

# Principles for environmental flows in Myanmar

*Alluvium and Natural Capital Economics experts reflect on the potential for environmental flows to be incorporated into basin planning in Myanmar, and key principles that would help to ensure their success.*



The Ayeyarwady Basin is vitally important to the country's stock of natural capital, its economy, and the livelihoods of its people.

Recent work by Natural Capital Economics and Alluvium estimated that the aggregate value of six key ecosystem services in the basin (agriculture, transport, fisheries, water supply, biodiversity and ecotourism) is in the range of USD 2.5 to USD 6.9 billion per annum (between 3-9% of total GDP for 2016). The scope of ecosystems estimated was relatively narrow, so the actual contribution of the ecosystem services is likely to be significantly higher.

Rapid development, including increasing agricultural use and proposed tributary and mainstream dams, has led to concerns about the future of the Ayeyarwady River and its environmental condition. Recent estimates indicate that between 1995 and 2010, Myanmar lost 35% of its natural capital.

Myanmar recognises the importance of balanced development of the Ayeyarwady Basin. Two key initiatives are currently setting out a pathway to a basin that can be productive as well as sustainable. The Ayeyarwady Integrated River Basin

Management Project (AIRBMP) is developing the institutions and tools needed for sustainable and informed management of Myanmar's water resources and integrated river basin management for the Ayeyarwady River. A national Strategic Environmental Assessment of the hydropower sector is seeking to provide a first step in understanding, prioritizing and planning sustainable hydropower development across the country.

The imminent rapid development of the country's basins and the two key initiatives for sustainable water management mean the time is ripe for environmental flows to be adopted and formally recognised in Myanmar as an approach to meeting productive needs of the river whilst ensuring the integrity of the environment and the services it provides.

Based on our experiences setting up components of environmental flow frameworks in South and South East Asia, as well as Australia, we propose **nine principles to be considered in setting up an environment flows framework for the Ayeyarwady, and more broadly in Myanmar.**

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**1. Avoid the “environmentalist” label:** The term “environmental flows” can be controversial. Organisations or individuals who use the river for productive use (e.g. irrigation, hydropower, transport) may perceive the term as promoting an environmentalist agenda. To avoid this perception it is important to emphasise from the outset that environmental flows inherently accept that development of the river will occur and seek to find the right balance between productive use and ensuring environmental sustainability. In some South Asian countries the term “system flows” is used to avoid misperception.

**2. Build support networks as broadly as possible:** Environmental flows are more likely to be adopted if there is public and political support. It is therefore important to build support networks as broad-based as possible by identifying and promoting the public benefits of environmental flows. For example, in India the incorporation of cultural concepts into environmental flow assessments by WWF has increased broader public support for the concept. In the Ayeyarwady, support for environmental flows could be built by emphasising the maintenance of sediment supply to the agriculturally highly productive delta.

**3. Show the economic value of managing the natural capital of the Basin:** An important approach for building support for environmental flows is to show the value of managing natural capital. What matters is not the absolute value of the environment, but the change in value if it is degraded instead of being managed and protected. There is now an improving

understanding of the value of the environment in the Ayeyarwady Basin, this needs to be built upon by improving the understanding of the likely environmental and economic impacts of development scenarios.

**4. Integrate environment flows into a river basin planning process:** Environmental flows are best integrated into policy through a river basin (or sub-basin) planning process. For example, in the Australian Murray Darling Basin, environmental flows were first established through state-based sub-basin plans, then later enhanced by a plan for the entire basin. This allowed for community engagement and consideration of the preferred balance across social, economic and environmental objectives. In Myanmar, the AIRBMP provides a unique opportunity to ensure environmental flows are integrated into the first basin-wide Ayeyarwady development plan.

**5. Defining environmental flows needs consultation and negotiation:** Defining environmental flows is inherently a trade-off between the environment and productive uses. It is therefore an important tool for assisting stakeholders in negotiating the pathway to a productive and sustainable basin. In Australia, the Murray Darling Basin Plan achieved political, state and community support only through a significant, sustained effort on community engagement and intergovernmental negotiations.

**6. Defining environmental flows must have a strong scientific basis, but don’t let complexity stop you:** Ensuring a strong scientific basis to defining environmental flows means they are defensible. Yet eco-hydrology relationships are often not well understood, and complete data may never be available. Furthermore, isolating long term trends from short-term variation is challenging. Myanmar is no different to other countries in this respect. Fill these gaps where possible, but be ready to work with incomplete information by looking for the most likely answer, selecting “least regret” options and being clear on what isn’t known.

**7. Use multiple sources to monitor the delivery and outcome of environmental flows:** Monitoring delivery and outcomes from the widest possible array of sources (including farmers, indigenous people, NGOs as well as scientists and government officials) ensures best available information is obtained and stakeholders feel engaged.

**8. Be ready to adapt:** Be prepared to continuously adjust and update plans as new evidence emerges from monitoring or new experiences. Be honest about any deficiencies in the plans, learn from any mistakes and explain why changes are warranted.

**9. Make someone responsible:** Delivery of environmental flows is not just about meeting minimum flow requirements. In a variable environment, there are constant decisions required to optimise the use of flows. An institution with broad political and stakeholder recognition is needed to make these decisions.