

Rapporteur's Summary

R. Taplin

Rapporteur's Report on Session II: Recent Trends of IAMs

Rapporteur: Dr. Roslyn Taplin

Director, Climate Change Impact Centre,
Macquarie University, Sydney.

The session commenced with the Chairperson, Professor Odingo (University of Nairobi, and Vice Chair IPCC WGII) raising several challenging questions for the workshop participants to consider whilst listening to the session presentations: 'Do we trust IAMs? This is a question particularly for developing countries; Are integrated assessment modellers communicating among themselves?; Are they becoming transdisciplinary rather than multidisciplinary [ie developing IAMs to assist in solving the environmental problem of human induced climate change]?; Are IAMs succeeding quantitatively as well as qualitatively?; Are integrated assessment modellers really interested in finding solutions to problems in developing countries or are they just focussed on computer modelling?; Are IAMs likely to produce delays in mitigation?'

Professor Weyant gave the first presentation overviewing recent research results of IAMs. He discussed the current types of models that have been developed: policy optimisation models; policy evaluation models; and decisionmaking under uncertainty models. He also discussed the development of stochastic models. Professor Weyant emphasised several significant challenges for integrated assessment modellers. He said that current weaknesses of integrated assessment modelling are: climate impacts representation; representation of developing countries; inclusion of perspectives of developing countries; trade effects; discounting; and technological change.

Professor Morita's presentation followed next. He emphasised that there are several serious gaps between the approaches of IAMs produced in developed countries and their applicability for developing countries. He spoke from his experience in working with partners in China, India, Korea and Indonesia in applying the AIM model developed in the first place for Japan. He emphasised that these gaps apply, in his opinion, to all IAMs currently. The issues he raised in relation to IAMs were: How adequately do IAMs reflect the existing socio-economic structure in developing countries?; Is it possible to design IAMs to assess the same policy instruments for developing and developed nations?; Are regional characteristics well represented within IAMs?; How accurately do IAMs estimate climate change impacts on developing countries?; To what extent do existing IAMs produce acceptable policy options for both developing and developed nations? Professor Morita concluded by saying that there is a need for frank discussions between modellers and policymaking experts both from developed and developing countries.

Mr R. Yatsu (Institute of Advanced Studies, United Nations University) asked the question of Professor Morita: 'You mentioned different team points of view from different countries working on the AIM project. How were these reconciled?' Professor Morita: 'Our model is just a protocol to exchange opinions. Most models cannot represent the uniqueness of developing countries but our model can represent such differences...participants develop their own country model.' Professor Odingo (Chairperson) then commented: 'It is quite clear that the Japanese Government does want to transfer its ideas to others in the Asia-Pacific region. This is quite healthy and should serve as an example to other integrated assessment modellers that there is a need for developing countries to be equal partners in the modelling process.' Professor Shukla (Indian co-author of the paper) said 'The trend over the last five years has been to form international teams - our differences are not irreconcilable.' Professor Xie (Ministry of Power Industry, China) listed eight basic social and economic differences

between developing and developed nations and argued therefore that in his perception IAMs for developed countries cannot be used for developing countries. His reasons were related to differences in: population, resources, level of development, economic growth, insufficiency versus efficiency, imperfect market mechanisms, cultural background, and tensions between the urgency of regional environmental issues versus global environmental issues such as climate change. Professor Morita responded to this challenge by saying that models for developing countries need to be different. He said: 'my perspective is that models can be changed for different policymaking structures.'

Dr Sathaye's presentation focussed on the country specific features of IAMs. He emphasised that developing country researchers 'need simple and transparent models or frameworks rather than complicated models for their use.' He reminded the workshop participants that learning about models and how to use some models can take years! Professor Odingo also reminded the workshop participants that the COP has sent a request to the IPCC for simple models developed to assist the governments of developing countries.

Several questions (Q) and comments (C) were raised at the end of the session:

Q: Dr Gupta (Tata Energy Research Institute) 'It is true that people in India do not know the extent of subsidies - to the local people local issues are important rather than global issues - I understand that this may complicate modelling more. Would you comment on this?' A: Dr Sathaye: 'It is important to address local environmental issues. Local policies are much more likely to be implemented than global.'

C: Dr P. Ghosh (Asian Development Bank): Three factors need to be considered: developing countries have large informal sectors largely impervious to instruments and data for these sectors are not available; there are institutional questions of how effective instruments can be with large rural and informal sectors; and there are very high levels of biomass use tied to the large rural and informal sectors - due to this, increasing GDP in developing countries may result in decreasing carbon dioxide emissions.

C: Mr R. Letchumanan (Malaysia): Developing countries are facing issues that are not isolated to developing countries. We are influenced by developed country policies on finance and trade. These issues are very important for the futures of developing countries rather than just the internal issues.

C: Dr B. Fisher (Australia): 'It is true at the moment that there is no link between GATT and the climate change negotiations - this is a high priority area for future research and discussion.'

C: Professor Morita: 'IAMs provide a good possibility for interlinking between scientists and the international negotiation process but at the moment the modelling is done by developing countries - this is a problem. We have learnt a lot in the AIM process - in particular, data is crucial but even in Japan if we develop a very detailed model we face data problems. Data problems need to be taken one by one and data considerations and model development need to be linked.'

The session concluded with some summing up comments from the Chairperson, Professor Odingo. He said: both the informal and formal sectors need to be represented in models; biomass is a sector that many governments don't intervene in and collect data for - this has been a problem in energy assessment for 15 to 20 years and we still haven't resolved it; and we need to consider the environmental policies of industrialised countries that result in environmental impacts in developing countries - multilateral policies should be investigated that may assist policymaking for local environments in developing countries.