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DEV research briefing

Basin Justice: Using social justice to address gaps in river basin management

A critical review of the Dublin Principles and Integrated Water Resources Management (IWRM) exposed that the principle of economic efficiency is most often favoured over the principles of environmental sustainability and social equitability, primarily because power asymmetry active in the political economic context are overlooked.

Harmony between economy, society and the environment has not yet been achieved. This briefing paper suggests that 'just' water resources management take a *people-first* approach to both evaluate and improve existing policy. The Yangliu and Jordan rivers serve to exemplify.

1. Using justice to evaluate and inform basin management

The 1992 Dublin Principles consider economy, environment and society as the pillars of water resources management, firmly establishing them in equal measure – on paper. Unfortunately, achieving harmony between the guiding principles of the spheres of economy (efficiency), environment (sustainability), and society (justice) is often illusory. The political economy within which water-agricultural systems operate generate few incentives for equitable distribution and sustainable use of water, and multiple self-reinforcing signals for maximising efficiency and productivity.

Land is the limiting factor in the equation; so as long as there is a market and available land to plant, more water will be used, even if hyper-efficiently. But the efficiency gains and practice come with trade-offs: more *dollars per drop* but less sustainability, equity and *care per drop*.

To evaluate and inform basin management, this study builds an analytical framework to incorporate the outcomes of basin trade-offs according to the models of justice that underpin it – namely egalitarian, utilitarian, Rawlsian and libertarian. Conscious not to naturalise primordially social and political issues, the study also uncovers the pathways of injustice through which unfair outcomes are created and replicated.

2. Yangliu river basin: Yunnan, China

A copper mine tailings pond sits perched at the top of this basin, above mid-stream farmers growing walnut and sugarcane and downstream rice producers. The dollars per drop earned from using water to separate copper from rock is much greater than from the downstream agricultural practice, but exposes them to great risk.

The health and livelihoods of roughly 12,000 villager farmers are threatened by contaminated water. Several of them have reported the river occasionally turning white and cloudy, the presence of dead fish,

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Title: The coppermine tailings pond perched at the top of Yangliu Basin, Baoshan, China. **Author:** Mark Zeitoun

and a white residue on their crops and the soil after the river subsided. In one village, the tailings pond managers provided an alternative water supply and infrastructure to the village and promised to build a road as compensation. However, when a different village head sought compensation for a separate incident, he received nothing but unfulfilled promises, until a new tailings pond manager took over – who reneged on his predecessor’s promise. This left the village head with no options as he is, in his own words, “just a small village leader”. By contrast, the upstream tailings pond is well situated both physically and in the political economy to face no risks from any villager activity.

The trade-offs made in the Yangliu basin management are primarily over water quality, and relate to the distribution of risks. The outcome of this case is unfair according to each model of social justice and exposes an

inequitable distribution of both the risks and benefits of the CWF.

The asymmetric distribution of risks and benefits is unjust to the Rawlsian and egalitarian models and even the libertarian model highlights how the fruit of the villagers’ labour is spoiled. It may be ‘just’ according to the utilitarian perspective, however, the ‘cost’ of a few dead fish and spoiled harvests is not too dear to pay for the copper extracted.

The trade-offs are guided in this case by the economy’s guiding principle of efficiency, at the cost of society and the environment. The case also exposes the power asymmetries active in the political economy. Though the ongoing situation is ‘fair enough’ according to the utilitarian perspective, it is certainly unjust by other perspectives on social justice. In this case, the former matters more.

Position/Use	Agriculture	Industry	Domestic	Main issues, outcomes, trade-offs
Upstream	Walnut Farmers	CWF (mine tailings pond)	--	Health and livelihood risks from water pollution from CWF distributed (only) to downstream villages. Compensation and mediation means exist, but come reactively from CWF. Informal management of the basin is guided primarily by efficiency and/or productivity.
Downstream	Rice Farmers	Tobacco / Sugar processors	Ping Zhang, Da Zhai, Fashui, Datian, Guanlian shan	

Figure 1. Trade-offs and relationships in the Yangliu basin.

3. Upper Jordan river basin: Lebanon, Syria and Israel

The Upper Jordan river sub-basin flows across the borders of three states at war with each other, giving particular resonance and urgency to this environmental justice issue. Downstream on the Upper Jordan, water for domestic use and agri-business exports in Israel take priority over water for domestic use upstream in Lebanon. Roughly 98% of the flows in the sub-basin are used in Israel by local farmers, municipalities and businesses for local vegetable and fruit production, industrial production such as microchips, and production of cash crops in the Negev desert for export primarily to Europe. Lebanese farmers and villages use the much smaller

share of water for vegetable and tobacco crops, and for domestic consumption.

Deterred by its larger downstream neighbour from developing its share of water any further, the Lebanese farmers and villages live the effects of the conflict, and in many cases rely on the vagaries of rain-fed agriculture for their livelihoods.

The politics and topography of the basin are such that the *status quo* is a constant risk for the weaker side, while any challenge to it is a risk for the more powerful. The trade-off

Position/Use	Agriculture	Industry	Domestic	Main issues, outcomes, trade-offs
Upstream	Smallholders vegetable and tobacco	Olive waste	approx. 12 villages	Inequitable distribution of the flows. Israeli water use downstream (98% of flows for industry, ag and dom) is a trade-off for lack of use (for ag and dom) upstream in Lebanon. A secondary issue is Lebanese olive oil waste compromising water quality for downstream Israeli uses and users.
Downstream	Smallholders, agri-business export crops	IT, agri-business	1/6 of total freshwater consumption	

Figure 2. Trade-offs and relationships in the Upper Jordan River basin.

while any challenge to it is a risk for the more powerful. The trade-off for continued Israeli agricultural, domestic and industrial use is insufficient drinking and irrigation water for Lebanese villagers. The inability to ‘develop’ the region or to control the flows presents a risk to the Government of Lebanon, in terms of domestic pressure.

Trade-offs are also made over water quality. For example, the waste from upstream olive production in Lebanon can threaten downstream use. The topographic advantage enjoyed by the government of Lebanon does not enable it to meet its development goals due to expressions of Israeli reputational power

(as discussed further in the paper). Given the emphasis on dollars per drop within Israel rather than jobs per drop or care per drop, the guiding principle of efficiency takes on the most significance. Equitability throughout the basin is of no observable importance.

A utilitarian view of justice might see the cost of this water use to the small number of Lebanese citizens justified by the gain and efficiency of use by Israeli citizens. On the other hand, the outcome is decidedly unjust by Rawlsian or egalitarian models of justice.

4. Implications for basin justice

While found to be just to a limited extent, neither case is evaluated as ‘fair’ according to the analytical framework for assessing social justice. In both cases, economic, rather than social (or environmental), principles dictate basin management – in contrast to the ideals

claimed by IWRM. As Ecosystem Services is equally devoid of the politics and power asymmetries behind the good intentions, it is just as likely to produce similarly inequitable results.

The frame itself is useful for policymaking because it calls for the interpretation of outcomes that are missed by more conventional basin governance evaluations. Without an overtly *people-first* approach that challenges the fallback of dominance of the economy, policy we set risks perpetuating and institutionalising injustices. While subjectively 'pro-poor' policy seems a step in the right direction, too often too many decisions made in the name of pragmatism - and poor evaluation - render

the term devoid of meaning. As we know, however, inequitable situations do not endure. In order to be socially and environmentally sustainable, water resources management should address this imbalance and steer towards more equitable outcomes, measured in egalitarian terms.



Title: The Hasbani Springs at Hasbaya, Lebanon - one of the sources of the Jordan River. **Author:** Mona Dajani

Further reading: LWRG. 2013. Transboundary Water Justice: An exploration of social justice and the analysis of international transboundary water interaction. . Paper read at Paper prepared for the Sixth International Workshop on Hydro-Hegemony, 12-13 January 2013, London. Available at <http://www.uea.ac.uk/watersecurity/events/hh6-transboundary-water-justice-event-2013>.

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