

EXECUTIVE SUMMARY

The activities of the ERIA WG during 2011-2012 were mainly aimed at two objectives; (1) checking the indicators developed by the WG for assessing sustainable biomass utilization with other international efforts such as the Global Bioenergy Partnership (GBEP) and the Roundtable on Sustainable Biofuels (RSB) and (2) developing an ex-ante decision support tool for assessing the sustainability of biomass utilization systems.

Vis-à-vis the first objective, the sustainability indicators of biomass utilization identified in the international initiatives were considered and compared with those selected for the ERIA WG methodology. The sustainability indicators in the ERIA WG methodology were found to be consistent with those in GBEP and RSB. In the case of environmental assessment, life cycle greenhouse gas (GHG) emissions are considered relevant. As an additional indicator to be included in the ERIA WG's methodology, soil quality was reviewed. In the case of economic assessment, Total Value Added (TVA) was seen to capture the most important consideration for the East Asia context, even though the other international initiatives included more indicators. In the case of social assessment, Employment and Access to modern energy, as identified in the earlier report by the ERIA WG, were considered as the relevant indicators.

To meet the second objective, a decision support tool to make ex-ante sustainability assessments on biomass utilization was developed, and the relevance

of the indicators developed by the ERIA WG was discussed. Life cycle GHG emissions, TVA (using the production approach) and employment were identified as the indicators most suitable for use in the ex-ante decision support tool. The tool was then tested using a case study of the utilization of empty fruit bunches from palm oil mills in Malaysia for producing pellets (energy carrier) and biofiber composite profiles (biomaterials). It was seen that the tool could be successfully used for assessing the sustainability of the two utilization pathways.