



# A Policy Brief

## Challenges for Water Cooperation on Small Rivers between India-Nepal

Lessons from the fringe villages along the Pandai River in the shared Gandak Basin

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## 1. Background:

This Policy Brief is part of a larger initiative to understand the issues and challenges around small rivers or tributaries that enter or exit the territorial boundaries in South Asia<sup>1</sup>. The community engagements and the dialogue processes began in 2016 where the water starved villages, key actors and their riparian claims were identified by way of a legal capacity building tool called Gram Shivir that were held in the upstream Ramnagar and Budhnagar villages in Nepal and the Bhiknathodi, Ekwa, Khairatiya and other villages in Bihar, India<sup>2</sup>. Building on the earlier learning from the Gram Shivirs, a year long process was initiated towards finding solutions by facilitating the riparian communities through knowledge exchange, capacity improvement and dialogues<sup>3</sup>. This Policy Brief, based on the community engagements and micro dialogue processes, captures on the ground scenario on water conflicts, cooperation, community sharing of the streams, the existing and future challenges that have evolved over a period of a decade and deeply concern riparian communities and long term water cooperation issues arising due to the contested claims over the Pandai River that flows from Nepal into India and is the only source of water for nearly eleven villages in the downstream West Champaran District in the Indian state of Bihar. The Policy Brief combines the inputs from the focused group discussions in the downstream villages in India<sup>4</sup>, the civil society perspectives on upstream water challenges in Nepal<sup>5</sup> and the Pandai Vimarsh<sup>6</sup> - the Grassroots Dialogue convened to bring various stakeholders perspectives including the technical and the governance perspectives<sup>7</sup>.

## 2. Introduction:

Water, critical for the survival of all life forms for which there is no substitute, does not recognize the boundaries whereas the development efforts do, thereby creating complex water management scenarios at the sub-national, national and international level. Managing the competing demands for

riparian uses of a watercourse becomes more challenging when international political boundaries are involved as the international law that can be made applicable to such scenarios is neither well developed nor it is easily enforceable.

At the heart of this management challenge is the fundamental nature of water itself. Water being dynamic in nature affected by a multitude of natural and man-made factors of hydrology and consumptive development, the arrangements to share the



common pool resource requires re-assessment and re-setting at regular intervals. In an international context, the formal cooperation between the countries needs to acknowledge the dynamic nature of water and river systems, the people and other life forms dependent on them and accommodate future cooperation based on the advancements made in science and the international water law. The water agreements concluded between India and Nepal more than sixty years ago do not take these aspects into account as these are project based and therefore need to be revisited from these perspectives.

<sup>1</sup> See Projects-Paradoxes-Marginalized Rivers - International ... at <https://riversymposium.com/wp-content/uploads/2019/11/76.pdf>

<sup>2</sup> The Project 'Mainstreaming Community Concerns into Formal Water Cooperation Instruments between India and Nepal' was implemented by the Indian Environment Law Organization (IELO) during 2016-2018 with the support from the Civil Society Fund, DFID.

<sup>3</sup> The continuation of Gram Shivirs, knowledge exchange, capacity improvement and dialogues- Pandai Vimarsh in 2020 was supported by the India Water Partnership and implemented by the IELO has resulted into development of this Policy Brief.

<sup>4</sup> The FGDs were conducted by the Samgra Sansthan, a local NGO based in Bettiah, West Champaran, Bihar <https://www.ssevs.org/about-us/>

<sup>5</sup> The authors are grateful to Mr. Prakash Mani Sharma, Advocate, Supreme Court of Nepal for his involvements in the initiative and his valuable inputs from the upstream and legal perspective from Nepal

<sup>6</sup> We are grateful to Dr. Jacqueline Joseph, Professor, Jamsetji Tata School of Disaster Studies, Tata Institute of Social Sciences (TISS), Mumbai for moderating one of the crucial sessions in the Pandai Vimarsh and TISS for being a valuable institutional partnership for the Community Dialogue.

<sup>7</sup> The authors are extremely grateful to Er. A.B.Pandya, Secretary General, International Commission on Irrigation and Drainage, New Delhi for reviewing the policy brief and providing valuable inputs.

More importantly, the formal water cooperation between India and Nepal is confined to the four large river systems that are part of the larger Ganges Basin. Nearly six thousand small rivers or tributaries that supplement the large systems and are the direct source of life and livelihoods in very large and densely populated river sub-basins are left out of the purview of formal cooperation between the two countries. The Pandai River is one such example of a small but vital river without any form of understanding on sharing its waters between the two countries and is faced with contesting riparian claims to control the flow and quantity of water.



### 3. The riparian claims over the Pandai River: A context

The Pandai River originates in the Someswar Hills of Nepal and flows into the Indian state of Bihar through the districts of West Champaran, Gopalganj, Saran and Muzaffarpur. In the upstream portion of the Pandai River, many village communities in Nepal, including Budhnagar and Ramnagar, depend on it for their daily needs and agriculture. In the downstream, many villages including Bhiknathorhi<sup>8</sup>, Khairatiya, Dhamaura, Ekwa, Sahodara, Khairatiya, Sitapur, Ankhawa and Bhawanipur in the West Champaran<sup>9</sup> district of Bihar are critically dependent on the streams of Pandai River for drinking, agriculture and other daily needs.

During summer months, when the river turns into a very thin stream, the Pandai becomes a source of conflict as both the upstream and downstream communities in Nepal and India respectively claim their rights over little water that is available in its thin streams. Every year as the summer approaches, villages in Nepal create temporary bunds along the river to stop the water flowing into Indian Territory. The villagers' action is based on their understanding that since the river originates in the Hills of Nepal, they have the absolute right over its water and since very little water is available during summers, the flow of the streams is blocked by temporary bunds. However, since many years an arrangement for allowing the regulated flows has been made.

<sup>8</sup> The village is situated on the northern border of the district is Gaunaba Block and located on the Someswar hill at a height of about 600 feet above the sea level. ([http://www.censusindia.gov.in/2011census/dchb/DCHB\\_A/10/1001\\_PART\\_A\\_DCHB\\_PASCHIM%20CHAMPARAN.pdf](http://www.censusindia.gov.in/2011census/dchb/DCHB_A/10/1001_PART_A_DCHB_PASCHIM%20CHAMPARAN.pdf))

<sup>9</sup> The name Champaran is a degenerate form of Champak-aranya, which dates back to the time when the district was a tract of the forests of Champa trees and was abode of solitary ascetics; The District Gazetteer, Champaran, <http://rc.bih.nic.in/Gazetteer/Champaran/chapter-I.pdf>

During monsoons, the temporary bund is removed to protect upstream from flooding that could occur due to inundation caused by the temporary bund built to stop the downstream flow of the River. The removal of temporary bund results in flooding of downstream villages that further leads to loss of life, cattle and crops as well as temporary migration of communities in these villages.

The Indian villages in the downstream have been demanding uninterrupted flow of the Pandai River in summers that threaten to cause inundation by building bunds in the downstream during monsoons. The claim of the Indian villages is based on their understanding of equal right to water, historical, prior use and natural right to flowing water and the river. They have been asserting that both scarcity and floods have to be equally shared by the villages along the Pandai River in Nepal and India. These contesting riparian claims over water since more than a decade have resulted in violent conflicts, loss of trust and even deaths on both sides straining the deep rooted cultural and economic interdependence in the villages along the Pandai River and beyond.

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**Notably, despite these developments, the communities continue to have some form of cooperation in sharing the three streams of water that trickle down from Nepal into India. This indicates that communities share water concerns and are sensitive to finding viable solutions but needs to be supported with technical inputs through dialogues and engagements.**

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## 4. Mapping the emerging challenges due to the conflicts over Pandai River

### 4.1 Indian villages apprehend complete blocking of the Pandai River in future:

Although the riparian villages had agreed to temporary water sharing arrangements by trifurcating the main stem of the Pandai River where the two thin streams were allowed to flow through the Indian villages for their water needs and one stream was diverted towards Nepal. Even the quantum of water to be allowed to flow through the three streams was negotiated by the riparian villages around the year 2013. As per the agreement between the villages in the two countries, the stream flowing to Nepal would carry 40% of the Pandai water



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and the two streams flowing into Indian villages would be allowed to carry 30% each. The responsibility for maintenance of the structures was shared by the villages sharing the water. However, this arrangement continued to be viewed with lot of apprehension and dissatisfaction by the upstream and downstream communities due to its temporary nature and lack of local institutional support. The arrangement emerged due to several pressures from local influential people, district administration on both sides, the involvement of border security forces and others<sup>10</sup>.

<sup>10</sup> *The Telegraph*, June 17, 2014



(Above: The Bridge and the blocked stream is seen in the photo taken during the field visit on 03.09.2020). Below: The trifurcation of the Pandai River by the riparian villages from Nepal and India; Photo dated May 2016)

In 2019, Nepal had built a bridge to improve connectivity and transport through Nirmal Basti VDC (Village Development Council) and other areas. During the construction of the bridge, one of the streams carrying water for India got filled and the water ceased to flow<sup>11</sup>. Subsequently, the other stream was also blocked and had to be reclaimed by the villagers who feared acute water scarcity in summer months.

As per the local accounts, all the Indian villages now depend on a single thin stream of water instead of the two that used to flow as per the agreement between the communities made in 2013. This has enhanced the vulnerability of the downstream communities and escalated the feelings of hostility<sup>12</sup>.

#### 4.2 Women Water Smugglers- The gender dimension of water scarcity

At the time when the streams completely diminish naturally or by being blocked, the downstream villages are left with no option but to get their water from a nearby source located in Nepal. The nearest source known as the Amrit Dhara is two kilometres away and due to the prevailing tensions on water sharing, all the water needs to be fetched at night or very early in the morning. Young women from the downstream villages have to fetch the water from Nepal and are often dubbed as water smugglers by the locals<sup>13</sup>. Due to increase

in local population more water is needed at the household level resulting in multiple instances of cross border visits for fetching water. Many other connected social issues also arise due to the social stigma attached to water scarcity in the area.

**The gender dimensions of the conflicts over sharing the Pandai River are underreported in the national and local media. Although in the local dialogues and interactions, the male members often empathise with women and young girls for the challenges they face in fetching water from outside the country.**

<sup>11</sup> The interactions with the villagers during the field visits made under the IWP-IELO Project 2020.

<sup>12</sup> Narrated by the local villagers during the field visits and focussed dialogue on 03.09.2020 at Bhikna Thodi Village, West Champaran, Bihar, India

<sup>13</sup> Hindustan Times, April 19, 2011, Nepal is the last straw for this thirsty West Champaran village, Bihar, India

### 4.3 Increased pressure on water resources

Nearly a decade has passed since the dispute over sharing the Pandai river water first arose. The communities reached an agreement to divide the river into three streams in 2013. Since then the population both in the upstream and downstream villages has increased. The exact demographic profiles are not known but the reverse migration due to Covid-19 has completely altered the population mix in the villages and is resulting in increased water demand at the household level. A single thin stream of water is not sufficient for the basic water needs of a large downstream population which is entirely dependent on Pandai River. Increasing livestock in the area also puts pressure on the scarce water resources.

### 4.4. Water Quality in the Pandai streams

Although there are no industries around the Pandai River, the river streams are used for cleaning, washing and for cattle. The water flowing through them is not fit for drinking. The potable quality of water as per the drinking water norms has never been ascertained though; there have been several incidents of water borne diseases. In general, the local highlights that gastrointestinal diseases are prevalent in the area. The quality of drinking water is a major concern for both the communities in India and Nepal.

### 4.5 Water provided under the 'Nal-Jal' a state initiative is unreliable and insufficient for the large and growing population

Under a State Government initiative known as the Jal-Nal Scheme of the Government of Bihar, attempts have been made to bring tap water to rural areas. Under this Scheme, water is pumped into a water storage tank from deep bore well and is supplied for five hours a day. The pump is made operational through the solar power. In a village of 180 households, nearly 40 connections were given in front of the houses, out of which 15 are functional. The works under this Scheme was started around May 2020. Alternatively, a provision of tanker from nearby village bore wells is arranged in case of deficit. The supply through the tanker has its own issues.

## 5. The Legal and Institutional response to the equitable sharing of Pandai River

In the context of the absolute riparian claims by the communities in Nepal and India, the legal and institutional response has been rather slow and negligible. The following aspects need policy or legal concern.



*(The overhead water tank in the Bhiknathodi village under the 'Har Ghar Nal Ka Jal' popularly known as Nal-Jal Scheme of the State Government: Photo taken during the field visits made on 31.08.2020)*

### 5.1 Absence of water cooperation mandate between India and Nepal on international rivers

The existing legal mandate in the form of water cooperation agreements between India and Nepal is project specific and does not provide any principle or guidance on water sharing or basin management. Thus for example, the (Revised) Kosi Project Agreement, 1966 concerns only the construction of the barrage, embankments and the canal infrastructure, ostensibly for flood control and irrigation in both the countries. Similarly, the (Revised) Gandak Irrigation and Power Project Agreement, 1964 concerns the construction of the barrage and hydropower generation. The third treaty known as the Mahakali Treaty, 1997, again is multipurpose project centred but has been a non-starter. Water sharing, river basin management and people's role are missing from the scope of existing water cooperation agreements. The overarching emphasis on the need for long term water cooperation is also missing between the countries that share very large river systems and thousands of small rivers. In contrast, India and Bangladesh share only 54 rivers; however, water has been made one of the significant components of the bilateral relations between the two countries under the India Bangladesh Friendship Treaty. The Peace and Friendship Treaty between India and Nepal on the other hand does establish 'special relations' but does not provide for any overarching understanding on water cooperation. The absence of any understanding on water cooperation and river basin management leads to competing absolute riparian claims and mismanagement of water resources.

### 5.2 The local administration in both the countries have been handling the issues as law and order problem alone without acknowledging water scarcity

In the face of mounting tensions between the upstream and downstream villages, the Border Guards from the two countries have often had to intervene to resolve the disputes<sup>14</sup>. The District Collectors in both the countries have been making efforts to contain the situation whenever conflicts take place. The two sides are often told that indulging in unlawful activities on international boundary can attract severe consequences. However, the attempts to understand the cause of the dispute and water stress in the area is not taken on board. Thus at the administrative level, the conflicts over Pandai river are understood as the law and order problem at the Border and not as an issue of sharing the water in the

flowing river. In the event when the local administration is not able to reach due to the remoteness of villages, the Border Security Forces intervene to disperse the violent skirmishes.

### 5.3 The Local administration on both sides of the border lacks exposure to scientific aspects of the problem

It is pertinent to note that the local administrations on both sides of the boundaries do not have full exposure to the scientific aspects of the issue at hand and nor can it be expected from them as they have to deal with a completely different domain of maintaining the law and order and other public administration assignments. These issues are needed to be first understood in a dispassionate manner in the context of the hydrology, topography and land use for formulation of the problems for the Pandai sub basin as a whole. The dialogue has also to be formed in a comprehensive manner where the communities have inter-dependence in other sectors as well. It has been observed in the context of a number of intra-national and international water conflicts that a mixed dialogue comprising multi sectoral adjustments has to be carried out.

### 5.4 The lack of data on local hydrology is an impediment to find viable alternatives and contravenes provisions of the (Draft) Bihar State Water Policy, 2010

Access to water for basic human needs is a natural right. Despite the acute water scarcity faced by nearly ten thousand people in the border villages since many years, there has been little attempt to find viable alternatives based on data and scientific assessment of the hydrology of the area. The state level agencies in Bihar do not have the sufficient data from the area so as to develop any alternative water management plan. This is in contravention to the (Draft) State Water Policy, 2010 which states that state line departments will supply the required data to the Village Water and Sanitation Committees (VWSC) constituted in each village for the appropriate use of hydrological data. The state level Public Health and Engineering Department (PHED) is primarily responsible for this exercise. It may be noted here that though the State Water Policy of Bihar is at a draft stage, it is a document formally adopted by the state government through a process and put in the public domain. It does represent the intention and the direction that the government seeks to ensure basic human right to water and for the better management of water resources in the state.

<sup>14</sup> .....  
*The Telegraph, June 17, 2014*

### 5.5 The threat to the ancestral lands

The border areas and the foothills along the Indo-Nepal border are inhabited by primitive groups and agricultural communities. The ancestral land is one of the reasons that the local population has not migrated despite acute water shortages. However, the agricultural lands and other properties of locals are under threat which the villagers perceive as one of the reasons for the reluctance of the government to provide them water. Until 2001, the farmers of the Bhikna Thori and other villages used to pay land revenue (mal pot), however, the collection of land revenue has been discontinued since 2002. This is critical as only villages legally recognized as revenue villages by the District administration are required to pay land revenue. Farmers fear that the district administration is aiming to derecognize the village, and if this happens, their future is uncertain. On the other hand, the Forest Officials have been stating that the villages along the Pandai River on the Indian side fall within the Protected Forest, and therefore they are under the jurisdiction of the Forest Department. However no official statement has been made so far. Instead, the District Forest Department, West Champaran has filed a case on the villagers<sup>15</sup>.

### 5.6 Institutional dissonance and legal vacuum on small rivers:

India and Nepal, in addition to sharing the four large Ganges river-sub-systems share nearly six thousand small river ecosystems that are stressed and faced with complex water sharing and management issues<sup>16</sup>. Most of these smaller rivers that drain the mountains, foothills and Terai on the Indo-Nepal border, flow in or out of the country and are thus inherently linked to potential international water rights of upstream and downstream countries and communities living along them. While large rivers have received considerable attention mainly from the flood control and irrigation expansion perspectives, small rivers equally significant for their direct support services in both the countries have been ignored by the national level water resource development agencies<sup>17</sup>. Thus at the bilateral level, there is no formal understanding between India and Nepal for the management or sharing of these rivers. At the functional level, the water management institutions, for example the state level water resources departments in Nepal

or India do not have the requisite mandate for the planned management or conservation of small rivers, rivulets or streams. At the administrative level, the district collectors have the powers to initiate the rejuvenation of water bodies within in the revenue jurisdiction which is often incidental interest confined to the municipal limits and lacks the ecosystems approach. While it may not be feasible to have formal water agreements on all the rivers shared between the two countries, an overarching framework based on ecological and equity principles is desired. Such framework is likely to provide guidance to the local institutions involved in resolving community disputes over sharing scarcity or excess water in these rivers.

## 6. Towards Finding Solutions

- It is observed that the first principle of dispute resolution i.e. collection and processing of data is not existing with any of the current parties to the dispute. Border security agencies and local administrations on either side are not expected to have them as well. The State Water Policy of Bihar also mandates that the state agencies should collect, organize and democratize data with the help of local people and share with them for optimum utilization. Thus in view of the national and state level water policies, the National Water Mission (India) and the international nature of the Pandai River, it would be critical to have the hydrological data of the River basin so as to find viable alternatives or technical intervention based on mutual cooperation by both the countries. Water allocation principles and studies remain the same though they may vary in extent based on the size and importance of the problem. In this case, it is necessary to have data and information before any resolution can be thought of.
- The delinking of water scarcity with the rising conflicts and treating the conflicts as law and order issues alone by the local administration has not helped in addressing the real problem since it was not officially recognized and thus the question of involving appropriate and competent agencies did not arise. It is therefore desired that the local administration is mobilized to seek the role

<sup>15</sup> Pandai Vimarsh- The Community Dialogue organized by the India Water Partnership in collaboration with Indian Environment Law Organization and Samagra Sikhshan Evam Vikas Sansthan, Bettiah, West Champaran, Bihar; India on 5th Nov, 2020 - the narrative was shared by one of the local resident of Bhikna Thodi Village, Shri Girhdari Singh.

<sup>16</sup> The Kosi, Gandaki, Karnali and Mahakali are the four very large sub-basins shared by India and Nepal within the Greater Ganga Basin and are covered with some form of project specific legal agreements or treaties while small rivers forming these basins were managed by the communities in both countries.

<sup>17</sup> Recently, in the civil society forums such small rivers are referred to as 'Marginalized Rivers'. See Projects-Paradoxes-Marginalized Rivers at <https://riversymposium.com/wp-content/uploads/2019/11/76.pdf>;





*(Pandai Vimarsh- An online community dialogue was convened on 05.11.2020 to deliberate on the possible solutions and strategies by locals and for identifying areas that need technical, knowledge or capacity support.)*

- of appropriate state and national level agencies in finding an equitable solution to the water crisis in such scenarios.
- Understanding climate impacts on water resources in the Pandai Sub-basin would be crucial to the sustainability of long term solutions. River Communities in Nepal and India view that local climate has undergone dramatic changes and inequitable harnessing of Pandai River due to rising population pressure and climate change is challenging its sustainability to deliver water services to both upstream and downstream communities. Thus, the increasing competition over diminished water resources is exacerbated due to climate impacts on local water resources. However, there is no scientific assessment that has been carried out. What is then required is the scientific assessment of climate impacts in the area followed by mainstreaming of adaptation measures. The key to equitable sharing of Pandai River is equitable allocation of water within the limits of availability for both the upstream and downstream users. However, it is necessary to have an “informed dialogue”. The dialogue has to be founded upon the real time data and simulations bringing out various pros and cons of various types of developments and constraints within which the aspirations have to be confined for a mutual peaceful co-existence.
- There is a need for an in-principle understanding on cooperation for small boundary rivers. In the absence of any collaborative framework at the bilateral level between India and Nepal to guide the management of small tributaries such as the Pandai, the equitable sharing and management of all such trans-boundary rivers, is an issue that requires deliberations within the policy making circles, local bureaucracies, civil society organizations and communities in both the countries. The modern principles of international water law can be of help (See box on the next page). Whether the Border Security Forces in both countries are the most appropriate and competent agencies to resolve water disputes over sharing of a trans-boundary river, is the question that needs to be asked, discussed and debated at various levels within the institutions responsible for trans-boundary water management in India and Nepal. The other important aspects that need examination are framing laws concerning water and land at the sub-national and decentralized level empowered people’s institutions, both formal and customary, for constructive engagement on trans-boundary issues. Secondly, whether there are mechanisms at the national and bilateral level to recognize and uphold the community will and their decisions with respect to managing their common water

resources. In view of the disparate use of water of Pandai River system and many other such rivers, the need for collaborative and joint approach to their management cannot be underestimated. Future management of these rivers, which also forms the border between the two countries, depends on a successful transition to their shared management by way of deliberative mechanisms

the legal gravitas and powers vested in the communities to engage with each other, over an international river forming an international border. These difficulties need to be overcome by dialogues and engagements at all levels to inform river communities that formal agreements between India and Nepal do not address their problem and are silent about sharing of small rivers and therefore

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**Exploring the possibility of operationalising the ‘principle of equitable utilisation’ for the shared water resources of Pandai river: The principle of equitable utilisation’ is generally considered as one of the fundamental principle of the law of the non-navigational uses of international waters. It finds reflection in Helsinki Rules and the UN Watercourses Convention. However, neither India nor Nepal is party to the UN Watercourses Convention. Certain principles of UN Watercourses Convention find reflection in the Mahakali Treaty, 1966 between India and Nepal. In the present case there is no formal agreement between the countries on sharing or utilization of shared water resources, though exploring ways of operationalising this principle in absence of an agreement could provide a way forward.**

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integrating growing needs and future planning.

- Encouraging constructive and informed dialogue among the communities is important to accommodate contesting water claims. It is very unlikely that India and Nepal will enter into an agreement or treaty on every single trans-boundary river. What is then desired is a framework of understanding between riparian communities which can be achieved through informed and constructive dialogues at the trans-boundary level. A series of dialogues in the villages along the Pandai River carried out as part of this Study have revealed that communities do have spaces for engaging with each other that may not be supported. Often community efforts to find solutions are undermined by the formal mechanisms and the officials involved discourage them by questioning

communities need to come out with collaborative and innovative solutions on their own. Therefore, a different approach would be needed for scaling up the interventions that communities could jointly devise. Creating spaces for continued dialogue among the villages on both sides of the border and creating an enabling environment that drives community initiatives is the foremost requirement for conflict management over shared trans-boundary water resources.

- The role of informal institutions needs to be strengthened. Since there are no formal institutional mechanisms that currently exist, a hybrid model consisting of local formal and informal institutions needs to be mainstreamed for finding solutions to the Pandai water cooperation.

## References:

- Pandai Vimarsh, The Community Dialogue on Marginalized Rivers and People on 5th November, 2020 organized by the India Water Partnership in collaboration with Indian Environment Law Organization and the Samagra Sikhshan Evam Vikas Sansthan, Bettiah, West Champaran, Bihar; India
- Wolf, **Aaron T.**, Criteria for equitable allocations: The heart of international water conflict *Natural Resources Forum*. Vol. 23 #1, February 1999. pp. 3-30.
- Grethel Aguilar Rojas and Alejandro Iza (2011). Governance of Shared Waters. Legal and Institutional Issues. Gland, Switzerland: IUCN. x + 230 pp.
- Dhungel, D.N and Pun S.B. "India Nepal Water Relations" Springer, 2008
- Biswas, Asit. "Management of International Waters: Problems and Perspective." **Water Resources Development**. Vol. 9 #2, 1993.
- Cano, Guillermo. The Development of the Law in International Water Resources and the Work of the International Law Commission. **Water International** 1989. Vol. 14, pp. 167-171.
- Caponera, Dante A. Patterns of Cooperation in International Water Law: Principles and Institutions. **Natural Resources Journal**. July 1985. 25:3, pp. 563-588.
- Crawford, Stanley. **Mayordomo**. Albuquerque: University of New Mexico Press, 1988.
- Dellapenna, Joseph. "Building International Water Management Institutions: The Role of Treaties and Other Legal Arrangements."
- Dellapenna, Joseph. "Treaties as Instruments for Managing Internationally-Shared Water Resources: Restricted Sovereignty vs. Community of Property." **Case Western Reserve J. Intl L**. Vol. 26, 1994.
- Gleick, Peter. "Basic Water Requirements for Human Activities: Meeting Basic Needs." **Water International**. Vol. 21 #2, 1996. pp. 83-92.
- International Rivers: The Politics of Cooperation. West water Research Center, University of British Columbia, Vancouver, British Columbia, 1977.
- Tanzi, Attila. "Codifying the Minimum Standards of the Law of International Watercourses." **Natural Resources Forum**. Vol. 21 #2, May 1997. pp. 109-117.
- White, Gilbert. "A Perspective of River Basin Development." **Journal of Law and Contemporary Problems**. Vol. 22, 1957. pp. 186.



IWP is a non-profit organisation, accredited with the Global Water Partnership (GWP), Stockholm. India Water Partnership is a country water partnership of GWP. IWP works towards water security in India by following the concept of Integrated Water Resources Management (IWRM). It engages in a dispassionate analysis of various water-related issues and steers the policy discourse on social, economic, and ecological issues on a scientific basis.



Indian Environment Law Organisation (IELO) is a law firm dedicated to the practice of environment and development law. IELO's mission is to make development more inclusive, equitable, sustainable and benign, with committed legal services in the field of natural resource law and environmental law. IELO always strives to bring to the fore critical environmental concerns and imperatives so that these are incorporated in the development policy and laws of the country.



Samagra Shikshan Evam Vikas Sansthan (SSEVS) is a Civil Society Organisation (CSO) that focuses on strengthening local people's movements and Community-Based Organisations (CBOs) to achieve their rights. In their work with PACS, SSEVS are working in 211 villages in the Siwan and West Champaran districts of Bihar to ensure that socially excluded communities are able to access their employment and land rights entitlements.