

**FURTHER DEVELOPMENT OF THE METHODOLOGY  
FOR A SUSTAINABILITY IMPACT ASSESSMENT OF  
PROPOSED WTO NEGOTIATIONS**

**FINAL REPORT TO THE EUROPEAN COMMISSION**

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## SUMMARY

The main objective of this contract is to develop a methodology for use in Phase Three SIA studies of ongoing and projected WTO trade negotiations, by building upon the findings of previously completed (Phase One and Phase Two) studies for the European Commission (Kirkpatrick, Lee and Morrissey, 1999; Kirkpatrick and Lee, 1999). This is to be undertaken in ways that involve effective dialogue with interested stakeholders and which help to strengthen the existing international network of SIA experts and their involvement in the SIA debate.

Three reports are to be delivered, of which the first (an **Inception** report) was submitted to the Commission at the beginning of October 2001 (Lee, Kirkpatrick et al, 2001). The **Mid-Term Report** was submitted at the beginning of February, 2002 (Kirkpatrick, Lee et al, 2002). This **Final Report** is the third report. Following an **Introduction**, it is divided into two main sections – **B. Progress Report** and **C. SIA Methodology** – followed by a list of references and supporting annexes.

The **Progress Report** summarises the work that has been undertaken on the contract, and its principal outcomes, between the beginning of September 2001, when the project commenced, and the end of March 2002 (see Sections B1-B4). Progress is summarised, according to each of the constituent objectives of the contract, under the following headings:

- **Development of the Phase Three methodology:** this SIA methodology is presented in the second part of this report.
- **Participation in dialogue with stakeholders:** the planned meetings have taken place, the dedicated SIA website has been established and updated. Approximately 200 site visits per month have been recorded. Comments received on the inception and mid-term reports have been taken into consideration in the preparation of this final report.
- **International network of experts and publications:** this network has been substantially expanded over the period of review and currently contains 180 experts. Further development of the network, and its activities, including the contractor's participation in four conferences / workshops are presented. Also, seven related publications, authored by the contractors, are listed.

The **SIA Methodology** is described in Sections C1 – C3, supported by Annexes 1 – 10. As required by the contract, it is:

- refined and developed from the SIA methodology described in the Phase One and Phase Two reports;
- prepared in a concise form appropriate for use by a contractor for the Phase Three SIA study; and
- written in a form which is accessible to both trade and non-trade specialists.

Additionally, it has been prepared, taking into consideration such likely practical constraints as: the limited availability of appropriate 'on the shelf' assessment tools; of appropriate, reliable data for use with these tools; and likely limitations in time and resources for delivering assessments within the relatively tight schedules of the trade negotiation process.

The main components of the Phase Three SIA methodology are outlined below but, before this, two important features of the methodology as a whole are highlighted.

- The proposed methodology for *full* SIAs during Phase Three, and the existing methodology for *preliminary* SIAs during Phases One and Two, share the same underlying principles. However, they differ in their detailed requirements because they are applied at different stages in the assessment and negotiation process (see Table 1 in Section C.2.1). The main similarities and differences between the proposed Phase Three methodology and the earlier Phase One and Two methodology are indicated at various stages in Section C of this report.
- No single, standardised methodology is applicable in all circumstances, because of the diversity of situations in which full SIAs will be applied. The methodology package which is to be used – that is, the preferred combination of *particular* methods, data and consultations – is likely to be *case-specific*. A simple ‘decision-tree’ analysis is proposed to assist in determining the most appropriate methodology package in each case (see Figure 3 and section C.3.6).

The main components of the methodology are described and explained in two inter-related sections – C2 and C3 – as indicated below.

**C.2 Main Stages in the Assessment Process** This contains a summary of the purpose and main tasks to be undertaken at each of the stages in the full assessment process. These stages are: screening and scoping update, detailed assessment, assessment of alternative mitigation and enhancing (M and E) measures, and the formulation of monitoring and post-evaluation proposals. These are explained for both global and sectoral SIAs. Cross references are also made to checklists, assessment methods, data requirements and consultation arrangements, which are covered in more detail in Section C.3.

**C.3 Assessment Tools** This section covers:

- Checklists: these relate to definitions or descriptions of: the trade measures to be assessed; the scenarios and scenario analyses to be used; the country groupings and country analyses to be undertaken; and the sustainability indicators and significance criteria to be used (see section C.3.2)
- Assessment methods: these include brief descriptions of different types of assessment methods and guidance on their selection and use. They include: causal chain analyses, analytic methods, modelling, statistical estimation, descriptive methods and use of expert opinions (see section C.3.3)
- Data sources: this includes brief guidance on identifying data and information needs, different sources of quantitative and qualitative information (international, national, local) and on accessing, using and interpreting data (see section C.3.4)
- Consultation arrangements: this provides guidance on the role of consultation, both as an assessment method and source of information, and as an integral component in different stages of the SIA process (see section C.3.5)

As previously mentioned, Section C.6 also provides guidance on assembling methodologies, comprising different elements of the above, on a case-specific basis (see Section C.3.6). Additional supporting information, relating to the proposed methodology, is contained in Annexes 4 to 9.

The SIA methodology which has been developed is intended to assist negotiators and other interested stakeholders in the post-Doha, WTO trade negotiations. Annex 10 provides a brief *aide memoire* for trade negotiators, which summarises the key purposes and uses of SIA in the negotiating process.

The main tasks that have been undertaken, during the period from the mid-term report review meeting with Commission staff on 22 February up to the end of March 2002, are:

- finalisation of the Phase Three SIA methodology, taking into consideration the comments received on the draft SIA methodology contained in the mid-term report;
- continuation of the other activities which are integral to this project i.e. participation in dialogue with stakeholders, updating of the SIA web-site, and further strengthening of the international network of SIA experts and other activities associated with this.

The mid-term report was made available on the IDPM website, following the meeting with the European Commission on 22 February, and comments were invited upon it from civil society and other stakeholders, by mid-March. This has allowed their comments to be taken into consideration in preparing this report.

A meeting will be held with the Commission's Steering Committee on 24 April to discuss the contents of the final report. Also, a meeting with representatives of civil society and other interested stakeholders, to discuss and comment upon the final report, will be held on 25 April 2002.

A number of the activities associated with the dissemination of findings and the promotion of the international network of SIA experts will be continued as part of the Phase Three programme, which commences with the completion of this final report. It is proposed, however, that the Commission should consider whether certain other activities, which cannot be secured within the Phase Three Framework Contract, should continue under separate provision. These might include continued participation in international meetings and discussions on issues relating to trade policy and development, impact assessment and sustainable development; consultations with non-EU negotiators and WTO personnel, particularly in Geneva; dissemination of results in CD-Rom format; and preparation of a SIA Guide, which would provide an easy to use manual on the use of the SIA methodology.

## A. INTRODUCTION

The European Commission decided in 1999 to initiate a sustainability impact assessment (SIA) of the proposed WTO new round of multilateral trade negotiations.

During Phase One of the SIA, the contractors developed a methodology for a preliminary SIA of the proposed New Round Agenda (Kirkpatrick, Lee and Morrissey, 1999). During Phase Two, this methodology was used to make a broad, qualitative assessment of the impact upon sustainability of the proposed agenda, based on several scenarios, including the EU's proposals (Kirkpatrick and Lee, 1999). The contractor also put forward suggestions for best maximising the positive impact of the expected negotiated liberalisation and rule making measures.

The work completed in Phases One and Two, including the assessment methodology which was developed is now to be used as the basis for the work to be undertaken during Phase Three of the SIA. Phase Three provides for an ongoing SIA process during the post-Doha negotiations period. Detailed negotiations should take place on each measure in the Doha Ministerial Declaration and these should be concluded not later than January 2005 (WTO, 2001). The Fifth Session of the Ministerial Conference will take stock of progress in the negotiations, provide any necessary political guidance, and take decisions as necessary. When the results of the negotiations in all areas have been established, a Special Session of the Ministerial Conference will be held to take decisions regarding the adoption and implementation of those results. Elements of the Work Programme which do not involve negotiations are also to be accorded high priority. They will be pursued under the overall supervision of the WTO General Council, which will report on progress to the Fifth Ministerial Conference.

The Doha Ministerial Declaration confirms that sustainable development will be an overarching goal of the negotiations (paragraph 6) . Paragraph 2 recognises the role that trade can play in the promotion of economic development and the alleviation of poverty and places the needs and interests of developing countries "at the heart of the Work Programme adopted in this declaration". Paragraph 3 recognises the particular vulnerability of the least-developed countries and commits the WTO negotiation process to addressing the marginalisation of least-developed countries in international trade and to improving their effective participation in the multilateral trading system. By giving a special role to the WTO Committee on Trade and Environment (CTE), it is intended that sustainable development and environmental concerns will be mainstreamed throughout the negotiations.

The SIA methodology, to be used in Phase Three, will need to be sufficiently comprehensive and adaptable to be applied to the "broad and balanced" Doha Declaration Work Programme, which includes negotiations on a range of measures and other tasks. It is envisaged in the Framework contract that Phase Three will require a global preliminary SIA at its commencement, a number of sectoral assessments (i.e. of individual measures) throughout its duration, and a comprehensive SIA of all agreements reached at the end of Phase Three, before final decisions are made on their adoption. The SIA framework is intended to allow assessment of the sustainability impact of negotiations in each of the areas included in the Doha Declaration and of the Agenda as a whole, thereby informing and assisting negotiations throughout the period leading up to the Special Session of the Ministerial Conference.

As part of preparations for the launch of Phase Three, the Commission decided to further develop the methodology and international networking aspects of the SIA, by selecting the current contractor for a short term project covering these specific purposes only.

The overall aim of this work is both to continue, strengthen and broaden the work on the development of a methodology for a comprehensive SIA of the potential outcome of WTO negotiations, and to make the results of this work available to the Phase Three contractor. It is also intended to continue the open dialogue both at the academic level, and with civil society, on the SIA project and its methodology.

The Terms of Reference give the following main objectives for the study:

- To refine and develop the SIA methodology created during Phase One and integrate it into other academically reputable and relevant studies in progress, to enable the continuation of an overall SIA of the WTO trade negotiations. The study should make use of the comments made by the European Commission, civil society and other stakeholders regarding Phases One and Two, and aim at developing more detailed and precise tools and indicators for the examination of potential economic, environmental and social development impacts of the outcome of WTO trade negotiations.
- To participate in the dialogue concerning the SIA with interested stakeholders.
- To continue the development of a credible international network of SIA experts and participate in the policy debate on SIA with experts in other countries and within other international organisations.

Three reports are to be submitted to the European Commission: an *interim report* (end October 2001), a *mid-term report* (end January 2002), and a *final report* (end March 2002). Each of these reports will be posted on the IDPM website for this study (<http://idpm.man.ac.uk/sia-trade>). The interim and mid-term reports were submitted to the Commission at end-October 2001 and early February 2002, and were discussed with the SIA Steering Committee on 30 November 2001 and 22 February 2002 respectively.

The main requirements of this final report are to:

- Adjust and develop, as appropriate, the methodology developed and applied in Phases One and Two. The findings should be presented in a concise summary, accessible to trade and non-trade specialists alike. The methodology should also be available and usable by any contractor appointed for work on other trade-related SIA projects.
- Provide a progress report on:
  - maintenance of the website dedicated to the SIA project
  - development of a network of international experts with specialist interests in SIAs of trade policies
  - dialogue with stakeholders, international experts, researchers and other interested parties
  - monitoring and updating the listing of recent studies and publications
  - participation in expert meetings, research conferences and other related activities.

The meeting of these requirements is covered in the remaining sections of the report. Section B provides a Progress Report, summarising the work that has been undertaken on the project, and the principal outcomes, between the beginning of the contract and the end of March 2002. Section C contains the SIA methodology for use in Phase Three of the SIA. A summary of principal findings and recommendations is presented at the beginning of this report. Supporting information is provided in the annexes, and includes a brief summary of the intended purpose and use of the SIAs in the trade negotiations process.

## **B. PROGRESS REPORT**

### **B.1 Introduction**

This section provides a progress report on each of the three main objectives of this short-term contract:

- to refine and develop the methodology for use in Phase Three studies
- to participate in the dialogue concerning the SIA with interested stakeholders
- to continue to develop an international network of SIA experts and to participate in the policy debate on SIA.

### **B.2 Development of Phase Three Methodology**

- The interim report was submitted to the Commission at end-October 2001, and was placed on the IDPM website (<http://idpm.man.ac.uk/sia-trade/>) dedicated to SIA studies relating to WTO and other trade negotiations. The contractor met with DG Trade personnel and with the Commission's SIA Steering Committee on 30 November 2001, to discuss the interim report. Following the meeting, the Commission provided the contractor with a set of comments on the interim report. These comments are summarised in Annex 2.
- The mid-term report was submitted to the Commission in early February 2002, and was placed on the IDPM website (<http://idpm.man.ac.uk/sia-trade/>) dedicated to SIA studies relating to WTO and other trade negotiations. The contractor met with DG Trade personnel and with the Commission's SIA Steering Committee, on 22 February 2002, to discuss the mid-term report. Following the meeting, the Commission provided the contractor with a set of comments on the mid-term report. These comments are summarised in Annex 3.
- The contractor has continued to be engaged in the review of recent studies, relevant to SIA of trade agreements, and in development work on specific components within the Phase Three methodology which required further refinement. These have related, *inter alia*, to: the use of causal chain analysis within SIA studies; the specification and measurement of sustainable development indicators; the potential roles of different kinds of modelling and other quantitative assessment methods; the use of more descriptive / case study methods; the use of expert opinions and other consultative arrangements; data sources of relevance to SIA studies; options analysis for use in appraising mitigatory and enhancing (M and E) measures; and monitoring and post-auditing (MPA) methods.

### **B.3 Participation in Dialogue with Stakeholders**

The following activities have been undertaken since the inception of the current contract, in order to maintain an active and open dialogue with stakeholders on the SIA methodology and on its practical application.

### **3.1 Consultative Meeting on Interim Report**

A public meeting was held on 30 November 2001, in Brussels, with civil society representatives, as part of the consultation process linked to the current study. The meeting was attended by representatives of a number of interested parties, including Network Women in Development Europe (WIDE) and Union of Industrial and Employers' Confederations of Europe (UNICE). The contractor made a brief presentation of the Interim Report. The discussion that followed focused on the need to provide a detailed analysis of the causal chains linking a particular trade measure to sustainability impact indicators, and on the need to integrate gender into the assessment. A further meeting will be held with civil society on 25 April 2002 to discuss the Final Report, prior to the commencement of Phase Three.

### **3.2 Website Update**

The IDPM website dedicated to SIA studies (<http://idpm.man.ac.uk/sia-trade/>) has been updated. In addition to the Phase One and Phase Two Reports, the website includes the Interim and Mid-Term Reports for the current contract. This Final report will also be placed on the website following the meeting with the European Commission on 24 April 2002. A Feedback-Comment function is incorporated to facilitate dialogue. The IDPM study team can also be contacted directly at a dedicated e-mail address ([chk@man.ac.uk](mailto:chk@man.ac.uk)).

Additional links have been established between the IDPM-SIA website and other websites with related interests. There are now 24 reciprocal links with other websites (these are detailed in Annex 8).

The website has had an average of 200 'visits' per month, during the period covered by the contract.

### **3.3 International Network of SIA Experts**

The experts network that was developed during Phases One and Two contained 57 contacts, drawn from donor agencies, in-country practitioners, non-governmental organisations, academic institutions, consultancy organisations and international institutions. Additional names have been added to the database, and the experts network now contains 180 entries. Many of the experts listed on the network are working on impact assessment and sustainable development issues in developing countries; 41 of the experts on the network are located in developing countries.

Copies of the interim and mid-term reports have been sent to each member of the experts network, and the network members were invited to make comments and suggestions on both studies. Detailed responses has been received from institutional experts, including World Bank, UNEP, Department of Foreign Affairs and International Trade, Canada, and from independent experts, providing useful comments and drawing our attention to recent studies, which have been taken into account in this report. The comments received have also been summarised in Annexes 2 and 3.

The contractor has developed the international experts network over the course of the contract, in the following ways:

- placing the interim, mid-term and final reports on the website, immediately following the meetings with the Commission, and inviting comments and suggestions on each report
- updating the list of international experts with special interests in SIAs of trade policies
- monitoring recently completed and ongoing studies, publications, expert meetings etc.

- participating in the UNEP Workshop in Geneva on Capacity Building on Environment, Trade and Development, 19-20 March 2002
- presenting two papers at the Annual Conference of the International Association of Impact Assessment on the theme 'Post Doha Sustainability Impact Assessment: Prospects and Challenges', June 2002 in The Hague
- Organisation of International Seminar on 'Recent Developments in Impact Assessment' for DFID and World Bank Donor Consultative Committee on Enterprise Development. IDPM, University of Manchester. November 2002
- Contribution to the seminar on 'Methodologies for Sustainability Impact Appraisal', organised by the UK Government, Department for Environment, Food and Rural Affairs, and the Institute for European Environmental Policy, British Embassy, Brussels, 23 April 2002
- Presentation on 'Sustainability impact assessment of trade policy and the post-Doha WTO negotiations' at conference on *The WTO and Developing Countries*, University College London, 13-14 September 2002, London
- It is intended to make contact details of experts on the network, subject to their agreement, available to other members of the network.

#### **B.4 Participation in Policy Debate and Publications**

The contractors have continued to engage in the wider policy debate on issues relating to trade policy and development, impact assessment, and sustainable development through various publications and reports, which include:

Lee, N. and Kirkpatrick, C. (2001) 'Methodologies for sustainability impact assessments of proposals for new trade agreements', *Journal of Environmental Assessment Policy and Management*, 3 (3) September.

Kirkpatrick, C. (2001) 'Sustainability impact assessment and multilateral trade liberalisation' in M. Asher et al. (eds) *Public Policy in Asia: Implications for Business and Government*. Quorum Books. Westpoint Conn. and London.

George, C. (2001) 'Sustainability appraisal for sustainable development', *Impact Assessment and Project Appraisal*, vol. 19 (2).

Curran, J. and George, C. (2002) 'Capacity building for trade impact assessment', *Impact Assessment and Project Appraisal*, February.

Kirkpatrick, C., Lee, N., Curran, J., Bond, R. and Francis, P. (2001) 'Integrated impact assessment for sustainable development: a case study approach', *World Development*, 29 (6). August.

Lee, N. (2001) 'Sustainability impact assessments of trade agreements' in *Environmental Assessment Yearbook 2001*, Institute of Environmental Management and Assessment, Lincoln.

Kirkpatrick, C., Lee, N., Curran, J. and George, C. (2001) *Development of Criteria to Assess the Effectiveness of National Strategies for Sustainable Development*. Report prepared for DFID, and presented at International Forum on National Strategies for Sustainable Development, organised by UN Division for Sustainable Development as input to World Summit on Sustainable Development, 2002. Accra, November 2001.

## C. SIA METHODOLOGY

### C.1 Introduction

This section of the final report, supplemented by Annexes 1-10, presents an SIA methodology for use in Phase Three. It has been prepared in a concise form appropriate for use by the follow-up contractor undertaking the Phase Three SIA study. Additionally, as required by the contract, it has been written in a form which makes it accessible to both trade and non-trade specialists. It should also have other, wider uses. These include: for use in the further development of SIA methodologies for future trade negotiations; for use by others in their own assessments of the likely sustainability impacts of possible outcomes from the New Round; and for adaptation and use in other regional and bilateral negotiations which may be currently taking place.

The SIA methodology is, as required by the contract, 'refined and developed' from the preliminary SIA methodology described in the Phase One and Phase Two reports (Kirkpatrick, Lee and Morrissey, 1999; Kirkpatrick and Lee, 1999). These refinements and adaptations are designed to make it applicable to the somewhat different and more detailed requirements of SIAs in the 'post-Agenda setting' stages of the New Round trade negotiations. In describing the new methodology for 'full' assessments, we have endeavoured to indicate both its consistency with the methodology used in the completion of the earlier *'preliminary'* assessments and the additional, different and/or more detailed requirements which it now contains.

Both methodologies share the same underlying principles. Each is targeted on the SIA requirements at the particular stages in the negotiating process in which their resulting assessments are to be used. Both, also, have to take account of the real world constraints within which their respective assessments will have to be prepared. These constraints include: the limited availability of appropriate 'on the shelf' assessment tools; of appropriate, reliable data for use with these tools; and limitations in time and resources for delivering assessments within the relatively tight schedules of the trade negotiation process.

There is general agreement that Phase Three SIAs need to be 'more detailed' than preliminary SIAs. At the same time, it is important to recognise that, given their global scope, SIAs of international trade agreements will always be more 'strategic' rather than 'specific' in character and that relatively small incremental increases in the level of detail and precision in such assessments can, depending on the circumstances of the particular case, substantially increase their technical, data and/or resource requirements. No general rules exist on the 'best' level of detail for all full assessments. This can only be determined and justified on a 'case-by-case' basis. This should be separately established, as part of the 'screening and scoping update', for each trade measure to be assessed, as discussed in C.2 below.

Two main types of SIA are to be undertaken during Phase Three: *global SIAs* and *sectoral SIAs* (Framework Contract, WTO-SIA-Phase III, p. 5). These are complementary forms of assessment, which share many common characteristics, but there are also some significant differences.

Two global SIAs are to be undertaken. The first of these, to be undertaken at the commencement of the contract, is a *preliminary* global SIA. It should provide an overview of the potential impact on sustainability of *all* of the proposed sectoral measures, taking into account potential impacts associated with inter-sectoral linkages. This is intended to assist in determining the more detailed sectoral assessments to be undertaken. It is proposed that this should be undertaken within a *global screening and scoping update* (see C.2 below).

The second global SIA, to be undertaken after all of the individual sectoral agreements have been reached, but before their final adoption, is a *final* global SIA. It will draw upon the completed assessments of the individual sectoral assessments, but also incorporate any inter-sectoral impacts which may have been overlooked, in completing an SIA of the overall significant impacts of the New Round as a whole.

Eight sectoral SIAs are to be completed, two per year over a four year programme period. Each sectoral SIA will relate to a separate trade measure or group of related measures which are to be the subject of a separate agreement within the New Round framework. The selection and scheduling of these sectoral SIAs is to be agreed with the Commission, taking the findings of the preliminary global SIA into account. The stages in the sectoral SIA process, which are to be followed, are described in Section C.2 below.

The proposed SIA methodology for Phase Three studies is presented below in two inter-related parts:

- C.2 *Main Stages in the Assessment Process*
- C.3 *Assessment Tools*

The first part describes each of the main stages involved in undertaking global and sectoral SIAs, and the tasks and activities involved at each stage. It also refers to the types of assessment methods and data sources which may be used in undertaking these tasks and activities. The second part contains guidance on the selection of assessment methods and data sources for each SIA and, in conjunction with the Annexes, provides additional information and advice relating to each of these. The main similarities and differences between the proposed Phase Three methodology for *full* SIAs and the earlier Phase One and Two methodology used for *preliminary* SIAs are also indicated.

## C.2 Main Stages in the Assessment Process

### 2.1 Introduction

The proposed main stages in the SIA process for *full* assessments are:

- Stage 1: Screening and scoping update
- Stage 2: Detailed assessment of proposed measures
- Stage 3: Assessment of alternative mitigation and enhancing (M and E) measures (i.e. options analysis)
- Stage 4: Monitoring and post-evaluation proposals.

Each of these stages is examined below for sectoral measures and, where relevant, for global measures. As shown in Table 1, these stages differ from those in preliminary SIAs.

**Table 1 Differences in the Assessment Stages between Preliminary and Full SIAs**

Preliminary SIAs	Full SIAs
Screening	-
Scoping	Screening and Scoping Update
Preliminary Assessment	Detailed Assessment
(Mitigation and Enhancement Analysis)*	Mitigation and Enhancement Analysis (Monitoring and Post-Evaluation)*

\* Limited analysis only

\* Formulation of MPE proposals only

The scheduling of the SIA process for each trade measure should ideally correlate with the scheduling of its negotiation. The SIA process should commence sufficiently early to enable the sustainability appraisal itself, and the consultations based upon it, to be completed in sufficient time for negotiators to take them fully into account before any agreement is reached and later approved.

Additionally, the scheduling of the contractor's reports on each SIA study should be correlated with arrangements for consultations relating to the SIA. There are two stages in the SIA process where an opportunity for stakeholder consultation may be particularly helpful. These are:

- On the completion of the screening and scoping update
- On the completion of the full assessment (i.e. detailed assessment, and M and E analysis)

These suggestions are examined further at a later stage in this report.

The synchronisation of key stages in the SIA process (and accompanying arrangements for consultation) with key stages in the negotiation process is ideal but will probably be difficult to realise fully in practice. A formal system for pre-arranged regular assessment reporting, and accompanying consultations, is probably a practical necessity. At the same time, some flexibility in timing and agendas should assist in achieving better synchronisation with the negotiation process.

## **2.2 Stage 1: Screening and Scoping Update**

Screening and scoping of individual trade measures was undertaken in two stages of the preliminary SIA (Kirkpatrick and Lee, 1999). However, their findings need to be updated, for the purpose of a full SIA, for the following reasons:

- There have been some changes to the New Round Agenda (i.e. post-Doha compared with the pre-Seattle broad agenda).
- The scoping of individual trade measures needs to be undertaken in somewhat greater detail for a full SIA than it was for a preliminary SIA.
- The update also needs to screen and scope the New Round measures, as a whole, which was not attempted in the preliminary SIA.

The screening study, based on the pre-Seattle agenda, did not exclude any proposed trade measures from SIA. It is unlikely that a more sophisticated screening study than was used on that occasion (based on expert judgement and limited desk research – see Kirkpatrick and Lee, 1999) will be needed in this case. However, more thorough scoping studies than were previously undertaken are likely to be needed.

A logical starting-point is the preparation of the screening and scoping update for the preliminary Global SIA. Much of the information requirements, assessment methods and consultations needed for this purpose will also be subsequently used, though sometimes at a more detailed level, in the sectoral scoping updates.

The fundamental purpose of these scoping studies is to systematise the determination of the terms of reference for the SIA of each measure, and for the New Round measures as a whole, which are to be assessed. This will involve determining:

- The specifics of each trade measure to be negotiated and of those of its components which should be submitted to detailed assessment at the next stage in the process.

Different types of measures (e.g. tariff reductions, rule changes) may need to be assessed in somewhat different ways (see Section C.3.2.1 for further details).

- The specific scenarios (i.e. potential negotiation outcomes) for each measure/component which should be analysed in the detailed assessment (see C.3.2.2).
- The criteria by which the significance of the sustainability impacts are to be assessed (see C.3.2.4).
- The country groups and/or individual countries for which the sustainability impacts should be assessed (see C.3.2.3).
- The time horizons over which the impacts should be assessed.
- The cumulative impacts, likely to result from the implementation of the New Round as a whole, which should be assessed.
- The methods, data sources and sustainability indicators to be used, and the consultations to be undertaken, in the detailed assessments and in subsequent stages in the assessment process (see C.3.2.4, C.3.3 – 3.6, for further details).

Scoping is expected to involve simplified forms of causal chain analysis (CCA) which help in identifying the potentially important sections of each causal chain which link, in sequence, each trade measure to its eventual, significant impacts. These analyses need to be undertaken for all scenarios applicable to each trade measure and for the New Round of negotiations as a whole. Scoping should also include a preliminary identification of the types of M and E measures that might need to be appraised later in the SIA process, classified according to the individual trade measure scenarios to which they relate, and for the Round as a whole. The principal findings of these scoping studies may be presented in scoping matrices as illustrated in Table 2 below. In view of the importance attached to scoping updates in Phase Three, but the limited time available for their completion, it is recommended that (where possible) each update and its accompanying consultations should be completed by the agreed date for the formal start of each full SIA.

Additional information relating to assessment methods, data sources and consultations for use in the scoping stage are provided in Section C.3.

**Table 2 Scoping Matrix for a Measure included within the SIA of a Proposed Trade Agreement**

Components of the Measure	Core SIA Indicators								
	Economic			Social			Environmental		
	1	2	3	1	2	3	1	2	3
1	✓	x	✓	x	✓	x	x	✓	x
2	✓	✓	x	✓	?	x	✓	✓	✓
3	x	✓	✓	x	✓	✓	x	?	x
4	✓	✓	?	x	x	x	?	✓	✓

The types of impact examined correspond to those included in the recommended core set of sustainability indicators (see Section C.3). ✓ = likely significant impact; x = unlikely significant impact; ? = significance of impact very uncertain. Additional matrices would be needed if different scenarios, country groupings etc. were being analysed.

## 2.3 Stage 2: Detailed Assessment

The detailed nature of the assessments of each sectoral (trade) measure, which are to be undertaken during Phase Three, are intended to be more thorough and rigorous than the preliminary assessments undertaken during Phases One and Two. This is reflected in the more detailed and extensive terms of reference which will be contained within the scoping report for each trade measure:

The most common ways in which detailed assessments are likely to differ from preliminary assessments are:

- Detailed assessments will place greater emphasis on the assessment of separate components within each measure, as well as considering the impact of the measure as a whole. These components will be defined with greater precision than previously to enable a more rigorous analysis of their likely impacts to be undertaken. The negotiation scenarios will be measure-specific and will also be defined more precisely than in the preliminary assessment.
- Causal chain analysis will be used to trace, both analytically and empirically, the main causal links between each trade measure, its main components and their eventual sustainability impacts.
- A number of the core sustainability indicators will be subdivided into 'second-tier' indicators. Additionally, in order to capture some potentially important long-term sustainability impacts, a limited number of SIA process indicators will also be used. The same impact significance categories will be used as previously but their boundaries will be defined more explicitly and supporting evidence, for the significance 'scores' obtained, will be required.
- Detailed assessments will attempt to capture the more important variations in significant impacts within country groupings. This will be done by extending the sustainability analysis to selected, contrasting countries within each major country group being studied, and examining likely major variations within these, according to region and/or socio-economic category.

The main findings of the detailed assessments will be summarised in detailed assessment matrices. These will be presented at different levels of aggregation – for example, for individual components of a trade measure as well as for the trade measure as a whole; for different scenarios; for contrasting countries as well as for country groups as a whole. *The matrices will be supported by both a textual explanation and an evidence-based justification for the principal findings they contain.*

The increased requirements of detailed assessments, compared with preliminary assessments, mean that both assessment method and data requirements will also increase. This 'triangle' of requirements – assessment needs, appropriate assessment methods and sufficient good quality data – has to be reconciled within time, budget and other real-world constraints. Because of the diversity in each of these three components – for example, between different kinds of trade measures, countries etc. – there is no standardised package of assessment methods and data sets which is appropriate for all detailed assessment purposes. The 'best' package of assessment methods and data, is likely to be 'case specific'. This highlights the need for a satisfactory procedure by which the assessment methods and matching data can be selected in each case. It is proposed that a 'decision-tree' approach is used for this purpose. This is described in Section C.3.6.

The detailed assessment for the *final global SIA* (as distinct from the detailed sectoral assessments examined so far) will be undertaken in Year 4, towards the end of the Phase Three programme. By this time, it is assumed that each of the sectoral SIAs will have been completed and that separate agreements will have been reached on each of the trade measures under negotiation. The ToRs for the global detailed assessment will be based on its screening and scoping update, undertaken in Year 1, further updated on the basis of the sector SIAs and negotiations completed during Years 1-4. This methodology should be consistent with that used in the detailed sectoral assessments but will need to be extended to capture any remaining inter-sectoral and cumulative impacts for the New Round as a whole. It is possible that some additional global modelling facility is needed for this purpose, and that some of the more localised variations in impacts (highlighted in the sectoral studies) may need handling in other ways. However, the clarification of these details is best left until after the screening and scoping global update has been completed and the ensuing programme of trade measure negotiations and sectoral SIAs is sufficiently advanced.

Additional information relating to assessment methods, data sources and consultations for use at the detailed assessment stage is provided in section C.3.

## **2.4 Stage 3: Assessment of Alternative Mitigation and Enhancing Measures**

The assessment of mitigation and enhancing (M and E) measures only played a limited role in the preliminary SIA studies during Phases One and Two. It was largely confined to:

- Identifying broad types of measures that might be used to mitigate negative impacts and enhance positive impacts associated with the pre-Seattle New Round proposals
- Indicating certain of the criteria that might be used in assessing alternative M and E measures.

A larger role is envisaged for the assessment of M and E alternatives within the full SIAs to be undertaken during Phase Three, as reflected in the inclusion of mitigation and enhancement analysis as a main stage in the SIA process for full assessments (Table 1).

Each screening and scoping update, as previously indicated, should contain a preliminary indication of the types of M and E measures that might need to be appraised later in the SIA process. The overall coverage of the measures considered for inclusion, is broadly defined to include:

- Measures which are closely trade-related and which might be built into a WTO agreement itself.
- Closely-related side or parallel agreements between WTO member countries, or in regional agreements which may 'nest' within international agreements.
- Collaborative agreements and other joint initiatives between international organisations to clarify the relationship and strengthen the consistency, between international trade agreements and other types of international agreements.
- International and regional initiatives to promote technical cooperation and capacity building in developing countries.
- Measures by national governments to remedy market imperfections, regulatory failures, social inequalities, which are harmful to sustainable development and whose removal could enhance the contribution which trade measures may make to sustainable development.

**Table 3 Doha Ministerial Declaration and Alternative Mitigation and Enhancing Measures**

Type of Measure	Doha Declaration	Purpose
<ul style="list-style-type: none"> <li>Trade-related measures, which might be built into a WTO negotiated agreement</li> </ul>	<p>special and differential treatment of least developed countries (LDCs) (para. 42)</p>	<p>support for the diversification of LDCs production and export base, through duty free and quota free market access</p>
<p>Side or parallel agreements between WTO member countries, or in regional agreements</p>	<p>negotiations aimed at clarifying and improving disciplines and procedures under existing WTO provisions applying to regional trade agreements (para. 29)</p>	<p>consideration of the developmental aspects of regional trade agreements</p>
<ul style="list-style-type: none"> <li>Collaborative agreements between international organisations to clarify the relationship between international trade agreements and other types of international agreements</li> </ul>	<p>agreement to negotiate, without prejudging the outcome, on the relationship between existing WTO rules and specific trade obligations set out in multilateral environmental agreements (MEAs) (para. 31(i) )</p>	<p>consideration of the effect of environmental measures on market access, especially in relation to developing and least developed countries</p>
<ul style="list-style-type: none"> <li>International and regional initiatives to promote technical cooperation and capacity building in developing countries</li> </ul>	<p>effective coordination of technical assistance with bilateral donors, OECD Development Assistance Committee and other relevant international and regional institutions (para. 39)</p>	<p>assisting WTO members in benefiting from participation in rules-based multilateral trading system</p>
<ul style="list-style-type: none"> <li>Measures by national governments</li> </ul>	<p>mainstreaming trade into national planning for economic development and strategies for poverty reduction (para. 38)</p>	<p>removal of supply side constraints on LDCs' production and export base, through increased investment in infrastructure and market strengthening measures</p>
		<p>social safety nets</p>
		<p>regulatory capacity strengthening</p>

These types of M and E measures were identified as core elements in the Doha Declaration, as shown in Table 3.

The range and types of M and E measures that have been identified at the screening and scoping update stage will be assessed as the third main stage in the process for full SIA assessment (Table 1).

The findings of each sectoral assessment, in terms of the end-impacts on sustainable development, should be examined using the detailed causal chain analyses that were developed at stage 2 (detailed assessment), in order to identify where the introduction of M and E measures could have a significant benefit. The most promising M and E options should then be separately appraised for their potential sustainability impact. Criteria for assessing M and E measures should include:

- impact on sustainable development: the likely economic, social and environmental consequences of the M and E measures, assessed in terms of either the core or second-tier target indicators, and process indicators, proposed for Phase Three
- cost-effectiveness: the size, type and distribution of costs associated with the implementation of the M and E measures
- feasibility: the capacity of political, institutional and financial processes for effective implementation of the M and E measures.

The application of these assessment criteria should identify a set of 'best' M and E measures that are cost-effective, feasible and likely to have a significant effect in terms of mitigating the negative sustainability impacts and/or enhancing the positive sustainability impacts, that were identified at the detailed assessment stage.

The assessment of the impact of the 'best' M and E measures on the core economic, social and environmental indicators should then be introduced into the detailed assessment findings, as a modified scenario for the relevant trade measure.

A similar procedure may be followed when identifying and appraising a package of M and E options for the New Round as a whole. This might begin by assessing the total impact of the combined package of M and E options, already prioritised following the individual trade measure appraisals. A limited number of sensitivity tests (which substitute some of the 'next best' M and E options to accompany certain of the trade measures) may be undertaken to test the robustness of the findings.

The results of the various M and E option assessments may be presented in simplified matrices. These may show the separate impacts of the 'best' M and E options, and the modified impacts of the trade negotiation outcomes, if these M and E options were to be implemented.

Given the importance which the Doha Ministerial Declaration attached to the needs and interests of developing countries, and in particular to the vulnerability of the least developed countries, public discussion has tended to focus on the assessment of M and E measures which might be used to mitigate and enhance the impact of trade measures on sustainable development in the developing and least developed countries. However, the SIA methodology requires that the assessment of M and E measures be applied to each of the four country groupings (the European Union, developing countries, least developed countries, the rest of the world).

## 2.5 Stage 4: Monitoring and Post Evaluation Proposals

Monitoring and post-evaluation (MPE) was not included as an assessment stage in the Phase One and Phase Two studies because it is not applicable to preliminary SIAs. Also, it is not explicitly included in the current scope of the Phase Three study relating to full SIAs, as this terminates with the final global SIA of all the agreed sectoral agreements.

Nevertheless, there is growing interest and concern, both in the assessment field, generally (see, for example, Goodland and Mercier, 1999; Arts, 1998; George, 2000), and in the trade policy assessment field, in particular (see, for example, FFLA/WWF, 2000), that *ex ante* appraisals of proposed new measures should be complemented by an *ex post* evaluation of those same measures after they have been approved and implemented. The Ministerial Communique, relating to the New Round Agenda, as agreed at Doha lends further support to this view.<sup>1</sup>

We recommend that a provision for monitoring and evaluating the sustainability impacts of the New Trade Round Agreement, as finally approved, should be considered a potentially important mitigation and enhancing measure for inclusion in the final agreement on the New Round. With this in mind, this methodology study briefly considers how this proposal should be developed within the Phase Three SIA study.

The MPE proposal should contain a number of components. These should include provision for:

- Monitoring the implementation of the provisions of the New Round agreement itself (This should draw upon the assistance of the WTO).
- Monitoring and undertaking an *ex post* evaluation of the sustainability impacts of the New Round agreement, as implemented.
- Post-evaluation of the *ex ante* Phase Three SIA studies i.e. comparing their predictions with actual outcomes and explaining any significant differences between them.
- Making recommendations relating to: any implementation problems which have been encountered; additional M and E measures which may be needed to address any significant, unanticipated or unresolved sustainability impacts; strengthening existing *ex ante* and *ex post* SIA methodologies and their use in practice.

The details relating to this monitoring and post-evaluation proposal should be developed, as an integral part of the Phase Three SIA study, as elaborated below. There is a substantial, increasing general literature on monitoring and evaluating the implementation of sustainable development strategies (OECD, 2001; Kirkpatrick et al., 2001; IISD, 2001) as well as a more specialised literature on the evaluation of the economic, social and environmental impacts of previously adopted trade agreements (see Kirkpatrick, Lee and Morrissey, 1999; Kirkpatrick and Lee, 1999; and Annex 8 of this report).

Based upon this literature, and the practical experience on which it draws, a number of preliminary suggestions may be made:

- Monitoring and evaluation should engage the interest and commitment of the key stakeholders, in international and national administrations, and within civil society. *Particular attention should be paid to the involvement of stakeholders from developing countries.*

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<sup>1</sup> "We attach the utmost importance to the implementation-related issues and concerns raised by Members and are determined to find appropriate solutions to them" (para. 12).

- Monitoring and evaluation should be both clearly focused and strategic in nature, and avoid the collection and analysis of less important and unnecessarily detailed information.
- Monitoring and evaluation should be sufficiently independent and transparent to ensure the objectivity and credibility of its findings. The findings, including recommendations for improvements, should be published at agreed, regular intervals and be subject to consultation and comment.

The detailed formulation of this proposal should form an integral part of the *final global SIA* study within the Phase Three study. Prior to this, the broad arrangements for its preparation should be defined in the *preliminary global SIA* at the commencement of the Phase Three study. Then, sector-specific monitoring and post-evaluation should be included in the M and E measures proposed for each sectoral agreement subject to SIA. These sector-specific proposals should be brought together within the framework of an overall monitoring and post-evaluation proposal within the final global SIA.

The implementation of this monitoring and post-evaluation proposal should be the subject of a separate, follow-up study, commencing after the completion of the Phase Three study.

## C.3 Assessment Tools

### 3.1 Introduction

The purpose of this section of the report is to provide additional guidance on particular elements within the methodology which are to be used at one or more stages in the SIA process, described in C.2. This guidance has been arranged into the following sections:

- **3.2 Checklists:** These provide guidance on the scope and definition of the trade measures to be negotiated; the trade measure scenarios to be investigated; the country groupings and individual country analyses to be undertaken; and the sustainability indicators and significance criteria to be used.
- **3.3 Assessment methods:** These provide guidance on the use of causal chain analyses; analytic methods; modelling methods; data based (statistical estimation) methods; descriptive (case study) methods; and the use of expert opinions.
- **3.4 Data sources:** This section provides guidance on the data requirements of the various assessment methods, and identifies the main sources and availability of quantitative and qualitative data which can be used, after their suitability has been assessed, at the screening and scoping update and full assessment stages. The limitations of available data are considered, and the careful interpretation of empirical evidence is advocated, at each assessment stage.
- **3.5 Consultation arrangements:** This section provides guidance on the use of consultation arrangements both as a method of assessment, and as part of the SIA process. Consultation with stakeholders can be used as a means of obtaining expert advice and knowledge, for use at the screening and scoping, and full assessment, stages. In addition, consultation is an integral part of the SIA process itself, and a further strengthening of consultation arrangements will allow for a wider and more inclusive process of engagement with different stakeholder groups.

In each case, the principal differences between the specification and use of these component elements in the Preliminary SIA (Phase One and Two) and what is proposed for the full SIA (Phase Three) are briefly indicated.

### 3.2 Checklists

#### 3.2.1 Trade Measures

The broad areas for negotiations were agreed in the WTO Doha Ministerial Declaration in November 2001 (WTO, 2001). The Ministerial Declaration Work Programme incorporates a negotiating agenda and other cross-country issues and concerns relating to the multilateral trading system. The following negotiation areas are specified:

- implementation-related issues and concerns
- agriculture
- services
- market access for non-agricultural products
- trade-related aspects of intellectual property rights
- relationship between trade and investment
- interaction between trade and competition policy
- transparency in government procurement
- trade facilitation

- WTO rules
- trade and environment

The Declaration also agrees to continue the work programme on electronic commerce, and the work programmes under the auspices of the General Council, and to examine issues relating to the trade of small economies. There is also agreement to an examination of the relationship between trade, debt and finance, and of the relationship between trade and the transfer of technology.

For the purposes of Phase Three studies, the above list of measures should be used as a starting point for the assessment. However, the scope and content of each will need to be defined with greater detail and precision than was required for the Preliminary SIA. The preparation of these more detailed checklists should be undertaken during the screening and scoping update stage of the SIA process. A limited degree of more detail will be needed for *screening* purposes within the preliminary global SIA, but more detail will be needed on the main components within each negotiation area, for *scoping* purposes.

The greatest level of detail will be needed on those main components, identified as likely to give rise to significant sustainability impacts, in the screening and scoping updates for the Sectoral SIAs. Sector-specific checklists of information requirements should be prepared for this purpose. The required information should then be obtained through communication with the WTO Secretariat and the Commission staff most closely engaged in the negotiation process for the sector(s) concerned.

### **3.2.2 Scenarios and Scenario Analyses**

Three, generically defined, scenarios were used in the Preliminary SIA – base scenario, intermediate scenario and trade liberalisation scenario – and were uniformly applied to all trade measures in the Phase Two study when assessing the possible variation in the sustainability impacts of trade measures. A number of modifications and refinements to scenario analyses are proposed, however, for Phase Three studies.

1. Clarification of the base scenario A distinction can be drawn between two ‘no new trade agreement’ base scenarios. These are the situation where the existing agreement has, currently, not been fully implemented and the situation where it is assumed that it is fully implemented. Since implementation-related matters are a significant part of the Doha agreement, it is proposed to formalise this distinction more completely by explicitly distinguishing these two scenarios i.e. including both a *base scenario* (existing agreement, as currently implemented) and a *modified base scenario* (existing agreement, fully implemented).
2. Use of measure-specific, New Round scenarios In order to strengthen the appropriateness and precision of the scenario analyses, it is proposed to define the scenarios on a measure specific (and/or component specific) basis. This will be done in the case of the base and modified base scenarios, mentioned above, and these will provide two ‘limits’ towards one end of the scenario analysis spectrum. At the other end of the spectrum will be the ‘strongest probable’ form of the new trade measure agreement (and of its main components). An intermediate position, corresponding to the perceived initial standpoint of a significant group of WTO member countries, may also be identified for comparative purposes.

Inevitably, some stakeholders will wish the Phase Three studies to investigate options which lie beyond these limits or to investigate other options of their own choosing. In this connection, it is worth noting that the SIA methodology has been designed in such a way as to allow anyone who wishes to use it to analyse any scenario of their own choosing (and, the

EC may wish to assist developing countries to do this as part of its capacity building initiative). However, it is not recommended that the Phase Three studies should include scenarios which negotiators, in general, have no interest in considering during their negotiations.

It is also worth noting that the consideration of Mitigating and Enhancing (M and E) measures, at a later stage in the SIA approach, effectively introduces a new range of 'modified' scenario analyses which, by definition, are designed to be more supportive of sustainable development than the original scenarios.

In principle, there could be as many scenarios for the New Round as a whole, as there are different combinations of scenarios which can be constructed from the sector-specific scenarios being investigated for the individual trade measures. This could easily become an unrealistically large number to investigate in detail. Therefore, it will need to be reduced to manageable numbers, particularly during the screening and scoping update stage in the SIA process.

It is proposed that the Phase Three contractor should consult with the European Commission and other stakeholders, as part of the global screening and scoping update, on the criteria to be used in constructing trade measure scenarios and on their initial detailed specification before finalising these, which should then be listed. Subsequently, given the dynamics of the negotiation process, some scenarios may be eliminated, others may be amended and some new scenarios may be introduced, and the scenarios list would need to be updated.

### **3.2.3 Country Groupings and Individual Country Analyses**

The four country groupings listed for assessment purposes in the Preliminary SIA will be retained for Phase Three studies: the European Union; Developing Countries; Least Developed Countries; and the World as a whole. The logic of these groupings remains valid for Phase Three studies and the list of countries which should be included within each category is, in the main, well-defined. However, when assessing sustainability impacts from a longer-term perspective, the candidate countries should probably be transferred to the EU group.

The main deficiency in using this grouping system for assessment purposes, is that it fails to capture the variations in the types and levels of impacts *between countries within the same group* and *within individual countries*. These variations, where significant, may influence the trade negotiation positions of the individual countries concerned. More fundamentally, they may conceal some of the potential sustainability problems which individual countries could face and their need for better targeted and more effective M and E measures. At the same time, it has to be accepted that the practical difficulties in extending large country group analyses, which are already complex, to the individual and sub-country level, are potentially great and can probably only be attempted on a limited and selective basis.

For the purposes of Phase Three studies it is proposed to:

- retain the existing four country groupings and use these to obtain over-view assessments of the sustainability impacts likely to result, from the implementation of the trade measures under investigation, on each of these country groups a whole; and
- supplement these assessments by a limited number of individual country analyses whose purpose would be to investigate the variation in impacts between and within countries in each of the above groups.

The selection of these countries would take the following criteria into account:

- *The region to which the country belongs*: the European Union and (in the case of developing countries) Africa, South Asia and Latin and Central America are regarded as the priority regions.
- *Trade structure of the country*: for example, high level of export or import dependence, with respect to the sector / measure being assessed, could be considered a relevant consideration.
- *Vulnerability to changes in trade impacts*: a high incidence of poverty, low per capita income, small size of country, high level exposure to environmental risk would be relevant selection criteria.
- *Data availability*: relevant trade impact studies already completed, ready access to relevant data, expert and stakeholder opinion would be relevant criteria.

The choice of assessment methods, their information requirements and availability, and potential workload for each country impact study will need to be carefully considered. These should be analysed within the relevant screening and scoping update, before a final decision is taken on the individual countries to be included and the scope of each of their assessments.

#### **3.2.4 Sustainability Indicators and Significance Criteria**

A set of nine core impact indicators were developed and used in the Preliminary SIA during the Phase One and Phase Two studies (Kirkpatrick and Lee, 1999, ch. 2). These were:

- average real income; net fixed capital formation; employment
- equity and poverty; health and education; gender inequalities
- environmental quality (air, water, land); biological diversity; other natural resource stocks

Additionally, the Preliminary SIA methodology contained:

- a set of criteria for assessing the significance of each impact; and
- a five-point scale (-2, -1, 0, +1, +2) for summarising the direction and scale of significance of each impact

A number of modifications and refinements are proposed to the above arrangements for use in the full SIA to be undertaken during Phase Three. These are:

- a number of 'second tier' indicators are introduced, which are components of the core indicators. Some minor changes are also made to the existing list of core indicators (see Table 4 below)
- a small number of SD *process* indicators are also introduced for use in the assessment process (see below)
- definitions are provided for the core indicators to clarify their scope and meaning and to check consistency with the statistical measures to be used in the full SIA studies (see below)
- some refinements are made to the list of significance criteria and to the impact scoring system which are to be used (see below)
- some additional guidance is provided on the use of sustainability indicators and significance criteria (see below)

#### **Sustainability Indicators**

The rationale for the proposed framework for sustainability indicators is to better assist decision-making relating to the sustainable development objective. The following criteria guided the selection of the indicators:

- they should be limited in total number but, in aggregate they should be comprehensive in their coverage of the goals of sustainable development

- they should be balanced in their coverage of economic development, social development and environmental quality / resource conservation
- they should reflect concerns relating to inter-generational and intra-generational equity
- they should focus on key components of concern to decision-makers and stakeholders.

Two types of sustainability indicators are proposed for use in Phase Three. *Target* indicators are used to reflect impact in terms of the goals of sustainable development (i.e. they indicate final impacts on sustainable development at the 'end-points' of a chain of cause-effect events likely to result from a New Round trade measure. There are many other indicators of 'intermediate cause' or 'intermediate effect' which may be used in causal chain analyses but which are of a different character (see section 3.3.1.). *Process* indicators provide an additional means of assessing impact on sustainable development, and are particularly relevant when assessing short and long-term impacts, which may not be adequately captured by target indicators. For both the target and process *core* indicators, a number of *second-tier* indicators are introduced, which are components of the core indicators.

**Target indicators:** the proposed core target indicators serve to indicate the final impact on sustainable development. Within any individual assessment, actual impacts may be on constituent components of the core indicator. Appropriate second-tier target indicators are listed below in Table 4, with the core target indicators. The second-tier indicators are only indicative and should be adapted to the circumstances of the particular case.

**Process indicators:** sustainable development is often assessed in terms of certain characteristics of sustainable development (OECD, 2001). The characteristics of sustainable development are identified as key procedures, processes and practices, which are needed to progress towards the long-term goal of sustainable development. Process indicators can be used to assess the changes in, or impact on, these sustainable development characteristics, which result from the policy measures being assessed in the SIA study.

Two types of core process indicators are proposed for use in the full SIA studies in Phase Three:

- to assess whether proposed trade policy and/or M and E measures are consistent with sustainable development principles and whether they are likely to assist the countries affected to move towards a more sustainable development path in the longer term
- to assess whether the proposed measures are likely to enhance institutional capacities and willingness to move, in the longer term, to more sustainable forms of development.

At the second-tier level, each core process indicator is divided into a number of components, as shown in Table 4. As in the case of target indicators, these are only indicative and should be adapted to the circumstances of the particular case.

**Table 4 Core and Second Tier Target and Process Sustainability Indicators**

<b>Indicator</b>	<b>Core</b>	<b>Second Tier</b>
<b>A. Target</b>		
Economic	Real income Fixed capital formation Employment	savings, consumption expenditure economic, other (social, environmental) components of fixed capital formation self-employment; informal sector employment
Social	Poverty Health and education Equity	income and other social dimensions of poverty life expectancy; mortality rates; nutritional levels literacy rates; primary, secondary and tertiary enrolment rates income distribution; gender; other disadvantaged age-related groups (young, old); indigenous peoples, ethnic minorities
Environment	Biodiversity Environmental quality Natural resource stocks	designated eco-systems, endangered species air, water, and land quality indicators energy resources; other non-renewable and renewable resources
<b>B. Process</b>	Consistency with principles of sustainable development Institutional capacities to implement sustainable development strategies	Polluter pays; user pays; precautionary principles Sustainable development mainstreamed and integrated into policy-making; high-level ownership and commitment to sustainable development objectives

The *measures* of sustainability impact that are used in practice to proxy the definitions of the above indicators will be determined on the basis of the availability and quality of the measurement data that are available. An assessment will need to be made of the degree of consistency between the definition and meaning of the sustainability indicators, and the actual measure of it which is to be used. The following section provides a definition of each core indicator and a guide to data sources, including a cross reference to UN (2001), *Indicators of Sustainable Development: Guidelines and Methodologies*. This publication provides a comprehensive guide to various sources of measurement data for a wide range of sustainable development indicators. Similar information should be prepared during Phase Three, for any 'second tier' indicators which are to be used in a sectoral SIA. Annex 4 lists other sources of information on indicator measures data.

#### Economic Indicators

##### 1. Real income

*Definition:* Real income is defined as gross national product less the depreciation on man-made capital and the depreciation of environmental assets, and is the sum of final uses of goods and services measured in producer prices, less the value of imported

goods and services. (It can also be estimated as the sum of primary income distributed by resident producer units).

*Measure:* GDP is generally used as measure of real income. The UN System of National Accounts provides international standards for national estimates of GDP. GDP per capita gives a measure of average real income.

*Data Sources:* UN (2001) pp. 212-214. GDP per capita statistics are published in UN *National Accounts Statistics: Main Aggregates and Detailed Tables* (annual).

## 2. Fixed capital formation

*Definition:* fixed capital formation refers to changes in the stock of man-made, human and environmental capital. A necessary condition for sustainable development is that the total stock of capital should, as a minimum, not diminish.

*Measure:* because of difficulties in estimating man-made capital depreciation and environmental capital depletion, the most readily available measure is gross fixed capital formation.

*Data Sources:* UN (2001) pp. 215-217. Gross capital formation data are available in UN, *National Accounts Statistics*. The World Bank, *Green Data Book* provides a estimate of fixed capital formation (for 1999 only) for a number of developing and developed countries. Fixed capital formation (or “genuine domestic savings”) is estimated as net domestic savings plus education expenditures, minus energy depletion, mineral depletion, net forest depletion and carbon dioxide damage.

## 3. Employment

*Definition:* for sustainable development, employment refers to the utilisation of human labour in productive activities, which generates a means of livelihood support. (The return can be monetary as in the case of wage or salary payment, or non-monetary, as in the case of employment which produces subsistence or non-marketed output).

*Measure:* employment is usually measured in terms of all persons who are in paid employment. The recorded level of employment will normally exclude self-employed and informal sector employment, and therefore underestimates the total level of employment.

*Data Sources:* UN (2001) pp.74-78. National statistics on employment levels and the size of the economically active labour force are available in ILO, *Yearbook of Labour Statistics*.

## Social Indicators

### 4. Poverty

*Definition:* poverty is a multi-dimensional concept. It is generally defined as the number of units (households, individuals) whose access or entitlement to specified dimensions of livelihoods-related variables (real income, security, public services, political rights) is below a specified minimum threshold level.

*Measure:* the most widely used measure of poverty is the number (or percentage) of a given population (sub-national, national, international) whose income level is below a threshold income level (poverty line).

*Data Sources:* UN (2001) pp.65-69. National estimates of the number and percentage of population below nationally defined poverty lines, and below internationally defined poverty lines (\$1 and \$2 per day), are given in World Bank, *World Development Indicators* (annual).

## 5. Health and Education

*Definition:* improvements in human health, and in education levels, each contribute to sustainable development. Expenditure on health and education improves the quality of human capital and contributes to fixed capital formation. Health and education expenditure also improve the level of real income, at the household level.

*Measure:* changes in human health are measured in terms of life expectancy at birth, under-5 mortality rates, nutritional levels. Changes in education levels are measured by literacy rates, primary, secondary and tertiary enrolment rates.

*Data Sources:* UN (2001) pp.82-89 and 110-119. World Bank, *World Development Indicators* provides national statistics on health and education attainment levels. The UNDP *Human Development Report* provides national 'human development index' (HDI) estimates which combine economic, health and education data.

## 6. Equity

*Definition:* equity is also a multi-dimensional concept, which can be defined with respect to a range of variables, including income, assets, security, public services, political rights. It can also be defined with respect to a range of classifications including households, individuals, gender, ethnic groups, age-related groups. Different definitions of 'equitable distribution' can be used, of which 'equal distribution' is only one measure.

*Measure:* equity is commonly measured in terms of the distribution of income at the household level, using the Gini index.

*Data Sources:* UN (2001) pp.70-73. National estimates of the Gini index are available in World Bank, *World Development Indicators*. The UNDP, *Human Development Report* provides estimates of the gender-related human development index, which measures inequality between men and women, in life expectancy at birth, literacy rate, school enrolment ratio and earned income.

## Environment Indicators

### 7. Biodiversity

*Definition:* biodiversity is a multi-dimensional concept. It may be defined at different levels of aggregation, in terms of broad terrestrial and aquatic eco-systems, according to different types of habitats, and/or by reference to numbers and types of individual species.

*Measure:* practical measures which approximate to recording biodiversity impacts in these terms often are liable to be partial, incomplete and beset by data shortages. The main focus may need to be placed on assessing impacts on base-line trends (quantitatively or qualitatively) in the condition of major eco-systems, habitats of recognised importance, and species recognised as endangered.

*Data Sources:* UN (2001) pp.195-211. Useful international sources of biodiversity data and their interpretation include UNEP – WCMC (2000) *Global Biodiversity: Earth's Living Resources in the 21<sup>st</sup> Century* (by Groombridge, B. and Jenkins, M.D.). World Conservation Press. Cambridge, UK; UNEP (2002, forthcoming) *Global Environmental Outlook 3*. UNEP. Nairobi (in press); Loh, J. (ed) (2000) *Living Planet Report 2000*. WWF. Gland, Switzerland; IUCN (2000, continuing) *Red Data Lists*.

## 8. Environmental Quality

*Definition:* environmental quality refers to the quality of air, water and land. Where discharges into an environmental medium exceed its carrying capacity, damage is caused. Depending on its nature, intensity and duration, the impact may be progressive and/or irreversible.

*Measure:* trends in environmental quality are measured as trends in particular parameters of air, water and land quality, preferably relative to established air, water and land quality standards. Impacts may then be assessed as modifications to those trends. In practice, the coverage of monitoring data is incomplete and may only relate to estimated discharges rather than the resulting environmental quality. For these reasons, and because there can be considerable local variations in environmental quality, assessment of changes in environmental quality indicators require careful interpretation.

*Data Sources:* UN (2001) pp.132-152; 170-174; 187-194. There is no single, consistent source of cross-country data on changes in environmental quality over time. The FAO and World Resources Institute publish data on air quality (greenhouse gases and other pollutants), water quality (e.g. BOD, COD) and land quality (fertiliser use). Other sources are UNEP and the Inter-Governmental Panel on Climate Change.

## 9. National Resource Stocks

*Definition:* national resource stocks are part of the environmental capital stock. A 'strong' sustainability definition will require non-renewable national resources to be maintained at or above a minimum level, for future generations. Similarly, it would require consumption of renewable resources not to exceed their natural rate of replenishment. A 'weak' sustainability criterion will allow for some decline in quantity of non-renewable natural resources, provided that the depreciation in these assets is offset by substitution of appropriate renewable natural resources, human capital or man-made capital.

*Measure:* in practice, simpler time-series indicators of annual consumption rates of particular resources relative to known stocks are often used as 'second best' sustainability indicators and require careful interpretation.

*Data Sources:* UN (2001) pp.153-166; 180-186; 231-260. World Bank, *Green Data Book*, contains data on energy depletion, mineral depletion, and forest depletion, drawn from FAO statistics on forest harvesting and UNCTAD statistics on minerals consumption and trade. Other sources of data on national stocks are given in World Resources Institute (annual) *World Resources*, Oxford University Press, New York.

## 10. Consistency with principles of sustainable development

*Definition:* progress in achieving sustainable development will be influenced by the extent to which the principles of sustainable development are being followed. For example, effective environmental legislation will affect the environmental impact of a given policy change. The principles of sustainable development can be implemented by market-based instruments, regulatory measures or voluntary action.

*Measure:* in practice, the assessment of the level of adherence to the principles of sustainable development will be based on incomplete data, often limited to information relating to particular legal instruments that have been adopted at the national level.

*Data Sources:* UN (2001) pp.279-285. Some data on adherence to principles of sustainable development in OECD countries is provided from the OECD, *Environment Directorate*.

#### 11. Institutional capacities to implement sustainable development strategies and principles

*Definition:* progress in achieving sustainable development will be influenced by the institutional capacity to implement sustainable development principles and strategies. The effectiveness of institutional capacity, in turn, is affected by the level of ownership and commitment of decision-makers to the principles of sustainable development and the extent to which sustainable development is mainstreamed and integrated into policy-making.

*Measure:* assessment of institutional capacity is likely to be based on a qualitative judgement derived from expert opinion on the 'quality' or effectiveness of public-sector management and governance. Indices, for example, may be derived from data on number of public sector employees or size of budgets in key ministries or regulatory bodies.

*Data Sources:* UN (2001) pp.279-285. World Bank (2001) *Comprehensive Development Framework* provides a qualitative assessment of national ownership of strategic development planning processes in a number of developing countries.

#### Significance criteria and scoring systems

The criteria which are proposed for use in assessing the significance of any change in an SD indicator are shown in Table 5. The scoring notation to be used in recording the significance of each impact in an impact assessment table is also shown in Table 5. *The reasoned justification for each impact assessed, and the supporting evidence upon which it is based, should be summarised below the impact assessment table.*

**Table 5 Significance Criteria and Scoring**

#### Significance criteria

- extent of existing economic, social and environmental stress, in affected areas
- direction of changes to base-line conditions
- nature, order of magnitude, geographic extent and reversibility / duration of changes
- regulatory and institutional capacity to implement M and E measures

#### Scoring

- 0 = non-significant impact compared with the base situation
- 1 = lesser significant impact (marginally significant, by itself, to the negotiation decision but, if impact is negative, also a potential candidate for mitigation)
- 2 = greater significant impact (likely to be significant, by itself, to the negotiation decision. If negative, merits serious consideration for mitigation)
- + = positive impact
- ± = positive and negative impacts likely to be experienced – net effect is uncertain and/or varies according to context
- /+ = negative over an initial (specified) period of time but expected to become positive in the longer term. The length of short and long time periods should be specified (and, where appropriate, standardised) for this purpose.

### Additional guidance

SIA findings may be presented in impact assessment tables at different levels of detail. For example, the findings may be aggregated into three impact categories – economic, social, environmental. Alternatively, they may be presented for each of the nine core indicators or for each of the ‘second tier’ indicators. Similarly, the number of significance categories in the scoring system could be increased from five (-2, -1, 0, +1, +2) at present to (say) double that number (-5 to +5), *if this is helpful to intended users*.

However, it is important to consider how far more detailed impact categories and significance categories are likely to be helpful to negotiators and other stakeholders and whether the quality and precision of the impact assessments which can be achieved, are sufficient to enable meaningful distinctions to be made between narrower impact assessment categories. It may be more helpful to summarise and present the available evidence and reasoned judgement for each ‘score’ and then leave it to the user to determine whether a more finely-defined impact measure is needed or not.

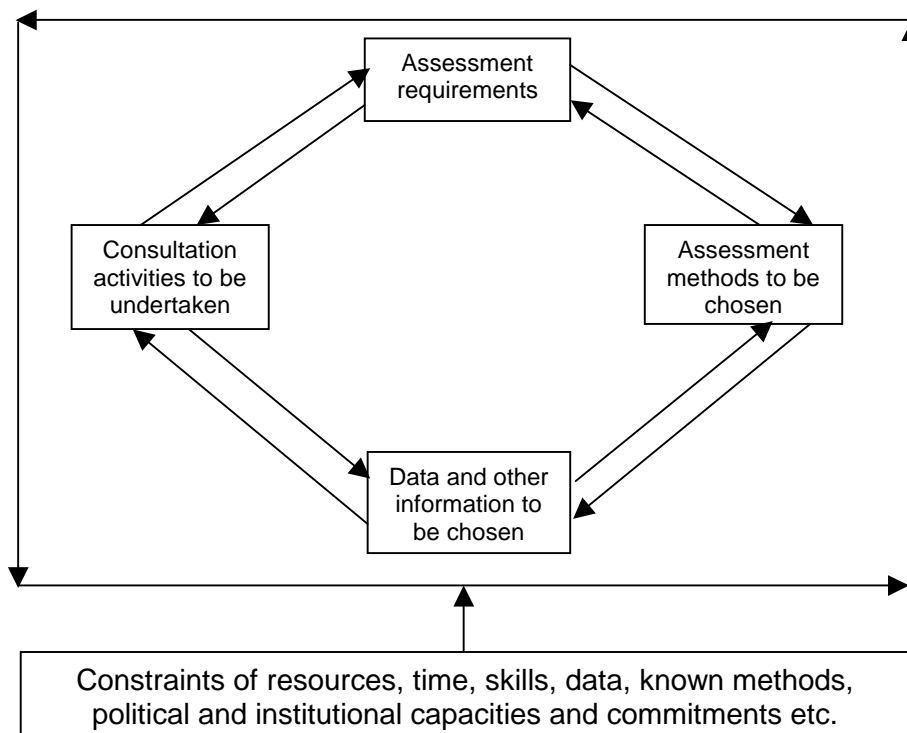
### 3.3 Assessment Methods

This section examines the types of *assessment methods* which might be available to carry out full SIAs and how choices may be made where alternative methods exist for the same tasks. In the next section (Section 3.4), the types of *data* available and their sources are examined, and how choices may be made to meet the information requirements of the chosen assessment methods. *Consultation arrangements* (Section 3.5), are viewed as both an assessment method and as a source of information, in addition to being an integral component of the SIA process itself.

As illustrated in Figure 1 below:

- Each of the four components in the assessment methodology cycle – definition of assessment requirements, choice of assessment methods, assembly of data and other information, arrangement of consultative activities – have to be consistent with each other. For example, if there is insufficient data available, the choice of assessment methods may need to be modified and the assessment requirements may need to be more modestly defined.
- The specification of all of the components within the assessment method cycle are constrained by the resources, skills, methods, data, political and institutional capacities and commitments etc. which exist. The more restrictive these are, the more modest will be the practical assessment methodology which can be chosen.
- Therefore, the methodology package – the preferred combination of methods, data and consultations – is likely to be case-specific. This should be clarified in the specification of the methodology package contained within the screening and scoping update for each trade measure.

**Figure 1 The Assessment Methodology Cycle**



The composition of the assessment methods used, and the level of detail at which they are applied should and, no doubt will, differ between preliminary assessments and detailed assessments. In the former situation, there is a greater reliance on simple forms of analysis, more limited literature reviews and expert opinion, than is expected in detailed assessments. In the latter case, there is scope for more detailed, quantitative analysis. However, it is important to recognise the limits of both what is *needed* and what is *achievable* in Phase Three assessments. This is reflected in the commentary and advice which follows.

The remainder of this assessment methods section deals with Phase Three uses of:

- Causal chain analysis
- Analytic methods, modelling methods, data-based (statistical estimation) methods, descriptive (case study) methods, and expert opinions.

### **3.3.1 Causal Chain Analysis**

The fundamental purpose of causal chain analysis (CCA) is to identify the significant cause-effect links between a proposed change in an existing trade agreement (or proposed new agreement, or New Round) and its eventual economic, environmental and social impacts (i.e. its impacts on sustainable development). The CCA concept has existed for many decades, though often called by different names. For example, it is described in the 1970s and 1980s assessment literature as network analysis (Sorensen, 1971) and cause-effect analysis (VROM, 1984). It is most useful in identifying and analysing multiple effects within large, complex systems. Two recent examples of its application are:

- In the International Waters Programme, supported by the Global Environmental Facility (IWP/2000), 'A Review of the Transboundary Diagnostic Analysis (TDA) Approach to the Preparation of Strategic Action Programmes (SAPs)', *Annex 8, International Waters Program Study*.
- In WWF's Program (2001a) 'Macro-economics for Sustainable Development: the Root Causes Analytical Approach' <http://www.panda.org/resources/programmes/mpo/>

CCA can be used at different levels of aggregation and detail, depending on the context and requirements of the situation. It can also be used at different stages in the SIA process. It is typically supported by other, more specialised, assessment tools (e.g. for analysing, modelling, predicting changes on different sections of the causal chain). The aim of CCA is to distinguish the *significant* cause-effect links in the chain. Significance criteria have to be formulated and then used to eliminate non-significant sections and terminate further analysis beyond these sections. These would need to be consistent with the significance criteria listed in section 3.2.4. The analysis is usually undertaken, in logical sequence by section, from 'cause' to 'effect'. However, a useful cross-check can be undertaken by reversing the analysis (i.e. sequentially, by section, from 'effect' to 'cause') to ensure that the projected SD impacts are sufficiently 'explained' by the trade agreement change. Both the causal chain analysis itself, and the causal chain analysis findings, may be presented in the form of a causal chain diagram (sometimes called a cause-effect diagram). This shows each of the cause-effect sections which has been investigated (plus some sub-sections, in more detailed diagrams) in their logical order of causality, distinguishing those that are significant from those that are not.

The use of CCA can be illustrated using agricultural trade liberalisation as an example.

It is assumed that there is a proposal for a new sectoral trade agreement to remove all import duties in all countries on a single agricultural commodity. The agreement is expected to increase, to varying degrees, both agricultural imports and exports in most countries (i.e. there is a cause-effect link between the proposed agreement and foreign trade). This initial 'foreign trade effect' will cause changes in levels (positive and negative) of production, income, employment and investment in the agricultural sector in most of these countries (which could have a further feedback effect on foreign trade). Because of linkages between the agricultural sector and other sectors in each country, there will also be some changes in production levels etc in other sectors – and these changes may have a feedback effect on the production levels etc in the agricultural sector. As a result, the initial foreign trade change will have an aggregate effect on production levels etc in each country which will be spread across many economic sectors. As a result of this causal chain of events within the economic sector, there are likely to be some changes in the three core *economic* SD indicators (i.e. average real income, net fixed capital formation and employment).

The removal of import duties on this agricultural commodity may also have some *environmental* impacts. This may be due, for example, to changes in the output level of this agricultural product (and of other agricultural products, industrial goods etc. which have changed as a consequence) and/or to changes in their composition, technology of production and location. This is likely to lead to some changes in the three core *environmental* SD indicators (environmental quality, biological diversity and other natural resource stocks) and in any 'second tier' indicators. Depending on the nature, scale and significance of these environmental changes, they may have a feedback effect on the levels of the economic and social SD indicators.

The removal of import duties on the agricultural commodity may also have *social* impacts. Agricultural communities, whose exports of this commodity have increased, will improve their material well-being and poverty levels could be reduced. The opposite may be the case in those countries where imports of the commodity have risen. There may also be differential effects on males and females, depending on the role of each in its production. Changes in government revenues (due to the removal of the import duty and consequential changes in other tax revenues) may lead to changes in public expenditure levels for health and education. Because of inter-sectoral linkages, consequential social impacts may be experienced in some non-agricultural communities. As a result, there may be some changes in the three core *social* SD indicators (poverty, equity, health and education) and in their 'second tier' constituents. In turn, these may have some feedback effects on the economic and environmental indicators.

The above example, chosen to illustrate the use of CCA in SIA studies, relates to the classic case of trade tariff reductions. Is the same approach likely to be applicable to other types of trade-related agreements which may form part of the WTO New Round? The removal of subsidies and quotas may be sufficiently similar to use a similar approach. On the other hand, proposed agreements (if included in the New Round) on multi-lateral investment, competition, and on the relationship between WTO rules and MEAs may be considerably different in character. Can changes to *rules* be analysed in the same way as changes in *financial barriers and inducements* to foreign trade? The working assumption at present, is that the same broad approach to CCA can be used for different kinds of trade agreements but that the *pattern* of the causal chain and the kinds of *specialised assessment tools and data used* (e.g. the extent to which formal modelling and quantitative data are used) could vary considerably.

## CCA at Different Stages in the SIA Process

Causal chain analysis is recommended for use at different stages in the SIA process. It should also assist in clarifying the other assessment methods, information and consultation requirements, which may need to be met at each stage in the assessment process:

Stage 1: Screening and Scoping Update The formal application of CCA is unlikely to be needed for *screening* purposes but it *is* likely to be needed for *scoping*. For example, in the case of a proposed agricultural agreement, which covers a number of different agricultural commodities, it might be used to assist in deciding:

- Which of these commodities should be included in the full assessment, and according to which scenarios, in which countries or groups of countries?
- Which main links and sub-links in the causal chain should be investigated in the full assessment and to what level of detail?
- Which types of M and E measures should be examined in the options analysis?
- What are the likely methodological and data requirements for the full assessment?

The level of detail of the CCA should be sufficient to answer these types of questions. This level will vary from one proposed agreement to another but is likely to require a combination of main link and *selective* sub-link analyses. Significant parts of the CCA analysis, *at this stage*, are likely to be qualitative and approximate in nature.

Stage 2: Full Assessment CCA at this stage is expected to focus exclusively on significant main and sub-links and to examine these in greater detail than at the scoping stage. Some modifications and refinements are likely to be made to the scoping stage CCA. Greater parts of the analysis are likely to contain quantitative elements in the full assessment, though this will vary according to the type of agreement.

Stage 3: M and E Measures The 'fine-tuning' of the CCA during the full assessment should be accompanied by the 'fine tuning' of the types of M and E measures, which were initially identified at the scoping stage. The specifications of each M and E option should be used to 'modify' the specification of the proposed agreement and its causal chain so that the resulting economic, environmental and social impacts of each modified measure can be assessed and compared.

Stage 4: Monitoring and Post-Auditing The causal chain analysis should provide a useful structured framework for monitoring the impacts on sustainable development resulting from the implementation of a trade agreement and for post-auditing their consistency with the impacts projected to result in the SIA study. These *ex post* studies should consider not only the economic, environmental and social impacts resulting from the trade agreement (i.e. the *end products*) but also the outcomes on each of the more important links within the causal chain (i.e. the *intermediate products*). This will provide a deeper understanding of the sustainability impacts of trade agreements and of the mechanisms through which they have resulted. It will also help to strengthen SIA methodologies and their practical application by highlighting where the weak points in the implementation of causal chain analyses currently exist.

CCA and the Broader Picture The causal chain analysis of a single trade agreement can be extended and considered in a broader context, in two senses:

- The single agreement may form part of a more comprehensive New Round. If so, for negotiation and other purposes, it is the aggregate economic, environmental and social impacts of the New Round as a whole, which is likely to be the over-riding consideration. This suggests that a comprehensive SIA of a New Round should be based on an

aggregate CCA incorporating cause-effect linkages between all of its constituent agreements. This should be initiated at the scoping stage when the main cause-effect inter-relationships between the constituent agreements, and their significance for the New Round as a whole, should be established. This information should be used in shaping the scope and methods of appraisal for the New Round as a whole, as well as for its constituent agreements. *These inter-relationships can then be reflected, to some degree, in the full assessments of the individual agreements as each of these proceeds.* Once these are completed, the full assessment for the New Round as a whole can be completed, using an updated and refined aggregate CCA for this purpose.

- Some economic, environmental and social impacts may be ‘triggered’ by a new trade agreement but not, in a fundamental sense, be ‘caused’ by it. This might occur, for example, where a new trade agreement is consistent in itself, with sustainability principles but is being applied in circumstances where other pre-requisites for sustainability do not yet exist. This may be due to other regulatory and market failures, institutional weaknesses, political instability etc. in non-trade areas. Recognition of these other factors often leads to suggestions for M and E measures which lie beyond the competence of trade authorities and other trade-related organisations. *The identification of these other fundamental causes can be assisted by broadening causal chain analyses to include other ‘driving forces’ and ‘pressures’ which, when combined with certain new trade agreements, may trigger additional negative sustainability impacts.* Similarly, remedial measures to address these problems can be incorporated into a broader and more effective M and E options analysis phase. These extensions are broadly in line with the Driving Force-State-Response form of environmental policy appraisal which is now used by a number of international organisations.

#### Links between Causal Chain Analysis and other elements in the Phase Three Methodology

CCA will be a core component of the Phase Three methodology, since it has a central role in both SIAs of single agreements and of the New Round as a whole, as well as being potentially useful at other stages of the SIA process. There are, however, other potentially important core elements of the methodology – for example, the more specialist assessment tools needed in the practical application of causal chain analyses and the data (quantitative and qualitative) needed in the use of these tools. These other elements need to match each others requirements. Therefore, their specification has to be developed simultaneously and cross-checked for consistency with the SIA’s overall methodological requirements. These issues are considered further in the remainder of this subsection (3.3.2 ‘Other Assessment Methods; and in the following sections within this chapter (3.4 ‘Data Sources’; 3.5 ‘Consultation Arrangements’; 3.6 ‘Assembling Case-Specific Methodologies’).

#### **3.3.2 Other Assessment Methods**

A wide range of assessment methods exist which might be used in the elaboration of causal chains and in the empirical estimation of sustainability impacts. These include: analytic methods, modelling methods, data-based (statistical estimation) methods, descriptive (case study) methods, expert opinions and consultation methods.

Surveys of these different methods, examples of their application to trade policies and supporting literature reviews have been presented in earlier reports (Kirkpatrick, Lee and Morrissey, 1999; Kirkpatrick and Lee, 1999). Several, more recently published, studies (e.g. McCulloch, Winters and Cirera, 2001; UNEP, 2001; Kirkpatrick and Lee, 2001) are listed in Annex 9, and have also been taken into consideration in formulating the following conclusions and recommendations.

Firstly, the above surveys and other supporting evidence confirm that there is no single type of method which can currently satisfactorily meet all of the assessment requirements for

Phase Three SIAs of trade agreements. A package of methods is most likely to be required, where each package varies to some degree, according to the characteristics of the trade measure(s) being assessed and the context (e.g. regional and country characteristics) in which the assessment is being carried out. The assessment procedure which is recommended for determining the contents of that package, in any particular case, is described in Section 3.6. This section briefly reviews the strengths, limitations and possible applications of the main types of methods which might be included in an SIA methods package, additional to causal chain analysis. The review of consultation methods is deferred to Section 3.5 'Consultation Arrangements'.

Analytic methods These are usually more theoretically-based, than empirically-based, tools of analysis. Typically, they are founded on broadly-defined behavioural and other assumptions and derive findings by relying mainly on deductive logic. They are helpful in constructing successive links in causal chains and in inferring directions of change in intermediate effects along these chains (McCulloch et al., 2001; Kirkpatrick and Lee, 2001, Ch. 2). Usually, the methods used are transparent in the sense that the process by which the findings have been reached is explicit. The limitations are that, in the absence of sufficient empirical reference points, the underlying assumptions of the analysis may be too general and unrealistic, some of the projected impacts may be incorrectly identified and the likely size and significance of impacts usually cannot be established. However, if supported by appropriate forms of good quality empirical analysis (see below), a number of their deficiencies may be considerably reduced, if not overcome.

Modelling methods Models are simplified, structured representations of systems. Each has its own analytic structure and to this extent it shares the same strengths and weaknesses as the analytic methods described above. Some models are essentially theoretical. However, most of the trade-related models, with which this report is concerned, are empirical in the sense that they use data (mainly in a quantitative form) and predict likely future impact outcomes, or explain previously observed impact outcomes, based on these. Whilst this might suggest that models are superior to analytic methods, this depends on the relevance and quality of both the modelling and the data which are used.

McCulloch et al. (2001), Ervin (2000), and others, have examined the relative merits of different types of models for use in studies similar to those now proposed. The following conclusions may be drawn:

1. There is no single modelling system currently in being which satisfactorily assesses economic, social *and* environmental impacts likely to result from changes in specified international trade policies. Most existing models are still confined to elements of that system. They are mainly limited to the trade-economy sectors, but some extend to include parts of the environmental or social sectors.
2. Most models have been developed to assess impacts resulting from price changes due to trade liberalisation. Much less attention has been paid to how, and how far, the impacts of changes to trade rules and other kinds of trade measures may be satisfactorily assessed, using modelling methods.
3. Because of the complexity of the systems involved, and known limitations in data availability, existing models (though appearing to the layman to be very complex) are greatly simplified to make them operational. Therefore, it is important to check the underlying logic of the model itself (i.e. its assumed cause-effect links) and the assumed values (coefficients) of those linkages.

Data based (statistical estimation) methods These use time series and/or cross-sectional data to test for possible causal links within a trade-sustainable development framework. In

particular, they test for a statistically significant relationship between specified parameters of a proposed trade measure and changes in the values of one or more of the selected SD indicators and/or (at a more detailed level) between cause and effect variables on particular sections of the causal chain. Recent published examples of the application of this method are Seguino (2000); Chomo and Ferrantino (1999), World Bank (2000).

A potential advantage of these types of methods is that they provide opportunities to test, empirically, specific hypotheses (preferably, which have sound theoretical formulations – see ‘Analytic methods’ section) about the nature of cause-effect links within a trade-sustainable framework and to establish their statistical significance. Further, if the data used has been carefully collected from a sufficiently large and representative sample (e.g. from individuals, households etc.), the results may be generalised to different geographic and socio-economic aggregates (village, region, country, women, minority groups etc.). The findings may then be valuable in their own right within SIA studies or may be used in conjunction with other assessment methods – for example, in specifying functional coefficients within SIA trade models, in enriching descriptive case studies and/or in assisting to make expert judgements.

Like all other assessment methods, they also have their drawbacks and limitations. They generally have a more limited role to play in assessing cause-effect changes where these are of a more qualitative nature. This is part of a more general problem that qualitative changes within the SIA framework tend to get neglected or be treated inadequately (as is also the case in a number of modelling studies). Many statistical estimation studies use time series data which produce estimates of coefficients etc. which may be historically correct but not necessarily appropriate to future conditions. Because of practical difficulties (lack of certain types of data etc.) the hypotheses which are tested may implicitly over-simplify the causal chain (e.g. by excluding some of its intermediate cause-effect links) leading, over time, to incomplete explanations of change and increasingly inaccurate assessments due to the growing influence of excluded variables.

Further, as in all empirical studies, much depends upon the quality of the data which are collected and used. As in the case of modelling studies, there is always some risk that greater attention will be given to the appropriate application of the statistical technique than the appropriateness and quality of the information which it assembles and processes. However, it must also be recognised that gathering new data, of the types and quality required for SIA studies, is likely to be an expensive and time consuming exercise.

Studies, based on the use of statistical estimation methods, should make a useful contribution to Phase Three SIA studies, though in many cases this will be supplementary to the contributions from other assessment methods. As with modelling studies, it is important that, in each case where these methods are used, the statistical estimates themselves and the quality of data employed are evaluated. It is assumed that most use will be made of *existing* statistical estimation studies. Some selective *new* applications of existing statistical estimation methods, which use *existing*, readily accessible data, may be undertaken. New data gathering for use with these methods is unlikely to be feasible, given time and other constraints.

Descriptive (case study) methods This group of methods is less well-defined than the other types of methods reviewed in this section and is probably the most heterogeneous. In most cases, these methods are mainly empirical in nature and make use of both quantitative and qualitative data. They tend to focus upon a particular sector (e.g. mining, fishing); a national, regional or local community; and/or a particular socio-economic group (especially disadvantaged groups). In most cases they contain *ex post* assessments; relatively few systematically examine the likely future effects of proposed new agreements. Recent examples of studies using this method include, WWF (2001); UNEP (2001a).

These types of studies are potentially useful to Phase Three SIAs in a number of ways. They often consider different types of questions, at less aggregated levels of assessment, using different methods of investigation to those mainly used in modelling and statistical estimation. At their best, they can show a deeper understanding of the ways in which internationally-agreed trade measures may have greatly varying sustainability impacts.

A difficulty with a number of descriptive studies is that their methodology is insufficiently developed or explained. Several studies make relatively simple 'before-and-after' impact comparisons. For the most part they do not sufficiently examine the causal chains which link the trade measure to its eventual economic, environmental and social outcomes. Also, they often ignore the counter-factual question and fail to take account of the additional impacts that would have occurred even if the new measure had not been introduced. Additionally, there are sometimes uncertainties (as in other studies) over precisely what data have been used, their levels of reliability and how they have been analysed and interpreted in reaching conclusions.

However, there is an increasing number of empirically based, more disaggregated studies being produced which address a number of these difficulties. Some, for example, carefully use inductive methods for investigation, which are rooted in an explicit, well-defined methodology, to develop a rich understanding of cause-effect relationships, and assemble different kinds of good quality information to assess trade policy impacts on local communities, disadvantaged groups etc. Others use a combination of descriptive cause-effect analysis (possibly then formalised in a simple model) and some statistical estimation analyses to provide a combined quantitative and qualitative analysis of trade impacts on a local or regional area (see, for example, Barbier, 2000). Additionally, there have been a number of regulatory-based impact studies using somewhat different forms of juridical and organisational analysis, which have contributed to the impact assessment of rule changes within international trade agreements (Brack, 2000; Fauchald, 2000; Jha, Markandya and Vossenaar, 1999; Trachtman, 2000).

It is recommended that selective use is made of descriptive methods of impact assessment within Phase Three studies. They could be particularly helpful in understanding the variations in impacts at more disaggregated levels – sector, area and socio-economic group – and especially, where more qualitative assessments are appropriate. The focus of elements within the Phase Three studies on assessments within particular countries should assist in screening and scoping the existing descriptive studies to be submitted to more detailed analysis. They should be individually evaluated for their quality and relevance before final acceptance. Some assistance from local experts may be needed in the evaluation and interpretation of their findings. Due to resource and time limitations it is unlikely that a programme of new descriptive studies could be undertaken during Phase Three but more limited arrangements for some gap-filling may be feasible, with the aid of local experts. Also, there is a case for the European Commission to support some local impact studies of this kind as part of a capacity development programme.

Additionally, consideration should be given to the use of other, more qualitative, descriptive studies during Phase Three which help to assess the non-quantified impacts of trade measures, for example those resulting from rule changes.

Expert opinion From time to time, surveys are undertaken of the range of assessment methods in existence, and of the frequency with which each is used in practice. Among those methods which appear on an ever-lengthening list, it is the least formalised and sophisticated – expert opinion – which is often the most frequently used, though possibly the least publicised (VROM, 1984). Therefore, some reference should be made to its potential role in Phase Three studies. It is likely to be important in Phase Three studies for the following reasons:

- There is no standard SIA methodology which is applicable in all circumstances. It has to be 'tailor-made' for, and 'case specific' to, each assessment situation. Expert opinion will need to play a significant role in the development of the 'case specific' methodology, through the screening and scoping updates and consultation based on these.
- There is no comprehensive SIA methodology in being which is yet fully operational. It has to be welded together from a number of different parts – which are trade, economic, environmental and society-related. Expert opinion, with other forms of supporting assistance, will need to play a central role in making this fusion work.
- There are many gaps in method, knowledge and data within the components which will form the comprehensive SIA methodology. This is not surprising in a new and innovative field of assessment. Only to a limited degree, can these gaps be filled through additional research, data gathering and new empirical studies over the life-time of the Phase Three studies. In most cases, the 'second-best' solution will lie in using expert opinion, to make most effective use of the methods, knowledge and data already available.

Where expert opinions are used, it is important that the evidence and analysis upon which they are based are made explicit. In other words, they should be substantiated and justified.

Different types of experts should be employed on Phase Three studies and play differing roles within them. They include:

- Core team experts who will be involved in overseeing the development and successful application of all of the methodologies to be used in Phase Three studies. Between them, they should possess sufficient skills and knowledge relating to the main methods to be used and have the capacity to integrate them successfully within a single unified methodology.
- Sector experts who should possess skills and knowledge appropriate to the particular sectoral assessments in which they will be involved.
- Region / country experts who possess assessment skills and knowledge appropriate to the regional or country context in which part of an SIA study is to be conducted.
- Other external experts who belong to the international network of SIA experts who may be consulted about the specifics of a particular case, or methodological and data issues relating to Phase Three studies more generally.
- Other consultees (e.g. stakeholder organisations, NGOs) who may be asked for their opinions on matters contained in screening and scoping updates and later full assessments or may be asked for opinions and advice on specific issues arising during the assessment process. These matters are considered further in section 3.5 'Consultation Arrangements'.

It is recommended that a Management Plan be prepared for the implementation of the Phase Three programme, within which the role and *modus operandi* of each of these expert and consultative groups are specified. This will need to be periodically reviewed and updated in the light of experience during Phase Three.

### 3.4 Data Sources

The previous section has shown how data constraints, in terms of quality and availability, will partly determine the practical assessment methodology which can be chosen, and the level of detail at which it can be applied. The data constraints are likely to be case-specific, and as a consequence, the methodology package – the preferred combination of methods, assessment requirements and consultations – will need to be specified within the screening and scoping update for each trade measure.

Data constraints are likely to arise in a number of different forms. They include:

- the definition used for the collection and measurement of data may diverge from the ideal definition required for sustainability assessment purposes. For example, the ‘ideal’ measurement of real income includes the social and environment costs and benefits of economic activity, whereas the actual measure of real income (at the national level) does not allow for these externalities.
- the data gathered may diverge from the measurement definition. There may be differences in accounting and estimation procedures between countries, which make cross-country comparisons difficult. A lack of comparability in price and exchange rate information, for example, makes cross-country comparisons of real output levels and growth rates difficult.
- some data may be unavailable, or inaccessible for reasons of confidentiality. In these cases, the ‘missing’ data may have to be estimated or extrapolated on the basis of historical data or expert opinion.
- different sources of data relating to the same indicator may be incompatible or difficult to use in combination. For example, data on real income which is gathered from household survey sources may not be easily reconciled with national accounting statistics on aggregate household real income. Different sources of data may be better suited to particular assessment methods, for example, trade modelling will normally use national accounting statistics, whereas case studies will rely more on household-level data. If there are difficulties in reconciling and combining different data sources, it may limit the ability to make use of the range of assessment methods, at the screening and scoping update and full assessment stages.

The data constraints mean that the available data will typically be an *approximation* of the ideal data requirements for sustainability impact assessment. In judging the suitability of data for use in sustainability impact assessment, it is recommended that the data requirements be defined as precisely as possible. The available empirical data that approximates this definition should then be identified. Finally, the degree of discrepancy between the definition and the empirical data should be assessed and a judgement made on whether the data is to be used in the assessment. Where the data is used, any significant discrepancies or limitations should be recorded at the screening and scoping stage, and acknowledged in the presentation and interpretation of the assessment results.

- Sustainability indicators

Section 3.2.4 contains proposals for a set of nine core target impact indicators, together with a number of second-tier indicators, and several process indicators. The core indicators are intended to indicate final impacts on sustainable development at the ‘end-points’ of a chain of cause-effect events likely to result from a New Round trade measure. In combination, they are intended to provide a comprehensive and balanced impact assessment across the sustainable development spectrum. In measuring impact in terms of these impact indicators, flexibility and judgement will have to be used in their application, in response to the

availability and quality of indicator data, and any significant discrepancies or limitations in the data which is adopted for sustainability indicator impact measurement, should be noted at the screening and scoping stage, and included in the study report.

Section 3.2.4 provides guidance on the definition and data sources for the core target and process indicators proposed for Phase Three studies. An additional key source of information on sustainability indicator definitions and data availability is, United Nations, *Indicators of Sustainable Development: Guidelines and Methodologies*, New York, 2001. This source provides information on 13 'theme' and 32 'sub-theme' indicators, for economic, environmental and social dimensions of sustainable development. In addition, information is provided on two process indicators relating to institutional framework and capacity. A brief definition is provided for each indicator, the relevance to sustainable development is explained, and the national and international data availability and sources are listed.

- Assessment methods

The data requirements for the various assessment methods that will need to be used, will vary, depending on the analytical approach being used. Modelling is likely to require largely quantitative data which are comparable across countries and available on a time-series basis. Data-based statistical estimation will also depend on the availability of quantitative data, but greater use can be made of data which relate only to one period of time. Case study evidence will often be more qualitative in nature, or a mix of quantitative and qualitative information and be context-specific.

The remainder of this section considers the data requirements and data sources for modelling, statistical estimation, and case study methods of assessment. The data requirements and sources for expert opinion and consultation methods are considered in section 3.3.2. (above) and section 3.5 (below).

Most of the trade-related models, with which Phase Three will be concerned, rely on historical quantitative data. The data used in trade modelling are largely economic, and the predictions of future impacts are mainly in terms of economic impact. For national-level modelling work, the data requirements will be met from secondary, often published, sources. Annual statistics on the main economic indicators and for trade flows are available for most developing and developed countries, from national or international (UN, World Bank, IMF) sources.

For multi-country and global modelling, it is necessary to compile a consistent data base from national level data sources. Inconsistencies in the definitions and/or coverage of national data will result in gaps in the global data base, which will only become apparent if the database used in global modelling is examined in detail. The most accessible (and transparent) global trade modelling database is the GTAP, which links 24 country / regional economic databases. There is, however, no common method of reconciling differences in national data, and the reconciliation methods vary according to the type of inconsistencies that need to be resolved (Hertel et al., 1998).

The resource requirements for newly constructing a 'customised' model and database are considerable, and exceed the resources available for the Phase Three study. The modelling component of the detailed sector studies in Phase Three, therefore, should combine the results of existing global modelling work, and where feasible, the adaptation of existing national level models. Annex 5 lists major institutional sources for accessing trade modelling information and data. Recent examples of trade modelling studies are also listed.

Data-based (statistical estimation) methods also use quantitative data, which can be cross-sectoral or time-series, to test for possible causal links between trade and sustainable development. In particular, they test for a statistically significant relationship between parameters of a proposed trade measure and changes in sustainable development indicators.

The data requirements are less demanding than for modelling, in so far as more use can be made of cross sectional data. This can provide greater opportunity for combining the economic data with environmental and social data which are available only for a single or limited number of time periods. Statistical estimation methods are widely used for analysing survey or sample data (e.g. for households, individuals, enterprises).

Annex 6 lists some examples of the main institutional sources for accessing information and data on data-based, statistical estimation approaches to trade and sustainable development. Recent examples of statistical estimation approaches to estimating trade and SD relationships are also included in this annex.

The descriptive (case study) method of assessment is less well-defined than the other methods, and often has limited *a priori* conceptualisation of the relationship between trade measures and sustainability impacts. Descriptive methods typically combine quantitative and qualitative data, and focus on a particular sector or socio-economic group.

Descriptive, case studies methods are more likely to use primary data which is gathered for the purpose of the study. Participatory techniques are often employed to generate the qualitative data used in case studies, and these may be combined with quantitative data gathered through field research.

As with the other assessment methods, resource and time limitations make it unlikely that additional, new case study evidence will be generated during Phase Three. Reliance will be placed, therefore, on the use of existing descriptive, case study evidence. The quality and relevance of this existing body of case study analysis will need to be evaluated as part of the screening and scoping stage, before being used in the detailed assessment stage. The opinions of experts who are familiar with the case-specific context of the study can provide an important input to the evaluation and interpretation of case study findings. Annex 7 provides a guide to data and other information sources on descriptive, case study methods of assessment. Recent examples of studies which have used this method are also included in this annex.

It will be necessary to combine use of the results from applying modelling, data-based and descriptive methods of assessment in assessing the causal linkages between trade measures being considered and their end-impact on the core sustainability indicators. Given the resource and time constraints on Phase Three, extensive use will be made of *existing*, readily accessible data. To assist in identifying this information and data for the Phase Three study, Annex 8 provides website information on some of the main institutions and organisations engaged in the sustainability assessment of trade policy measures. Additional guidance relating to data and information sources is provided in Annex 9 which contains recent (post-1999) published studies and reports on trade and SIA, classified by trade measure.

### **3.5 Consultation Arrangements**

Consultation arrangements provide a means by which stakeholders can contribute to the SIA study. These arrangements can contribute both as a method of assessment, and as an integral element of the SIA process itself.

Section 3.3.2 examines the role of stakeholders as experts in contributing their individual expertise and advice on specific issues during the screening and scoping update and full assessment stages of the assessment process. Also, many institutional stakeholder groups undertake research and knowledge-creation activities, the findings of which can contribute to the assessment during the Phase Three studies.

Consultation is also an integral part of the SIA process, and for Phase Three it is desirable to strengthen the consultation process used in Phase One and Two, in ways that will ensure a greater understanding and awareness among stakeholders of the SIA and allow for a wider and more inclusive process of consultation with different stakeholder groups.

The European Commission has proposed recently opening up the policy-making process to get more people and organisations involved in shaping and delivering EU policy, as part of the process of European governance reform (European Commission, 2001). To achieve this objective, the Commission will seek to provide up-to-date, on-line information on preparation of policy through all stages of decision-making, establish and publish minimum standards for consultation on EU policy, and in the case of global governance, improve the dialogue with governmental and non-governmental actions of third countries when developing policy proposals with an international dimension. In its assessment of the results of the Doha WTO Ministerial Declaration, the European Commission acknowledged that the Declaration provides a mandate on issues such as consultation and open meetings, and advocated institutional improvements, in terms of transparency and effectiveness of participation of civil society (para 14).

The existing mechanisms for obtaining the expert views of stakeholders should be strengthened by continuing to expand the experts network, actively seeking their specific expertise where appropriate to the task in hand, increasing the impact of the SIA website by establishing additional links to other websites relating to trade and sustainability assessment issues, and by following a pro-active approach to eliciting responses from experts on the Phase Three reports when these are placed on the SIA trade website.

The Commission should continue to be primarily responsible for facilitating stakeholder consultation as a participatory process. Consideration should be given to ways in which the existing participatory process could be made more inclusive of all interested stakeholders. For example, the inclusion of developing country policymakers, as a major stakeholder group, should be pursued, perhaps by engaging with the newly established Geneva Office for ACP representation at the WTO. (Since the ACP group does not include a number of major Asian developing countries which are likely to be significantly affected by the ongoing implementation and negotiation issues, it would be necessary to include these non-ACP countries in this strengthened consultation and participation process). The holding of stakeholder consultation meetings in Brussels probably makes it difficult for many stakeholders to physically participate in the consultation process. The Commission may wish to consider the feasibility of using electronic means (e.g. conferencing) as part of the stakeholder consultation and participation process. This initiative would need to be managed by the Commission, separately from the expert opinion and dissemination website managed by the contractor.

The stages in the assessment process at which consultation meetings (for expert opinion and for the participation of civil society) should take place, should be agreed prior to the commencement of Phase Three studies. The Phase Three contract provides for a minimum of one public meeting organised by the Commission, per six months, with additional meetings arranged on an *ad hoc* basis, as necessary. It is recommended that the number of consultation meetings organised by the Commission should be increased to two, for each study. These consultations should take place on completion of the screening and scoping update, and on completion of the full assessment.

The Phase Three SIA will begin with a preliminary global SIA study. The screening and scoping stage of the preliminary global SIA will involve the selection and sequencing of the subsequent sectoral / trade measure SIA studies. The scheduling of a participatory consultation meeting, at the screening and scoping update stage, will facilitate an open and transparent process for selecting the sector-level SIA studies to be undertaken during Phase Three and for the preliminary determination of their terms of reference.

The last Phase Three study to be undertaken will be a Final Global SIA, which will cover the full package of agreements reached, before their adoption. This report will include proposed modifications to the original proposals, including the introduction of mitigation and enhancing measures. The provision for participatory consultation at the completion of the full assessment stages of the Final Global study will facilitate stakeholder involvement when policymakers are engaged in final negotiations, prior to adoption of all agreements.

### **3.6 Assembling Case-Specific SIA Methodologies**

This section of the draft SIA methodology examines how its different components might be selected and brought together on a case-specific basis. A simple form of decision tree analysis is proposed which helps to identify, on a sequential and internally consistent basis, each of the following:

- the assessment *tasks* that need to be undertaken;
- the assessment *methods* required to undertake these tasks;
- the *data* needed to apply the assessment methods; and
- the *sources* from which the data may be obtained.

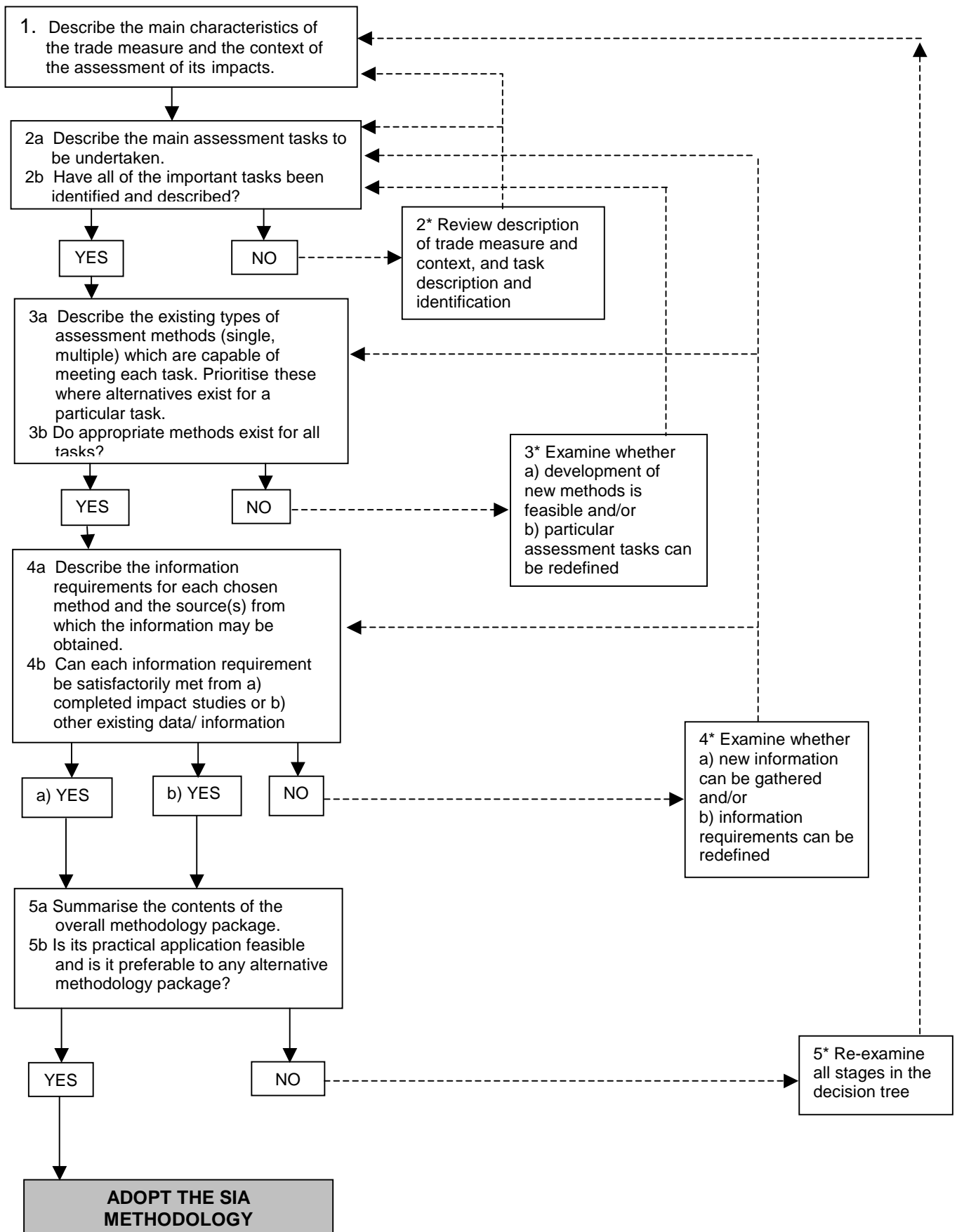
The main elements in the decision tree analysis, and their sequencing, are shown in Figure 2. The analysis should be applied at the level of the individual trade measure but, where its content is fairly broad and heterogeneous, it may be necessary to apply the analysis to its main components as well.

The analysis follows a predominantly linear sequence: 1. trade measure characteristics → 2. assessment task requirements → 3. selection of assessment methods → 4. information requirements and selection of information sources → 5. overall appraisal of methodology package. The development of the methodology proceeds from one of these stages to the next, provided the former has been satisfactorily completed. Where deficiencies are identified at any stage in the sequence, the analysis 'loops back' to an earlier stage or stages to search for a solution.

Supplementary guidance is attached to Figure 2 in the form of brief explanations of what is required at each of the boxed stages in the decision tree, and cross references are made to additional information located elsewhere in the report.

This decision tree approach may assist in preparing the methodology for any stage in the SIA process. However, it is most likely to be useful when preparing the SIA methodology for the detailed assessment stage and in the subsequent evaluation of M and E measures. For these purposes it should be initially prepared as part of the screening and scoping update, but may be subsequently refined as the detailed assessment proceeds.

**Figure 2 A Decision Tree for Use in Constructing a Case-Specific SIA Methodology**



## Supplementary Guidance to Figure 2

1. The checklist of trade measure characteristics and country / region characteristics provides initial guidance on the type, and level of detail, of the information relating to trade measures which is required (see section 3.2.1, for further guidance).
2. The information gathered under 1., plus information obtained from the causal chain analysis during the screening and scoping update, should be used in identifying the main assessment tasks.
3. The range of the different types of methods which might be used in undertaking each assessment task should, initially, be broadly defined. They should include, for example, causal chain analysis, modelling methods, data-based (statistical estimation) methods, descriptive (case study) methods, expert opinion and consultative arrangements. In some cases, a combination of methods may be needed to undertake a particular task. The methods selected to perform a particular task should be defined in sufficient detail to ensure that they are appropriate to the particular task and are capable of carrying it out satisfactorily. For example, if a model is selected, the type of model proposed and its principal properties should be indicated. Where a choice is to be made between different methods, the criteria used in making the choice should be indicated.
4. The range of the types of information that might be used in SIA studies should also be broadly defined and include quantitative and qualitative information. The types of information that are required should be identified by reference to items 1 and 2 above and the specific requirements of the assessment methods selected for use. Information requirements should be defined in sufficient detail to check their availability for assessment purposes, to determine where gaps exist, and to assess how any deficiencies might be rectified. In assessing the availability of information, a distinction should be drawn between where i) the methods and data already exist and the relevant impacts have already been assessed and reported, ii) the methods and data already exist but additional model applications are needed to assess the relevant impacts, and iii) existing data are inadequate, and both additional information and method applications are needed.
5. The purpose of this stage in the assessment is to check i) the overall coherence of the methodology package that has been assembled, ii) that it is technically feasible and falls within agreed budget and time constraints, and iii) there is no alternative, preferable package to the one proposed for adoption.

### **2\*, 3\*, 4\* and 5\***

Each of these boxes describes the actions to be taken where a 'deficiency' has been detected at one or more stages in the development of the methodology. In each case, this requires returning to one or more earlier stages in the decision tree analysis, and checking / amending the previous decisions at those stages. Then, where an earlier decision is changed, consequential changes should be made to succeeding stages in the decision tree and checks made to determine whether the 'deficiency' has been removed. In some cases, it may be necessary to complete more than one iteration of the corrective 'loop' before deficiencies are removed.

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## **ANNEX 1    Comments Received on Phase One and Phase Two Studies**

The following comments on the Phase One and Phase Two studies, and suggestions for future studies from civil society, Commission officials and scientific experts, have been assembled by the Commission and are summarised below. The more detailed written sources from which many of these originate are also listed below.

### *Methodology*

- ❑ The precision of the assessment findings, including indications of their robustness, should be strengthened in Phase Three.
- ❑ The methods used and the reasons for their selection should be made more transparent.
- ❑ The social aspects of sustainability impact assessment should be developed and given more consideration.
- ❑ The links and consistency between the overall (global) and sectoral studies, including cross-sectoral effects, should be strengthened (with particular reference to country groupings, sectoral analyses, scenarios and indicators used).
- ❑ The documentary sources consulted should be completed and updated.
- ❑ The use of the screening and scoping process for priority setting in the assessment should be strengthened (e.g. in focusing on key sectors in sensitive areas).
- ❑ Cause-effect pathway analysis should be further developed.

### *Indicators*

- ❑ The overall range of impacts covered by the indicators should be broadened.
- ❑ The scope covered by individual indicators should be narrowed.
- ❑ Further attention should be given to the development of environmental indicators, those relating to biodiversity and to the treatment of irreversibility.
- ❑ Further consideration should be given to the validity and efficiency of indicators, especially social and environmental indicators.

### *Country groupings and scenarios*

- ❑ Country groups should be more finely defined to obtain more detailed results. They may be grouped according to negotiation strategy, economic characteristics, and regional organisation. The groupings may also vary according to SIA stage (preliminary, sectoral, final).
- ❑ More scenarios should be used and the possibility should be explored of evaluating scenarios, which integrate flanking measures.
- ❑ The appropriateness and possibilities of distinguishing short, medium and long-term effects within the SIA should be studied.

- An assessment of the impacts of rule making should be undertaken. This should be related to the international/domestic regulatory systems, in place for the measures concerned, analysed by country group.

#### *Flanking measures*

- The domestic policy framework should be taken into account when formulating suitable flanking measures and when appraising these.
- Flanking measures should be appraised within the framework of the scenario analyses mentioned above.

#### *Links with the negotiation process*

- The content and scheduling of the SIA should be co-ordinated with the content and scheduling of the negotiations. An EC steering group should be organised to facilitate this.

The above comments on Phase One and Phase Two studies were compiled from the following written comments received from civil society, Commission officials and scientific experts:

European Commission (2000) *EC Record of the Public Meeting (February 2000) on Sustainability Assessment*, EC. Brussels.

Finnish NGOs (Anti-WTO Campaign) (2000) *Critique of the SIA Study of the WTO Round (New Round agenda of the EU)*, Turku, Finland.

IDPM (2000) *Workshop Papers on Trade, Poverty and the Environment: Methodologies for Sustainability Impact Assessment of Trade Policy*, November 2000, IDPM, Manchester. (<http://idpm.man.ac.uk/iasdu/>)

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## **ANNEX 2    Comments Received on the Interim Report**

The Interim Report was submitted to the Commission at the end of October 2001, and was placed on the IDPM SIA-Trade website at the beginning of November 2001. The Interim Report contained a number of questions on the approach that was being proposed for the development of the Phase Three methodology, and invited comments from interested parties and stakeholders. In addition, the contractor met with the Commission's SIA Steering Committee, on 30 November 2001 to discuss the Interim Report, and received two sets of comments from the Commission (DG Trade and DG Environment) on the Interim Report, subsequent to the meeting. A consultation meeting was held by the Commission on 30 November 2001, at which the contractor presented a summary of the Interim Report. In the discussion that followed, the contractor received comments on the proposed approach to developing the Phase Three methodology. These various comments and feedback from the experts network, civil society, and the Commission (DG Trade and DG Environment) have been considered in preparing the mid-term report.

The views and comments received are summarised below.

### **A.    Comments Received from the Commission**

- *Objectives*
  - report should discuss the objectives and aims of SIA
  - provide non-technical discussion of what SIA is designed to achieve
- *Sources and documentation*
  - the documentation of studies and data sources should be strengthened
  - indication should be given as to way in which data and documentation gaps and limitations will be managed
- *Methodology: general*
  - report should be more innovative and should include developmental proposals, the practicality of which can be assessed during Phase Three
  - consideration to be given to increasing the quantitative component of Phase Three studies, in a situation of imperfect data availability
  - how to link sectoral and overall SIA studies
  - appraisal of time factor (short / middle / long term)
  - identify strengths and weaknesses of quantitative and qualitative methods
  - consider relationship between scenarios and flanking measures
- *Screening*
  - consideration to be given to the detailed specification of negotiation measures to be covered in the SIA study
  - consideration of interaction between measures which arise at beginning, during and at end of negotiations
- *Indicators*
  - strengthen discussion on indicators
  - further work on global and sectoral indicators, and linking these to the country groupings
- *Link between trade changes and impacts*
  - consideration of how the trade measures create specific scenario conditions for later decisions, which may have a later sustainability effect.

- *Flanking measures*
  - analysis of different international organisations concerned
  - development of typology of possible flanking measures
  - link between trade and macro / micro economic measures
- *Consultation and communication*
  - how to ensure overall coherence, efficiency and understanding
  - how to allow for and ensure broad representation of all stakeholder groups
  - how to improve links between scientific community and policy makers

## **B. Comments Received at the Consultation Meeting with Stakeholders**

- the Phase Three study should aim to increase the transparency of the causal chain analysis
- the role of gender, as a factor in the causal chain analysis, and as a sustainability impact indicator, should be strengthened in the Phase Three studies

## **C. Comments Received from the Experts Network**

- in what context will the methodology be used, by whom, and with what purpose? What is the expected outcome?
- utilise the UNEP network of national experts in developing countries
- consider use of CGE modelling in Phase Three studies
- consider use of country-level assessments
- flanking measure analysis should be fully integrated into the SIA process
- use of expert opinion and consultation as data and information sources
- more consideration of the consultation arrangements for Phase Three, as a means of improving the transparency and coordination of the SIA process, as well as to help identify the expertise required for undertaking the assessment
- importance of presenting SIA report in clear, concise terms, that is accessible to those with little or no technical knowledge or understanding of the SIA process
- consider grouping countries by level of openness, to assess whether the significance of trade liberalisation impact is correlated with the degree of openness
- recognise the difficulties in demonstrating causality between change in trade flows and sustainability impact
- data needed for modelling / applied equilibrium models may be severely limited or unreliable for many regions. Similar data limitations with sustainability indicators e.g. poverty, employment
- consider concentrating on sectors that are trade-dependent, where it may be less difficult to trace the effects of trade on sustainability indicators

- ❑ what are the policy implications following the determination of unsustainable practices in regions outside the EU?
- ❑ a mix of assessment methods will be necessary, with practical experience helping to determine the extent to which each is useful
- ❑ clarification required on how flanking measures would be applied to regions outside the EU
- ❑ need to identify the responsible authority's ability to implement and enforce monitoring and follow-up action. How are the costs to be distributed among parties? How will monitoring and post-auditing be undertaken in regions outside the EU?
- ❑ consider use of e-forum as a mechanism for consultation
- ❑ the institutional capacity constraints in many developing countries need to be recognised, in assessing flanking measures
- ❑ the scale of the Doha Work Programme will make it difficult to implement a regular and comprehensive consultation process on all aspects of the Work Programme. It also increases the importance of the screening, scoping and preliminary assessment stages, and of the mitigatory measures analysis.

### **ANNEX 3    Comments Received on the Mid-Term Report**

The Mid-Term Report was submitted to the Commission in early February 2002, and was placed on the IDPM SIA-Trade website following the meeting between the Contractor and the Commission's SIA Steering Committee, on 22 February 2002, to discuss the mid-term report. Interested parties and stakeholders were invited to comment on the mid-term report, by 20 March 2002. The Contractor also received a set of comments on the mid-term report from the Commission. These various comments and feedback from the experts network and the Commission have been considered in preparing the final report.

The views and comments received are summarised below.

#### **A.     Comments Received from the Commission**

- *Structure of report*
  - should provide a concise, self-contained methodological framework for use in Phase Three studies
  - include a short annex which can be used to familiarise negotiators about SIA
  - include reference to the Commission's work on European governance
- *Causal chain analysis*
  - CCA should allow for the influence of domestic and international rules and regulations, on the impact of trade policy changes
- *Analysis of flanking measures*
  - further consideration of mitigation and enhancing measures
  - role of SIA in relation to trade-related technical assistance in WTO negotiations
- *Link between overall SIA and sectoral SIAs*
  - need to ensure that specific studies carried out in Phase Three fit into an overall plan
  - allow for 'feedback' effects between different sectoral studies
- *Scenarios*
  - further clarification of the scenarios proposed for use in Phase Three, particularly the intermediate scenario
- *Indicators*
  - further development and refinement of the concept of second-tier target and process indicators
  - distinguish between 'ideal' indicator and 'actual' indicator, in terms of available data for measurement
  - cross-refer to UN (2001) *Indicators of Sustainable Development: Guidelines and Methodologies*
- *Information and consultation*
  - extend links to other websites
  - check / improve access to website and dedicated e-mail
  - develop interactive experts network

#### **B.     Comments Received from the Experts Network**

- how is the process of consultation with stakeholders to be managed as part of the SIA, given the time / resources constraints that will apply to the trade-related SIAs?

- ❑ further clarification of how sustainability indicators are to be applied in practice
- ❑ use of matrices for presentation of analysis needs to be supported by detailed CCA
- ❑ how are insignificant impacts handled in the CCAs?
- ❑ importance of ex-post phase should be acknowledged and allowed for in the SIAs

## **ANNEX 4 Sources for Sustainability Indicator Definitions and Data**

This annex lists a number of important sources of information on indicator definitions and data, compiled by international organisations.

European Environmental Agency (2001) *Environmental Signals. EEA Regular Indicator Report*, Luxembourg.

Eurostat (annual) *Yearbook: The Statistical Guide to Europe*.

FAO (annual) *Food and Agriculture: Country Tables*. Rome.

OECD (2001) *Environmental Indicators for Agriculture: Methods and Results*. Paris.

OECD, *Working Set of Core Indicators for Developing Countries*. Paris.

UNDP (annual) *Human Development Report*. New York.

UNEP (forthcoming 2002) *Third Global Environment Outlook Report*. New York.

United Nations (2001) *Indicators of Sustainable Development: Guidelines and Methodologies*. Division for Sustainable Development. 2<sup>nd</sup> edition. New York.

United Nations (2001) *Report on the Aggregation of Indicators of Sustainable Development*. Department of Economic and Social Affairs. Division for Sustainable Development. New York.

World Bank (2000) *Developing Indicators. Lessons Learned from Central America*. World Bank – UNEP – CIAT. Washington DC.

World Bank (2000) *Genuine Saving as a Sustainability Indicator*. Washington DC.

World Bank (2001) *Little Green Data Book*, Washington DC.

World Bank (2001) *Making Sustainable Commitments: An Environmental Strategy for the World Bank*. Washington DC.

World Bank (annual) *World Development Indicators*. Washington DC.

World Economic Forum (2000) *Pilot Environmental Sustainability Index*. Davos, Switzerland.

World Resources Institute, *Earth Trends*. Washington DC.

## ANNEX 5 Examples of Information Sources for Trade Modelling Methods

### Institutions

Centre for Global Trade Analysis, Purdue University

<http://www.gtap.agecon.purdue.edu/> Information on GTAP model, databases and modelling studies.

International Food Research Institute (IFPRI)

<http://www.ifpri.cgiar.org/> Information on agriculture trade modelling.

World Bank

<http://www.worldbank.org/wbiiep/trade/> Information on economic modelling of trade.

### Manuals and Guides

Francois, J.F. and Reinert, K.A. (eds) (1997) *Applied Methods for Trade Policy Analysis*. Cambridge University Press, Cambridge.

Hertel, T.W. (1998) *Global Trade Analysis. Modelling and Applications*. Cambridge University Press, Cambridge.

Anania, G. (2001) *Modelling Agricultural Trade Liberalisation*, AAEA, Chicago.

McCulloch, N., Winters, L.A. and Cirera, X. (2001) *Trade Liberalization and Poverty. A Handbook*. DFID and Centre for Economic Policy Research, London.

### Recent Studies

Hertel, T.W. et al. (2001) 'Poverty impacts of multilateral trade liberalisation', *GTAP Working Paper*, no. 16, Purdue University.

Diao, X. et al. (2001) 'A global analysis of agricultural reform in WTO members', Purdue University.

Evans, D. (2001) 'Identify winners and losers in Southern Africa from global trade policy studies: integrating findings from GTAP and poverty case studies'. Institute of Development Studies, University of Sussex, UK.

## ANNEX 6 Examples of Information Sources for Data-based Methods

### Institutions

Centre for Research on Economic Development and Trade (CREDIT), University of Nottingham, UK.

Data-based, statistical analysis of trade and development linkages.

Stockholm Environment Institute (SEI)

<http://www.sei.se/> Empirical analysis of trade links with environmental impacts.

Overseas Development Institute (ODI)

<http://www.odi.org.uk/> Trade and development empirical analysis

World Bank

<http://www.worldbank.org/trade/> Data-based, empirical studies on trade, economic, social and environmental development.

### Manuals and Guides

McCulloch, N., Winters, A. and Cirera, X. (2001) *Trade Liberalization and Poverty. A Handbook*. DFID and Centre for Economic Policy Research. London.

Greenaway, D. and Milner, D. (1993) *Trade and Industrial Policy in Developing Countries. A Manual of Policy Analysis*. Ann Arbor, University of Michigan Press.

McKay, A., Winters, L.A. and Kedir, A.M. (2000) 'A review of empirical evidence on trade, trade policy and poverty'. DFID, London.

WTO (1999) 'Trade, Income Disparity and Poverty'. *Special Studies*, no. 5, Geneva.

WTO (1999) 'Trade and Environment', *Special Studies*, no. 4, Geneva.

### Recent Studies

World Bank (2000) *Agricultural Trade Liberalization in a New Trade Round*. Washington DC.

ODI (2001) *Study on the Link between Trade Policies and Domestic Policies in Developing Countries*. Report to DG Trade, EC, by O. Morrissey and D. Willem te Velde. London.

## **ANNEX 7 Examples of Information Sources for Descriptive Methods**

### Institutions

World Wide Fund for Nature (WWF)

<http://www.panda.org/> Balanced trade, sustainability assessment case studies.

United Nations Environment Programme (UNEP)

<http://www.unep.ch/etu/> Economics and Trade Branch, studies on trade, environment and development.

International Institute for Sustainable Development (IISD)

<http://www.iisd.org/> Case studies on trade and sustainable development.

### Manuals and Guides

UNEP (2001) *Reference Manual for the Integrated Assessment of Trade Related Policies*, Geneva.

WWF (2000) Background material. Prepared for Experts Meeting on Sustainability Assessments of Trade Liberalisation. Gland, Switzerland.

OECD (2000) *Assessing the Environmental Effects of Trade Liberalisation Agreements. Methodologies*. Paris.

OECD (2001) *Strategies for Sustainable Development: The DAC Guidelines*. Paris.

### Recent Studies

UNEP (2001) *Subsidies in Argentine Fisheries*. Economics and Trade Unit. Geneva.

UNEP (2001) *Economic Reforms, Trade Liberalization and the Environment: A Synthesis of UNEP Country Projects*. Economics and Trade Unit. Geneva.

OECD (2000) *Domestic and International Environmental Impacts of Agricultural Trade Liberalisation*. Environment Directorate. Paris.

WWF (2001) 'Preliminary Assessment of the Environmental and Social Effects of Trade in Tourism'. Institutional Discussion Paper, May.

## **ANNEX 8 Examples of Institutional Websites for Trade and SIA information**

<http://www.cgiar.org/index.html>

The Consultative Group on International Agricultural Research (CGIAR) website contains information on the impact of trade on agriculture, development, and the environment.

<http://www.gtap.agecon.purdue.edu/>

The website for the Centre for Global Trade Analysis, Purdue University contains information on GTAP model, data bases, and modelling studies.

<http://www.dfait-maeci.gc.ca/menu-e.asp>

The Department of Foreign Affairs and International Trade (DFAIT), Government of Canada website contains information relating to the environmental and social dimensions of trade, and introduces a conceptual framework for analysing sustainability effects of trade.

<http://www.dfid.gov.uk>

The Department for International Development (DFID) website contains publications and information looking at sustainable livelihoods and trade related topics.

<http://www.developmentgateway.org>

The Development Gateway website contains information on trade and development.

[http://europa.eu.int/comm/trade/index\\_en.htm](http://europa.eu.int/comm/trade/index_en.htm)

The European Commission website contains information on EU trade policy, world trade, the WTO, and statements on the Doha New Round.

<http://www.ifpri.cgiar.org/>

The International Food Policy Research Institute (IFPRI) website contains information on trade, agriculture and the WTO, and links to related web-sites.

<http://www.iied.org/>

The International Institute for Environment and Development (IIED) website, contains information and research into trade policies and the environment.

<http://www.iisd.org/>

The International Institute for Sustainable Development (IISD) website contains information on sustainable development, trade and the environment.

<http://www.cec.org>

The North American Commission for Environmental Cooperation (CEC) website contains publications and papers related to trade and environment issues and links to other relevant websites.

<http://www.oecd.org>

The OECD website contains information on sustainable development, indicators of sustainable development, and trade and development.

<http://www.sei.se/>

The Stockholm Environment Institute (SEI) website contains information on sustainable development and environment and a bibliography of SEI publications on sustainable development.

<http://www.unctad.org>

The UNCTAD website provides access to publications and documents concerned with trade and development, as well as documents from major conferences. The site also provides website links to other agencies concerned with trade and development.

<http://www.unep.ch>

The UNEP website provides various studies relating to trade, sustainable development and the environmental assessment of trade related projects as well as providing links to other UNEP programmes.

<http://www.un.org/esa/sustdev/>

The UNSD website contains information on indicators for sustainable development and information on trade and sustainable development, including links to related web-sites.

<http://www.worldbank.org>

The World Bank website contains World Bank working papers and other publications relating to sustainable development, sustainable livelihoods and trade.

<http://www1.worldbank.org/wbiep/trade/>

This is the trade page from the World Bank website and contains information on trade policy and the World Bank's ongoing research into the economic modelling of trade.

<http://www.wto.org>

The WTO website contains information relating to trade and development and explains the WTO's response to the linkages between trade and sustainable development.

<http://www.balancedtrade.panda.org>

This is the area of the WWF website that focuses on Sustainability Assessment (SA) of trade and investment policies. The site provides information on assessment activities world-wide and is particularly useful for organisations and individuals working on trade, environment and development. It includes information on SA approaches, case studies, WWF projects and links to other useful sites.

<http://www.envireform.utoronto.ca/>

This is the website for the University of Toronto Envireform programme, it contains information related to international trade and financial systems and the natural environment. This work focuses on the social and environmental impacts on Canadians of existing trade liberalisation through the World Trade Organisation (WTO) and North American Free Trade Agreement (NAFTA), and explores new strategies for regulation and risk assessment and sustainability assessments of trade.

<http://www.field.org.uk/>

The Website of the Foundation for International Environmental Law and Development contains information on biodiversity, trade, environment, investment and social development.

<http://ase.tufts.edu/gdae/>

The Global Development And Environment Institute (G-DAE) website provides information to Economic and community development and environmental and social sustainability.

<http://www.gets.org/>

The Global Environment and Trade Study website provides information and an online journal relating to trade, environment and development.

<http://www.iaia.org/>

The International Association for Impact Assessment provides information for the advancement of innovation, development and communication of best practice in impact assessment, including information of Environmental Impact Assessment (EIA).

<http://www.ictsd.org/>

The International Centre for Trade and Sustainable Development website contains information relating to trade and sustainable development.

<http://www.genderandtrade.net/>

The International Gender and Trade Network website contains information analysing the impact of trade on women and a women's agenda relative to trade and investment.

<http://www.iatp.org/>

The Institute for Agriculture and Trade Policy website contains information relating to Trade, agriculture, global governance and the environment.

## ANNEX 9 Additional Information and Data Sources (post-1999) for Use in Phase Three Studies

### Agriculture

- Agricultural Economics Research Institute (AERI) (2000) *Environmental Impacts of Trade Liberalisation on the Cotton Sector in China*. Nanjing, China. UNEP.  
<http://www.balancedtrade.panda.org/casefiles/caseagri.html>
- ABARE (2000) 'Developing Countries: Impact of Agricultural Trade Liberalisation.' Australian Bureau of Agricultural and Natural Resource Economics, July 2000.  
[http://www.abareconomics.com/pdf/CI\\_00.1.pdf](http://www.abareconomics.com/pdf/CI_00.1.pdf)
- Barbier, E.B. (2000) 'Links between Economic Liberalisation and Rural Resource Degradation in the Developing Countries'. *Agricultural Economics*. 23, 299-310
- CEC (2001) 'Changing Biodiversity, Changing Markets Links Between Agricultural Trade, Markets And Biodiversity.' Note by the CEC Secretariat, December 2001.  
[http://www.cec.org/files/PDF/ECONOMY/agritrade-biodiv\\_EN.PDF](http://www.cec.org/files/PDF/ECONOMY/agritrade-biodiv_EN.PDF)
- Charles, J., Longrigg, A. and Tugend, A. (eds.) (2001) *The Agreement on Agriculture: An Impact Assessment*. Consumers International.  
<http://www.balancedtrade.panda.org/casefiles/caseagri.html>
- College of Agricultural Management (2000) *Environmental Impacts of Trade Liberalisation on the Export Crop Sector in Nigeria*. Abeokuta, Nigeria. UNEP.  
<http://www.balancedtrade.panda.org/casefiles/caseagri.html>
- Diao, X., Somwaru, A. and Pre, T. (2001) *A Global Analysis of Agricultural reform in WTO Members*. Purdue University. June.
- Diao, X., Roe, T. and Somwaru, A. (2002) *Developing Countries' Interests in Agricultural Reforms under the World Trade Organisation*, IFPRI, January, Washington DC
- Ecuadorian Centre for Environmental Law (CEDA) (2000) *Environmental Impacts of Trade Liberalisation on the Banana Sector in Ecuador*. Quito, Ecuador. UNEP.  
<http://www.balancedtrade.panda.org/casefiles/caseagri.html>
- Frandsen, S., Jenson, H., Yu, W. and Walter-Jorgensen, A. (2001) *Modelling the EU Sugar Policy: a Preliminary Study of Policy Reform Scenarios*, Purdue University, June
- Hertel, T.W. et al (1999) *Agriculture and Non-agricultural Liberalisation in the Millennium Round*. Paper presented to the 1999 Global Conference on Agriculture and the New Trade Agenda from a Development Perspective; Interests and Options in the WTO 2000 Negotiations.
- Hertel, T.W. and Martin, W. (2000) *Liberalising Agriculture and Manufactures in a Millennium Round: Implications for Developing Countries*, World Bank publication.
- Hockman, B. and Anderson, K. (2000) 'Developing Country Agriculture and the New Trade Agenda'. *Economic Development and Cultural Change*.

- Ingco, M. and Winters, L. A. (2000) 'Agricultural Trade Liberalisation in a New Trade Round', *World Bank Discussion Paper No 418*, Washington DC
- Matthews, A. (2000) 'Multilateral Trade Reform in Agriculture and the Developing Countries'. *Trinity Economic Papers Series, no. 2000/10*. Trinity College: Dublin
- Musa, A. H. (2000) "Implications of the Euro-Mediterranean Free Trade Zone on Agriculture and the environment in the South-eastern Mediterranean" in, Friends of the Earth-Middle East (2000) *Euro-Mediterranean Free Trade Zone: Implications for Sustainability, Case Studies, Assessment and Recommendations*.  
<http://www.balancedtrade.panda.org/casefiles/caseagri.html>
- Nadal, A. (2000) *Maize in Mexico: Some Environmental Implications of the North American Free Trade Agreement*. Commission for Environmental Cooperation (CEC)  
<http://www.balancedtrade.panda.org/casefiles/caseagri.html>
- Nadal, A. (2000) 'The Environmental and Social Impacts of Economic Liberalisation on Corn Production in Mexico'. A study commissioned by Oxfam GB and WWF International. September
- Nilsson, M., Maltais, A., Segnestam, L., Virgin, I. and Kasperson, R. (2001) 'SIA of WTO negotiations in the major food crops sector' (Interim Report). SEI, Stockholm Environment Institute.  
<http://www.sei.se/policy/SIAcropsInterimReport.PDF>
- OECD (2000) 'Domestic and International Environmental Impacts of Agricultural Trade Liberalisation'. COM/AGR/ENV (2000) 75/FINAL. OECD: Paris
- OXFAM (2000) 'Agricultural Trade and the Livelihoods of Small Farmers'. Discussion paper for DFID, March, mimeo.
- Parris, K. (2002) 'Environmental Impacts in the Agricultural Sector: Using Indicators as a Tool for Policy Purposes.' Paper presented to the Commission for Environmental Cooperation Meeting: "Assessing the Environmental Effects of Trade" Montreal, Canada, 17-18 January 2002.  
[http://www.cec.org/pubs\\_docs/documents/index.cfm?varlan=english&ID=643](http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=643)
- Rigby, D. Howlett, D. and Woodhouse, P. (2000) *Sustainability Indicators for Natural Resource Management Policy. A Review of Indicators of Agricultural and Rural Livelihood Sustainability*. IDPM Manchester
- UNCTAD (2000) 'Impact of the Reform Process in Agriculture on LDCs and Net Food-Importing Developing Countries, and Ways to Address Their Concerns in Multilateral Trade Negotiations.' UNCTAD, June 2000.  
<http://www.unctad.org/en/docs/c1em11d2.en.pdf>
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<http://www.unctad.org/en/docs/c1em11d3.en.pdf>
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- Weatherspoon, D., Cacho, J. and Christy, R. (2001) 'Linking Globalization, Economic Growth and Poverty: Impacts of Agribusiness Strategies on Sub-Saharan Africa'. *American Journal of Agricultural Economics*, vol. 83, no. 3, pp.722-729.
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- World Bank (2000) *Agricultural Trade Liberalisation in the New Trade Round. Perspectives of Developing Countries and Transitional Economies*. World Bank Discussion Paper no. 418.
- Xinshen, D., Roe, T., and Somwaru, A. (2002) 'Developing Country Interests In Agricultural Reforms Under The World Trade Organization.' Presented at Allied Social Sciences Associations Meetings, Atlanta, GA.

## **Services**

- Ahmad, M. (2000) 'Pakistan and the GATS: An Assessment of Policies and Future Prospects.' World Bank, February.  
<http://www1.worldbank.org/wbiep/trade/services/Ahmad.pdf>
- Andrew, D. (2000) 'Services Trade Liberalisation: Assessment of the Environmental Effects'. Paper presented at the Conference on Trade, Poverty and the Environment: Methodologies for Sustainability Impact Assessment of Trade Policy'. University of Manchester, November. (<http://www.man.ac.uk/idpm/iasdu>)
- OECD (2000) 'Environmental Goods and Services. An Assessment of the Environmental, Economic and Development Benefits of Further Global Trade Liberalisation'. Joint Working Party on Trade and Environment. COM/TD/ENV(99)93/FINAL. OECD: Paris
- OECD (2000) *Environmental Services: The "Win-Win" Roles of Trade Liberalisation in Promoting Environmental Protection and Economic Development*. OECD. Paris.  
<http://www.balancedtrade.panda.org/casefiles/caseserv.html>
- OECD (2002) *Assessing the Environmental Effects of Services Trade Liberalisation: A Methodology*. Joint Working Party on Trade and Environment, OECD, Paris.
- Perrin, M. (2001) 'Preliminary Assessment of the Environmental & Social Effects of Liberalisation in Tourism Services.' WWF International, February.  
<http://www.panda.org/resources/programmes/trade/tourism2.pdf>
- Stern, R. M. (ed) (2001) *Services in the International Economy*, University of Michigan, Michigan
- UNEP (2001) 'Ecotourism and Sustainability' *Industry and Environment* 24 (3-4), UNEP, Paris.
- World Bank (2001) *Global Economic Prospects and the Developing Countries*, Washington DC
- WWF (2001) *Preliminary Assessment of the Environmental and Social Effects of Trade in Tourism*. International Discussion Paper, May 2001.  
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## **Market Access for Non-Agricultural Products**

- Abel, A. (2000) *The Relocation of El Paso's Garment Stonewashing Industry*. National Wildlife Federation. CEC.  
<http://www.balancedtrade.panda.org/casefiles/casemanu.html>
- EcoCon (2000) *Reviewing the Environmental Implications of a Euro-Mediterranean Free Trade Zone – The Textile Sector in Egypt*. EcoCon, Cairo, Egypt and Friends of the Earth Middle East, Amman, Jordan.
- Francois, J.; Glismann, H., and Spinanger, D. (2000). 'The Cost of EU Trade Protection in Textiles and Clothing.' Kiel Institute for World Economics, August 2000. <http://www.uni-kiel.de/IfW/pub/kap/2000/kap997.pdf>
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<http://www.free-trade.org/pubs/pas/tpa-011.pdf>
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- WTO (2001) *Market Access: Unfinished Business. Post-Uruguay Round Inventory and Issues*, Special Studies 6, Geneva.

## **Trade and Investment**

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- Lewis, J. D., Robinson, S. and Thierfelder, K. (2001) Free Trade Agreements and the SADC Economies, Tmd Discussion Paper No. 80, International Food Policy Research Institute (IFPRI) November.  
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- Ros, J. and Lustig, N. C. (2000) 'Trade And Financial Liberalization With Volatile Capital Inflows: Macroeconomic Consequences And Social Impacts In Mexico During The 1990s', Center for Economic Policy Analysis (CEPA) Working Paper Series I Globalization, Labor Markets, and Social Policy, Working Paper No. 18, February.  
<http://www.newschool.edu/cepa/papers/archive/cepa0118.pdf>

## **WTO Rules**

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- Centro de Estudios Ambientales (CEDEA) (2000) *Environmental Impacts of Trade Liberalisation on the Fisheries Sector in Argentina*. Buenos Aires, Argentina. UNEP.  
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## **ANNEX 10 Using Sustainability Impact Assessments in Trade Negotiations**

The SIA methodology which has been developed during this contract and which is now to be put to practical use, is intended to assist negotiators and other interested stakeholders in the post-Doha, WTO trade negotiations. As such, it should help those involved to clarify the likely economic, social and environmental consequences for their region or country, of one negotiated set of outcomes compared with another.

The practical application of the SIA methodology to the post-Doha agenda commences in April 2002. It will involve:

- Assessing the likely impacts of a number of the individual agreements to be negotiated and, in due course, of the New Round as a whole
- Assessing impacts for different groups of countries – the European Union, developing countries, least developed countries and the rest of the world – and, in particular cases, for selected individual countries
- Assessing likely economic, social and environmental impacts using nine core target indicators and a greater number of ‘second tier’ target indicators, together with several process indicators
- Assessing these impacts assuming a range of different negotiated outcomes to establish in what ways these might vary
- Assessing both positive and negative outcomes and the broad scale of significance of these
- Assessing how different kinds of flanking and other supporting measures might enhance the positive impacts and mitigate the negative impacts

The intention is to provide relevant and timely assessments to all interested parties in a user-friendly form. The individual SIAs will, as far as is feasible, be scheduled to produce assessment findings at key points in the negotiations’ timetable. It is envisaged that results will be made available at two stages in the assessment process: at a preliminary (scoping) stage when the key issues to be examined will be identified, and when the full assessment has been completed. In both cases, the assessments will be available for comment and debate by interested stakeholders as well as negotiators.

It is emphasised that these studies will not attempt to judge what is the ‘best’ outcome. Views on this will vary according to the standpoint from which the assessment is being made. Rather, the intention is to provide those involved in negotiations with information on the range of different kinds of impacts, under different negotiation scenarios. In this way, they may be better informed when making their own judgements.

It is hoped that these assessment studies will make a positive contribution to the negotiating process and its outcomes. Those who wish to know more about these SIA studies, and how they will be conducted and used, should consult Directorate-General for Trade, Directorate F.