508_FINAL.pdf (annex, note 2).

32 See NGO press release (15 April 2008): www.agassessment-watch.org/docs/Civil%20Society%20Statement%20on%20IAASTD.pdf and that by Greenpeace (www.agassessment-watch.org/docs/greenpeace__15_april.pdf). This line was picked up in a range of press commentary such as (from 15–16 April 2008): *New York Times*: ‘U.N. Panel Urges Changes to Feed Poor While Saving Environment; Reuters: ‘Free Food Trade Threatens Environment, Poor’: report; Al Jazeera, video: ‘Rethinking Food Crisis Solutions’; *Guardian*: ‘UN Body Urges Agriculture Reforms to Stave Off Food Crisis’ Inter Press Service: ‘Reinventing Agriculture’; *The EastAfrican*: ‘UN Scientists say Industrial Agriculture has Failed’; Agence France Press: ‘Farm Practices Must Change to Counter High Food Prices’; BBC: ‘Global Food System “Must Change”’; Interpress Service Africa: Reinventing Agriculture, <http://allafrica.com/stories/200804150171.html>. Even the UK tabloid, the *Daily Mail*, picked up the themes, see: ‘GM Foods “Not the Answer” to World’s Food Shortage Crisis, Report Says’, *The Daily Mail*, 16 April 2008 www.dailymail.co.uk/pages/live/articles/news/news.html?in_article_id=559965&in_page_id=1770 and ‘GM Food, Biofuels and a Hungry World’, Editorial, *The Daily Mail*, 16 April 2008 www.dailymail.co.uk/pages/live/articles/news/newscomment.html?in_page_id=1787&in_article_id=559945

you-tube clips and podcasts, Watson himself argued that 'business as usual is not an option'.³³ In an explicit attempt to broaden the debate about agriculture beyond production, Executive Director of the UN Environment Programme, Achim Steiner, stated at the opening of the intergovernmental plenary in April 2008:

Agriculture is not just about putting things in the ground and then harvesting them ... it is increasingly about the social and environmental variables that will in large part determine the future capacity of agriculture to provide for eight or nine billion people in a manner that is sustainable.³⁴

But was this change of tune and the promotion of a integrative, holistic vision really local voices finally being heard in the international arena? Was this the genuine success of an inclusive, deliberative process? Or was this rather another type of selective, global expertise getting the upper hand – through hard work, diligent campaigning and the deployment of alternative forms of elite expertise? In the next section, the way expertise is constructed and negotiated in a 'global' context is discussed, along with the implications this has for participation, accountability and wider the governance of international processes.

8 Experts and citizens

As the previous sections have shown, the assessment process has seen diverse forms of expertise becoming engaged. What has this revealed about the relationships between experts and citizens, and how have diverse forms of citizenship been practised in such local to global engagements?

NGO activists engaging with the IAASTD have laid out some of the challenges. Marcia Ishii-Eiteman from PAN North America reflects:³⁵

Key to the success of the Assessment, from a civil society viewpoint, will be the extent to which it accurately reflects the voices, experiences and priorities of small farmers around the world, and provides an analysis of corporate industrial agriculture's failings as a strategy to reduce hunger and improve rural livelihoods. This in turn depends upon our abilities as sustainable agriculture and social justice movements to put forward authors who will critically assess the impacts of powerful public institutions such as the World Bank and the World Trade Organization as well as the private sector on the generation, access and use of knowledge, science and technology. To the extent that the Assessment reflects the knowledge and concerns of small farmers, it will provide civil society organizations (CSOs) with an important advocacy tool for specific campaigns as well as for the long-term movement towards social justice and equitable and sustainable development.

33 See for example: www.youtube.com/watch?v=B-0B4Z-7A4s;
www.guardian.co.uk/environment/audio/2008/apr/15/vidal.food.shortage?popup=true;
www.guardian.co.uk/environment/2008/apr/15/food.unitednations1

34 www.agassessment.org/docs/IAASTD_Opening_Remarks.pdf

35 www.panna.org/resources/gpc/gpc_200508.15.2.13.dv.html;
www.farmingsolutions.org/facts/factscontent_det.asp?cnt=0&id=26

At the same time, as Romeo Quijano, PAN Philippines' representative on the Assessment's Advisory Bureau, argues:

We must always be acutely conscious of the fact that the balance of forces are stacked largely in favour of the dominant corporate model of agriculture. The discussions on hunger and poverty hardly go into the realm of power relations and the underlying socio-political and economic forces that are major determinants of what kinds of AKST (Agricultural Knowledge, Science and Technology) are generated, distributed, used and accessed and who are the main beneficiaries.

Obviously, civil society participants must take a clear-eyed view of what can be accomplished through this type of endeavour. Recognizing the limitations of the Assessment helps both to focus our interventions within the process and keep sight of our larger goal: challenging the injustices of the existing globalised food and agriculture system.

... a major challenge is how to correctly inject and project the grassroots perspective in the Assessment, given the fact that most progressive farmer and peasant organizations are not participating in this exercise. We should aim for maximum articulation and public dissemination of the core issues being discussed, and carry out a broad and intensive public awareness campaign on the issues being debated. The civil society organizations that are participating formally in the Assessment – as authors and members of the Bureau and design teams – must continuously reach out to peasant groups who are left out of the process and strive to reflect their perspectives on the key issues.

Here an explicit perspective is laid out about how to link local and global processes through the intermediation of civil society representatives. The talk is of 'injecting grassroots perspectives' and 'reaching out to peasant groups', while at the same time quite clearly specifying in advance an agenda about what progressive views should be – regarding industrial agriculture, trade regimes and so on. This, as NGO players involved in the assessment admit, is a highly positioned mediation role, one that potentially carries much power and influence, and, with it, responsibility. In interviews, such individuals argue pragmatically: if we don't do it, no-one will. They argue that the choice to engage was strategic, with the aim, as explained above, to use the assessment as a mobilisation tool in the future; to help push forward positions that they hold dear. The sense that they were entering an open, deliberative space where rational negotiation of consensus would emerge was often far from their conception. This was a highly political setting, dominated by powerful groups, deploying powerful methods (like scenario models) which can act to undermine alternatives, and they needed to mobilise to deploy some form of countervailing power.

While hanging on to a view that rationality would still prevail if such countervailing forces (of 'truth' and 'reason') to the powerful influences of global capital could be inserted, such activists argued that the best route to influencing the outcome of the assessment – and getting the 'true' voices of marginalised farmers across the world heard – was to get as many 'supporters' involved as authors and reviewers in the process. Of course no participant thought that a single report could 'change the world'. But the question was, as one informant put it:

The extent to which (1) it builds a sense of movement and a policy direction that is desired, and (2) it provides an authoritative and legitimated account, that can be used in other movements, actions, leverage points, across a whole spectrum of civil society, media, political and academic activity ... What I think we all need to consider in more depth, is how to interweave different kinds of processes, that are mutually informative, but that play to the skills of different constituencies – and don't leave all the cards at the end of the day in the hands of the powerful.

(Pers. comm., August 2008)

Getting involved, and nominated as an author or reviewer, was critical. The nomination process which took place during 2004 was somewhat opaque, but, according to the guidelines, nominations from all key stakeholders – from government to industry to NGOs – were possible. With the first call for authors, PANNA in particular organised a wide call for people to get involved during mid-2004, both through listservs and direct approaches, arguing that the assessment offered an important opportunity for civil society engagement and awareness-raising around issues of corporate control and agribusiness interests, as well as highlighting the potentials for more sustainable forms of agriculture.

Following this call, and other efforts, a number of key people got involved. The first plenary meeting in Nairobi in August/September 2004 was attended by several members of the PAN network, Greenpeace, Gene Campaign, the International Federation of Organic Agriculture Movements, among others.³⁶ By that stage too Romy Quijano from PAN Philippines (see above) and Jean Marc van der Weid of AS-PTA, Brazil – two leading lights in global alternative agriculture networks, had been selected to serve on the multi-stakeholder bureau of the assessment.³⁷

By the time the first drafts came in, authors had begun to negotiate a text, often, as discussed for the Africa process above, involving multiple conflicts over issues, terminology and methods. The review of the drafts was seen as another key juncture for a wider civil society engagement. The Greenpeace Bureau member sent out a request to a wide network in September 2006. In a widely-circulated email, he comments:³⁸

The production of this first draft was, not surprisingly, a highly contentious endeavour, and in some cases chapter authors have not yet agreed on the contents or analyses put forth by co-authors. Thus you will find at this stage a mix of viewpoints, perspectives, arguments, assumptions and types of

36 www.agassessment.org/docs/FirstPlenaryMeeting.pdf

37 Van der Weid subsequently stood down. The NGO bureau members were: Kevin Akoyi – Vredeseilanden; Benedikt Haerlin – Greenpeace International; Romeo Quihano – Pesticide Action Network; Juan Lopez – Friends of the Earth International; Daniel Rodriguez – International Technology Development Group and Hedia Baccar – Assoc. pour la Protection de l'Environ. de Kairouan (from www.agassessment.org/index.cfm?Page=Bureau&ItemID=7).

38 Call to review major UN assessment of agriculture (IAASTD) From: 'Benedikt Haerlin' <haerlin zs-l.de> To: review agassessment-watch.org.

evidence put forth, as well as some contradictory findings, and a massive tension between the more conventional econometric, technocratic and production-oriented analyses, and those emphasizing environmental, social and political issues such as governance, equity, rights, ecosystem integrity and 'services', local and indigenous knowledge and rights, and the multi-functionality of agriculture.

The primary objective of the first review is to identify main gaps, flaws and contradictions in analysis, lack of referral to key bodies of literature, and to critique the presentation of controversial issues (e.g. impacts of conventional agriculture; the role of transgenic biotechnology in achieving 'sustainability and equitable development' goals; 'scientific' basis of policy formation (whose science, whose technology); relevance of LEISA [low external input agriculture], organic and alternative agriculture; IPR [intellectual property rights], trade, investments, etc.). We hope that reviewers will not hesitate to point out flaws in the draft (as well as any strengths), as this will be immensely helpful to those of us on the inside.

The issues around which there was an expectation that civil society groups would comment was clear – rights, governance, ecosystems, indigenous knowledge, organic/alternative agriculture, intellectual property, trade and so on. Through the Ag Assessment Watch site, PANNA in a call for 'real reviewers' have provided a guide for how to respond, offering editorial suggestions as well as requests to provide more input on particular themes.³⁹ In 2006 they identified the draft of chapter 8, for example, as particularly wanting, commenting how:

The analysis and presentation of evidence in this chapter appears extremely limited, simplistic and biased, reflecting a conventional, technocratic, top-down development approach. The operating assumptions are flawed and development paradigms obsolete.⁴⁰

In international assessment processes of this sort much of the hard work comes in the review and editing process. Here the minutiae of textual differences are discussed, and a particular wording and pitch is required. A (perhaps) apocryphal story suggested that the US Government had employed a thousand people in the US Department of Agriculture and USAID to go through the final documents with a fine-tooth comb, picking up sections, paragraphs, even words which their negotiators would dispute in the final sessions before any text was agreed. Certainly US government employees were heavily involved in the external review process, often reflecting particular knowledge and interests. Like UN treaties and conventions, the diplomatic process of square-bracketed disagreement and free

39 See also *A Road Map for Reviewers: A Detailed Outline of Selected Chapters of the First Draft of the Global Report of the IAASTD* with commentary and unofficial notes provided in italics by Emily Adams and Medha Chandra. Pesticide Action Network North America (PANNA) 4 September 2006 www.agassessment-watch.org/docs/Review_Notes_Global_Draft.htm; and *Call for Real Experts: Some Advice on Why and How to Review the 2nd Draft of the IAASTD Why do Reviews Matter? What will Happen to Comments that are Submitted?* www.agassessment-watch.org/review.html?Page=Bureau&ItemID=7

40 www.agassessment-watch.org/docs/Review_Notes_Global_Draft.htm

text agreement was followed. Engagement at this level of detail was new for some of the NGO and activist participants, usually excluded from formal governmental negotiations, so they had to learn the tricks of the trade, and become involved in the fine detail. Reflections on how some participants experienced the editing process are instructive:

At Bangkok, we were quite pleased that we had been able to write outlines for two chapters. X drafted a chapter on typologies of knowledge, and Y did a five-page Chapter 12 on 'Individual, professional, institutional and social learning, change and commitment'. By the time we got to Montpellier [May 2005] X's work had been dispersed, and chapter 12 had been edited down three times and its orientation transformed to become 'Learning, change and commitment: scenario analysis!' Then at Montpellier the corpse of 12, already shrunken and mutilated, was dismembered and the bits cannibalised or dumped ...

(Informal unpublished note, IDS, Brighton)

Thus, even the contributions of relatively powerful and influential players (X and Y are two, well-known white British males) can easily be 'shrunken and mutilated ... dismembered and the bits cannibalised or dumped' during the editing process, even on such apparently uncontroversial themes as 'social learning'. It is not surprising that some in the NGO community who have contributed, or those who provided inputs to the Africa report, for example, have felt their versions have not necessarily seen the light of day. As one informant put it: 'Our work is unrecognisable in the final version. The odd bit here and there, but often not the meaning' (Interview, Zimbabwe, 2007). Another countered: 'This is part of the reshuffling of understanding that is the positive outcome of multi-stakeholder dialogues and efforts to create something new together' (pers. comm., August 2008). The internal dynamics of author groups was critical, along with the capacity for effective, inclusive facilitation. As one informant recalled:

One [chapter group] was blown out of the water by A, who, in my view, clearly had a mandate ... to disrupt the chapter group so that it could not function; others had problems with ineffective or excessively domineering group leadership with little understanding of the communication difficulties some of our colleagues experienced; others simply couldn't keep up with the documentary and referencing demands.

(Pers. comm., August 2008)

But to what degree does this sort of process allow for the 'injecting' of alternative, grass roots perspectives from farmers themselves? How does 'the local' get represented in 'the global'? And what kinds of knowledge politics emerge? In discussions with a variety of participants in the assessment, a number of themes were raised.⁴¹ First, everyone recognised that, because of the way the IAASTD was organised, 'real' farmers and their organisations did not really get a look in –

41 See the thoughtful commentary on the fraught knowledge politics at play by IAASTD insider Janice Jiggins 'Bridging Gulfs to Feed the World' (Opinion, *New Scientist*, 5 April 2008).

whether at the early consultation stages in the regions (see above for the Africa case) or subsequently. Some regarded this as a fundamental design flaw of the whole process, undermining the legitimacy of the effort as a whole; others saw this as a probably necessary consequence of convening such a process, but one which allowed space for representation by NGOs and other CSOs. For some this mediation role was not a problem: these were people who worked on the ground in different locations and so could reflect the concerns of farmers on the ground. Others saw the processes of intermediation and translation as problematic, as well as the claims made by NGOs to 'represent' others. Some industry and government participants, for example, claimed that GM crops were a concern to (northern) NGOs, but not farmers from the global south.⁴²

Second, some participants reflected on their own positionality – both as experts and citizens from particular places, and how their origins, ethnicity, gender and experience was intimately bound up with their contributions as experts. As one African author, a middle class university lecturer in Zimbabwe, trained in the UK, but originally from a rural home in a farming area, observed:

Yes I am an economist, but I also from Africa, and I am a woman. I have lived in these places, and experienced the life of farming in a dryland setting.

(Interview, Zimbabwe, 2006)

This explicit reflection on positioning was notably more evident among those I interviewed from Africa. They were after all involved in a regionally-specific contribution which was by definition located. Others associated more with the global assessment and often northern researchers from international organisations emphasised their contributions as credentialed experts – as an expert on crop pests or forestry or soil and water conservation, for example. As one participant put it:

Each of the authors are members of diverse networks, often reaching deep into truly 'local' communities, through previous field work experiences, and these were in my experience often mobilised to review particular paragraphs of draft text, clarify the key points of concern, highlight very local experiences and generally to raise within the process the issues of evidence, legitimacy and accountability. So do not underestimate the multiple flows of communication and representation at work!

(Pers. comm., August 2008)

Thus everyone acknowledges that their background and life experiences affect their contribution as an expert in such a process. Although often professing the importance of generalised, universal, global knowledge (say around the impacts of climate change) no-one I interviewed was very keen to accept the idea that they, as participants in the IAASTD, were a global citizen – certainly part of a globally linked epistemic community, a network based on a focus on shared expertise and

⁴² In making such claims, of course, these commentators were offering an unreflective, alternative intermediary position, suggesting that their views were 'better' representations of developing world farmers, than those of NGOs.

contribution to a particular debate, but not strictly an ‘emergent solidarity’ (cf. Ellison 1997) at a global level which could be talked about in terms of citizenship.⁴³

Yet, third, many participants of course are quintessentially ‘global’, not easily located in one particular place and comfortable and accomplished across them. For example, one of the co-chairs is an African, female scientist, educated in the US, head of an African research/policy institute and highly well-connected internationally (indeed, I have discussed this work three times with her – once in London, once in Falmer and once in Lewes). She is deeply committed to making the perspectives of Africa have a voice in the process, yet would never claim to be the legitimate voice of peasant Africa. Yet, can such people, part of the international research and policy elite, from their acquired positions of power and authority offered through their qualifications and expertise, provide this, and how, in turn, is their input legitimated?

There is of course much politically-correct talk associated with the IAASTD about southern perspectives and involvement, but in practice the southerners who get a look in are sometimes as elite – in their lifestyles, outlooks and influences – as many of their northern counterparts. Does living behind razor wire in a smart suburb of Harare or Nairobi provide special access and insights? Or is this just another, of many different, ‘lived citizenships’ that are rather selectively added to the mix.

The aim was to involve a more diverse group of expertise than would be usual in a conventional approach, with a very conscious effort to be inclusive, but, in the end, it was deliberation on the basis of scientific evidence that would be the key. Interestingly, this is the view held both by ‘mainstream’ scientists and NGO representatives. For the former, ‘good science’ requires rigorous methodologies and systematic processes of international peer review, and the Assessment’s design is very much in line with this thinking. The way the scenarios approaches went (see above) – from a tool for debate about diverse future options to a detailed quantitative modelling exercise is a reflection of how this line of thinking influenced approaches, even when dealing with issues as highly uncertain, conjectural futures. The argument is, of course, that everything will come out in the wash through the joint authorship and peer review process. Certainly this was very tightly governed, and was highly involved as already discussed. An eight page document ‘Principles and Procedures Governing an Intergovernmental Assessment on Agricultural Science and Technology’ lays out the compilation of author and editor lists, drafting sequences, peer review and so on. In relation to the review process, four general principles are elaborated:

1. The Report should include the latest scientific, technical and social findings as comprehensively as possible;
2. Circulation should aim to involve as many experts as possible ...

43 Although some commented that such an ‘emergent solidarity’ was increasingly evident among a subset of IAASTD participants by the final plenary in Johannesburg.

3. The review should be objective, open and transparent; and
4. Local and institutional knowledge should be reviewed by appropriate experts.⁴⁴

The architect of the IAASTD, Robert Watson believes passionately in this rational perspective: in the end ‘the truth’ and ‘objective understanding’ will out. In contrast to other assessments, a wider scope of knowledge is argued for, mixing local, indigenous and scientific sources. There is also a strong commitment to openness. The drafts – at the first and second stages – were available for public comment for extended periods on the web. Great efforts were made by different stakeholders (see above, in respect of the NGO/CSO community) to get people to comment. While certain processes were definitely closed-door, including the deliberations of the writing teams, there is no doubt that, by comparison to many other equivalent efforts, those with reasonable web access could become engaged.

But it was not only the IAASTD leaders which saw things this way. In the same vein, NGO activists in discussions commented that, if only they could gain access to the process, their versions would be shown to be true. While their styles and tactics of demonstration – case studies, farmer testimonies and social analysis – differ from those of others, where more quantitative data routines are applied, the same call for objectivity and rationality was heard. And this was combined with the belief that rational debate would follow from good information provision. The launch of the NGO-convened website (www.agassessment-watch.org) – as well as the flurry of listserv announcements and email circulars – provided an endless stream of information and updates to a wide audience. As one key activist group involved in the process put it following the release of the final report:

The IAASTD is precedent-setting also for its bold experiment in governance. Civil society groups played a key role, not only in the authorship of the report, but also in its oversight and governance. History shows us conclusively that governments and transnational corporations have not been successful on their own. The IAASTD’s success has proven that civil society participation as full partners in intergovernmental processes is critical to meeting the challenges of the 21st century.⁴⁵

In the same vein, another influential NGO activist and member of the Bureau commented:

The IAASTD provides the evidence to show that locally-controlled, biologically-based intensification of farming is the only way forward. In short, it supports food sovereignty.⁴⁶

Interestingly, then, there was a strong commitment to the rigorous testing of evidence, and, following Habermas (1994), in importance of building consensus

44 Principles and Procedures (annex 3): www.cgiar.org/pdf/agm03/agm03stake_ag_s&t_dev.pdf

45 www.panna.org/book/export/html/190 (May 2007)

46 Patrick Mulvany, Practical Action, 15 April 2008 (<http://practicalaction.org/?id=iaastd>)

through multi-stakeholder dialogue. Yet, this is not to say that politics, values and moral positions were not discussed, often intensively, during author group meetings. Evidence had to be assessed in context, asking ‘what type of expertise and evidence having what voice?’. This was an inevitably partial, political and value-laden exercise. Positionality and subjectivity is thus central to the assessment process, and with this comes politics, values and judgements that go way beyond simple rational science and expertise, as discussed in Chapter 2 of the global report.

Thus, in the discussion of the IAASTD, there is an interesting contradiction in the simultaneous talk of engagement and involvement of diverse, multi-stakeholder perspectives and its confrontation with the ideal of consensus and an appeal to a universalised objectivity of science and expertise: the ultimate global vision. This tension was often not addressed and resulted in some underlying challenges of knowledge politics and power relations not being confronted, and some major fudges resulting.

When this argument was put to different people, I got diverse reactions. Some agreed, and recognised that, in retrospect, a more explicit focus on such knowledge politics would have been helpful, if very difficult to engineer. Others said I was being too idealistic: that the IAASTD had achieved much, and this was part of a process, one where, perhaps for the first time, those advocating sustainable agriculture and indigenous knowledge had been given a place at the table, and got (some of) their views acknowledged. And that the social and political dimensions – for example of gender dynamics or of institutions and governance issues – had been taken on board in a serious manner in ways that would not previously have been countenanced by the technical scientists who had dominated such processes.

As one IAASTD reviewer, with long experience of engaging with the CGIAR as a social scientist, put it:

You are being too harsh. The great achievement of the IAASTD has been to get social science taken seriously. This has been critical. If influential people like Bob Watson begin to take social science thinking on board, even if not in its full sophistication, this is major progress. We should not knock it.

(Phone interview, July 2007)

Another participant commented:

Perhaps for the first time, different constituencies had to wrestle with the evidence and experiences that inform a point of view. These could no longer be dismissed as simply differing ideologies or power gradients. We all had to put our trust in the IAASTD principles. The hard part was getting all contributors to be accountable to them.

(Pers. comm., August 2008)

9 The politics of knowledge in global assessments

So, what does the IAASTD experience suggest for the wider debates about democracy and participation in global arenas? The aim here is not to 'knock' the assessment, nor even to evaluate it, but to add to the process of reflection around it by posing some questions, and raising some issues which are at the heart of the debate about local and global engagements in policy and social change. A number of broad questions were posed at the beginning of this paper. Below I return to these and reflect on them in the light of the empirical findings discussed above.

9.1 How do processes of knowledge framing occur in global engagements?

The IAASTD reports, as we have seen, as many others of a similar ilk, present the bringing together of diverse knowledges as largely unproblematic. The emphasis is on neutrality and objectivity. For example, the guidelines state, 'Assessment reports should be neutral with respect to policy, and deal objectively with scientific, technical and socio-economic factors ...'.⁴⁷ But these assumptions are difficult to uphold under closer scrutiny. Further questions inevitably arise: whose expertise counts? How are cultural and institutional commitments brought into supposedly neutral expert statements and review processes? What overt and tacit routines legitimate and validate collective knowledge? What happens to other forms of knowledge and expertise – with different epistemological and ontological bases? These processes played out in different ways in different parts and at different moments in the assessment. Sometimes the knowledge encounters were productive and fruitful, challenging participants to reflect on assumptions and to include otherwise neglected perspectives. At other times, such engagements were less productive, being dominated by particular perspectives and interests.

The above discussion has highlighted a number of points where framing processes have been critical. First, the processes of convening, inviting and running the consultation processes that provided the first inputs to the assessment were seen to result in a narrowing of both inputs and outputs, 'closing down' the appraisal process (cf. Stirling 2005). As we have seen in the Africa context, certain people were involved – particularly a strong actor-network centred on the CG system – to the exclusion of others, resulting in a particular way issues were framed. Second, at least for a time, the use of a quantitative scenarios methodology created a way of thinking about the future limited to particular options, and styles of data presentation. These 'practices of demonstration' and 'registers of objectivity' (Jasanoff 2005) demarcate what counts as evidence, and how this

⁴⁷ Page 7, Annex 3, 'Principles and Procedures Governing an Intergovernmental Assessment on Agricultural Science and Technology', in: *Final Report of the Steering Committee*, 12 August 2003 (see website).

builds to claims about truth and legitimate or valid knowledge, particularly in the face of dispute and controversy. This is, in turn, reinforced by the forms and formats that are used to present data and interpretive claims by different players, reinforcing some, while downplaying others. That such a narrow perspective was, in the end, rejected meant that the assessment could subsequently open up to a more diverse set of perspectives.

Thus while the explicit, formal design of the assessment was rather blind to the questions of knowledge politics, in practice in the author groups, the review process and the wider discussion around the assessment, there was intense reflection on knowledge, its validity and the nature of expertise. As the examples discussed above have shown, contests over knowledge claims, and the framing of issues have been very important. The end result allowed a plural set of perspectives to emerge, despite attempts to constrain the debates. This shows, at one level, a sensitivity of the process to such issues. But this was not explicitly part of the formal design, and a key lesson has been that such issues of knowledge framing need to be more centrally and explicitly considered from the start.

9.2 How are different methodologies deployed in global assessments?

There has been much talk in development circles of scaling up participatory methodologies (Chambers 2005), but how effective is this on the global scale? As discussed, at the outset the IAASTD originally took a particular expert-led scenario approach as its centrepiece, drawing on experiences from the IPCC and the MA. Such approaches have become increasingly fashionable, as agencies try to manage uncertain scientific, technological and policy futures (Ringland 2006). As discussed earlier, the scenario approach advocated by the IAASTD used a combination of quantitative and qualitative narrative methods in describing alternative futures, yet, because of the composition of the scenario group, a certain type of quantitative modelling began to dominate. This was used as a basis for exclusion: only certain people were 'qualified' to engage with the complex number crunching and simulations. While this whole exercise, as admitted by the core authors, was clearly highly conjectural, it gained credibility and authority, and, with this offered an influential framing for the assessment.

However, the openness of the assessment approach as a whole meant that other forces came into play, and the scenario modelling was dropped before the final drafting took place. Here, the role of the civil society groups, in alliance with other researchers, and particularly non-quantitative social scientists, was important. In this instance, a very different set of methodologies were used. Case studies, context-specific examples and personal testimonies of particular experiences were used to illustrate the validity of claims being made regarding sustainable, low-input agriculture alternatives to GM crops and other forms of 'industrial agriculture'. This was a very different source of evidence, one based on experiential forms of expertise and a process of legitimation; not through an appeal to universal, global knowledge, but to the local and particular supported by diverse sources of empirical evidence.

This all highlights the obvious point that methodologies – whether qualitative or quantitative, participatory or expert-led – are not simply neutral tools for the use in the search for objective understanding; something that author groups frequently discussed and fought over. Methodological choice in assessment processes and institutional deployment is highly political, and can make big differences to outcomes. Thus, following Jasanoff's analysis (2005) contrasting 'civic epistemologies' at national level, the IAASTD assessment process had these three versions ongoing simultaneously: sometimes they competed, sometimes they complemented and sometimes they generated debate, while other times dissent. 'The view from nowhere', dominated by 'objective', universalised facts and statistics competed with 'the view from somewhere', based on particular, located experiences and case studies, and was mediated by 'the view from everywhere' that tried to incorporate, combine and generate consensus through a committee process which included all stakeholders, formally represented in the governance structure and in the writing and review procedures. One participant argued that: '[By the end] there had emerged a much more sophisticated mutual understanding that each approach both "reveals and conceals", but that each does have its own legitimacy and fitness for purpose' (pers. comm, August 2008).

9.3 How is representation constructed and legitimised, and what does this mean for notions of citizenship?

A key feature of such assessments is that they are in some way 'representative', investing as they do in large-scale – and very expensive – consultations. The website makes great play of the diversity of actors involved, and the Secretariat includes a number of southern researchers, activists and others. Clearly, simple forms of representation – direct or indirect – are impossible at a global level. But how do global processes of this sort gain legitimacy for what they do, and how are representatives and representation constructed, by the organisation itself, its sponsors and the actors involved?

As discussed above the formal process allows for representation by different groups according to strict quotas, with non-government and government, NGO and business all carefully numerically balanced on the Bureau, for example. As an inter-governmental process, representation is also via states, with 110 countries involved and 30 government representatives from all regions on the Bureau. And in the public review process, the web commentary facility allows anyone with access to the internet to have their say. This means representation, and routes to influence the process, can happen via multiple routes. The NGO/civil society grouping, for example, has been very active in mobilising participants, engaging in debate and tracking the process through a dedicated website. Equally, the US government invested substantial resources in the review process, persistently trying to get its view across and objecting to alternative framings.

The NGO/civil society grouping is seen by the convenors of the assessment as a key route through which voices of poorer farmers across the global voice can have a say, thus bringing wider legitimacy to the process and its outcomes. But, as discussed above, this is an awkward intermediary, bridging position. Some NGO groups argue that, despite the fact that they have no formal mandate to

represent 'poor farmers', this is a legitimate role, one based on solid experience and dialogue with people in the field. Yet this position clearly comes with much baggage. It is far from neutral. Indeed, there is a clear line on many issues, linked to some high-profile, strategic campaigning, something that critics see as more reflective of a middle-class, left-leaning, European/North American position than the legitimate voice of the masses. In the context of the IAASTD, whether on issues around GM crops or industrial agriculture, the position of some NGO groupings have been voluble and consistent, something not necessarily reflecting the diverse and often conflicting views of poorer farmers across the world.

In debates about the role of 'civil society' in political processes, this is of course a long-running, and probably irresolvable, discussion. As many commentators point out, in addition to questions about representation, there remain important tasks in encouraging transparency and carrying out monitoring and review of formal processes to generate systems of accountability in governance arrangements, particularly at the global level (Scholte 2002). And, as transnational actors, civil society will – and should – bring values, norms and ideals to new spaces in the global arena (Batiwala and Brown 2006). Thus, following Appadurai (2006), civil society can be seen as:

... simultaneously a project – making global processes accessible and visible, a process; a project – building networks, alliances and generating advocacy, and as a space, being 'interstitial, overlapping and uneven', challenging previous orders of nation and state.

What does this mean for ideas of citizenship, and particularly global citizenship? In terms of the forms of engagement with the process, we can see at least three different forms of 'emergent solidarity' which might be termed 'citizenship' (cf. Ellison 1997; Leach and Scoones 2005). First, participants in the process have identified with their particular groupings. The NGO/civil society 'group' represents one set of transnational actors, operating in the ways described by Appadurai. In this sense, they could be described as being part of a 'global civil society', and so perhaps global citizens. But this is not all. Often the same actors have engaged in other ways: as citizens more traditionally defined in relation to the nation state; as experts, part of wider 'epistemic communities' and associations (Haas 1992); and as cyber-citizens, engaging as individuals or groups in internet discussions. Are all these engagements the practices of 'global citizens', reflective of an emergent phenomenon of 'global citizenship'?

My informants were almost universally dismissive of such an idea. The vision of global cosmopolitanism was far from their perspective. They self-defined in different ways, sometimes in relation to their expertise, sometimes their ethnic origin (although often beyond a country level, to the level of a continent, at least for Africa), and sometimes as part of a movement or campaign (for sustainable agriculture, against GM crops and so on). Very often, of course, people identified across these categories, reflecting on how they would 'put different hats on' for different purposes. While recognising the importance of engaging in global processes and the important influence they have on today's world, identities remained much more restricted, and very often hybrid and complex, rather than the apparently simple 'global' assignation.

9.4 How do collective understandings of global issues emerge?

A key challenge for democratic theory in an era of globalisation is how collective perspectives, values and outcomes are negotiated across diverse cultural and institutional settings at an international level. Global assessments, such as the IAASTD, claim to do this through a process of expert assessment supported by stakeholder consultations. But how collective is the 'collective vision' that is exemplified in the final report? What have been the processes of exclusion, dissent and controversy that lie behind an expert-approved 'consensus'? What are the unwritten codes and practice that shape formal choices and decisions reflected in the final report? How have perspectives from particular places, including those drawing on more experiential knowledges, interacted with global ones, situated in particular centres of power? And how, in the words of Sheila Jasanoff (2005), do divergent 'civic epistemologies' interact during the process of assessment?

As we have seen, the final global report, as well as the summary for decision-makers, has been at pains to include a diversity of views. For some this is a 'lowest common denominator consensus – a 24 hour wonder' (Interview, Austria, April 2008); for others this is the result of effective inclusion, where controversies have been dealt with and compromise sought. As discussed in relation to the GM issue, and to some extent around the use of scenarios, the formal assessment process did not confront controversy head on, even if the micro-processes in author groups and review interactions certainly did. No procedures or mechanisms appeared to exist to either surface or deal with such debates and divergent views.⁴⁸ The elaborate governance structure and procedural arrangements for the preparation of the reports created a particular style of public knowledge making. This was centred on the principles of inclusion and deliberation, but within severely circumscribed limits. A set of institutionalised routines allowed for the involvement of different interest groups or 'stakeholders'; each had particular representation on the decision-making body of the Bureau and each was supposed to have equivalent input into the expert-led report production and review process, garnering a procedural accountability and so, it was hoped, trust and confidence in the authority and legitimacy of the process. This structured form of representation thus aimed at global coverage, covering all bases and creating a comprehensive, all-encompassing approach to knowledge making at the global scale.

But this formal arrangement was of course also complemented by more informal interactions and processes of alliance building and lobbying. As discussed in relation to the NGO/civil society grouping (and no doubt replicated among governments and private sector 'interest groups'), there was much manoeuvring to gain access and influence. Peer to peer relationships within the Africa writing

48 Although there were laid down procedures for involving members of the Bureau or Secretariat in disputes, and opportunities for dissenting views to be footnoted or presented in text boxes, this was insufficient and lacked attention to processes for facilitating reflexive dialogue about assumptions, politics and framings. As a result, sometimes disputes bubbled over into personal attacks or were taken outside the assessment process in attempts to exert pressure over writing or review processes.

group too allowed more personal connections to be made, and informal networks to arise through the process which transcended often the 'interest group' categorisation of the governance structure to create forms of association around the regional, African position *vis-à-vis* the 'global' perspective.

As we have seen, there have been very different ways that different groups have contributed to the assessment process. Views from nowhere, from somewhere and from everywhere have collided and competed. While Jasanoff (2005) argues that each of these perspectives is characteristic of a particular national political and policymaking culture, embedded in particular histories, institutional formations and professional perspectives (in her case contrasting the UK with the US and Germany), the IAASTD has apparently generated a hybrid version, where these diverse – and perhaps contradictory – cultures and national 'civic epistemologies' are combined. It is interesting to reflect whether, in this global engagement, we were seeing a tussle between US style cultures (based, as Jasanoff suggests, on formal, numerical, reasoned approaches), with more European approaches (based on both experience and representative committee contributions) – each contrasting ways by which collective versions of policy are generated. Certainly the scenario and GM debates started, in the IAASTD and beyond, with very particular North American and European flavours, although, as we have seen, contributions and perspectives from other continents were crucial in shifting the discourse in both debates. But this leaves the question, in an inclusive 'global' context, what place do the particular histories, cultures and political dynamics of African, Asian or Latin American settings have, and what implications would this have for the design and methodology of such an assessment? While there are clearly political, (pan)Africanist responses to this issue, informants often offered a more populist, internationalist line:

It is not that there is an 'African' way of doing things. We have been colonised, we are part of a global set-up. I studied in the UK, you are here working with us in Africa. What we need is ways that get all perspectives heard.

(Interview, Nairobi, 2006)

9.5 How are 'reflexive institutions' constructed and negotiated?

This vision of multiple voices being heard in an open deliberative forum at the global level is certainly the ideal that many aspire to. In this sense, the IAASTD is seen as a potential for the realisation of a global deliberative democratic institution that numerous theorists and commentators have argued for (cf. Dryzek 1990, 2002). A key argument of the IAASTD is that, through engaging multiple stakeholders in an open debate about the future, an institutional form will develop, resulting in more robust frameworks for policy decision-making. This is an argument put forward by many involved in debates about institutional transformation, particularly when dealing with scientific debate and public controversy.

The ideal is a 'reflexive institution' which is inclusive and deliberative and allows multiple, culturally-embedded versions to be discussed, and a collective vision to be produced. It allows contrasting framings to be debated, and different political

and value positions to be acknowledged. It also does not bury uncertainty, controversy or dissent, but makes these explicit in interrogating alternative options (Voss and Kemp 2006; Stirling 2006). This is a tough call, especially for disciplinary and professional orientations built on particular forms of certainty and expertise, and where ambiguity is threatening and admitting ignorance is unheard of.

Beyond the conceptual discussion of principles, discussion of what a 'reflexive institution' actually looks like is often vague, and certainly so at a global level. In many respects the IAASTD is seen by its proponents as an attempt at creating a reflexive institution, although not using this language. Many of the key design principles are there – inclusivity, openness, plurality of knowledges, and a commitment to democratic processes. But there have been notable limitations. In my view these centre on two issues. First, the challenges of confronting uncertainty and controversy, and the expectation that these will be resolved by rational, objective, scientific debate among expert peers, and, second – and related – the obscuring of the very real struggles over knowledge, politics and values in an attempt to construct the 'view from everywhere' by seeing this primarily in terms of representation of different interest groups. These two gaps, I would argue, have at times created a lack of reflexivity in the process; a lack of ability to reflect on positions, framings and politics, and so sometimes resulted in an inability to deal with the really tough issues and choices confronting the future of science and technology.

10 Conclusion

Only a few months after the release of the reports agreed at the inter-governmental plenary in Johannesburg, it is of course too early to say whether the IAASTD will have any longer-term impact. Certainly the release hit the headlines,⁴⁹ but in part this was due to lucky coincidence, as the 'global food crisis' suddenly was subject the media spotlight at almost exactly the same time. But in the longer term, the 'assessment fatigue' hinted at by one (donor) informant suggests that it may fall rather flat. As he put it: 'There is everything and nothing in there. It is too long and does not give us clear directions. Who is going to read all this? Will they learn anything new?' (Interview, London 2007). Another bureau member (also from a donor organisation) agreed:

The final chapters are rather dull. They are full of platitudes, generated by committee. This is not going to influence anything. The World Bank WDR will hold much more sway. This may be one global assessment too far.

(Interview, July 2007)

The failure by three governments to sign up and the withdrawal of Syngenta's support, have also reduced some of the 'global consensus' gloss from the final outcome. But has this in fact revealed a more important insight: that underlying

49 www.agassessment.org/index.cfm?Page=Press_Materials&ItemID=11

politics really do matter, and ignoring them may mean complex, consensual, deliberative processes can easily unravel? And such processes will be picked up by different people for different purposes. The IAASTD has stimulated debates in diverse circles, from community groups working on agriculture and development to discussions at the G8, bringing debates about unequal access to food, water and agricultural opportunity to the fore. For NGO and advocacy groups challenging mainstream approaches to agricultural development, the IAASTD has become a focus for galvanising new efforts in a wide range of arenas.

As models for linking what are defined as 'local' and 'global' debates, international assessments such as the IAASTD, IPCC and MA are seen as important responses to the challenges of participation and accountability in international policymaking processes. As we have seen, these approaches often assume *inter alia*:

- the ability of consensual international science to resolve controversies and reach consensus;
- the need for consultation, with wider stakeholders involved through intermediary representations (often labelled NGOs or civil society groups);
- that 'local' perspectives and knowledge is important and can be included through involving 'experts from the south', 'NGOs' and 'traditional leaders';
- that epistemological and ontological clashes between different knowledge cultures are not expected to be important – or are excluded and black-boxed; and
- that politics and values, through personal positionalities and subjectivities or allegiance to particular interest groups, do not come into the picture as long as an expert-led, objective and transparent process is followed.

In different ways, the experience has been very different with the IAASTD. In part because of the commitment to inclusivity, diversity and openness, consensus was always going to be difficult to achieve around key areas, despite rigorous approaches to sifting and assessing evidence; consultation was often inadequate and not always compensated for by expert intermediaries, despite careful attention to representation of different groups; epistemological and ontological clashes were central to much the debate – and reflected particularly in Chapter 2 of the global report. Personal positions and values often came to the fore in the real-life deliberations around particular texts. So what should be done? How can the politics of knowledge be made more explicit, and negotiations around politics and values be put centre-stage? How can we avoid black-boxing issues of uncertainty or more fundamental clashes over interpretation and meaning? And how can processes of participation and engagement become more meaningful, democratic and accountable?

These are of course big questions at the centre of debates about democratic theory. As Chantal Mouffe (2005) argues in a critique of the recent arguments for deliberative forms of democratic practice, there is a need to 'bring politics back in'. In a withering attack of those who believe 'partisan conflicts are a thing of the past and consensus can now be obtained through dialogue' and the assumption that

'thanks to globalization and the universalization of liberal democracy, we can expect a cosmopolitan future', Mouffe challenges this 'post-political' position:

Such an approach is profoundly mistaken and that, instead of contributing to the 'democratization of democracy', it is at the origin of many of the problems that democratic institutions are currently facing. Notions such as 'partisan-free democracy', 'good governance', 'global civil society', 'cosmopolitan sovereignty', 'absolute democracy' – to quote only a few of the currently fashionable notions – all partake of a common anti-political vision which refuses to acknowledge the antagonistic dimension constitutive of 'the political'. Their aim is the establishment of a world 'beyond left and right', 'beyond hegemony', 'beyond sovereignty' and 'beyond antagonism'. Such a longing reveals a complete lack of understanding of what is at stake in democratic politics and of the dynamics of constitution of political identities and, as we shall see, it contributes to exacerbating the antagonistic potential existing in society.

(2005: 1–2)

It is this absence of an explicit attention to the political that has been perhaps the Achilles heel of the IAASTD. A lack of recognition of antagonistic politics – over knowledge, identity and the construction of futures – means that the cosmopolitan, deliberative ideal that the IAASTD presents as its model, suppresses, diverts and bottles up such tensions; or at least relegates them to off-the-record debates within text-writing and reviewing groups rather than making such issues central and explicit. How can this be addressed? On a practical level, a key lesson for the IAASTD – and similar assessment processes – is the urgent need to inject some systematic reflexivity into the process, involving all parties. This is an explicit way of meeting the challenge of Mouffe and others of ensuring politics are central. As she argues:

... the belief in the possibility of a universal, rational consensus has put democratic thinking on the wrong track. Instead of trying to design the institutions which, through supposedly 'impartial' procedures would reconcile conflicting interests and values, the task for democratic theorists and politicians should be to envisage the creation of a vibrant 'agonistic' public sphere of contestation where different hegemonic political projects can be confronted.

(Mouffe 2005: 3)

By highlighting the concept of 'reflexive institutions', and the governance processes required (see above), the challenge is to find ways that such design elements can be introduced into the procedures and practices of such assessments in ways that allow this type of explicit confrontation of politics, perspectives, values and interests. While the design of the process, its governance and institutional form can be criticised for lack of reflexivity, the behind-the-scenes negotiations over framings, values and politics have, as we have seen, been heated and continuous. However, a key starting point is to make the framing assumptions around diverse positions and knowledge claims more explicit: front-stage, not just back-stage. This of course does not mean that the

examination of scientific issues should not take place; instead such reflexivity hopefully results in increased rigour, avoiding the dangers of false, fudged 'consensus'. And, by opening up both the inputs and outputs of the assessment process, including an acceptance that consensus and agreement may not be appropriate or desirable, this, I would argue, can result in more effective, rigorous and more widely accepted outcomes (cf. Stirling *et al.* 2007). The IAASTD has been an ambitious attempt to create a forum for cross stakeholder dialogue of a critical issue at the global level. It has inevitably been fraught and flawed, but there have been some important lessons learned, some of which have been highlighted by this paper. The challenge for the future – as new, different challenges emerge which require similar global responses – will be to develop new designs and processes that allow for even more effective, inclusive reflexive governance which build firmly on these lessons.

References

- Appadurai, A. (2006) 'Foreword', in S. Batliwala and D.L. Brown (eds), *Transnational Civil Society: An Introduction*, Bloomfield: Kumarian Press: xi–xv
- Batliwala, S. and Brown, D.L. (eds) (2006) *Transnational Civil Society: An Introduction*, Kumarian Press: Kumarian Press: x
- Butters, S. (2007) 'Diverse Knowledges: The Case of the International Assessment for Agricultural, Science and Technology (IAASTD)', unpublished MPhil term paper, Institute of Development Studies, Brighton
- Chambers, R. (2005) *Ideas for Development*, London: Earthscan
- Dryzek, J. (2002) *Deliberative Democracy and Beyond: Deliberative Democracy*, Oxford: Oxford University Press
- (1990) *Discursive Democracy: Politics, Policy, and Political Science*, Cambridge: Cambridge University Press
- Edwards, M. and Gaventa, J. (eds) (2001) *Citizen Global Action*, Boulder: Lynne Rienner
- Ellison, N. (1997) 'Towards a New Social Politics: Citizenship and Reflexivity in Late Modernity', *Sociology* 31.4: 697–717
- Fischer, F. (2000) *Citizens, Experts and The Environment: The Politics of Local Knowledge*, Durham: Duke University Press
- Haas, P. (1992) 'Epistemic Communities and International Policy Coordination: Introduction', *International Organization* 46: 1–35
- Habermas, J. (1994) *The Theory of Communicative Action: Reason and the Rationalization of Society*, Boston: Beacon Press
- Heater, D. (2002) *World Citizenship: Cosmopolitan Thinking and its Opponents*, London: Continuum
- Held, D. and McGrew, A. (eds) (2002) *Governing Globalisation: Power, Authority and Global Governance*, Cambridge: Polity Press: 1–21
- Jasanoff, S. (2005) *Designs on Nature. Science and Democracy in Europe and the US*, Princeton, NJ: Princeton University Press
- Jasanoff, S. and Martello, M. (2004) 'Introduction: Globalization and Environmental Politics', in S. Jasanoff and M. Martello (eds), *Earthly Politics: Local and Global in Environmental Governance*, Cambridge, MA: MIT Press: 1–29
- Keane, J. (2003) *Global Civil Society?*, Cambridge: Cambridge University Press
- Latour, B. (1987) *Science in Action. How to Follow Scientists and Engineers Through Society*, Cambridge, MA: Harvard University Press
- Leach, M. and Scoones, I. (2006) *Mobilising Citizens: Social Movements and the Politics of Knowledge*, IDS Working Paper 276, Brighton: IDS

- (2005) 'Science and Citizenship in a Global Context', in M. Leach, I. Scoones and B. Wynne (eds), *Science and Citizens. Globalization and the Challenge of Engagement*, London: Zed Press: 15-40
- Leach, M.; Scoones, I. and Wynne, B. (eds) (2005) *Science and Citizens: Globalisation and the Challenge of Engagement*, London: Zed Press
- Mouffe, C. (2005) *On the Political*, London: Routledge
- Ringland, G. (2006) *Scenario Planning: Managing for the Future*, Chichester: Wiley
- Rosegrant, M.; Paisner, M.; Meijer, S. and Witcover, J. (2001) *Global Food Projections to 2020: Emerging Trends and Alternative Futures. IFPRI 2020 Vision Book*, Washington, DC: International Food Policy Research Institute (IFPRI)
- Scholte, J.A. (2002) 'Civil Society and Democracy in Global Governance', in R. Wilkinson (ed.), *The Global Governance Reader*, London: Routledge: 322–40
- Stirling, A. (2005) 'Opening Up or Closing Down? Analysis, Participation and Power in the Social Appraisal of Technology', in M. Leach, I. Scoones and B. Wynne (eds), *Science and Citizens: Globalisation and the Challenge of Engagement*, London: Zed Press
- Stirling, A. (2006) 'Uncertainty, Precaution and Sustainability: Towards More Reflective Governance of Technology', in J. Voss and R. Kemp (eds), *Sustainability and Reflexive Governance*, Cheltenham: Edward Elgar: 225–72
- Stirling, Andy; Leach, Melissa; Mehta, Lyla; Scoones, Ian; Smith, Adrian; Stagl, Sigrid and Thompson, John (2007) *Empowering Designs: Steps Towards More Progressive Social Appraisal of Sustainability*, STEPS Working Paper 3, Brighton: STEPS Centre
- Tarrow, S. (1994) *Power in Movement*, Cambridge: Cambridge University Press
- Voss, J. and Kemp, R. (eds) (2006) *Sustainability and Reflexive Governance*, Cheltenham: Edward Elgar