The Mekong River flows 4,900 km from the Tibetan highlands in China through Myanmar, the Lao People’s Democratic Republic, Thailand and Cambodia, before emptying into the South China Sea in Viet Nam. It is the 10th largest river in the world and home to more than 850 species of fish, the second highest biodiversity rate after the Amazon. With an annual catch of more than 2.6 million tonnes of fish, valued at more than US$800 million, the Mekong is one of the most fish-abundant rivers in the world. More than 60 million people living in the Lower Mekong Basin depend on the river’s natural resources.

However, the river’s ecosystem has increasingly come under pressure. An ever-growing population is demanding more water for agriculture and electricity to drive socio-economic development. Irrigation and hydropower projects are likely to alter the nature of the river forever. Climate change is also expected to hit the Mekong River Basin hard.

Germany supports the Mekong River Commission in its efforts to ensure cooperation for the sustainable development of the Mekong River Basin and its resources, for example with regard to sustainable hydropower, climate-sensitive flood management, adaptation to climate change, and organisational reform.

Sector interdependencies

There is considerable scope to develop hydropower as a way of meeting growing energy demand. 35 hydropower plants already exist in the Mekong River Basin and more than 100 additional ones are planned – 11 of them on the Mekong itself. Dams may reduce the availability of water for irrigation in agriculture and adversely affect fish migration, as well as endangering biodiversity in the river basin by transporting less sediment. Fish makes a major contribution to food security. A sustainable energy supply from hydropower must therefore take food security into account.

The water, energy and food security nexus

The nexus perspective puts the spotlight on the interdependencies between water, energy and food security. Action in one area may have (negative) effects in another. ‘Business as usual’ is limited by planetary boundaries. An integrated nexus approach is needed to manage water, energy and food security holistically and sustainably. This is crucial for ensuring water, energy and food for human demand.

The Bonn2011 Conference: The Water, Energy and Food Security Nexus – Solutions for the Green Economy was a major milestone in putting the nexus perspective on the international agenda.

Joint action by riparian countries to share benefits

Agriculture, which forms the basis for the economic welfare of millions of inhabitants of the Mekong Delta, is highly dependent upon the river’s water resources. Because upstream water usage can affect downstream water availability, the Mekong River Commission has worked hard to develop ways of managing water resources more sustainably at transboundary level with its Initiative on Sustainable Hydropower (ISH), established in 2008.
Germany provides support for green growth

German development cooperation and other donors are assisting the Mekong River Commission to manage the trade-offs between water, energy and food security in a nexus approach. ‘Trade-offs’ means achieving a balance between diverging stakeholder interests. Joint benefits and synergies among sectors must be identified, and mechanisms for benefit sharing must be assessed. It helps to bring water, energy and agriculture stakeholders together in order to consider trade-offs and shared benefits in sector policies and approaches.

Sustainable hydropower

At present, only 10 per cent of the estimated hydroelectric potential in the Lower Mekong Basin has been developed. It is an emotive topic and proposals range from a moratorium on all projects for 10 years to boosting economic growth. Meeting energy demand in a sustainable way is one of the region’s greatest challenges.

In response to this dynamic situation, the Mekong River Commission’s Initiative on Sustainable Hydropower focuses on advancing regional cooperation for the sustainable planning and management of the growing number of hydropower projects, doing so from a river basin perspective. This includes making effective use of international experience, developing technical knowledge, elaborating regional guidelines and baselines, and sharing examples of good practice with other basin organisations worldwide.

Adaptation to climate change

Droughts can cause food and water shortages, loss of income, and higher levels of disease. Droughts potentially damage agricultural yields, especially rice, and can wipe out crops, livestock and fisheries.

Given the relatively high frequency of severe drought in the Lower Mekong Basin, its associated costs are, and will continue to be, greater than those of flooding. Climate change will increasingly impact the Mekong River Basin and will also affect food security. Germany is therefore assisting the Mekong River Commission and its member states to mainstream climate change in their policies, by establishing a climate change database, applying vulnerability assessment tools, and developing basin-wide sector plans. A transboundary Mekong adaptation strategy is being developed, which includes the regional perspective in the national climate change adaptation strategies, and climate-sensitive flood risk management is being improved.

Basin planning with a nexus perspective

Economic growth, industrialisation and urbanisation will continue to drive the demand for food, water and energy in the Mekong River Basin, which is already experiencing a development boom. However, millions of people still live in poverty. Sustainable basin planning is an important link between poverty eradication and economic development. Comprehensive basin planning addresses the Mekong’s future development opportunities, challenges and risks in the water sector and watershed management, fisheries, the flood and drought response, and protection of the environment.

German development cooperation has put national and regional mechanisms for benefit sharing high on the agenda. These mechanisms will help the riparian states to achieve a sustainable balance between their water, energy and food security needs.