

Climate Change and CDM Activities

Mali signed the UN Framework Convention on Climate Change (UNFCCC) in 1992 and ratified it in December 1994. It signed the Kyoto Protocol in 1999 and ratified it in March 2002. In September 2003 the Permanent Technical Secretariat of the Institutional Group on Environmental Questions was designated as Mali's National CDM Authority.

In 1996 Mali participated in an initial regional project together with Ghana, Kenya and Zimbabwe for the purpose of strengthening capacities in sub-Saharan Africa to respond to national commitments under the UNFCCC. The scenario was global. Like all the developing countries involved, Mali benefited from a project to draw up an initial strategy for the implementation of the Convention. The first National Communication was presented in September 2000 at COP6 in The Hague.

Mali also benefited from a programme of assistance by the Netherlands to complete a study on climate change. Phase 1 consisted of three major studies: the scenario of climate change in Mali; the vulnerability and adaptation to climate change of water resources in the Sankarani and Baoulé basins; and the vulnerability and adaptation of maize and cotton to climate change. Phase 2 identified three areas that are particularly vulnerable to the effects of climate change, investigated how this was perceived by the population of all classes and the solutions that were envisaged, and identified a priority option for each site. These projects developed parallel to a national action programme of adaptation to climate change. Seven sub-groups identified where immediate and urgent action is required on energy, agriculture, food security, water resources, other natural resources, health and infrastructure.

As regards the Clean Development Mechanism, action to date has been as follows:

- Partnership with Direction de l'Innovation Energie Développement, 2 Chemin de la Chaudière, Franceville, France ;
- Partnership with Klimaschutz-Program (CaPP), Germany; the ECONENERGY consultative office of the World Bank;
- Participation in national and international conferences on the CDM.

Criteria for Sustainable Development

Mali subscribes to the development goals of the Rio (1992) and Johannesburg (2002) world summits, and especially the Agenda 21 and the UN Millennium Goals. It presented a report on its implementation of Agenda 21 to the Johannesburg summit. Mali's sustainable development strategy, which incorporates three pillars – social, economic and ecological – was presented during a seminar held in September 2005. Its main points are:

- Reduction by half of the proportion of the population living in extreme poverty by the year 2015.
- Primary education for all children by 2015, improvement in occupational training, a considerable increase in the resources dedicated to education, and elimination of gender disparities in education by 2009.

- Gender equality and autonomy for women.
- A two-thirds reduction in child mortality under the age of five.
- Reduction of maternal mortality by three quarters.
- Combating disease, especially HIV/AIDS and malaria.
- Establishment of a global partnership with fixed goals in respect of aid, trade exchange and debt reduction.
- Ensuring a sustainable environment.

The government has entered into a dialogue with its national partners to compile Mali's environmental policy. The 1992 National Environment Plan of Action was followed in June 1998 by the National Policy for the Protection of the Environment. This policy has a double aim – a: to guarantee a clean environment and sustainable development, and b: to help counter desertification, guarantee food security, prevent pollution, and combat poverty. The policy includes numerous local and regional programmes of action as well as nine at national level:

- Town and country planning
- Management of natural resources
- Harnessing of water resources
- Improving the standard of living
- Developing new and renewable energy resources
- Compilation of information on the environment
- A programme of information, education and communication on environmental issues
- The follow-up to the entry into force of the Convention
- Research on combating desertification and protecting the environment

The Republic of Mali has signed around 30 global environmental conventions, including those against desertification, on climate change, and the protection of biological diversity.

Constraints to CDM Adoption

- Much would depend on the adaptability of technologies, the availability of spare parts, the possibility of local manufacture and the chance of commercial exploitation.
- Insufficient qualified human resources to make use of the technologies.
- Inadequate national competence for the purposes of certification and verification.
- The necessary establishment of planning offices to provide the certificates.
- The organisation and technology necessary for the sequestration of carbon.
- Inadequate public awareness of the CDM.

National Stakeholders

The personalities that have been targeted to date include, at government level, Bakary Touré and BoubacarS Dembélé (STP/CIGQE), Mama Konaté (Météo) and Balla Sissoko (DNACPN). NGOs are represented by Ibrahim Togola (Malifolkcenter), Gouro Sanogo (GRAT) and Souleymane Doumbia (AGEFORE).

From the university sector there are Abdoulaye Bayogo (CNRST), and Harouna Coulibaly and Sidi Konaté (ENI). In the private sector there are the Doucouré family (SENAGRI), Saloum Samoura (Fabrique de four d'incinération), Bréhima Traoré (Diawara Solar) and Mousa Coulibaly (SES solar).

CDM Potential in the Industrial and Energy Sectors

Energy Sector:

- Substitution of fuels with high carbon contents (e.g. charcoal and oil) by renewable energy carriers.
- Change of fuels or, alternatively, upgrading or replace of equipment.
- Cogeneration of electricity or heat.

Waste:

- Capture of biogas emanating from town waste, with or without energy use.
- Exploitation of municipal waste for energy purposes.

Industrial:

- Change of production processes to reduce GHG emissions.
- Use of high-efficiency furnaces for glass production.
- Capture of nitrous oxide arising from the production of fertilisers.
- Capture and use of methane from industrial effluents.
- Improvement of the efficiency of industrial projects.

Transport:

- Improvement of the energy efficiency of vehicles.
- Substitute fuels for vehicles, e.g. biological oil instead of diesel or petrol.
- Reduction of GHG emissions by expanding the use of public transport.

Agriculture:

- Improvement of the energy efficiency of irrigation pumps or the use of energy sources with low GHG emissions.
- Reduction of methane emissions from rice production.
- Utilisation of methane emitted by animal manure.

Forestry:

- Forestation and reforestation.
- Increased use of timber for construction in substitution for other materials, the production of which involves GHG emissions.
- Use of forestry waste to substitute for fossil fuels.

Conclusions and Recommendations

Mali has enshrined the protection of the environment in a constitutional law, it has signed and ratified the UNFCCC and the Kyoto Protocol, it has established a National CDM Authority and a Focal Point. Implementation of programmes and projects suitable for the CDM has been going on since 1995.

The analyses contained in Mali's initial communication show that, in the energy sector, the principal greenhouse gas is carbon dioxide, and that the major polluters are households. In the industrial sector, CO₂ emissions are particularly high from cement and lime factories, followed by CH₄ and SO₂. The largest consumer of hydrocarbons is the transport sector (69%), followed by industry (20%), households and others (8%) and agriculture (3%).

The current efforts are leading to a better appraisal of the energy and industrial sectors, notably as regards the protection of the environment, to a multiplicity of projects in the forestry sector, including a programme of reforestation, promotion of the use of the Produits d'Énergie Populaires (stoves, gas, etc.) and of renewable energy, and the monitoring of industrial firms by multidisciplinary teams from the Department of the Environment.

In general, Mali's industries are in need of re-equipping with less polluting plant, especially in the case of foam rubber, cement, lime, fertiliser and dyestuff production facilities. Even the smaller industries, having regard to their level of production, could justify re-equipment with more modern and environmentally cleaner plant. It would also be desirable, in view of the different rates of potential global warming by gases, to take action towards reducing all emissions of greenhouse gases, in order to avoid all long-term air pollution.