

13 Water Scarcity and Regional Security in India

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Introduction

India's water management has been on an unsustainable path for centuries. In the 16th century, Akbar the Great, the celebrated Mughal emperor, decided to build a new capital for his vast empire. The best architects of the realm were invited to design a magnificent palace in Fatehpur Sikri (City of Victory) in the dry plains of northern India. The cream of the crop of Indian artisans worked for several years to complete the capital, and vast amounts of resources were spent realizing the emperor's dream.

In 1589, shortly after the completion of the new capital, Robert Fitch, a gentleman merchant and one of the earliest English travelers to India, noted that Agra and Fatehpur Sikri were "two great cities, either of them much greater than London and more populous."¹

As any modern-day traveler to Fatehpur Sikri will attest, it is an excellent testimonial to the Indian architects and artisans. Not surprisingly, it is now a UNESCO World Heritage site. However, the history of the new capital was not so auspicious. Akbar used it for only 13 years, 1572–1585, and then abandoned it rather ignominiously to return to his old capital permanently. The main reason for the abandonment of the new capital was serious water scarcity.

Fatehpur Sikri is a magnificent monument to bad and unsustainable water management. Some 440 years later, water management in India has improved only marginally compared with rapidly increasing requirements, because of a rising population, rapid urbanization and industrialization, steadily increasing aspirations of the people for better quality of life, and information and communication revolutions in the country that have made its citizens aware of what may be possible. All these developments, along with poor water planning for centuries, have ensured that India would face a perfect storm as it tries to provide a reliable supply of water to a burgeoning population and satisfy its escalating domestic, agricultural, industrial, thermonuclear, and environmental needs.

Population and Water

As India's population has increased, so have its water requirements. Before India was partitioned in 1947 into two countries, its population was around 390 million: 330 million in India and another 60 million in what later became Pakistan. By 2016, the population of India had increased to 1.33 billion, with another 193 million in Pakistan and 163 million in Bangladesh

(Pakistan was divided into Pakistan and Bangladesh in 1971). By 2050, India is expected to have some 1.7 billion people, Pakistan 344 million, and Bangladesh another 202 million.

Compared with the total population of 390 million in 1947 undivided India, by 2016, these three countries have a combined population of 1.686 billion. By 2050, the total population of these countries is estimated to reach 2.206 billion. Also by 2050, India is expected to be the most populous country in the world, overtaking China by around 2022. The three countries that were part of India in 1947 are expected to become three of the 10 most populous countries of the world by 2050, with India at number one, Pakistan at number six, and Bangladesh at number eight.

Increases in population, in the absence of serious and sustained efforts to improve water use efficiencies, have become a major driver of water requirements in the country. India's neighbors—Pakistan, Nepal, and Bangladesh—are facing similar problems. This is an important consideration because many of the major rivers of the subcontinent are shared by two or more countries.

The net result has been steady increases in water requirements all over India as well as in Pakistan, Bangladesh, Nepal, and Bhutan. Another neighbor, China, with the legacy of its strict one-child policy from 1979–2015, does not have similar population growth issues, but it is facing different types of water-related problems because of nearly 40 years of explosive economic growth and continued poor water quality management.

Population growth, in the absence of proper domestic and industrial wastewater treatment, has created a serious water quality problem. Improperly treated wastewater and indiscriminate discharges of untreated or partially treated wastewater have contaminated surface and groundwater bodies within and near Indian population centers with known and unknown pollutants from domestic, industrial, and agricultural sources. This has had major implications in terms of human and ecosystem health.

Urbanization, Economic Growth, and Water

In addition to population, two other factors—urbanization and economic growth—are also important drivers of increased water requirements.

With steady economic growth, higher literacy rates, and increasing skill levels, the number of middle-class families in India has been increasing steadily. In 1985, less than 10% of the population constituted the middle class. It is now estimated that by 2030 the median income of Indian households is likely to increase by 90% to reach over \$10,000, in 2014 prices. The number of middle-class families will increase from about 70 million to more than 90 million. India's middle class will still be much smaller than that of China, which has witnessed phenomenal growth over the past four decades. Even by 2030, when India will be the world's most populous country, its number of middle-class households will be less than China's in 2014. This is assuming India's growth rate will continue to be high, around 7%, in the foreseeable future.

The biggest impacts in terms of higher water requirements have been due to changes in the dietary habits of the increasing number of affluent and educated consumers who are consuming more animal protein through meat and fish or milk products. They are also consuming more oil

and sugar. All these products take tremendous quantities of water to produce. Thus, as Indians become more affluent, their direct and indirect water requirements increase as well. Historically, determined attempts have not been made to improve water use efficiencies. Even now, with a major water crisis looming in the near future, there are no signs that real improvements in water use efficiencies are likely to happen.

India is facing another major problem: As the water requirements of the domestic and industrial sectors go up, the quantities of wastewater generated increase as well. As Indians manufacture more and more sophisticated products, the wastewater generated contains increasingly complex chemical substances that are expensive and difficult to treat. Domestic and industrial wastewaters are point sources of pollution. These can be treated cost effectively when there is political will, public demand, and good legal and regulatory systems that can be enforced. Unfortunately, extensive and pervasive corruption across the entire country has ensured that enforcement seldom takes place.

Nonpoint sources of pollution due to increasing agricultural and livestock activities means that water bodies are being further contaminated by increasing use of agrochemicals like fertilizers and pesticides, as well as by animal waste. For a developing country like India, there has been no real attempt to efficiently manage nonpoint sources of pollution.

India is facing a perfect storm in terms of managing water. First, water requirements are increasing steadily. This has meant that in years of moderately low rainfall there is not enough water in rivers and lakes to meet human demands. The river waters are already mostly overallocated.

Second, the problem is compounded by the fact that even in normal-rainfall years, because of past policies and politics groundwater use is increasing steadily. The situation has worsened since the Green Revolution. Farmers do not pay for the electricity needed to pump water. Consequently, India now uses more groundwater than the United States and China combined. The net result has been that groundwater extraction has reached critical and overexploited levels in many states such as Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Madhya Pradesh, Punjab, Rajasthan, and Telangana. In many places, groundwater levels are falling by more than one meter each year. This is contributing to land subsidence and many other environmental hazards.

Third, as demands have increased, more and more water can no longer be used due to increasing pollution.

Fourth, problems are further magnified by India's federal structure. Under the Indian Constitution, water is primarily under the purview of the states. The Central Government has very limited power to regulate how water is managed in the states. Since all the major Indian rivers are interstate in nature, continuing conflicts on allocation of waters in most rivers have become a serious challenge to regional stability in the country.

Interstate River Conflicts and Regional Security

The latest series of interstate river conflicts has triggered numerous protests, violence, and property destruction in many Indian states over existing water allocation decisions. With

consistently poor water policies and inadequate management practices in all sectors and provinces, continued improper governing practices, and climate change threatening to alter water access and distribution over the entire country, river water allocation disputes may prove to be one of the biggest political constraints to India's future economic growth and social cohesion. In light of such developments, several procedural as well as political obstacles preventing efficient, equitable, and timely dispute resolution need to be examined to gain a better understanding of the issues. More efficient, timely, and cost-effective processes that would be acceptable to all the states need to be formulated. This will prove to be a herculean task.

One of the most important challenges in confronting interstate river conflicts is the absence of permanent and efficient dispute resolution mechanisms. With the aim to facilitate speedy and decisive decision-making, the Inter-State Water Disputes (ISWD) Act was passed by Parliament in 1956. This allowed the setting up of ad hoc tribunals on a case-by-case basis whenever water conflicts between two or more states could not be solved by mutual discussion.

Initially, the idea of tribunals in India was to allow states an opportunity to discuss the conflicts and resolve them, before engaging in adjudication as provided under Article 262 and the ISWD Act. Tribunals have often contributed to long, drawn-out negotiation processes that have often led to the hardening of the positions of the individual states. Tribunals have also accentuated rivalries between states to try to receive higher allocations of river waters. Unfortunately, contrary to initial expectations, tribunals have failed to resolve river disputes despite several attempts over the years to give teeth to their functioning through successive amendments to the ISWD Act. Recently, Prime Minister Narendra Modi called tribunals a "barrier" to just allocation because they are often ambiguous and the process continues to remain opaque and often inconsistent.

There are several problems with the current tribunal system that prevent a long-term and sustainable solution. First, in the absence of a uniform, logical, and common process, considerable discretion has been left to the various tribunals in terms of the processes adopted and the underlying concepts on the basis of which the final awards were made. Sometimes the tribunals have acted contrary to international practices or earlier verdicts given by other interstate water tribunals on the same river and to the same parties. This has left the disputed parties dissatisfied and suspicious of the impartiality of the final awards and their rationale and fairness.

For example, in the case of the Ravi-Beas interstate conflict, Rajasthan was allocated an unjustifiably large share of water despite being a non-riparian party in the dispute. The rationale and justification for this decision were never properly explained. A similar principle was followed by the Narmada River Tribunal that was constituted prior to the Ravi-Beas Tribunal. Under this award, Rajasthan was granted some water from the Sardar Sarovar Dam because of "national interest" despite being a non-riparian party to the conflict.² In this case, Rajasthan's share was considerably smaller in comparison with the two major riparian parties, Gujarat and Madhya Pradesh. In sharp contrast, in the Ravi-Beas case, Rajasthan was granted 8 million acre feet (MAF)³, which was even greater than the 7.2 MAF granted to an undivided Punjab. This later had to be shared with Haryana and New Delhi, resulting in further

diminished water availability for Punjab, despite its being the most significant riparian party in the dispute. The logic behind this award was never properly explained.

The tribunal rejected Punjab's argument, which would have used the doctrine of riparian rights and the theory of ownership rights of a state in river waters to prevent Rajasthan, which is not within the basin, and Haryana, which lost its riparian character due to division from Punjab, from gaining access to Ravi-Beas waters by terming them "non-riparian" states.⁴ Instead, the tribunal upheld the view that the "doctrine of riparian rights" and the "theory of proprietary rights of a State" apply to private parties and are not applicable in interstate water disputes in India.⁵ This judgment goes against the conventional international practice of following riparian rights for water division, which originated in English common law. It is followed by many countries, such as Canada and Australia, and by eastern states in the U.S. Not surprisingly, Punjab has questioned the legality and fairness of the award and has remained hostile to the arrangement from the very beginning.

Second, arbitration results are nonbinding to the states involved. Tribunals are constituted on a case-by-case basis and are not backed by any statutory legitimacy. Consequently, and not surprisingly, state governments have often refused to comply with the final award. In the Ravi-Beas dispute, the Punjab state government passed legislation in 2004 aimed at neutralizing two Supreme Court judgments of 2002 and 2004 requiring Punjab to construct the Sutlej-Yamuna Link (SYL) canal on its territory to share water with other parties, in line with the tribunal order. This is an example of willful opposition to the spirit of federalism.

Third, there has been a clear reluctance on the part of the Central Government to establish institutions for the implementation of the tribunal awards. This has created an institutional vacuum, which has significantly contributed to the failure of the dispute settlement processes.

Fourth, there is no fixed stipulated time frame for negotiation and adjudication. The Cauvery Tribunal took 17 years to declare its final award. This delay was further aggravated by Karnataka's decision to file a Special Leave Petition at the Supreme Court to thwart the final order. By refusing to submit to the tribunal's decision to validate the 1924 agreement and by claiming historic injustice, Karnataka has gained additional time, which it used to finish new irrigation works that would ultimately diminish the water supply that could be made available to Tamil Nadu.⁶

Numerous suggestions have been made to provide for a permanent tribunal.⁷ The first such recommendation was mooted in 2011 by the then-law minister M. Veerappa Moily, a decision that received support from the current ruling government. Giving statutory backing to a permanent committee instead of constituting ad hoc and temporary tribunals could help remove discrepancies, increase accountability and transparency, and maintain consistency in finding definitive and acceptable solutions to conflicts over river water allocations.

The 2012 National Water Policy draft included such a policy⁸ as part of its recommendations, which were given to the United Progressive Alliance government in 2013. More recently, the Modi government has discussed the possibility of constituting a tribunal that would replace all other adjudication mechanisms in the country, including those related to interstate water conflicts, in line with its "minimum government, maximum governance" philosophy. It should, however, be noted that the mere constitution of a permanent tribunal is unlikely to create

substantial changes and improvements if procedural aspects of dispute resolution are not appropriately modified. There is no reason to believe that state governments would abide by a permanent tribunal's decisions when there are no constitutional measures in place to ensure cooperation by the disputed parties through clear, transparent penalties in case of noncompliance.

Additionally, it is imperative for the Central Government to implement the tribunal awards promptly, in part by establishing the required infrastructure that would facilitate their implementation. Political calculations, especially in the face of upcoming elections at both the Central and state levels, often prevent a genuine attempt from the Central Government to mediate appropriate settlements between the states, as seen in the Ravi-Beas and Cauvery conflicts. Complex issues are left to the judiciary as political parties shrink from making difficult decisions that may displease one or more state governments involved in the disputes. Consequently, states continue to dominate water-sharing negotiations and use their political power to lobby for their individual interests. Such political calculations and/or bargaining have wide influence on the final awards given by the tribunals. This is because decisions on water allocation are based primarily on the arguments put forward by the states.

As noted earlier, the Indian Constitution has a provision for the formulation of temporary and ad hoc tribunals because adjudication was envisioned as the last-resort option in handling various river disputes. Discretionary measures involving mutually negotiated agreements were seen as a potential solution for resolving most conflicts pertaining to interstate water sharing.² States were expected to engage in constructive discussions, and only after they failed to resolve water conflicts through mutual discussions was the route of adjudication offered. An absence of formal institutional arrangements for facilitating such interstate negotiations has resulted in state governments resorting to the tribunal option as their first preference.

The Inter-State Council (ISC) came into being in 1990 as a constitutional body with the sole purpose of serving as a facilitating platform to discuss and resolve interstate disputes within reasonable time frames. The process has remained neglected and the constitutional body has fallen into disuse. Despite the current ruling government's emphasis on "cooperative federalism," the ISC met in 2016 for the first time since the new government came to power in May 2014. This was after a long gap of 10 years since the previous ISC session was held in December 2006. Such reluctance to strengthen a potential platform that can act as a binding mechanism between the Central Government, the states, and the union territories for sharing common policies and facilitating interstate cooperation and dispute resolution has resulted in a lost opportunity. This may prove to be a heavy burden on India's national integrity, as well as on its further social and economic development.

While weak and inefficient legal and institutional mechanisms have contributed to the rising number of interstate river disputes during the past decade, current policies of the present government may further exacerbate challenges in resource sharing through unintended consequences.

The philosophy of "competitive federalism" is aimed at achieving efficiency and inclusive growth in the country. Inspired by the U.S. model targeted at improving performance at the subnational level, the Modi government has promoted several good governance initiatives in a

spirit of cooperative and competitive federalism. These keep national objectives in mind while allowing states to compete with each other for investment opportunities. For this reason, funding patterns have also changed, with states getting greater autonomy in designing their development programs.¹⁰ While this has most certainly expanded the political space to plan and implement state development initiatives without any, or much, interference from the Central Government, it has also increased the accountability of the state governments. States find it more difficult to lay the blame on the union government for their own poor performance. Additionally, in centrally financed schemes such as Smart Cities or the Rashtriya Krishi Vikas Yojana (RKVY) program,¹¹ states are encouraged to compete with each other for funding by showcasing their strengths and enforcing rapid reforms aimed at reducing administrative and regulatory inefficiencies, increasing public investments in infrastructure, and controlling corruption to attract private investments.

The potential for such policies to further aggravate conflicts over fair and speedy allocation of interstate river waters needs to be assessed. As states become more aware of the implications of interstate competition for investments, they are bound to consider reliable availability of resources to ensure that their self-interest is properly guarded and that they do not fall behind in the race with other states. Most industries are likely to locate in regions where availability of infrastructure and resources is assured on a long-term, reliable basis. For instance, reliable availability of water, electricity, and land at reasonable prices, and flexible labor laws, may become significant factors that are essential for attracting new projects and thus generating employment and contributing to regional economic development. States are now in a rush to improve their competitiveness because they are being compared in terms of “ease of doing business” rankings calculated at the national level by the World Bank and the Department of Industrial Policy Promotion under the Ministry of Commerce and Industry.¹² Hence, the policy of competitive federalism has huge political and economic significance for state governments that are constantly eyeing the next election.

India has witnessed intersectoral competition for water for many decades, owing to its poor water management strategies in the face of rapidly rising water requirements. In the absence of significant water sector reforms at the Central and state levels, competition for the shares of river waters will increase significantly in the coming decades. The new concept of federalism promoted by the current government is built on values of cooperation as well as competition. An unbalanced competitive-cooperative dynamic, mired in historical animosity, linguistic rivalries, and unresolved issues between neighboring states, is bound to prevent voluntary compromises from taking place even in years of normal rainfall, let alone during droughts. This can be seen in the Cauvery River dispute, in which Tamil Nadu has steadfastly refused to sacrifice even 20 or 30 thousand million cubic meters (TMC)¹³ to Karnataka during droughts, in the absence of an acceptable water-sharing formula during distress periods. Tamil Nadu is aware that this voluntary gesture would go a long way in exacerbating the crisis.¹⁴

In contrast to disputes with other countries, interstate water disputes have a special dimension that makes their resolution far more complex: state languages. Languages have played very important roles in shaping the political, social, and economic destiny of India. India was reorganized postindependence as groups demanded separate states based on language.

Despite clear reservations by the Constituent Assembly of India regarding the possibility of such political division stoking regionalism and linguistic chauvinism, the demand was accepted.

Given the high relevance of linguistic ethnicity that still prevails, in the aftermath of violence in Bengaluru over the Cauvery dispute, it appears that social media has played pervasive and particularly harmful roles in encouraging aggression toward “the other” linguistic groups. Residents of Tamil Nadu and Karnataka were seen engaging in verbal spats and posting violent videos and hate speeches on Twitter and Facebook. Provincial newspapers seem to be far more chauvinistic than their national counterparts; they emphasize what divides them linguistically rather than promoting just, equitable, and acceptable solutions. Online communities are increasingly playing major roles in shaping conflict discourses, which is bound to add to the existing tensions¹⁵ and also delay the acceptance of rational water allocation awards.

Conventional news platforms have further added to these woes. A video clip showing the beating of a Tamil boy in Bengaluru by a pro-Kannada fringe group for mocking protests by Kannada actors on the Cauvery issue was picked up by Tamil television channels and played multiple times. Almost immediately, Kannadigas whose families had lived in Chennai for several generations faced retaliatory attacks by Tamilians.¹⁶ Media insensitivity to the impact of telecasts contributes to the dissemination of aggressive, violent, and sometimes even false content that inevitably fuels riots within highly charged, ill-informed, and aggrieved communities. Civil society initiatives to break interstate political logjams fueled by politicians and extremist groups are also conspicuous by their absence. Few scholars and intellectuals have come forward to engage in mediation processes or participate constructively in holding dialogues to prevent misinformation and false allegations from spreading across a region like wildfire, as has been the case recently. It seems as if the intelligentsia and civil society stand no chance to dampen the political frenzy and linguistically divisive propaganda promoted by vested institutions and individuals.¹⁷

One of the unintended consequences of several rounds of carving out new states from existing ones has been that there have been dramatic increases in river water conflicts. In 1956, 14 states and six union territories constituted the entire country. In less than seven decades, the number has more than doubled, with India now composed of 29 states and seven union territories, most of them divided on the basis of language. The nature of demand for statehood has changed considerably since the beginning of the 21st century. It is worth noting that the four most recent cases of statehood—granted to Uttarakhand, Chhattisgarh, Jharkhand, and Telangana—were based not on language or ethnic differences but on the political apathy of mother states over resource sharing,¹⁸ water being the most contentious issue for Telangana.

While some political analysts consider the creation of new economically and administratively viable small states an inevitable future reality for India, the process itself is driven by desperation and anger, instead of by peaceful negotiations between and within states. This phenomenon threatens India’s national integrity and exposes serious shortcomings in the existing dispute resolution mechanisms. These are being increasingly burdened by a large number of water-related conflicts between existing parties. They simply do not have the capacity to handle the additional complexities of new parties and their claims. For instance, if the proposed plan to divide the northern state of Uttar Pradesh into three or four smaller states

becomes a reality, the challenges that future tribunals may have to face to allocate water from the rivers interspersing the Gangetic plains will multiply. Allocating water would be a major exercise involving multiple rounds of political bargaining and renegotiations of current water-sharing arrangements between existing riparian states.

Ongoing statehood agitations based on resource conflicts have a tendency to destabilize the country by invoking strong feelings of deprivation and anger among minority groups, further strengthening regional identities. This could conceivably contribute to the balkanization of the country. This issue is important in an Indian context where demands for the creation of new states have significant potential to further aggravate and complicate existing regional conflicts over the sharing of natural resources, particularly in interstate rivers. This is especially true for water, which is essential for human survival, economic development, and poverty alleviation, and has strong emotional bonds to human beings, more so than any other resource.

Another issue linking water disputes to state politics is the power of destructive state campaigns to distract voters from real issues of poor governance and lack of administrative skills and action. Water has assumed the role of a political weapon. This is particularly true in the case of the Ravi-Beas conflict, in which both Punjab and Haryana have been on the receiving end of public wrath on account of consistently poor administration and continued nonperformance. Punjab, which was once the symbol of India's progress because of the Green Revolution, now has a dwindling economy as a result of years of militancy (including the demand for a new state based on religion), corruption, and distorted economic incentives in water, energy, and fertilizer use. These have contributed significantly to a severe crisis of groundwater that is likely to affect agricultural production.

On one hand, Punjab's focus has largely remained confined to its fight for water resources with its Hindi-speaking neighboring state of Haryana, which is also its immediate political and economic competitor. Haryana, on the other hand, has grown, especially in terms of cities such as Gurugram, Faridabad, and Karnal, which have witnessed rapid development in recent years, even though the state as a whole has been witnessing a steady decline in economic growth rates.¹⁹ Haryana has been a victim of major law-and-order situations, poor social indicators (especially the child sex ratio and crimes against women), financial mismanagement, and more recently the complete failure of the state administration to manage political crises fueled by the Jat reservation demand for fixed employment quotas.²⁰ Hence, fighting for water rights often serves as a successful way of diverting the growing frustration and desperation of agricultural communities in the two states, at least over the short and medium terms, to an external issue.

Regional political parties have used river water allocation conflicts to position themselves as the greatest guardians of state rights and interests. This holds great significance, especially for a democratic country like India, where the continuity of political regimes is uncertain. Hence, intrastate politics mostly reduce the chance of arriving at a mutually acceptable solution with neighboring states. When Andhra Pradesh lost out on its share of surplus water in the Krishna River due to the Krishna Water Disputes Tribunal (KWDT)-II award,²¹ opposition parties in the state such as the Telugu Desam Party, the Communist Party of India, and others immediately laid the blame on the Indian National Congress, which ruled the state and Center at that time, for failing to bargain for a better deal for Andhra Pradesh.²² Such posturing, opportunism, and

short-termism shown by political groups push state governments to take an extreme stand to counter allegations that might cause the ruling political party to lose power in the next election. This is because water has been historically, and continues to be today, a very emotional subject in India.

In a similar case, Karnataka refused to allow any independent party to determine how much water it must “release” or “spare” to the lower riparian state, Tamil Nadu. This means, in reality, that it completely violated its upper riparian responsibility, whether examined under the Helsinki rules, which stress equitable sharing for beneficial use, or the 1997 UN Convention, which calls for equitable utilization of the waters.²³ This situation is further complicated by the tendency of the Central Government to take political stands depending on the party in power in either state. Such cases of political collusion are most visible in the Ravi-Beas conflict, in which the union government and the Haryana state government are led by the same political party. These dynamics have probably played a role in triggering a much more definitive and aggressive stand from the Central Government against Punjab’s constitutional violations, in comparison with the other ongoing interstate river disputes, in which the Center has chosen to remain at arm’s length. Hence, the motivations driving water conflict resolution in India are most often aimed at immediate electoral gains and petty politics, which compromises the long-term interest of the country as a whole.

A recent political strategy used by many states engaged in legal battles over water sharing is depicted in the Krishna dispute, which points to a larger issue at stake. In 2005, a few years before the KWDT-II tribunal was going to release its award revising its earlier verdict, Andhra Pradesh accelerated the development of its 16 irrigation projects with the objective to turn its temporary “liberty” to use the surplus waters of the Krishna River granted by the earlier tribunal into a permanent “right.”²⁴ Project Jalayagnam was launched by the state government based on an election promise to double the irrigated area in the state. As part of the project, up to R46,000 crore (US\$6.734 billion) was spent from the state exchequer, including expenditure on irrigation projects that relied on the surplus waters of the Krishna and had no clearances from the Central Government.²⁵ The Andhra Pradesh government went ahead with its plans despite being aware of the objection raised by Karnataka for more than a decade to restrain the upper riparian state from executing irrigation projects that were dependent on the utilization of surplus waters of the Krishna River. This was simply a political maneuver by the state to mount pressure on the second tribunal, hoping for a verdict that would permanently settle the surplus water issue in its favor.

When the KWDT-II award was declared, Andhra Pradesh’s exclusive liberty of using surplus water was taken away and it was compelled to share the water with the other riparian parties. This created political turmoil, with the state government blaming the tribunal and the Central Government agencies for endangering its development plans and robbing its farmers of their irrigation facilities.

A similar yet much more controversial strategy was employed by the Punjab government when it passed the Punjab Termination of Waters Agreement legislation in 2004, and more recently in 2016, the Punjab SYL Canal (Rehabilitation and Re-vesting of Proprietary Rights) Bill in response to growing pressure from the Center and the judiciary to complete the SYL Canal

construction. Both cases indicate the extent to which state governments are willing to fight for their share of water, resorting to unfair means including, but not limited to, the brazen violation of the constitution upon which India was established as a nation.

At present, with a number of state governments defying orders of the tribunals as well as of the Supreme Court, water has assumed the position of an important threat to India's federalism and its future economic and social development. As noted by a former prime minister of India, Manmohan Singh, in many ways it is easier for India today to negotiate water-sharing agreements with its international neighbors than to manage its domestic water disputes.²⁶ The conflicts have taken a violent shape in many parts of the country, and the Central and state governments have failed the constitutional and legal provisions that were put in place for their abatement and/or solution. Legal experts have strongly recommended that Parliament take up the jurisdiction and management of all major interstate rivers in the country, regardless of the state boundaries that they traverse.²⁷ Unfortunately, in the present political scenario, the Union Government is often highly dependent on the support of the regional political parties to remain in power. This has meant that the Center's dominance and its potential as an honest broker to resolve interstate water disputes have been eroded steadily and considerably over the past several decades. This has been replaced by the increasing role of state-level politics, which is likely to make future resolution of interstate river water allocations more complex and difficult to reach. In addition, the solutions reached are likely to be suboptimal to all the parties, and thus in all probability will prove to be temporary in nature.

Implications for U.S. Foreign Policy

During the past five decades, U.S. policies toward India have often been reactive and inconsistent, and have sometimes shifted dramatically. For example, in 1971, the U.S. sent the aircraft carrier *Kitty Hawk* to the Bay of Bengal, ostensibly to show its support of and friendship to Pakistan. A generation later, in 2007, the same aircraft carrier participated in joint military exercises with India's *INS Vibrant* as a show of good relations and friendship.

Similarly, when Narendra Modi was the chief minister of Gujarat, the U.S. government would not even give him a visa. As soon as it appeared that he was likely to be elected the prime minister of India, American policy changed dramatically. Modi, for his part, during his address to the U.S. Congress used the words "partner" or "partnership" 15 times. The official joint communique noted that India is a "major defense partner." Thus, within a single generation the U.S.-India relationship has changed from "cool" to "strategic."

This, of course, is to be expected. In politics, countries really do not have long-term "friends." Their policies are primarily based on short- to medium-term visions and interests. When countries' interests converge, they are mostly friendly to each other. The reverse is also true. Also, countries can be concurrently friends, competitors, and even enemies depending on specific interest areas and their importance to the countries concerned. The U.S.-India relationship over the past five decades has gone through many ups and downs. Our view is that the future will not be any different.

While the overall direction of relationships is likely to be more of the same, it will probably be more complex and uncertain in the coming decades. This is because the pace of change in all spheres will accelerate, and because of new uncertainties due to political, economic, environmental, and technological changes. If India's gross domestic product grows at around 6% per annum over the next 10–15 years, there is no question that the country will be more assertive in the future. This will be reflected in its relationship with its neighbors and with other major powers like the U.S. or China.

For India, at least over the medium term, power is likely to become more diffused within the states, with non-state actors garnering harder and softer power. This is likely to make the Central and state governments increasingly unable, or unwilling, to manage or control internal debates and conflicts, especially for highly emotionally charged issues like allocation of interstate waters. The power of regional, language-based political parties, in all likelihood, would create a policy vacuum and paralysis in terms of action.

In the absence of a logical and long-term framework for water governance, and ever-increasing water demands on states facing accelerating water scarcities, our expectations are that these factors will lead to more hesitancy by the Central and state governments to make essential but hard political decisions. The issues are going to be further complicated by the increasing number of parties with vested interests. This could lead to delays in making decisions or even result in no action for a prolonged period of time.

There is also an increasing belief that India is for the Indians and Asia is for the Asians. This will probably lead to reduced chances for external governments like that of the U.S. to play any constructive and meaningful role in India. Based on current and future trends, the problems are likely to be defined within India, and the process to solve and manage them will become exclusively Indian because of social and political pressures. Thus, it is unlikely that the U.S. can play a meaningful role in issues that are under the jurisdiction of the Indian states, such as water, except in general terms, such as capacity building.

Concluding Remarks

Water management in India is now at a crossroads. The country can continue with its centuries-old strategy of meeting its burgeoning water requirements simply by increasing supplies. However, expanding supplies is increasingly becoming expensive, and the projects' environmental and social costs may not be acceptable. This is because most of the good and economical sites have already been developed.

With a large population that is expected to become even larger in the coming decades, the country has no choice but to seriously look at demand management through economic instruments such as water pricing and water rights, education, public awareness, and increasing water use efficiency practices by all available means. Water conservation and continually increasing efficiencies of water uses in all sectors must now become important items on the country's agenda.

Nowhere is demand management more essential than in water allocation to the different states on all the interstate rivers. Already such rivers do not have enough water even in

moderate-drought years. Yet, on not even one interstate river has demand management been high up on the political agenda of the states. Unless demand management is considered very seriously in the immediate future, India will face serious water crises that no previous generation has witnessed. This will lead to economic hardships that could precipitate political crises, social unrest, and regional instability in the coming years.

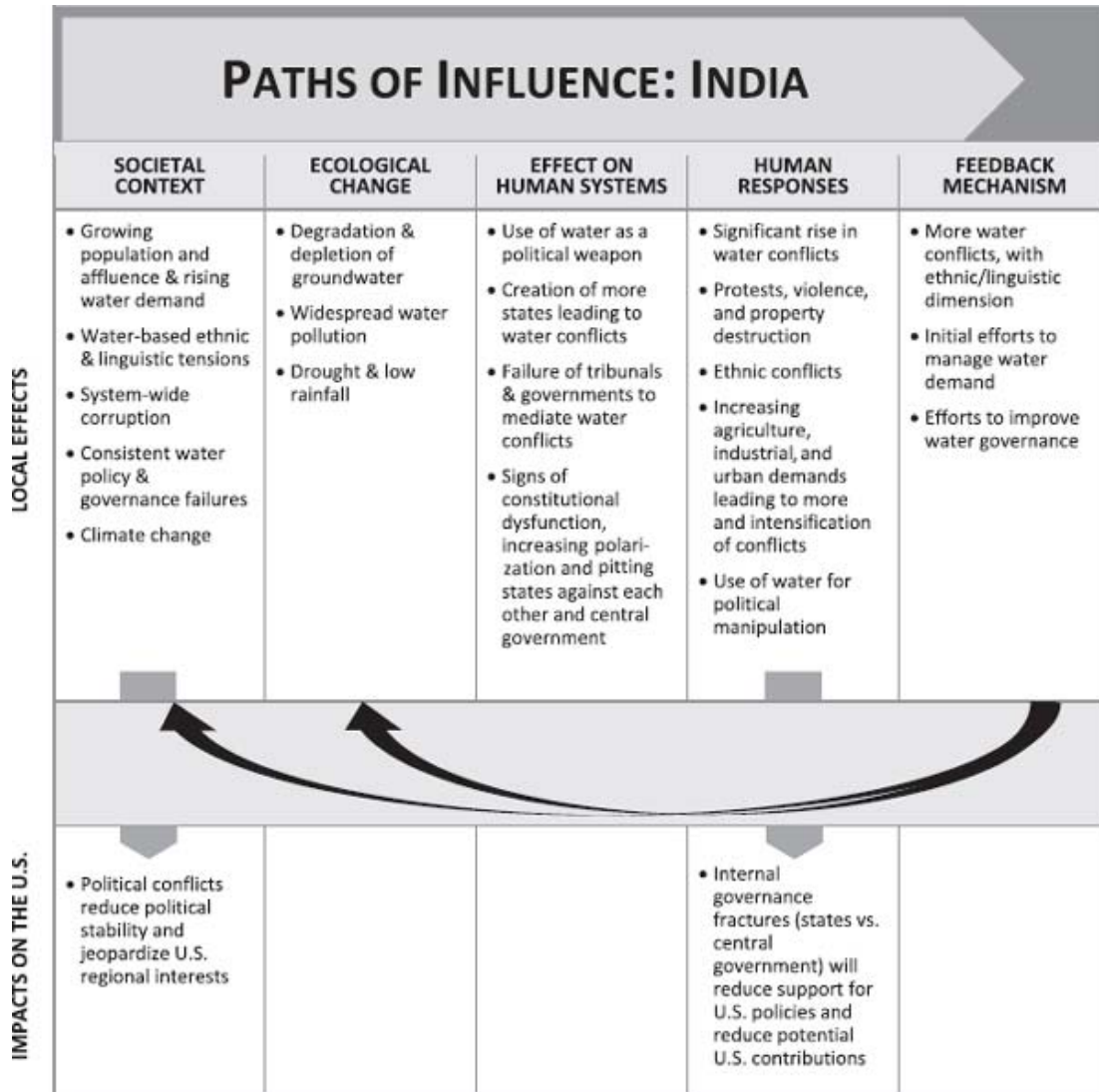


Figure 13.1 Paths of Influence: India

Central and state water institutions continue to have inconsistent, inefficient, substandard, and overlapping policies. Furthermore, water-quality management has been consistently ignored. This has resulted in steady deterioration of water quality in rivers and aquifers, making their water difficult to use without extensive and costly treatments.

It is a paradox that even though interstate disputes in rivers like Cauvery have been going on for over a century, data on water availability, use, and quality leave much to be desired. Without reliable data over a reasonable period of time, it is not possible to develop a long-term, rational, and equitable water management plan.

In the absence of functional and efficient water institutions at both the Central and state levels, and with a lack of the political will it would require to make difficult decisions that have not been made for the past several decades, the water allocation problems in interstate rivers can only become increasingly difficult to resolve. This does not include any consideration of complexities and uncertainties that may be imposed by future changes in climate.

Without serious demand management practices, interstate water allocations will be reduced to a zero-sum game for which the states and/or the Central Government will not be able to find any acceptable and equitable solutions. This will prove Mark Twain's wisdom: "Whisky is for drinking; water is for fighting over."

Notes

- [1](#) William Foster (ed.), *Early Travels in India, 1583–1619* (London: Oxford University Press, 1921), 122–187.
- [2](#) F. S. Nariman, "Inter-State Water Disputes in India: A Nightmare!" in Ramaswamy R. Iyer (ed.), *Water and the Laws in India* (New Delhi: SAGE Publications, 2009), 43.
- [3](#) Million acre feet, or MAF, is the volume of water that would cover 1 million acres to a depth of one foot. One acre-foot is equivalent to 325,851.427 gallons.
- [4](#) B. Chauhan, "Punjab-Haryana-Rajasthan Dispute," in B. Chauhan (ed.), *Settlement of International and Inter-State Water Disputes in India* (New Delhi: Indian Law Institute, 1992), 279–301.
- [5](#) B. Chauhan, "Inter-State Water Disputes in India: Appraisal of the Problems," B. Chauhan (ed.), in *Settlement of International and Inter-State Water Disputes in India* (New Delhi: Indian Law Institute, 1992), 316–328.
- [6](#) A. Richards and N. Singh, "Inter State Water Disputes in India: Institutions and Policies," *International Journal of Water Resources Development* 18, no. 4 (2002): 611–625.
- [7](#) S. Chokkakula, "The Water Tribunal Trap," *The Hindu*, June 3, 2005.
- [8](#) Government of India, "Setting Up Inter-State River Disputes Tribunal" (New Delhi: Government of India, February 10, 2014).
- [9](#) Chokkakula, "The Water Tribunal Trap."
- [10](#) The 14th Finance Commission report recommended increasing states' share in taxes from 32% to 42% from the Central funds, giving much greater fiscal autonomy to state governments.
- [11](#) RKVY or the National Agriculture Development Scheme is a state scheme in which the amount of central assistance provided to a state is contingent upon the state maintaining or increasing the percentage of its expenditure on agriculture and allied sectors with respect to the total state plan expenditure.
- [12](#) "A.P., Telangana Top in Ease of Doing Business," *The Hindu*, November 1, 2016.
- [13](#) One TMC, or tmcft, refers to the volume of water in a reservoir or river flow. It is equivalent to 1 billion cubic feet (28,000,000 m³).
- [14](#) R. R. Iyer, "Cauvery Dispute," *Economic and Political Weekly* 48, no. 13 (March 30, 2013).
- [15](#) K. Singh, "Bengaluru Violence and the Social Media: It's Time We Clicked With Responsibility," *The Indian Express*, September 16, 2016.

- 16 M. Maramkal and S. Ravishankar, "Cauvery Dispute: Is the Media Responsible for the Violence in Karnataka and Tamil Nadu?" *Scroll.in*, September 13, 2016.
- 17 Ibid.
- 18 K. S. Shrivastava, "Fight Over Regional Resources Drive Demand for New States," *Down to Earth*, July 15, 2013.
- 19 Aditi Phadnis, "India Facing Its Worst Water Crisis Ever: Himanshu Thakkar," *Business Standard*, May 14, 2016, www.business-standard.com/article/opinion/india-facing-its-worst-water-crisis-ever-himanshu-thakkar-116051400704_1.html.
- 20 Demand for reservation from the Jat community, a relatively well-off agrarian community, fueled violent protests in Haryana in early 2016, owing to exclusion from the Other Backward Classes (OBCs) list of the National Commission for Backward Classes. As part of India's affirmative action, communities that feature on the OBC list are given preferential treatment through reservations in educational institutions and government jobs. The Jat community in nine states of India has been demanding reservations beyond the 27% reservation granted to OBCs to secure jobs and admission in higher education institutions.
- 21 The Krishna Water Dispute Tribunal-II, or KWDT-II, award was declared on 31 December 2010 for allocation of the Krishna River water between three riparian states of Maharashtra, Karnataka, and Andhra Pradesh. More recently, the newly constituted state of Telangana, bifurcated from Andhra Pradesh, has become the fourth riparian party in the dispute; however, the second tribunal has refused to reallocate the water to accommodate a fresh petition filed by Telangana, which will be receiving a share of water from Andhra Pradesh. The next review of the verdict is scheduled for 2050. For more information, please refer to the Ministry of Water Resources website: <http://wrmin.nic.in/forms/list.aspx?lid=371>.
- 22 K. Venkateshwarlu, "Water Conflict," *Frontline*, Vol. 28, Issue 2, January 15, 2010.
- 23 Iyer, "Cauvery Dispute."
- 24 W. Chandrakanth, "Andhra Pradesh's Case," *Frontline*, Vol. 22, Issue 9, May 2005.
- 25 Ibid.
- 26 "Water Rows, Disparities Challenge Federalism: PM," *Business Standard*, October 6, 2007.
- 27 Nariman, "Inter-State Water Disputes in India: A Nightmare!"