

Emission inventory of ozone precursors (NO_x and CO) for air quality forecasting during Commonwealth Games 2010 in Mega City DelhiSaroj Sahu[†]; G Beig[†] Indian institute of Tropical Meteorology, IndiaLeading author: saroj@tropmet.res.in

Mega city Delhi, is facing large urban agglomerations which is one of the largest urban concentrations in South Asia and a fast growing economic center. Adverse impact of air pollution on human health, welfare and ecosystem is a key environmental problem in Indian mega cities as well as worldwide. High resolution emission inventory (EI) is one of the important and essential critical input to air quality modeling and should be as latest as possible. As part of the System of Air quality Forecasting and Research (SAFAR) project developed for air quality forecasting during the Commonwealth Games (CWG) - 2010, a high resolution emission inventory of ozone precursor like NO_x and CO have been developed for the mega city Delhi for the year 2010. The comprehensive inventory involves detailed activity data and developed for a domain of 70kmx65km with a 1.67kmx1.67km resolution covering Delhi and surrounding region using Geographical Information System (GIS) based statistical modeling. Developed high resolution EIs of NO_x and CO for the air quality forecasting includes the technological specific activity data for different sectors were collected from primary source through one year field campaign as well as from secondary source which is first of its kind of attempt have been made in this work not only to fill the gap but also improve the understanding, uncertainty and accuracy of inventory. It has been found that total emission of NO_x and CO over the study area is found to be 255.4 Gg/yr and 703.2 Gg/yr respectively. The relative contributions of different sectors are discussed with possible target for mitigation.