STRATEGIC PRIORITY 4

Ensure water security by managing and mitigating floods and droughts

OUTCOME 4.1

Better informed and prepared basin communities against changing river conditions, and more frequent and severe floods and droughts

OUTPUT 4.1.1 — A core river monitoring network for the mainstream and remaining national river monitoring networks consolidated

- 4.1.1.1 Assess, redesign and develop the basin's river monitoring networks, incorporating JEM, for regional and national planning and management based on a comprehensive network analysis informed by current and future needs
- 4.1.1.2 Enhance monitoring methods for erosion, sedimentation, and transport of sediments (incl. by using modern earth observation technology) as part of the core monitoring network)
- 4.1.1.3 Implement river monitoring network, analysis and reporting activities (hydro-meteorological, discharge and sediment, water quality, fisheries, and ecological health) including agreed components of the Joint Environmental Monitoring of mainstream hydropower and other water infrastructure

OUTPUT 4.1.2 — Integrated data and information systems for more effective basin-wide data management and sharing

- 4.1.2.1 Complete inventory, standardisation, harmonisation and update of data, information and documents and migrate them into integrated databases with improved QA/QC procedures
- 4.1.2.2 Upgrade remote sensing and satellite imagery repository and develop capacity of handling and using satellite products for water resource application
- 4.1.2.3 Operate and maintain integrated databases, information, systems and tools

OUTPUT 4.1.3 — Compatible Decision Support Systems in line with reinvigorated data, modelling, forecasting, and communication capabilities

- 4.1.3.1 Further study the design, management and use of the region's DSS's and plan a regional system of compatible DSS's (MRC's and member countries', as well as linkages to DSS's in Upper Mekong River Basin countries)
- 4.1.3.2 Upgrade the MRC Decision Support Framework to the MRC Decision Support System with the latest international standards and technologies in order to serve both planning and operational management purposes, building on the reinvigoration of MRC's data, information, modelling and communication systems
- 4.1.3.3 Maintain and operate modelling and analysis tools including the updated ones as part of the upgrade to a DSS (e.g. production of spatial datasets)
- 4.1.3.4 Maintain web-based DSS (including communication tools, improved MRC Web Portal, and development of apps) in support of decision-making and active public communication
- 4.1.3.5 Support capacity building and promote the development of reinvigorated and compatible DSS's in all basin countries

OUTPUT 4.1.4 — Integrated basin-wide flood and drought forecasting and early warning

- 4.1.4.1 Identify member country requirements and develop an improved and integrated regional system for basin-wide flood and drought forecasting and early warning (extension to monthly forecast, three to six monthly and seasonal outlook)
- 4.1.4.2 Implement improved and integrated flood and drought forecasting and early warning information to basin countries through compatible DSS's, enhanced exchange of data, consolidated water monitoring networks, and agreed communication protocols
- 4.1.4.3 Enhance flash flood guidance to basin countries through reinvigorated and compatible DSS's, enhanced exchange of data, consolidated water monitoring networks, and agreed communication protocols

OUTPUT 4.1.5 — Joint State of Basin Report and Basin Development Strategy

- 4.1.5.1 Implement the Data Acquisition and Generation Action Plan to enable preparation of the 2023 State of Basin Report with improved consistency and alignment of basin-wide datasets
- 4.1.5.2 Prepare the 2023 State of Basin Report with all six basin countries as a mid-implementation report on the BDS 2021-2030

OUTCOME 4.2

Better disaster management and adaptation to water resources development and climate risks

OUTPUT 4.2.1 — Coordinated water infrastructure operations for multiple benefits including disaster mitigation and management

- 4.2.1.1 Continue review of existing dam operating rules and governance arrangements and identify opportunities for coordinated flow management to increase efficiency, reduce impacts and help mitigate floods and droughts
- 4.2.1.2 Develop protocols for coordinating and communicating existing dam operations to optimise regional benefits and minimise regional costs
- 4.2.1.3 Develop protocols for coordinating and communicating the operation of additional dams and other water infrastructure to optimise regional benefits and minimise regional costs
- 4.2.1.4 Develop and implement information sharing and communication protocols for water-related emergencies including water quality, navigation and dam safety

OUTPUT 4.2.2 — Climate change adaptation, flood and drought management mainstreamed at national levels

- 4.2.2.1 Support mainstreaming of climate change adaptation to increased climate risks, floods and droughts into regional and national strategies, plans and projects
- 4.2.2.2 Coordinate enhanced access to international climate finance
- 4.2.2.3 Support implementation of the drought management strategy including finalisation and implementation of drought adaptation guidelines
- 4.2.2.4 Support implementation of flood mitigation and management strategy
- 4.2.2.5 Further identify and facilitate implementation of transboundary projects on climate change adaptation and water resources management (including pilot projects to improve knowledge, management, systems and cooperation in response to increased floods and droughts)