



Flood Management: Why it Matters for Development and Adaptation Policy

Our species has always lived with floods. But they remain poorly understood and managed. Floods are part of a natural cycle that can never be fully controlled. Yet, traditional terminology and prevailing attitudes remain focused on a futile and often counter-productive mandate for “flood control”. As Joachim Saalmueller explains, it is time to move towards an integrated approach to flood management to save lives, increase resilience, and take advantage of the benefits to be gained in the floodplain.

When devising land and water resources policies we need to take a more holistic view of floods, one that goes beyond looking at the immediate misery they can cause. Instead, policymakers should take an approach that also considers the beneficial effects of floods and that assesses different action alternatives for specific societal development objectives. This type of analysis would lead to questions like: What is neces-

sary to make our cities and infrastructure more flood resilient? What level of safety against flooding are we willing to pay for and what risk are we ready to accept? In the season or year after a flood event, what positive impacts can be expected on groundwater resources, agriculture and fisheries and on the livelihoods dependent on those resources? What strategies can be implemented to use floodwaters more effectively, especially in arid or semi-arid countries?

A triple challenge: Population growth, urbanisation and economic development

Population growth is the major challenge for flood managers for two reasons: First, more people need more food. And, when wealth increases along with population, trends show that the amount of dairy and meat in people’s diets increases, too. This then requires exponential growth in agriculture and fisheries outputs. Both of these sectors are closely linked to floods. Land, particularly arable land, is a scarce resource and

floodplains are the most productive areas for rainfed agriculture. Agriculture serves in most developing countries as the primary support for people’s livelihood. Flood management needs to aim at strengthening rural livelihoods by maximising the use of floodplain resources. Inland fisheries also depend on the regular flooding of the floodplain as spawning grounds for fish.

Second, with rapid population growth and urbanisation comes expansion of existing settlements into areas closer to rivers, which effectively increases flood risks. Population and economic growth can also lead to large-scale and often uncontrolled land conversion. This can have critical effects in terms of deforestation and altering the hydrological properties of the catchments, which in turn leads to the accentuation of flood peaks and increased sedimentation.

Healthy rivers and ecosystem services

The thinking behind floods has been strikingly narrow. In the past, floods were dealt



Photo: Schweizer Luftwaffe

are too often labeled only with concern to the immediate political message, not to the achievable result. A common example is to label an area “flood-free” after certain technical measures have been taken. Another more recent example is the labeling of a strategic adaptation concept “climate proofing”. While both terms are well intended, they suggest that we can completely control the impact that climate events have. This is simply not possible and for flood management professionals, these terms represent a threat to the integrity of the profession. It is dangerous to allow the public to take for granted what is implicitly contained in such terms: “I am safe wherever I am after those measures are taken” or “we can ‘proof’ ourselves against climate change impacts”. That is counter-productive, and, at worst, it can be fatal. Individual and community preparedness are at the centre of safe and smart flood management. It is crucial to account and prepare for the residual risks that follow the implementation of flood management measures.

That is why water resources managers and ecologists are pushing institutional terminology away from flawed strategies for “flood control” and towards achievable targeted strategies such as “flood mitigation” and “flood risk management”. For flood managers, risk analysis forms the baseline for managing floods. In basic terms, assessing risk involves analysing both the probability that a certain event will occur and the likelihood of particular consequences. Understanding risk, in terms of the flood hazards and the vulnerability of socio-economic assets and activities represents a challenge in itself, both in terms of technical capacity and resources. Evaluating risk on a catchment or basin scale is required to avoid mere spatial shifting of flood risk.

Risk management practice is far too often exclusively applied to economic efficiency parameters. While risk management should be included as an essential element of an integrated flood management policy, managing floods requires much more. Floods cause fluctuations of water resources, yet the resources brought by floods are rarely managed to full benefit. This does not receive enough attention in the policy debate.

The policy debate needs to begin to focus on which flood risks are acceptable, which need to be avoided by all means, and how risks can be equitably shared. This includes both the actual losses and the cost of risk

mitigation. The standard scenario placed in the policy debate is that flood losses are on the rise. Public perception tends towards connoting that negatively. Economists, however, may also come to the conclusion that the rise in flood losses has a major driver in economic development. The question thus becomes: Can an overall reduction in flood losses be achieved? Or should we aim at more refined policy goals that seek to minimise the losses of human lives first and foremost and also maximise the net-benefits gained from the floodplains? If we strive for the latter, that would also help to ensure that the risks taken in terms of development on the floodplain do not outgrow the benefits.

As flood managers work towards balanced options that represent compromise or agreed solutions rather than “optimal” ones, they must engage a wide range of stakeholders in the process. Agreed solutions have to be implemented across sectors, institutional and administrative boundaries, which presents major challenges.

Finding help

Flood management is about much more than minimising economic losses and damage. It requires intelligent management of both the floodplain and water resources generated by floods. Doing this well can support development instead of preventing it. Separating the floods from the development and natural resources context in which they occur increases the risk that poverty alleviation and adaptation strategies will fail.

The recently established HelpDesk for Integrated Flood Management, created by the World Meteorological Organization and the Global Water Partnership, provides a mechanism to support and assist countries to shift to better flood management practices. The facility offers services to countries to formulate flood management policies and strategies and the legal framework to it. It also helps build capacity for Integrated Flood Management, which can reduce the losses of life from flooding and maximise the efficient use of floodplains. The Help-Desk is founded on a broad set of partner institutions that are committed to provide strategic and technical guidance to countries. More information and possibilities for requesting for assistance can be found at www.floodmanagement.info.

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with primarily by placing physical structures in or around water bodies. This approach is fundamentally flawed. Flooding is not always something to be avoided; it is can be necessary to support ecosystems, which provide services that are essential to human livelihoods. Sometimes attempts to contain floods have been destructive: rivers can be diverted into channels and carved into homogeneous shapes that disrupt the ecosystem, and result in biodiversity loss in the river corridor. While structural measures should continue to play a vital role in future flood management, any such structures will have to be planned to meet multiple (and sometimes conflicting) sets of objectives derived from expanded societal values. Today, these include broader values such as flood safety, ecosystem health, biodiversity, and recreational uses of water bodies.

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“Flood-free” & “climate proofing”: An open invitation to misinterpretation

Political leaders in flood prone areas are under considerable pressure after large flood events to devise appropriate strategies. Those