
Economic and Social Commission for Asia and the Pacific**Seventy-second session**

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Item 3 (a) of the provisional agenda^{*}**Review of issues pertinent to the subsidiary structure of the Commission, including the work of the regional institutions: macroeconomic policy, poverty reduction and inclusive development****Summary of the outcomes of the Workshop on Macroeconomic Modelling in Asia and the Pacific^{**}****Note by the secretariat^{***}***Summary*

The present document summarizes outcomes and policy discussions of the Workshop on Macroeconomic Modelling in Asia and the Pacific, which was held at the UNESCAP, Bangkok, from 8-11 December 2015. Several critical modelling issues were discussed at the meeting, especially those related to strengthening member States capacity to better understand short-to-medium term economic perspectives and policy implications, and to support more effective integration of the three dimensions of the 2030 Agenda for Sustainable Development into national development planning and monitoring. Government representatives at the meeting suggested that ESCAP should provide a platform to hold regular consultations and support regional deliberations on sharing country experiences and knowledge in the areas of macroeconomic modelling in order to learn from each other and appropriately reflect the nature of economic structure at the national level and to create linkages across sectors, which would further help establish a network of experts, including academia, think-tanks and other stakeholders, to enhance regional collaboration on creating a modelling framework for the implementation of the 2030 Agenda for Sustainable Development in Asia and the Pacific region.

The Commission may wish to deliberate on the modelling sustainable development and policy proposals contained in the present document and provide the secretariat with guidance on its recommendations and on any other matters concerning the shaping new modelling framework of the 2030 Agenda for Sustainable Development in Asia and the Pacific region.

^{*} E/ESCAP/72/L.1.

^{**} The present document was submitted late owing to better reflect and align ESCAP's initiative in supporting the means of implementation such as strengthening capacity building for policymakers in achieving of 2030 Agenda for Sustainable Development in Asia-Pacific region.

^{***} This document is being issued without formal editing.

I. Introduction

1. The 193 member States of the United Nations has adopted a transformative 2030 Agenda for Sustainable Development with a set of sustainable development goals at the seventieth session of the General Assembly in September 2015. ESCAP has also initiated a process to support member States set up a formal models necessary to integrate the three dimensions of sustainable development and understand the linkages and impacts of policies through workshops and training programmes.

2. The economies of the Asia-Pacific region are uniquely placed to implement a transformative development agenda beyond 2015. However, there have been several external economic and financial shocks that require careful policy intervention. In particular, due to these linkages with other regions, smaller economies in the region continue to face with heightened policy uncertainty. This requires, among others, a more calibrated approach towards better understanding of policies and information set. The macroeconomic model could enable policymakers to appropriately assess the short-to-medium term economic perspectives and their policy implications. This will help indeed guide macroeconomic policy management and responses, which can further support an integrated modelling approaches to sustainable development.

3. The workshop provided opportunities to the policymakers from the member States, especially from the Countries with Special Needs, such as the least developed countries (LDCs) to learn about the current state of art progress in making national level macroeconomic monitoring, forecasts and policy simulation. This workshop-cum-training meeting, among others, was one of the concrete steps of ESCAP secretariat for the implementation of the 2030 Agenda for Sustainable Development at the regional and national levels.

4. The Workshop was attended by participants of the following countries: Australia; Bangladesh; Bhutan; Cambodia; China; Democratic People's Republic of Korea; Georgia; India; Indonesia; Islamic Republic of Iran, Japan; Kazakhstan; Lao People's Democratic Republic; Maldives; Nepal; Pakistan; Papua New Guinea; Philippines; Sri Lanka; Switzerland; Tajikistan; and Thailand. The following think tanks were represented: Commonwealth Scientific and Industrial Research Organisation (CSIRO) and South Asia Network of Economic Modellers.

5. The participants expressed deep appreciation to the ESCAP for hosting the Workshop on Macroeconomic Modelling in Asia and the Pacific.

II. Brief review of key issues and policy discussions

A. Workshop on Macroeconomic Modelling in Asia and the Pacific

6. The workshop provided a unique peer learning platform for policymakers from countries in Asia and the Pacific to exchange knowledge and share experiences on building macroeconomic monitoring and forecasting analyses and methodological tools and to integrate the 2030 Agenda into the national planning processes.

7. The workshop highlighting that macroeconomic modelling is becoming more useful for policymakers to better understand the implications of their policies in an increasingly interlinked regional economy where policy outcomes depend on numerous internal and external factors interacting with

each other. It was also emphasized the leadership role of the United Nations especially the regional commissions, such as ESCAP, in supporting member States efforts to expand current macroeconomic modelling and monitoring frameworks to integrate the environmental and social dimensions.

8. The participating policymakers and experts shared the history of macroeconomic modelling and monitoring in their respective countries, and discussed a number of important issues, including the institutional frameworks for national macroeconomic modelling and monitoring, the role of modelling in supporting actual policymaking and development planning, the evolution of modelling schemes and methods for macroeconomic forecasting, and how to integrate social/environmental indicators into macroeconomic monitoring frameworks and forecasting models.

9. A long tradition of macroeconomic modeling has evolved in the Asia and Pacific region since the 1950s. While there have been temporal variations in the region between countries with regard to when they initially starting employing macroeconomic modeling, of late momentum has been growing to utilize modeling and forecasting as a means to assist policy makers by providing with policy simulations and alternative scenarios. Generally, quantitative macroeconomic models have been used to analyze the existing situation as well as analyze, evaluate and predict the impact of macroeconomic policies. A select number of countries in the region began modeling by either adapting models developed by international organizations, such as UNCTAD, the World Bank, and the IMF, to their country specific conditions or by developing country specific models in cooperation with international counterparts. Participants underscored that models must be tailored to country specific situations (factors and conditions. Two common modeling challenges expressed by participants over the course of the workshop were i) aligning policy making with model findings; and, ii) the availability of country specific data for models.

10. The macroeconomic models countries are employing are based on econometric analysis. Generally, countries are using either excel or Eviews frameworks or a combination of the two for their calculations. The datasets that the models are based on are composed of macroeconomic time series data. The target sets are a varied combination of short-term, medium-term, and long-term to create policy simulations for alternative policy options.

11. The models in the respective countries look at a number of sectors in the economy, for instance real, public, private, fiscal, monetary, and foreign sectors, and the interlinkages between them. Through the discussion, it became evident that a number of countries have focused on fiscal frameworks and on utilizing macroeconomic modeling to link policies and plans to national annual budgets. While countries noted the benefit and need for modeling, it became apparent that there is a clear variation between countries in terms of the capability of the models they use to produce and handle alternative policy scenarios.

12. A selected number of countries have begun to apply new models with more advanced techniques. Two core models for medium- and long-term modeling and forecasting that countries have begun to use are the Computable General Equilibrium (CGE) model and/or the Dynamic Stochastic General Equilibrium (DSGE) model. In particular, the CGE model has often been used to evaluate the effects of economic policies on economic growth and welfare. More broadly, the CGE model can be applied to analyze and evaluate tax reform, trade liberalization, economic integration, changes in world prices, changes in public expenditure, as well as energy and

environmental policies. A number of countries also continue to use the Input-Output model to analyze the impact of sectors, employment, price shocks. The Error Correction Model (ECM), as a dynamic modeling method, is a popular method in a number of countries for quarterly modeling.

13. A common theme in the discussion was the macroeconomic data challenges related to modeling and forecasting. In particular, participants underscored limitations related to data collection and the quality of data. While a number of external datasets are used (such as WIND, Bloomberg, Reuters, etc.) to a varying extent by countries, there still remains significant challenges related to the availability of data, inconsistent or incomplete data (data coverage gaps) as well as low frequency of data. A selected number of countries, highlighted one limitation was that only short term time series data could be used given that macroeconomic data for modeling has only become available in recent years. Participants also discussed the data requirements for the 2030 Agenda and agreed that good databases are needed to move towards the 2030 Agenda, and that the models to integrate these indicators must be simple.

14. A common concern of participants was how to integrate social and environmental issues into their macroeconomic models. Two interesting examples on environmental concerns were shared and techniques presented.

III. The way forward

15. A number of observations, priorities areas and recommendations emerged during discussion. All participants agreed on the importance of developing a quantitative, modelling framework at the national level that can integrate the three pillars of sustainable development namely economic, social, and environmental.

16. The importance of timely, consistent and high quality data is the first step towards a formulation of sustainable development policies at the national level which will be critical element for developing a macroeconomic modelling framework that can provide support to the policy makers.

17. All participants agreed on the importance of sharing country experiences and knowledge in the areas of macroeconomic modelling in order to learn from each other and appropriately reflect the nature of economic structure at the national level and to create linkages across sectors.

18. Participants agreed that there is a need for different types of models at the national level which can address different policy issues. Given the long term nature of the SDG Agenda, the development of models should aim to capture the ambitious and complex nature of policy making in a modelling framework.

19. There is a variation in terms of advancement between countries in modelling capacities and experience. The countries with special needs, namely LDCs, LLDCs, SIDS, would require substantial financial and technical assistance to further develop their modelling capacity.

20. The capacity of countries to effectively follow up and review the 2030 Agenda varies. A select number of countries have already taken initial steps to integrate a selected number of SDG indicators into macroeconomic modelling, yet most developing countries in the region are only beginning to create a preliminary SDG indicator framework which will be incorporated in national modelling framework.

21. Availability and quality of statistics and data would be the basis, and a greatest challenge, for meaningful macroeconomic modelling that integrates the three dimensions of sustainable development. Given the ambitious scope of the SDGs, data scarcity would significantly constrain countries' ability to develop and maintain sustainable development goal based models. Therefore, further regional cooperation and stronger capacity support from development partners is both necessary and urgent.
22. The development of country-led modelling frameworks should be the primary objective of all capacity building efforts in the area of macroeconomic modelling as well as the integration of the SDGs. Therefore, the participants strongly urged for ESCAP to support the transfer of expertise and technical skills to officials in different agencies/line ministries who are responsible for preparing national quantitative frameworks for supporting the achievement of the 2030 Agenda.
23. Integrating the social/environmental dimensions into macroeconomic modelling is a multidisciplinary task by nature, and would require a joint team with both economic and social/environmental experts. Securing high-level political commitment to this objective to oblige closer cooperation between different government ministries and departments would be essential. Participants requested ESCAP to provide a regional roadmap towards this process that can provide support for coordination across different agencies/line ministries in consultation with the national focal points.
24. Participants emphasized the need for ESCAP to support member States human capacity development. In particular, ESCAP is requested to provide technical assistance to build capacity in improving knowledge and staff qualifications through offering courses and workshops; to provide capacity building for data gathering, forecasting and policy simulation; to offer technical training on how to design models at the national as well as sectoral levels (for example forecast the tax revenue) to better understand the interlinkages across sectors; and, to provide support on the selection of systems and software for modelling. Participants also suggested that policy makers be offered assistance in understanding and applying modelling in their policy making decisions.
25. Participants suggested that national think tanks could receive stronger governmental support in order to provide regular updates on the advancement of the methodologies and the possible impact of policy scenarios. This will have implications for not only saving the limited resources of governments, but also for stimulating further cooperation between research institutes, academia and other stakeholders with policy makers both at the national and regional levels.
26. Participants underscored the importance of establishing a network of experts, including academia, think-tanks and other stakeholders, to enhance regional collaboration on creating a modelling framework for the implementation of the 2030 Agenda for Sustainable Development in Asia and the Pacific region.