



Expert Group Meeting: Population Dynamics and Climate Change

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Population Data for Climate Change Activities

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Abstract

The issue of Climate Change has now moved to the top of the environmental policy agenda. Every part of the UN system is committed to supporting Member States as an effective, inclusive and credible partner in mitigating and adapting to climate change". Thus, mitigation and adaptation to climate change have become global priorities. UNEP certainly is no exception to that. With the release of the IPCC Fourth Assessment Report and the Bali Action Plan adopted by UNFCCC COP13, UNEP finalized its Medium Term Strategy (MTS) with six thematic priorities topped by Climate Change. Several other priority areas are very much related to climate change, such as ecosystem management, disasters and conflict, and environmental governance. Related to Climate Change, four themes were identified: adaptation, mitigation, science and communication.

However, while population is a major driving force of climate change, it receives relatively little attention and is often treated as a given, an external factor. On the one hand there is a direct relationship: more people means more emissions, more consumption and production. Most rapidly growing populations currently have very low per capita greenhouse gas emissions, but per capita emissions and populations are increasing rapidly in much of the world, and the developing world is becoming a substantial contributor to climate change. While industrialized countries have contributed most to the accumulation of emissions in the atmosphere, emissions in the developing world will grow significantly faster in coming decades – because of population growth, economic growth and also high dependence on fossil fuels.

Then there are also indirect relationships, through the link with poverty and vulnerability to effects of climate change, with changes in water supply and availability, with internal and cross-border migration and with potential conflicts and disasters.

In order to assess climate change mitigation and adaptation opportunities, and address the interlinkages, a whole range of scientific data and indicators are needed. The IPCC AR4 specifies the following requirements for mitigation and adaptation..

CC Mitigation data needs:

General: GHG emission trends (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆)
Population, urban and rural, poverty, migration
Land cover and land use change, land degradation
GDP and PPP, sector value added, household consumption



Energy:	Energy use, supply and intensity (by sector), production and use of renewable energy (solar, wind, hydro, geothermal, biofuels), nuclear power, natural gas, coal, oil, gas.
Transport:	Number of hybrid and cleaner diesel vehicles, transport volume by rail/road/water/air/non-motorized
Buildings:	Use of energy-saving bulbs, improved cook stoves, isolation
Industry:	Material recycling and substitution rates, heat and power recovery etc.
Agriculture:	Afforestation, reforestation, forest management, avoided deforestation, harvested wood product management
Waste management:	Landfill methane recovery, composting of organic wastes, waste disposal, treatment and recycling, waste water treatment
Policies:	Climate policies and measures, carbon prices, emission trading, budgets and expenditures for climate policies, meteorological monitoring.

CC Adaptation data needs:

Water:	Water availability and droughts in tropics, high latitudes, mid-latitudes and semi-arid low latitudes Number of people exposed to (increased) water stress
Ecosystems:	Number and risk of extinction Coastal wetlands, area Coral bleaching Species range shifts and wildfire risk
Food:	Productivity of cereals at low-mid-high altitudes Local impacts on small holders, subsistence farmers and fishers
Coasts:	Number of people exposed to coastal flooding each year Damage from floods and storms Average rate of sea level rise
Health:	Changed distribution of some disease vectors Burden from malnutrition, diarrhoeal, cardio-respiratory, and infectious diseases Morbidity and mortality from heat waves, floods, and droughts Burden on health services (expenditures)

In terms of population, the two key variables of course are size and distribution – both to estimate absolute figures and derive per capita data. Changes in distribution and size are as important, i.e. data on mortality, fertility, age composition, urbanization, migration. In addition to historical data (trends), projections and scenarios are needed to show potential impacts and effects of policies. In order to be scientifically credible and policy relevant at the same time – which do not always go hand-in-hand – it is of critical importance to work with sound, reviewed data preferably from official records. National statistical offices and international agencies play an equally important role in collecting and harmonizing census data. Additional research and modeling is needed to assist with data harmonization, analyse interlinkages and develop scenarios.