AIACC Project Development Workshop:
Development and Application of Scenarios in Impacts, Adaptation and Vulnerability Assessments

Tyndall Centre for Climate Change Research, University of East Anglia, UK
15-26 April 2002

1. Workshop Background and Objectives

Investigators from each of the AIACC regional studies met 15-26 April in Norwich, UK to participate in an AIACC project development workshop co-organized, implemented and hosted by the Tyndall Centre for Climate Change Research at the University of East Anglia. The workshop was designed to introduce to the AIACC regional study partners to a wide range of techniques and tools currently available for developing scenarios for regional assessments of climate change impacts, adaptation and vulnerability (I, A & V) and to assist each study team with the development of scenarios for use in their regional study. This is the first of two project development workshops offered by the AIACC Project. The second workshop, which focused on vulnerability and adaptation assessment methods, was held 3-14 June 2002 in Trieste, Italy at the Third World Academy of Sciences.

The workshop was organized around six major themes: project objectives and scenarios needs, examples from the UK's experience, assessment methods and non-climate futures, climate scenarios methods, hands-on practice with climate scenarios tools, and scenario design. Although there were elements on socio-economic scenarios, the workshop largely focused on methods and tools for climate scenario design and application. Each method/tool was introduced by its strengths as well as weaknesses. To ensure that the most appropriate methods/tools are selected for individual projects, it was decided that the workshop should give equal attention to all the available techniques and tools, rather than promote a single or a set of preferred methods.

There were twenty-five participants, with 24 representing 23 AIACC projects and one person from a related project in South Asia that is funded by the Asia Pacific Network. The majority of participants were from a geography or meteorology background and are responsible for scenario development for their AIACC regional studies. Nineteen speakers were invited to cover topics ranging from overall methodological framework for I, A & V assessment, socio-economic futures, present day vulnerability assessments, and a variety of climate scenario methods and techniques.

The workshop kicked off with five presentations from selected participants on the objectives of their projects, the scenario needs to meet these objectives, and strategies to develop these scenarios. This was followed by plenary presentations, discussions, and hands-on activities around the six workshop themes (see Appendix 1 for list of presentations). Participants from the regional studies were provided with several opportunities throughout the workshop to meet in small groups with AIACC mentors to discuss region- or sector-specific concerns and prepare for final-day presentations. The final day of the workshop consisted of presentations by participants from each region and a wrap-up discussion of lessons learned, immediate needs, and future directions.

2. Outcomes of the Workshop

Most participants came with clear expectations and practical questions. The initial presentations by regional studies participants on the first day of the workshop indicated a strong need for guidance and

information on scenario development. Many presenters indicated that their project faced several obstacles in this regard, including, among others, the shortage of observational climate records, lack of access to climate model outputs, and absence of adequate expertise to address the gap between the mismatch of temporal and spatial resolution between what climate models are able to provide and what is required by I, A & V assessments.

At the end of the first week, Dr. Mike Hulme of the Tyndall Centre made a brief presentation on and led a discussion about the problems inherent in the creation of climate scenarios and the lessons learned from the first week. Problems encountered in the creation of climate scenarios included: the inaccuracy of climate models, the expense of running many global or regional climate model experiments for many future emissions scenarios, and that many climate models provide the results at a scale too coarse to be applied in impact assessments. Among the lessons learned during the first week of the workshop are:

The importance of:

- Conducting case studies of past climate events to illustrate present-day vulnerability
- Constructing extrapolatory, normative, and exploratory scenarios, keeping in mind that the future is in a fundamental sense unknown
- Working to integrate scenario information (e.g. socio-economic, carbon dioxide, climate, and sea-level)
- Paying attention to the quality of the observed data (case studies, model evaluation, reference climate to perturb)
- Conducting sensitivity studies for the sector and/or model of interest
- Keeping things simple: Is sensitivity analysis enough? Will GCM(s) suffice?
- Taking on a regional climate model (RCM) only if you (or colleagues) already have some experience (or access to the experience of others) with RCMs

The second week of the workshop was devoted to hands-on activities and scenario design. Participants from each region met during the second week to work on a revised version of scenario design strategies for their studies. Specifically the groups were asked to answer the following questions in their presentation with regard to the new information they learned during the workshop:

- What climate information is needed in your project?
- What types of uncertainties are critical to your project?
- What climatic variables are required for I, A & V assessments in you project?
- At what spatial and temporal scales are these variables required?
- What baseline climate data are you planning to use?
- Which project(s) in your region do you envisage you will be able to collaborate with to develop climate scenarios?

On the final day of the workshop, the entire group met for the regional presentations and wrap-up discussion. Specifically, the regional presenters indicated the methodology they plan to use, their data needs (climatic and non-climatic), foreseen obstacles, uncertainties, and planned collaboration with other projects in their region (primarily within, although also outside of the AIACC network). There were several problems, needs and concerns that were shared by nearly all of the groups. These included: data acquisition and quality, the need for more regional hands-on training activities related to scenarios (specifically downscaling and interpolation techniques), access to relevant peer-reviewed literature, the need for daily data (either to be generated from monthly means or taken directly from GCM/RCM experiments), updated tools and models (specifically MAGICC/SCENGEN), and the

desire for on-going assistance from regional mentors. Many participants, particularly in Africa, also raised the issue of bandwidth limitations for data access.

These presentations were extremely useful for participants to guide their discussions and establish linkages within their regions. For example, the AIACC projects with activities in southeastern Latin America (LA26, LA27, LA29, LA32) decided as a result of their collaborative work at the workshop to share information and generate common scenarios for their region. By incorporating what was gained from the workshop, the final presentations suggested a marked increase in understanding the key issues regarding scenario development. On their way home, participants were better equipped with ideas in relation to what are currently available, how to make decisions on what methods/techniques to use, how to represent uncertainties in scenarios, and of course, what technical and practical obstacles remain to overcome in the months to come.

The groups also had several specific suggestions for future support from the AIACC community, which are listed in Appendix 2. Also important on the final day was the presence of Professor Martin Parry, who is the co-chair of the IPCC Working Group II. Professor Parry added valuable insights into the discussion, and also underlined the importance of publishing outputs from these projects by 2005 in order for the research to contribute to the IPCC Fourth Assessment Report.

A CD-ROM was produced to include all the course materials and additional recommended papers and materials to help the participants transfer what they learned from the course to a wider audience in their respective countries/regions.

3. Review of Course Evaluation by Participants

Evaluation forms were distributed to participants at the beginning of the workshop. Twenty-four forms (out of twenty-five) were returned. The original feedbacks from individual participants are provided as Appendix 3 at the end of this document.

3.1 Preparations

Generally, people are happy with the preparations carried out by the organisers. All of them received instructive documents beforehand and most of them had more than two weeks to respond to the relevant preparatory requirements. Most participants found the instructive documents helpful to prepare themselves for the course. Almost everybody explored the course website in advance, with most people finding the content of the website informative and helpful, with the exception that information on local climate and airport terminal transport was not available.

Majority of the participants are happy with the communications with the organisers on course objectives, content and necessary preparatory actions expected from the participants.

3.2 Workshop Structure and Content Design

Most participants felt that the overall design of the course was appropriate, and that the sequence of the various sessions followed a logical flow of thinking and understanding. Participants were generally satisfied with the arrangement made to allow them to interact with regional mentors and other participants.

However, there is a very strong consensus among the participants that time allocated for hands-on exercises was not sufficient. Meanwhile, a few found they did not have time to work with the data they brought, as encouraged by the organisers. Still, one person pointed out that the technical requirement from the participants is too high. Further, some indicated that the length of each session could be halved. Finally, rather than putting all the theoretical sessions together, it would be easier for participants to mix lectures with hands-on practice from the beginning of the workshop.

3.3 Presentations

Speakers were judged to be competent and able to present the (rather technical) content in an accessible way. Case studies were considered to be particularly helpful to convey the essence of each method/technique. A brief introduction before each session to establish the connection between sessions was recommended by participants.

Some participants suggested that some of the presentations were too intense (including too many slides) and difficult to digest. A few speakers had weak voices therefore a microphone would have helped. More interactions and active participations from the floor could have made some of the sessions less passive.

3.4 Logistics arrangements

Logistics arrangements are generally very satisfactory, while a few participants mentioned about the noise distraction at night by students near by the Guest Suite, and it is hard to sit on the chairs in the Callendar Room for long hours. A few people also mentioned that the number of networked PCs was not sufficient.

4. Reflections

People are generally happy about what was provided at the workshop and the majority of them indicated that the objectives of the workshop were largely attained. The major dissatisfaction expressed by most of the participants is the fact that there was not enough time to allow them to practise with the models and tools in the IT lab. But with introducing a wide range of available scenario development methods and techniques being the primary objective of the workshop, it is very hard to allow enough time ***during*** the workshop for participants to become confident users of a set of software. However, all the tools/models introduced at the workshop have been made available to all the participants, along with the accompanying manuals and the technical notes from the workshop. With these materials it would be possible for participants to gain more thorough understanding of the models/tools after they go back and eventually become advanced users of these packages. Xianfu Lu of the Tyndall Centre and AIACC mentors will be available to participants during implementation of the regional studies to provide further guidance in the use of any of the tools.

Appendix 1: Workshop Themes and Presentations

Theme A Project Objectives and Scenario Needs
Feedbacks from study teams – group presentations on project objectives and scenario needs (facilitator: Neil Leary /Mike Hulme)

Theme B UK's Experience
Development of the UKCIP02 climate scenarios (John Turnpenny)
Application of integrated scenarios in Impacts, Adaptation and Vulnerability (I, A & V) assessments – UKCIP experience (Richenda Connell)

Theme C Assessment Methods and Non-Climate Futures
Overview of methods for Impacts, Adaptation and Vulnerability Assessments (Gina Ziervogel)
Introduction to the SRES storylines and scenarios (Frans Berkhout)
Historical vulnerability assessment and case studies (Neil Adger & Nick Brooks)
Development of integrated scenarios in I, V & A assessments (Tim Carter)

Theme D Climate Scenarios: Methods
Climate scenarios in I, A & V assessments (Mike Hulme)
Climate data for sensitivity analysis (Tim Mitchell and Tim Carter)
General circulation models and IPCC DDC (Xianfu Lu)
Simple climate models (Sarah Raper)
Downscaling techniques (Bruce Hewitson)
Weather generator approach (Rob Wilby)
Representing uncertainties and selecting scenarios (Roger Jones)

Theme E Climate Scenarios: Hands-On Practice
SDSM exercise (Rob Wilby to introduce the SDSM; mentors: Rob Wilby, Xianfu Lu, Tim Mitchell)
MAGICC/SCENGEN, CLIMPACTS, (Introduction by Mike Hulme; mentors: Louise Bohn, Xianfu Lu ,John Turnpenny)
Hadley Centre RCM tool exercise (Richard Jones and team to introduce the PRECIS system; mentors: Richard Jones and team, Xianfu Lu, Tim Mitchell)
DDC demonstration and visualization (Xianfu Lu)
Further practice with tools of special use (Mentors: Xianfu Lu, Louise Bohn, Tim Mitchell, Richard Jones and team)

Theme F Scenario Design
Designing a strategy for project study needs and preparing for group presentations (mentors: Roger Jones, Bruce Hewitson, José Marengo, Xianfu Lu)

Final Day: Presentations, Wrap-Up Discussion, and Workshop Evaluation
Group presentations on scenario design (Facilitators: Neil Leary)
How did media report on climate change scenarios? (Simon Torok)
Discussion and workshop evaluation (Facilitators: Neil Leary,Xianfu Lu)

Appendix 2: Suggestions for AIACC Raised in the Final-Day Wrap-Up Discussion

The workshop participants and facilitators raised the following points during the final day of the workshop. They include a list of needs and wishes that participants felt could enhance their studies and the effectivenes of the AIACC project.

Use the internet to facilitate access to peer-reviewed literature
Help project teams obtain guidelines for accessing and downloading climatic data from DDC and other sites
New version of MAGICC/SCENGEN with extended regional coverage of baseline climatology, more climatic variables
More hands-on training for running RCM (PRECIS)
Provide teams with impact models and training opportunities
Allow resources for inter-project sites visits to learn and share experiences in addressing common problems
More regional training opportunities with a 'hands-on' focus
Provide opportunities for training in application of interpolation techniques and generating daily climatic data from monthly means
Keep teams informed about progress of climate change science (tools) and international meetings, training opportunities ,and workshops
Assistance from mentors and AIACC in producing papers (as reviewers, editors, co-authors)
Develop a system of communication between AIACC regional study participants
Provide on-line tutorials for various tools
Facilitate contact with regional institutions, such as ACMAD, AGRHYMET, etc.
Establish a database bank for daily observed data for 1960-2000
Access to literature (possibly e-mail alert services and current contents)
Establish links on AIACC website to related previous programmes (such as US country studies program), related projects, related meetings, and related funding opportunities
Training in dynamic downscaling
AIACC could coordinate a proposal for regional training activities in the use of RCM, GCM and downscaling
AIACC regional workshops should not be a series of presentations, but rather round table discussion
AIACC regional studies participants need to exploit the capabilities of each team for purposes of training, data sharing, and regional workshops

Appendix 3: Course Evaluation

Course Evaluation

*(The following assessment is based on **24 returned evaluation forms**.)*

PART 1: PREPARATION

Documentation

1-1 Did you get the instructive documents from the organisers in advance? Yes **24** No **0**
If yes, how many days in advance?
30~20 days **10** 20~10 days **9** Cannot remember **5**

1-2 Were there adequate instructions to help you understand what would follow in the Workshop itself?
Yes **22** No **1**

1-3 How much of the recommended documents did you read before the Workshop?
All **3** Half **5** Some **15** None **0**

1-4 How helpful did you find the recommended documents for you to prepare for the Workshop?
Very helpful **8** Helpful **15** Not really **1** Not at all **0**

Workshop website

1-5 Did you visit the Workshop website? Yes **21** No **1**
If yes, which section(s) do you think is(are) most useful?

Course Programme **13** Online documents and resources **18** Travel Logistics **15** Participants List **4**

1-6 Was the online information adequate for you to prepare yourself? Yes **20** No **1**
If not, please indicate what additional information should have been included?

- *Objectives of the workshop may have been set out for a majority of the projects, but not all of them. Therefore, certain aspects of individual project objectives will not be met by these;*
- *Add city maps & airport maps, as they are hard to get through from internet;*
- *You should include also climate information*

Communications

1-7 Before the Workshop, did you have enough communications with other members of your project team to clarify scenario needs and specific needs for scenarios training?
Yes **17** No **7**

1-8 Did you work on the Workshop Questionnaire with your colleagues within the team?
Yes **18** No **6**

1-9 Did you ask the Organisers any technical questions before the Workshop?
Yes **8** No **16**
If yes, were you happy with the answer(s) you got back? Yes **6** No **1**
And was the response to your question quick enough? Yes **7** No **0**

1-10 Did you feel there were adequate communications from the Organisers to keep you updated on the organisation of the Workshop?
Yes **23** No **1**

PART 2: WORKSHOP STRUCTURE

Please use the following scales to answer the following questions. Circle the number that corresponds best to your opinion.

1 = not at all 2 = a little 3 = medium 4 = yes, rather 5 = very much

Overall objective and structure

2-1 Were the objectives clear and precise?	1	2	3 **(2)**	4 **(11)**	5 **(11)**
2-2 Were the objectives attained?	1	2 **(1)**	3 **(4)**	4 **(15)**	5 **(3)**
2-3 Was the content linked to the objectives?	1	2	3 **(3)**	4 **(12)**	5 **(9)**
2-4 Was the content well structured?	1	2	3 **(1)**	4 **(12)**	5 **(11)**
2-5 Was the content presented clearly?	1	2	3 **(3)**	4 **(10)**	5 **(11)**

Comments on the overall objectives and content of the Workshop

- *The content is very interesting and I think all the objective is overall (??) ;*
- *Overall the workshop was very useful, constructive and refreshing. It gas us the opportunity to think further through our methodology and has helped us establish synergies with other projects;*
- *Hands-on sessions: we brought our data, as suggested by organisers, but did not work with them;*
- *In my opinion, the workshop is very useful and instructive, it gives me a very different idea about climate change;*
- *The course content was very relevant to the objectives of the workshop; and the resource persons were great;*
- *Well organised. Would have appreciated more hands-on sessions;*
- *I would like to have more time to work with data I brought;*
- *The objectives were clear and precise. However, the technical skills required from participants were rather too high;*
- *Some of the contents needed schematic training steps, not just overall exposure, specially the software.*

Workshop design

2-6 Was the workshop design used appropriate for the Workshop?	1	2	3 **(4)**	4 **(11)**	5 **(9)**
2-7 Was the sequence of sessions appropriate?	1	2 **(1)**	3 **(3)**	4 **(10)**	5 **(10)**
2-8 Did the workshop design help you to share you own knowledge and experience?	1	2 **(1)**	3 **(6)**	4 **(10)**	5 **(6)**
2-8 Did the workshop design help you to address your special training needs?	1	2 **(1)**	3 **(7)**	4 **(7)**	5 **(8)**

For you, what were the strong points of the design used for the Workshop?
And what could be improved?

- *Experts were knowledgeable in their fields. Practical sessions could be improved;*
- *The sequencing of the presentations by themes/areas gives a flow in the theoretical framework of the workshop. Paper copies of presentations were ihligible (??) for only follow-up reading after the presentations;*
- *I think that one of the stronger points is the inclusion of climate and non-climate scenarios, but I believe that could be better spend a little more time on climate scenario;*
- *The theoretical aspects of scenario model development were very good. Hands-on experiment with a hypothetic case could be very useful, especially during the second half of the workshop;*
- *Inclusion of expert speakers was a bonus;*

- *Assistance to access to new tools to assess climate change and climate change impacts. In the future, focus on ONE application (??);*
- *The strong point was in bringing in active practitioners to talk to us. We could improve on the practical sessions;*
- *I guess the most significant aspect of the design was that each session was given adequate background information for the next session, hence there was flow in the delicacy of the course material;*
- *Strong points: hand out of each session; computer resources; participants' welfare; weak points: the hand out in small print very hard to read; the workshop is very intense; more time for discussion – Qs & As;*
- *Design of the workshop is very good; need more hands-on practice in the second week;*
- *"state of art" of each relevant issue, presented in a concise and (in general) simple way; Interaction with "participants", encouraging their participation and interaction could be improved. Otherwise, the sessions are quite passive;*
- *Strong points included lectures from and interactions with internationally renowned climate change scientists and modellers. More computers and time were required for hands-on experience of the modelling tools;*
- *Need some more IT lab practice, following lectures.*

Logistics

2-9 Were the workshop venues comfortable enough for you to be able to fully concentrate on the sessions?

1 2 3 **(4)** 4 **(7)** 5 **(12)**

2-10 Was the timing of the Programme comfortable?

1 2 3 **(3)** 4 **(8)** 5 **(11)**

2-11 Was the length of the sessions appropriate?

1 2 **(1)** 3 **(3)** 4 **(10)** 5 **(9)**

2-12 Were accommodation and travel arrangements adequate?

1 2 3 4 **(9)** 5 **(15)**

Comments on the logistics of the Workshop

- *OK;*
- *Excellent;*
- *Kudos to Tyndall Centre and AIACC personnel;*
- *The organisation of the workshop was done very well. All the members of Tyndall Centre are very helpful and very efficient at work;*
- *Each lecture could be broken into two 45 min. parts, instead of 90 min. in one go; Guest suite was very noisy at times;*
- *Very happy with the logistical arrangements;*
- *Extremely well organised;*
- *Very good;*
- *Too busy agenda for the weekend; more time to work in own directions and less lectures;*
- *A telephone in the room could be the icing on the cake;*
- *Chairs are quite hard for a whole day sessions;*
- *Well organised;*
- *The guest suite was sometimes very noisy;*
- *Well organised.*

PART 3: WORKSHOP CONTENT

Methods for Impacts, Vulnerability and Adaptation (I, V & A) assessments (sessions B.2, C.1, C.3)

3-1 Do you feel, from these sessions, you gained new insights into how scenarios should be developed and applied in the context of I, V& A assessments?

Yes **24** No **0**

3-2 Was the amount of time allocated for these sessions appropriate? Yes **18** No **6**

If no, how should it be adjusted?

More time **9** Less time **0**

General comments on these sessions

- *This part was not very exhaustive. Maybe it is reserved for the Trieste Workshop;*
- *B2 and C3 are very helpful. B2 helps to understand how I, V & A assessments can be done. How to engage stakeholders into projects. C3 helps to identify vulnerable group – methods for vulnerability assessment – case study shows how group can adapt to reduce its vulnerability;*
- *More time should allocated for the practical side;*
- *I have gained new insights into the role of scenarios in I, A & V assessments;*
- *All participants had experiences in developing scenarios. A five min. talk by each participant would give the organiser a good idea on what the training needs are and other participants might learn or see how the problem of generating scenarios was or could be solved;*
- *More time in lab sessions with tools like MAGICC or SDSM;*
- *Extremely useful and insightful. Helped to clarify how to integrate climate and socio-economic scenarios;*
- *Since most participants have a fairly good idea of the theoretical aspects of scenario development, more time should be dedicated to hands-on sessions, which would be useful in the long-run;*
- *Mix lecture with hands-on practice;*
- *For some sessions, there were too many slides and too much to digest.*

Socio-economic and integrated scenario methods (sessions C.2, C.4)

3-3 If you were not familiar with socio-economic and integrated scenarios before the Workshop, did these sessions enable you to gain some understanding of how to develop them and how they could be applied in I, V & A assessments?

Yes **18** No **1**

If yes, please specify what insights you gained from these sessions:

- *Would have loved to see an actual demonstration of the integration of these two types of scenarios;*
- *The document on the SRES provided a lot of useful information on the development of socio-economic and integrated scenarios;*
- *I can understand these sessions because we had some related discussions in B1 & B2. Otherwise they are hard to follow;*
- *The theoretical aspects of these sessions were good, but lack practical exercise;*
- *I learnt the importance of socio-economic scenarios in the assessment of I, A & V to climate change and the basic methods to develop them;*
- *The presentations gave me new ideas that we may be able to integrate socio-economic scenarios in our projects;*
- *The knowledge of integrating these scenarios in I, A & V assessments, methods to develop these scenarios and knowledge of how to explore uncertainties;*
- *Use of scenarios and exploration of uncertainties;*
- *The methods adopted by UK scientists to produce the socio-economic scenarios and climate scenarios;*
- *As a guide in selecting SRES scenarios;*
- *Clarity of concepts, and how the different aspects relate and integrate.*

3-4 Do you think the outcome of these sessions will have any influence on your choice of scenario methodology for your AIACC project?

Yes **19** No **0**

Comments on these sessions

- *Lots was learnt about SRES and how these were used in the UK, but in terms of really learning how to develop them ourselves I think it was not clear;*
- *Our project is multi-disciplinary and involves interrelated and interactive components. The choice and development of scenarios and models will benefit from the presentations at the Workshop.*

Climate scenario methods (sessions D.1 to D.8)

3-5 Do you feel these sessions addressed adequately your questions re. particular climate scenario method(s)?
Yes **19** No **2**

If not, please specify what additional method(s) or particular aspects of the method you would like to be discussed?

- *Use of daily data from GCM and RCM for extreme events studies;*
- *We expected more time devoted to scenario development techniques/methods, especially MAGICC/SCENGEN, SDSM.*

3-6 Were the discussions on each of the methods adequate for you to make the choice of scenario method for your AIACC project? Yes **18** No **3**

3-7 Were these sessions well balanced in terms of time allocation? Yes **18** No **2**

If not, please specify which methods should be given more emphasis and which ones should be briefer?

Methods needing more emphasis:

- *Actual integration of socio-economic and climate scenarios;*
- *Because climate change is not exactly my area of expertise, it is very difficult for me to understand and make a choice among various climate scenario methods;*
- *Some of the regionalisation tools need more training;*
- *Downscaling methods should have more time for hands-on sessions;*
- *Very useful; but more details would be preferable;*
- *MAGICC/SCENGEN, SDSM, PRECIS;*
- *I, A & V at country and regional scale require scenarios and data at higher resolution than what GCMs can provide. It would be useful for AIACC projects if the SDSM and PRECIS could be made operational to the level useful to the projects, as they offer alternative to higher resolution data.*

Methods needing to be briefer:

Comments on these sessions

- *We could have been divided into smaller groups, perhaps with mentors, to review methods, discuss their ability given the specific conditions in the region/country or first in the specific project team;*
- *The only problem is that the modelling tools do not cover areas of interest. But prospects that these will be available in the near future are encouraging;*
- *It is very hard to follow the statistical and dynamic downscaling methods.*

Hands-on sessions (sessions E.1 to E.5)

3-8 Did the tools/packages selected for these sessions cover what you wanted to gain experience with?
Yes **18** No **4**

If not, please specify what additional tool(s)/package(s) should be included:

- *The MAGICC/SCENGEN definitely does not cover West Africa;*
- *RCM, as PRECIS is not yet available;*
- *More time for hands-on sessions.*

3-9 Were the introductions for each of the tools sufficient for you to get on with the hands-on exercise?
Yes **14** No **8**

3-10 Was the mentoring adequate during these sessions? Yes **18** No **3**

Comments on these sessions

- *More time should be allocated for the hands-on session, so as to allow the practical knowledge being passed on;*
- *I think the instructions are sufficient to follow the hands-on exercise, but why should we do these steps. Instead, we might have explored some more tools/models;*
- *We do not have enough time to practice with the different tools. We only get an idea of what they may allow us to do. We could not practice with our own data as there was plenty of other things to do;*
- *Time allocated for learning how to use the tools was not sufficient, but since these are made available to all of us, it should be fine. However, additional online support may be needed;*
- *More time, perhaps the questionnaire could have been integrated into a region-specific one;*
- *There was not enough time or computing resources for one to get really comfortable with the hands-on exercises or gain sufficient technical insights into the tools for fulfilling student-mentor interactions;*
- *Very helpful sessions. There is a need, however, to be careful that the entire discussion is not dominated by a single project;*
- *The resource persons are clearly competent and adequate. It would have been good for all of them to stay longer for issues/questions related to their presentations arising from subsequent presentations;*
- *Should include examples from different regions and sectors.*

Networking (informal discussions, group presentations, meetings with regional mentors, weekend excursions, social events)

3-11 Which of these activities you find are best for you to exchange information and experience or to have substantial discussions with other participants?

Presentations **13** informal discussions **19** weekend excursions **6** social events **5**

3-12 Have you initiated any potential collaborations with other project teams?

Yes **21** No **2**

If yes, is the collaboration a regional and/or sectoral one?

Regional **20** sectoral **2**

3-13 Do you find the meetings with your regional mentors helpful?

Yes **22** No **1**

If yes, please describe in what way. If not, please explain why.

- *Provided insights into some of our data requirements and strategy for the project;*
- *The meetings were particularly useful in helping choose the appropriate tools from the set of available resources: GCMs, RCMs, weather records, etc.;*
- *The mentor helps to cleanup confusion encountered during the lectures. He also provided guidance on how to approach the problem from I, A & V point of view;*
- *Gave good advice on how we should approach our project individually;*
- *Because of language difficulty, I cannot communicate properly with mentor;*
- *In guiding the discussions, giving mere specialise input to the group;*
- *First to know each other; initiate possible regional collaboration; understand some common issues;*
- *Discussions on use of RCM over region and alternative methods to develop climate scenarios;*
- *They helped to fine-tune our foci and methodologies;*
- *Rich knowledge about the region; and aware of the likely technical problems;*
- *Further develop contacts and training support;*
- *Helped in identifying possible ways to solve technical problems;*
- *Help initiate future collaboration in the region;*
- *Highlighted the most important areas to address while at the workshop and how to tackle them;*
- *Putting issues into context;*
- *Opportunity to interact with people from the same region.*

Comments on these sessions

- *The group presentation and the informal discussions are very useful. Because we can communicate with other groups through such activities. Social events are not appropriate for talking about such topics;*
- *I find the weekend excursions very interesting. They gave me some ideas to take back to my own country;*
- *Even if not from the same region, sectoral meetings could be done, to share possible methods and problems;*
- *Extremely useful;*
- *Had opportunity, particularly in the preparation of the Africa-wide presentation to develop a common approach, and identify similarities and differences among projects, and areas of collaboration.*

GENERAL REMARKS

- *A good workshop; should have incorporated more hands-on training; the number of networked computers at the Tyndall Centre was inadequate;*
- *The course was well conducted. There was no time when I felt bored throughout the duration of the course. I hope more sessions of this nature will be conducted by the Tyndall Centre in order to train more people;*
- *Intensive, so much information and tools that sometimes cause confusion. Social events and group discussions are very helpful. I found that I learnt a lot by talking to others at tea break. This workshop gave me an idea of how to tackle uncertainties from GCMs. What tools are available – MAGICC/SCENGEN is a very useful tool. I will definitely use this tool for my further development work – in conjunction with the GCM;*
- *It is my pleasure to meet all of the participants, mentors, trainers, hosts, and co-ordinators of AIACC at UEA. And I gained new insights into the development and application of scenarios in I, A & V assessments;*
- *This workshop needs a follow-up. It would be critical to continue communication. And to monitor how teams are solving problems in generating their scenarios. A key question will be: are these scenarios useful/adequate for the vulnerability studies? The answer will be seen in Trieste;*
- *Useful workshop; new tools available for climate change studies in the regions: more comprehensive use of socio-economic and climate scenarios; new approach on climate sensitivity studies;*
- *Overall a very productive meeting;*
- *The workshop was well organised though more time should be allocated in the lab to allow more practice w1ith downscaling tools (SDSM, RCM);*
- *In general, a well-organised workshop; with essential material being presented;*
- *Some speakers need to use a microphone to enable them to be heard properly;*
- *The course brought out a wealth of knowledge and experiences, as well as highlights of the limitations in the state of knowledge, tools, methods and ways of dealing with climate change impacts in different regions of the world;*

High quality presentations and content; Hospitability; excellent logistics.