Summary

A Basin Management Plans (BMP) is an action-oriented framework document that describes how water and related land resources should be developed and managed in a specifically defined catchment area. This Tool outlines what are BMP, describes what are the key components, design principles, and steps required to develop concrete management plan at river basin or lake basin level.

What are Basin Management Plans?

Water flows according to natural characteristics and does not respect administrative boundaries – therefore, from a water resources point of view, it makes most sense to plan and manage water according to basin boundaries. A Basin Management Plan (BMP) lays out key objectives as well as the programmes and measures needed to achieve these goals. BMPs take into account how different actors across the basin take decision that impact the quality and quantity of available water resources in the given catchment (e.g., enterprises, community-based organisations, government authorities, farmers). Basin organisations can be seen as custodians of the BMPs, though the development and design of the plan should steam from multi-stakeholder consultation processes (Tool B3.05). BMPs thus need to be regularly updated with the ever-changing socio-hydrological environment. The processes after the BMP are then guided through the plan as everything that needs to be implemented and how is listed within it.

Components of BMPs

BMPs should include the following key components (WFD, 2000: 43; INBO and GWP, 2009):

- Description of the river basin characteristics: This includes the location and boundaries of water bodies and surface water body types within the basin (Tool C2.01). Reference conditions for the surface water body types should also be specified.
- Summary of pressures and human impacts: on the status of water, including point source pollution estimations, diffuse source pollution, including land use overview, estimation of pressures on water quantity, and other human impacts on the status of water.
- Identification of protected areas: including wetlands, biodiversity conservation zones, national parks, protected forests, and any other areas recognized for their natural, ecological or cultural values.
- Economic analysis: of water use such as cost-benefit analyses and cost-effective analyses based on valuation methods (Tool D1.01).
- Projected scenarios: assessment of future water supply and demand taking into consideration hydro climatic forecasts specific to the region and basin.

- Prioritisation: analysis of issues based on collected information followed with a detailed analysis of those that need more pressing attention taking into account boundary conditions, projected scenarios, and stated objectives.
- Programme of measures, including measures for the water protection community legislation implementation, practical measures for the water use cost recovery, measures for monitoring of water bodies used as water sources and protection of those water bodies, controls on abstraction and impoundment of water, measures for controlling point source discharges, measures against pollution with priority substances, cases of authorised direct discharges to groundwater, measures against accidental and marine pollution, and
- A register of any more detailed water management programmes and plans: including any other details of supplementary measures for meeting environmental objectives for the basin (e.g., at sub-basin level) and their comprehensive overview.
- List of competent authorities: such as governmental bodies such as local authorities (Tool B1.02) regulatory and enforcement bodies (Tool B1.01), impact assessment committees (Tool B1.04) and institution promoting water integrity and anti-corruption (Tool B1.05).
- Financing strategy: including an investment plan based on the cost of the measures specified in the plan. The sources of these funds as well and the cost sharing programmes for the proposed measures and projects (Tools D2).
- Monitoring system: network map of bodies responsible for the monitoring and evaluation of water resources management (Tool B1.03), including the monitoring and evaluations systems used to assess water quality and quantity (Tool C2.05).

Design Principles

Here are a list of important principles that should be kept in mind while designing a BMP (INBO and GWP, 2009: 76):

- Integrate groundwater and surface water planning (river basins or sub-basins, aquifers, lake basins; national or transboundary);
- Address water quality and quantity concerns; incorporate most of the water uses within an ecosystem;
- Mobilise all primary, secondary and tertiary stakeholders, including national agencies and local governments, civil society organisations and the rest of the private sector.
- Layout solutions and measures at various levels and sectors, e.g., infrastructure, policy, and education;
- Build clearly defined operational mechanisms, including those for conflict resolution, monitoring and evaluation, and property as well as abstraction rights.
- Encourage water efficiency measures for curbing water demand, enhancing water supply and recycle and reuse (Tools C3) though policies (Tools A1), economic instruments and incentives

(Tools C4) and mechanisms for promoting social change around water usage (Tools C5).

Steps to Develop a BMP

Different ways of developing a BMP have been tried around the world. The general idea is to establish a spiral process with several steps on each loop every single loop builds upon lessons learnt and feedback from previous ones, following a DPSIR ("drivers-pressures-state-impact-response") framework (Fig. 1). The main key steps in developing and implementing a BMP can be summarised as follows:

1. Characterization of the river basin: hydrological profile characteristics including the delineation and classification of water resources as well as a comprehensive mapping of socio-political and institutional elements.
2. Establishment of water dialogue: to carry out the identification of pressures and impact resulting from human activity, understanding and taking into consideration future socio-

hydrological scenarios.

3. Setting of environmental objectives: of water bodies together with the stakeholders, and decision-makers involved in the basin paving the way towards a prioritization of issues that should be addressed.
4. Development of road map: for action including the shot, medium- and long-term strategies and plans that need to be implemented at local, regional and basin-wide level.
5. Design of a monitoring and evaluation system: to assess the achievement of the planned measures against the set objectives over time and what can be done to further improve the situation during the next round of planning for the BMP cycle.

Image

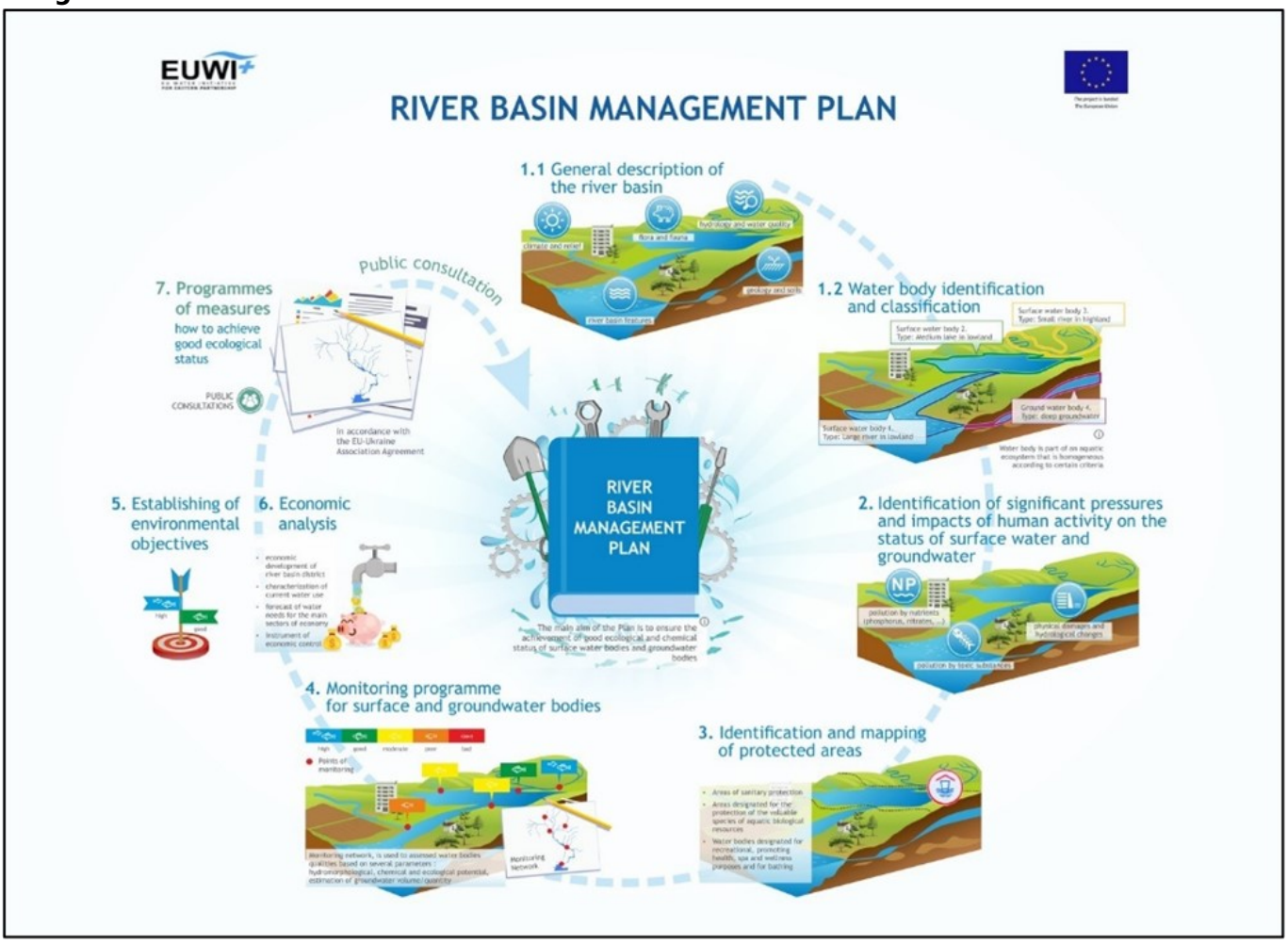

Figure 1. Steps of Basin Management Plan Development (Euwi+, 2021)

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