

Noref Policy Brief

International responses to Pakistan's water crisis: opportunities and challenges

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Executive summary

Pakistan faces a multidimensional water crisis that claims hundreds of thousands of lives every year. The root causes of the crisis are twofold:

- circumstantial, which are linked to poor water-resource management policies (including water-wasting flood irrigation)
- structural, tied to factors deeply ingrained in politics and society such as the obsession with India, inequitable rural land-ownership and endemic water misgovernance (for example, exploitation of the rotational irrigation system to the detriment of the poor).

To resolve the crisis, both types of cause will need to be tackled, and the international community can play an invaluable role.

However, international responses must be measured. They should actively target the circumstantial causes but, at the same time, recognise that their ability to take on the structural ones is limited. While the international community can help mitigate the effects of the underlying structural drivers, Pakistan itself must take the ultimate steps to eliminate them.

Circumstantial causes can be addressed through international aid provision and international exchanges. Aid provision must be generous enough to meet Pakistan's prodigious needs but modest enough to respect the country's limited absorptive capacities. It should emphasise the restoration of infrastructure and distribution systems, be more responsive to the needs of Sindh and Baluchistan provinces and be channelled through both government agencies and civil society.

Despite the challenges the international community faces in addressing the structural causes, opportunities do abound. These include embarking on back-channel diplomacy to bring Pakistan and India closer together and cooperative projects with Pakistanis to make water distribution more equitable. To be effective, international responses must target all affected parties and be sensitive to ground realities. They should also be mindful of indigenous success stories and the factors that bring about that success.

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Background

Pakistan is facing a devastating water crisis. Per capita water availability has fallen from 5,000 cubic metres (m³) in the early 1950s to below 1,500 m³ today – perilously close to the water-scarce threshold of 1,000 m³. Agricultural production – Pakistan’s economic engine – is constrained by saline irrigation water. City water supplies are choked with sewage and chemicals. These water woes are compounded by a rapidly rising population, melting glaciers and relentless conflict and violence that have displaced millions. As if such accelerants were not enough, last summer’s catastrophic floods wiped out water supplies and infrastructure across the nation. Pakistan’s water crisis destroys livelihoods and snuffs out lives. About 250,000 Pakistani children perish each year from waterborne disease, 600 of them dying every day.

Pakistan’s water crisis can be attributed to two types of root cause. The first is circumstantial and linked to policies that promote poor water-resource management. The second is structural, stemming from underlying factors that are deeply ingrained in politics and society. Although population growth and climate change also undoubtedly contribute to Pakistan’s water problems, causal links are difficult to establish. This brief therefore treats such issues as accelerants, rather than causes, of the water crisis.

Resolving Pakistan’s water crisis will require addressing its root causes. Pakistan, a deeply impoverished developing nation, lacks the resources to tackle its water problems alone. The international community must provide financial, technical and informational resources to assist Pakistan. However, such international assistance should be measured. Pakistan is already heavily in debt to foreign creditors, with about 25% of its national budget dedicated to debt repayment. Furthermore, any international attempt to address structural concerns would be resisted by a government that is highly sensitive about affronts to its sovereignty.

This brief proposes that a balance be struck between domestic and international responses to Pakistan’s water crisis. It calls on the international community to actively target the circumstantial causes. It also asserts that while the international community can

help mitigate the effects of the structural causes, Pakistan alone must take the definitive steps to eliminate those underlying drivers.

For the purposes of this brief, “international community” is defined as the countries comprising the Friends of Democratic Pakistan. This is a body of about two dozen nations from Asia, Europe (including Norway), the Middle East and North America that have formally pledged to support economic development in Pakistan.

Circumstantial causes

Inefficient water policies

Pakistan’s water woes are not only about shortages. They are also a consequence of the country’s inability to properly manage existing resources. The Pakistani government implements wasteful and inefficient water policies; water-wasting flood irrigation enjoys widespread use while water-saving drip irrigation is rarely subsidised. Water is not taxed or regulated and so consumers are not penalised for excessive use. At the same time, Islamabad encourages international financiers to lease what remains of Pakistan’s water-rich farmland while seeking no assurances from investors that local communities will still have access to that water.

Current water policies are wasteful and inefficient.

Misguided investments

Authorities also make misguided water-related investments. Islamabad spends lavishly on large new dams, but sparingly on repairs to existing water distribution systems. Such investment choices are water-wasting. Pakistani water expert Simi Kamal calculates that the water wasted by the country’s leaky and poorly maintained irrigation system represents nearly 10 times what is projected to be generated by the Diamer-Basha dam now under construction.¹ Such investment decisions are also irresponsible;

1 Simi Kamal, “Pakistan’s Water Challenges: Entitlement, Access, Efficiency, and Equity,” in *Running on Empty: Pakistan’s Water Crisis*, eds. Michael Kugelman and Robert M. Hathaway, Washington, DC, Woodrow Wilson International Center for Scholars, 2009, http://www.wilsoncenter.org/topics/pubs/ASIA_090422_Running%20on%20Empty_web.pdf#33, accessed 9 November 2010 .

better-maintained canal systems would undoubtedly have reduced the extent of the damage inflicted on Pakistan's water infrastructure by the floods.

There is also insufficient investment in wastewater treatment plants. The lack of such facilities in urban areas explains why water is unfit for consumption in many Pakistani cities.

Paucity of water data

Lastly, Pakistan suffers from a paucity of water data. While several organisations – notably the Pakistan Council of Research on Water Resources – gather and publish such data, publicly available information about water quality, use and availability is scarce. Without sufficient awareness of the magnitude of the country's water crisis, the general public has little incentive to be judicious in water consumption and so profligacy ensues.

Opportunities for the international community

There are a number of ways in which the international community can address these circumstantial causes:

◆ *Aid provision*

In July 2010, the US State Department announced \$270 million worth of measures “to improve Pakistan's ability to increase efficient management and use of its scarce water resources”.² This aid package can serve as a framework for evaluating international water aid to Pakistan, in both quantitative and qualitative terms.

In terms of quantity, the \$270 million price tag is exceedingly modest. Given the scale of Pakistan's water crisis, repairing and rebuilding will require billions of dollars – not welcome news in 2010, with donor nations struggling to emerge from a global financial crisis. At the same time, it is critical that aid projects do not overcommit resources. This is because Pakistan lacks absorptive capacity. Neither its government agencies nor civil society are equipped to manage a massive influx of funds. Pakistan is simply too poor to weather the costs of expensive aid projects.

Afghanistan, an even poorer nation than Pakistan, offers a lesson. In 2007, the United States built a \$305 million diesel power plant – the world's most expensive power plant of its kind – but it has never been used because Afghanistan cannot afford to operate it. International aid to Pakistan's water sector must be realistic: generous enough to meet need yet modest enough to respect absorptive capacity limitations.

In terms of quality, the US water aid package is sound. It focuses on water infrastructure and distribution system rehabilitation, along with improved sanitation facilities and water-saving technologies. These are ideal international assistance projects because they bring prompt, demonstrable results without generating unsustainable costs. By contrast, “high-impact” projects – such as the Diamer-Basher dam, which many are imploring international donors to help fund – take years to complete, are expensive and pose risks to riparian communities.

International donors must also consider the geographic scope of their aid and the types of projects to execute. Given the national dimensions of the water crisis, assistance is required in every corner of the country. While the \$270 US aid plan wisely targets each of Pakistan's provinces, international donors generally favour Khyber-Pakhtunkhwa (KP), previously known as the North-West Frontier Province (NWFP), and the Punjab. It is essential that no region's needs are neglected. Baluchistan, often overlooked by the international community, is so dry that residents have to tap into sub-surface, rapidly dwindling and increasingly contaminated groundwater resources. Water purification tablets are the prime need of the hour in that province.

Meanwhile, Sindh is not as underdeveloped as KP or as important to Pakistan's agricultural economy as the breadbasket of the Punjab. Yet rural Sindh is arid, desperately poor and populated by fishermen and farmers – labourers whose livelihoods are directly tied to water. Furthermore, in terms of surface area, no province was more affected by the floods; nearly all of Sindh's 23 districts were submerged and 7 million residents were displaced. Given the extensive damage to surface water supplies, the international community should accelerate the construction and funding of desalination plants off the Arabian Sea to generate more drinking water for Sindh.

² “The United States Announces the Signature Water Program for Pakistan,” US Department of State, Office of the Spokesman, 19 July 2010, <http://www.state.gov/r/pa/prs/ps/2010/07/144815.htm>, accessed 9 November 2010.

Lastly, donors must identify local partners through whom they can channel their aid. In urban settings, they can choose from Pakistan's numerous water-focused civil society groups (such as the Hissar Foundation) and municipal governments. Rural settings are more challenging, given the fewer options available. The best bet is often the Pakistani government, particularly at provincial and local level. However, sub-national government entities are notoriously governance-deficient so donors should also engage the non-profit Rural Support Program network – one of the few civil society actors providing services across Pakistan's hinterland.

◆ **Cooperative activities**

International aid, while essential, is also problematic because it raises awkward questions about conditionalities (a delicate matter for many Pakistanis) and about how to channel the aid (whether through Pakistan's often corrupt government or through its more trustworthy but more capacity-deficient, non-governmental organisations). One opportunity available to the international community – cooperative exchanges – sidesteps such questions completely.³

Cooperative exchanges avoid issues, such as conditionalities, posed by aid provision.

Given that water problems are a global concern, such initiatives enable the international community and Pakistan to work together to find common solutions to shared problems. International conferences, for example, can share innovations in water conservation (such as the surcharges arid US cities impose on excessive water use during summer months and Pakistan's pioneering use of stormwater and rainwater harvesting). Technology-sharing is another means of cooperation. American researchers in Idaho recently developed METRIC, a new water-measurement tool. Such a device could generate much-needed water data in Pakistan. It could also be used to help ease provincial water-sharing tensions between Sindh and Punjab.

³ Michael Kugelman, "Cooperating in Water," Dawn, 16 November 2009, <http://www.dawn.com/wps/wcm/connect/dawn-content-library/dawn/the-newspaper/editorial/cooperating-in-water-619>, accessed 9 November 2010.

◆ **Private sector assistance**

The international private sector can also help to alleviate Pakistan's water problems. However, private financing works only if it truly benefits local communities and not just corporate bottom lines. One model worth emulating is that of Acumen, an international venture fund that has invested in a local Pakistani non-profit organisation to bring water-saving drip irrigation to tens of thousands of small farmers in Sindh. Another exemplar is KZO Sea Farms, an American corporation that hopes to help Pakistan develop a more robust mariculture industry in the Arabian Sea. Such a project would offer new job opportunities to Baluch and Sindhi fishermen unable to eke out a living from the disappearing waters of the Indus River and its tributaries.

Structural causes

Obsession with India

At its core, Pakistan's water crisis is a consequence of political and social factors that have stunted the country's development for decades. One of these is Pakistan's obsession with, and mistrust of, India. The military often blames India for "stealing" Pakistan's water, in effect absolving Pakistan from responsibility for dealing with a water crisis that is largely internally driven. This obsession with India also ramps up budgetary allocations for defence to the detriment of human development expenditures that encompass water needs. WaterAid has estimated that Pakistan's military budget is 47 times greater than its water and sanitation expenditures. With the country's most powerful institution blaming India for Pakistan's water woes, and with a limited budget available to address them, Islamabad enjoys neither the political cover nor the resources to tackle the country's water crisis in a comprehensive and sustained fashion.

Inequitable rural land ownership

Another structural cause is Pakistan's inequitable rural land ownership. Most rural land is owned or controlled by a small minority of wealthy farmers. Land ownership determines water access, so those without land – most rural Pakistanis – tend to be water-insecure. Resolving Pakistan's water crisis will require reforming land distribution so that more Pakistanis have access to land and, by extension, to

water. However, wealthy landlords – many of them politically connected or politicians themselves – benefit from the status quo and hamper any attempts to implement such reform.

These landed interests also forestall other policies that would boost water security. They have long resisted international lending agencies' call for an agricultural tax, which would generate revenue for irrigation repairs. In addition, many Pakistani sugar mills are owned by politicians who have no interest in reducing the cultivation of this heavily produced and water-intensive crop in favour of more water-saving crops.

Water misgovernance

Finally, Pakistan suffers from water misgovernance. For decades, an environment of impunity has permeated Pakistani society, enabling the water-greedy to prey on the water-insecure. *Warabandi*, Pakistan's long-standing rotational system for ensuring fair allocation of irrigation water, is repeatedly exploited. This is because wealthy landlords bribe provincial government officials to increase their share. Many of the central and provincial government bodies charged with water-resource responsibilities are crippled by endemic corruption. The Indus River System Authority, responsible for managing the volatile issue of interprovincial water-sharing, is plagued by bickering and inefficiency – and provincial governments often ignore its rulings.

Challenges for the international community

The international community is constrained in its ability to tackle these deep-seated drivers of the water crisis. Pakistan, like other developing nations with a colonial past, is highly sensitive to any external involvement in its politics. Even mere criticism of the role of its military in politics is deeply resented. International requests for Islamabad to phase out unequal land ownership or alter its military doctrine are non-starters.

To be sure, a nation with good standing in Pakistan (such as Norway) or a trusted benefactor with whom it has deep, long-standing ties (such as China) is in a more credible position than the United States to impress upon Islamabad the linkage between

structural obstacles and water problems. Yet bringing this connection to Islamabad's attention is a far cry from getting the government to take action.

Back-channel diplomacy could help resolve water tensions with India.

An exception to Pakistan's disinclination to accept outside involvement is its desire for international mediation in its water dispute with India. The row derives from Pakistan's contention that India is diverting flows from the western rivers of the Indus Basin (allocated to Pakistan under the Indus Waters Treaty, or IWT) and depriving Pakistan of agricultural water. While this brief emphasises the internal drivers of Pakistan's water crisis, it is important to acknowledge that if India does engineer such water diversions, particularly during the dry season, Pakistani crop harvests downstream are jeopardised.

Unfortunately, current prospects for outside intervention are hampered by the position of the Indian government. Since the terrorist attacks in Mumbai in late 2008 – believed to have been planned and executed by Pakistan-based militants – Delhi has refused to hold formal discussions with Islamabad about water unless the latter first makes demonstrable progress on dismantling terrorist organisations that target India. Furthermore, India-Pakistan water tensions are associated with the combustible subject of Kashmir, given that rivers in the Indus Basin run through this contested area. So far, India has refused to internationalise the Kashmir problem.

In July 2010, US Secretary of State Hillary Clinton rejected the possibility of US mediation. Instead, she called on Pakistan to improve its internal water management: "If you go to a ... mediation body and say water is being diverted," she said, "the first response will be you are not efficiently using the water you have."⁴ Nonetheless, even if an international mediator were to weigh in and rule

4 "Pak needs to improve management of water resources: Clinton", Hindustan Times, 19 July 2010, <http://www.hindustantimes.com/Pak-needs-to-improve-management-of-water-resources-Clinton/Article1-574739.aspx>, accessed 9 November 2010.

in Pakistan's favour, the country's water problems would continue. This is because having more water flowing into Pakistan would simply amplify existing inefficiencies and inequalities: even more water would be wasted, contaminated and stolen.

Opportunities for the international community

Curiously, soon after Clinton's announcement, Pakistan extracted some key concessions from India. Pakistan was granted permission to inspect two hydropower plants in Indian-held Kashmir – a major Pakistani victory in light of Islamabad's complaint that India's activities on the western rivers are too opaque. India also agreed to have a telemetry system installed on the Indus to monitor river flows. These developments create cooperative opportunities for the international community. The US researchers who developed METRIC, for example, could offer to work with Pakistani (and Indian) researchers and engineers on the new telemetry system.

These concessions also suggest possible back-channel efforts by the United States to urge Pakistan and India to be more cooperative. A strong argument can be made for private, behind-the-scenes international diplomacy that compels Pakistan and India to work through, and eventually resolve, their water tensions. This would help cool the political temperature in both capitals and pave the way for smoother bilateral ties.

International back-channel diplomacy, however, does nothing to solve the internal problems of unequal land ownership and poor governance. These are challenges that Pakistan must confront itself, and will probably require the emergence of a new generation of political and military leaders with fresh views about India, good governance, resource allocation and a generally greater desire to aid Pakistan's masses. To facilitate such an outcome, international donors can help organise and fund youth leadership initiatives in Pakistan and among the Pakistani diaspora. These efforts could bring together young Pakistanis in order to convey the urgency of the water crisis and what is at stake, as well as to hammer home the imperatives of better water governance, closer relations with India, and more equitable land distribution policies.

To be sure, many influential Pakistanis already support such goals, and the international community must actively engage those people. Encouragingly,

international experts are currently working with managers at a canal command centre in Punjab to overhaul the *warabandi* system. They hope to replace it with a more water-conserving arrangement that emphasises as-needed water delivery and storage. Though such ventures risk incurring the resistance of vested interests, the opportunity for Pakistani buy-in makes them wholly worthwhile to pursue.

Furthermore, demographic and political shifts may begin to melt the structural obstacles in the coming decades. For example, Pakistan is undergoing rampant urbanisation and rural-urban migration could eventually undermine its semi-feudal agrarian structure. Meanwhile, Pakistan's perception of India as a threat may be easing; its spy agency, the Inter-Services Intelligence (ISI), reportedly produced an assessment in 2010 that identifies domestic extremism as constituting a bigger threat than India.

At the same time, such shifts may reorient the centre of gravity of the water crisis. Urbanisation will tax already-stressed city water-resources. This suggests that, in the decades ahead, international responses to Pakistan's water problems may need to intensify their focus on wastewater treatment and other urban priorities. And a stronger military emphasis on domestic counter militancy means more security operations, and a more pressing need to help ensure water security for displaced civilians.

The positive impact of international responses

The international community can help Pakistanis manage their limited water resources more efficiently by providing:

- aid for infrastructure repair and reconstruction
- technology and funding for water-saving irrigation
- assistance for alternative water-based livelihood projects
- forums for informational exchanges.

Better water-resource management not only conserves precious supplies, it also mitigates the effects of climate change on Pakistan's water stress. Melting glaciers will inevitably reduce Indus Basin flows, thereby decreasing Pakistan's overall water supply. However, the reduction could be lessened if water was not leaking out of pipes or otherwise used wastefully.

Furthermore, with more judicious water use, Pakistanis will suffer less from the effects of the structural dimensions of the water crisis. While poor governance and unequal land distribution will surely deprive the Pakistani masses of water, properly conserving what little they do receive will ease their burden.

Pakistan's own crucial role

International efforts can help alleviate Pakistan's water crisis but the country must take ultimate ownership and pledge to chip away at the policies and conditions that perpetuate the crisis. Citizens' initiatives are already underway – from urban rainwater harvesting to theatre performances and media programmes that raise awareness about water insecurity. Pakistan's feisty press and civil society repeatedly underscore both the urgency and challenges of dealing with the structural dimensions of the water crisis.

Pakistan must take ultimate ownership of its water crisis.

Meanwhile, Islamabad has called for a national water-quality monitoring programme and has drafted a National Drinking Water Policy. Pakistanis are also increasingly aware of how rampant population growth exacerbates water shortages, and the government has pledged to focus on improving family-planning facilities and expanding access to them. International donors have wisely committed to help fund these demographic initiatives.

Recommendations and final considerations

International responses to Pakistan's water crisis should be seen as complements to, not substitutions for, such indigenous efforts. They should embrace several guiding factors:

◆ *Inclusivity*

All affected parties must benefit. This means that initiatives should specifically target women, who bear primary responsibility for water-related tasks. Pakistani society is encumbered by systemic inequalities and women frequently face discrimination that cuts them off from water resources.

◆ *Sensitivity to local conditions*

Well-intentioned development projects often end up harming those they are meant to help

because of an inadequate understanding of ground realities. Several decades ago, a rural development organisation introduced a new wheat crop across the northern Pakistan region of Baltistan – the crop failed to withstand the region's harsh weather and was criticised by local farmers for its bad taste. And in 2010 Washington announced a project to help boost Pakistani mango exports to the United States – precisely when the Pakistani media were reporting that vast tracts of Pakistani mango orchards had succumbed to disease.

◆ *Embracing local success stories*

International efforts should take note of what is working in Pakistan and support strategies along those lines. The Orangi Pilot Project has garnered universal praise for its community-based model for improving sanitation in Karachi's slums. And the radio program "Water Stories, Women's Stories" has been commended for bringing gender and water themes into public debate. To be sure, however, some indigenous projects owe their success to the very fact that they are local – and their managers may regard international support as counterproductive.

This last point amplifies the underlying message of this brief: international responses, while essential, must be carefully calibrated. On the one hand, they can redress the infrastructural and technological deficiencies that Pakistani government policies have failed to address. In light of the destructive floods of 2010, Pakistan's need for international aid to rebuild pipes, canals and other conveyance elements has never been more acute.

At the same time, the international community must recognise the limits of responding to the deep-seated causes of Pakistan's water crisis. It can assist where possible: quietly urging Pakistan to negotiate with India; working with Pakistanis to re-shape *warabandi*; and helping nurture a new generation of Pakistani leaders willing to dismantle the structural obstacles. Yet it must let Pakistan do the rest. In the words of Pakistani author Mohsin Hamid, "We need to start taking care of ourselves. We need to move beyond aid. Long-term aid cripples us. Pakistan needs to help itself."⁵⁵

5 Mohsin Hamid, "Pakistan's Challenge," Dawn, 27 August 2010, <http://www.dawn.com/wps/wcm/connect/dawn-content-library/dawn/the-newspaper/op-ed-contributor/Pakistans-challenge-780>, accessed 9 November 2010.

Further Reading

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