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## **Integrated Water Resources Management in the Mekong**

- **Integrated Water Resources Management (IWRM) has far-reaching international acceptance as an approach for effective, sustainable and equitable uses of water.**
- **IWRM principles recognise that water has many facets covering social, economic, environmental, physical or infrastructural, institutional/political as well as cultural, ethnic and gender dimensions**
- **The concept of IWRM emphasises ‘integrated’ approaches for managing natural water systems as well as the need for dynamic interactive dialogues and co-ordination among different sectors such as government, civil society and stakeholders**
- **In the Mekong region, a range of bodies including the Mekong River Commission (MRC), Asian Development Bank and national governments all subscribe to IWRM principles**
- **While IWRM is an appealing concept, a key question has been asked with increasing frequency: How can the ambitious principles of IWRM be converted into sound practice?**
- **This paper examines the concept of IWRM and considers its relevance for the Mekong region**

Integrated Water Resources Management (IWRM) is undoubtedly the ‘in-vogue’ concept relating to water resource management. Organisations such as the United Nations Development Programme (UNDP), the United Nations Environmental Programme (UNEP), the World Bank (WB), the Asian Development Bank (ADB) and the Global Water Partnership (GWP), to name just a few, have included it in their water agendas and promoted it globally, nationally and locally as the dominant concept in water management. The Mekong River Commission (MRC) has adopted IWRM as its hallmark approach.

### What is Integrated Water Resources Management?

The concept of IWRM has been developed over a number of years through various international forums. However, it was not until the Dublin and Rio Summits in 1992 that the term ‘integrated’ was formally incorporated into the concept.<sup>1</sup>

The most cited definition of Integrated Water Resources Management (IWRM) refers to “a process which promotes the coordinated development and management of water, land and related resources, in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems” (Global Water Partnership, 2000).<sup>2</sup>

A set of IWRM principles which are characteristic of many national, regional and basin-scale strategies are identified as follows:<sup>3</sup>

- Application at basin-scale or catchment level.
- Critical to integrated water and environmental management.
- Based on systems.
- Full participation by all stakeholders including workers and the community.
- Attention to the social dimensions.
- Capacity building.
- Availability of information and the capacity to use it to anticipate developments.
- Full-cost pricing complemented by targeted subsidies.
- Central government support through the creation and maintenance of an enabling environment.
- Adoption of the best existing technologies and practices.
- Reliable and sustained financing.
- Equitable allocation of water resources.

- The recognition of water as an economic good.
- Strengthening the role of women in water management.

Although some scholars argue that the content is not entirely new,<sup>4</sup> the above definition of IWRM, and its incorporated set of principles, reflects a paradigm shift in water management

The differences between ‘old’ and ‘new’ (or ‘integrated’), forms of water, river basin and water resource management to a large extent represent changes in approach to biophysical, social and institutional aspects of water management. While the ‘old’ form typically includes a centralised authority, and is techno-centric and sector-oriented (e.g. focussing on irrigation, hydropower, water supply, etc), IWRM attempts to take a holistic approach, focussing on interconnections between water systems with other systems such as environmental and socio-economic systems. The following table presents an overview of these key differences:

<i>Old paradigm</i>	<i>New paradigm</i>
Water as an isolated natural resource/a single and independent discipline	Multi-faceted; incorporates poverty, human rights, ecosystem, health, economic, social, ecological, physical, infrastructural, institutional/ political, cultural, ethnic and gender considerations
Sectorally fragmented approaches	Integrated and systematic approaches
Techno-centric and hierarchical model of management	Value-loaded process and mechanism/arguments and judgements are central and integral
Policy makers versus stakeholders/the public	‘Bottom up’ policy making
Upstream versus downstream users	River basin management
Suppliers/recipients	Service provider/clients
National authority versus municipality	Multi-level government
Water as a separated natural system	Integrated different elements of the water resource (land with water, fresh water with coastal zones, surface water with groundwater, water quantity with quality)
Water as a physical good	Water as a social, economic and environmental good
Nation versus nation	Transboundary river basin management

**Table 1. Old versus new paradigm of water management**

Sources: Modified from (Biswas, 2004) and <http://www.gwpforum.org/gwp/library/Tacno4.pdf>, accessed July 2007

### Challenges of IWRM

In light of the above definition and principles, IWRM is an impressive concept which includes all elements of good water governance (e.g., coordination, sustainable development, participation, equity and inclusiveness). It also has widespread international acceptance as an approach for effective, sustainable and equitable use of water. However, the concept is increasingly being challenged and contested, not only by those who find the concept not truly new but more importantly by some of those who are committed to its principles. A recent

<sup>1</sup> Rahaman, M. and Varis, O., (2005), ‘Integrated water resources management: evolution, prospects and future challenges’, *Sustainability: science, practice and policy*, Vol. 1, Issue 1, pp. 15-21.

Mukhtarov, F.G., (?), ‘Integrated water resources management from a policy transfer perspective’, *Basin Water Management*, pp. 610-625.

<sup>2</sup> Global Water Partnership, (2000), *Integrated Water Resources Management*, TAC Background Papers, No. 4, p. 67 [www.gwpforum.org/gwp/library/Tacno4.pdf](http://www.gwpforum.org/gwp/library/Tacno4.pdf)

<sup>3</sup> Modified from Jeffrey, P., Gearey M, (2006), ‘Integrated water resources management: lost on the road from ambition to realisation?’, *Water Science & Technology*, Vol. 53, No. 1, pp. 1-8.

<sup>4</sup> Biswas, A. K., (2004), ‘Integrated Water Resources Management: A Reassessment’, [http://www.menschen-recht-wasser.de/downloads/Integrated\\_Water\\_Resources\\_Management.pdf](http://www.menschen-recht-wasser.de/downloads/Integrated_Water_Resources_Management.pdf).

collection of reflections by academics and practitioners in the area of water management explicitly raises the question of whether IWRM has become ‘a catch-all phrase and empty motto’.<sup>5</sup> Among the issues raised by the critics, the following seem particularly salient:

- **The nature of IWRM** is a serious weakness. While IWRM is initially and superficially an appealing concept, upon deeper consideration it becomes apparent that IWRM is so vague and has such breadth that “not only no one has a clear idea as to what exactly this concept means in operational terms, but also their views of it in terms of what it means vary very widely”<sup>6</sup>. In light of the IWRM definition and set of principles, how can words such as ‘development’, the relationship between ‘economic and social welfare’ and ‘sustainability’, ‘equity and economic efficiency’ be defined and measured in operational terms?
- **The political discourse of IWRM** also gives rise to concern. IWRM has gained popularity from all quarters, and among the reasons for this popularity is the ambiguity in what it actually means. IWRM appears as a safe and sensible bet rather than high risk gamble<sup>7</sup>, with words such as ‘integrated,’ ‘participatory,’ ‘decentralization’ ‘pro-poor’, ‘transparent’ or ‘accountable’ practices signalling a ‘brave new world’<sup>8</sup> but at the same time remaining largely consensual. As a result of this ambiguity some researchers and civil society actors have viewed the adoption of IWRM by some governments and international organisations as merely a political technique<sup>9</sup>. The following questions can be raised: Has IWRM been seen by some concerned agencies as a fashion rather than a radical new approach? Do state or international agencies adopt IWRM in order to make empty claims that manage to obtain international acceptance and visibility? Is adoption of IWRM just a political cosmetic in order to attract additional funds? Do state or international organisations use IWRM as a way to legitimise their own action?
- **The question of best practice IWRM.** One of the trends in water management under IWRM is the idea of transferring ‘best practice’, i.e. transferring the model behind successful river basin management institutions (most often from developed countries) to other river basin contexts (most often developing countries). While this idea certainly has good intentions and holds a great appeal for policy makers, donors and researchers, the bulk of the literature, including reviews of actual experiences, tells us that this assumption is not as simple as it seems to be and requires a

deeper and critical consideration.<sup>10</sup> Table 2 highlights material differences between developed and developing countries. The table suggests that (1) transposing ‘North’ to ‘South’ models of management must not be introduced as ‘blueprint’ packaging; and (2) imposing institutional models uncritically in vastly different socio-ecological contexts and with little understanding of the respective realities of the basin, can be dysfunctional and counter-productive rather than a good solution for appropriate water management.<sup>11</sup>

<i>Contextual differences</i>	<i>Developed countries</i>	<i>Developing countries</i>
Hydrology and climate	<ul style="list-style-type: none"> <li>• Temperate climate, humid, higher stream densities, mostly in temperate latitudes</li> </ul>	<ul style="list-style-type: none"> <li>• Low amount of rainfall, climate extreme, higher stream densities mostly in the tropical and subtropical regions, water scarcity is emerging constraint</li> </ul>
Demographics	<ul style="list-style-type: none"> <li>• Populations concentrated downstream of dams</li> <li>• Focus on ‘blue water’ neglecting rain and soil-water management</li> </ul>	<ul style="list-style-type: none"> <li>• Populations concentrated both upstream and downstream; population densities are commonly high in the catchments areas of the basin</li> <li>• Focus on ‘green water’</li> </ul>
Organization of water sector	<ul style="list-style-type: none"> <li>• Water rights based on riparian doctrine and prior appropriation</li> <li>• Most water users get water from professional service providers because the bulk of water is produced, planned and allocated by formal organizations, businesses or utilities</li> <li>• Water is scarce so it has economic value</li> <li>• Small numbers of large scale stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Water rights based on rights to rainfall or ground water; people’s notions of ownership relate more easily to rain than to large-scale public diversions</li> <li>• Most water users get their water directly from rain and from local private or community storage without any significant mediation from public agencies or organized service providers. Because the bulk of water provision takes place in the informal sector, it is difficult to pass enforceable water legislation</li> <li>• Water is scarce, rain-god, free</li> <li>• Large number of small stakeholders</li> </ul>
Stage of Socioeconomic development	<ul style="list-style-type: none"> <li>• High income per capita</li> <li>• High demand for environmental amenities; problem of poor water quality, degraded wetlands and maintaining navigation and dealing with floods</li> </ul>	<ul style="list-style-type: none"> <li>• Low income per capital</li> <li>• National priority (e.g. food security, poverty alleviation, livelihood), problem of groundwater overexploitation</li> </ul>

**Table 2 Differences between developed and developing countries**

Source: Modified from Shah, Makin and Sakthivadivel, 2005

The transfer of ‘best practice’ of river basin management from the Murray-Darling Basin to the Mekong Basin provides one example of the considerations that need to be taken into account when attempting to transfer experience. The Murray-Darling Basin Commission has a great deal of impact on and influence with the Mekong River Commission in term of both technical issues and

<sup>5</sup> E.g. Biswas, A. K., (2004).

<sup>6</sup> Biswas, (2004), p.3.

<sup>7</sup> Biswas, (2004).

<sup>8</sup> Molle in Lebel, L., Dore, J., Daniel, R., Koma, Y. S., (2007), *Democratizing Water Governance in the Mekong region*, Chiang Mai: Mekong Press.

<sup>9</sup> E.g Biswas, (2004), Molle in Lebel *et al.*, (2007)

<sup>10</sup> E.g. Svendsen, M., (2005), *Irrigation and River Basin Management Options for Governance and Institutions*, Cambridge, IWMI CABI Publishing.

<sup>11</sup> Shah, Makin and Sakthivadivel in Svendsen, (2005).

guiding 'good' practice. Most scholars accept that there are some commonalities between these two basins and good lessons can be learnt from Murray-Darling Basin both technically and politically. Yet, there are some concerns relating to the direct application of experience;

- 1) Unresolved debates in the Murray-Darling Basin (e.g. relating to state and federal management, water rights, land use, mining etc.)
- 2) Murray-Darling belongs to only one country while Mekong Basin belongs to six different countries, with different benefits and interests
- 3) Between the two basins, there are vastly different political, cultural, socioeconomic and socio-ecological contexts

## IWRM and the Mekong

Policy-makers and institutions are the key proponents of IWRM. In the Mekong, the Asian Development Bank (ADB), Mekong River Commission (MRC) and the Mekong riparian countries have embraced the principles of IWRM within their own water agendas. While the adoption of IWRM principles by these institutions is commendable as it takes a 'more holistic' approach, concerns have been raised about the degree to which these integrated approaches are living up to the claims of their promoters.

### *Asian Development Bank (ADB) and IWRM*

The ADB subscribes to the principle of IWRM in their *Water For All* policy. This policy advocates water management at the river basin level. The establishment of local river basin organisations in the Mekong has been largely supported by the ADB both financially and technically. ADB's past projects, with their heavy emphasis on infrastructure development, have been heavily criticised by academics, NGOs and local communities for their ecological harm (damaging the environment and ecosystem), displacement of people (loss of livelihood and displacement of communities) and disregard for people's participation. Consequently, ADB and its recent claim to subscribe to the 'more holistic' and 'politically correct' water resource and environmental agenda has raised scepticism that ADB is paying lip service to the concept, using IWRM as a political tool to serve its own 'business-as-usual' approach. For example, the so called 'participatory approach' of ADB meetings with civil society and communities often appear to involve more politically cosmetic consultation sessions rather than genuine participation<sup>12</sup>

### *Mekong River Commission (MRC) and IWRM*

The MRC's adoption of IWRM principles in its basin development plan and its new strategic plan (2006-2010), has gained significant support from donors.

However, questions are being asked over how the MRC can promote IWRM principles in a context in which national interests tend to predominate in relation to water resource use and management. It remains unclear as to how IWRM will be implemented in a region where civil society is not strong, countries tend to manage water as they wish and the demand for sectorally narrow investment in water infrastructure from national government line agencies is strong. The recent move by the MRC towards investment facilitation risks diverting the MRC away from its mandate as a river basin organization<sup>13</sup> and also undermines the holistic approach of IWRM in the drive toward 'sustainability.'

### *Mekong riparian countries and IWRM*

Most Mekong countries are embracing the IWRM principles. The shape and degree of implementation of IWRM principles in each country are varied and range from taking first steps towards incorporating IWRM principles into national development agendas, to making IWRM-based national strategies and plans, water law and legislation. Countries like Cambodia, Laos, Thailand and Vietnam are already piloting the establishment of river basin organisations (RBO) based on IWRM-based national strategies and plans<sup>14</sup>. These developments are appealing to the extent that they are moving towards a more decentralized and inclusive approach. Declaring the adoption of IWRM is easy, but implementing it is not. Making water law is possible but enforcement is difficult. Establishing river basin organisations is straightforward but managing them is not. Political will of governments and the involvement of the public in decision making processes have been called into question in this context. Among Mekong countries, the ingrained practices and beliefs of decision makers and bureaucracies, including a culture of secrecy and authoritarian approaches to decision making have long been dominant. Jumping out of these narrow views and old practices will indeed be a challenging task for all parties.

#### **AMRC's Mekong Brief Series**

This Brief is the seventh in a series of information sheets to be produced by the Australian Mekong Resource Centre (AMRC), University of Sydney, for students, teachers and others with an interest in the Mekong Region.

The AMRC was established in 1997 to promote research, discussion and debate on development and environmental issues in the Mekong Region. The AMRC is a focal point for information, dialogue and activities in support of an equitable and sustainable development path for the Mekong Region.

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<sup>12</sup> Molle in Lebel *et al.*, (2007).

<sup>13</sup> Hirsch, P. and Jensen, K. M., (2006), *National Interests and Transboundary Water Governance in the Mekong*, Australian Mekong Resource Centre, Danida and The University of Sydney.

<sup>14</sup> Molle in Lebel *et al.*, (2007).