The Mahakali Treaty: India and Nepal

Background

The Mahakali River (known as the Sarda River in India) is a tributary of the Ganges River that originates in the Himalayan Mountain Range near the borders of India, Nepal and China (Figure 1). The river is important for a variety of reasons to both India and Nepal. First, the river is used as the westernmost boundary between India and Nepal; the controversial nature of this river as a boundary is discussed below. Secondly, the river lies in one of the poorest regions of the world; in Nepal, one third of the population lives below the poverty line. India, though developing rapidly, also faces the challenge of a population soon to be the largest in the world; 25% of Indians live below the poverty level (CIA). Thus, the water resources in the Himalayas are a vital resource for development; this applies to the large agricultural sectors of each country, but also the immense hydropower potential in the region. The Mahakali, as a border river, can fill some of these needs for both countries, or, without appropriate management and cooperation, can aggravate already difficult living conditions for a poor population.

![Nepal River Map](http://www.mapsofworld.com/nepal/maps/nepal_river_map.gif)

Figure 1: River Map of Nepal

History of India, Nepal, and the Mahakali

The use of the Mahakali to demarcate borders between the Nepal and India is the source of its disputed and controversial nature. In fact, the very origin of the river is a source of contention – the Kalapani region, which encompasses an area of about 400 km², is recognized as an internationally disputed border region (CIA).
The history of the Mahakali as a border river lays the groundwork for the modern day situation between Nepal and India. The Sugauli Treaty of 1816 was the first official attempt to use the Mahakali as a border river. The treaty was constructed between the British East India Company, representing British controlled India, and the then kingdom of Nepal. This treaty officially recognized the Mahakali as the westernmost border of Nepal with India. Unfortunately, the tributary streams feeding the Mahakali were not clearly delineated as borders by the British in the treaty, and future attempts by the British to resolve the boundary dispute led to multiple border maps for a river that continued to change course over time. Thus, the aforementioned disputed Kalapani region was formed, holding key strategic value as a security and trading point between India, Nepal, and Tibetan China. Each country references British maps which give them control over the region – to this day, no resolution has been reached, and following India-China conflict in 1962, India has maintained a military security force in the disputed region.

While the origin and border of the Mahakali were disputed, development of the river itself continued in other places. By 1912, the British had completed demarcations for a majority of the Mahakali River (excluding the headwater streams) and began planning of the Sarda Barrage to provide irrigation water for northern Indian provinces. In order to move forward with the project, the British negotiated the Sarda Treaty of 1920 with Nepal. The major provisions of the treaty are highlighted in Table 1 below.

<table>
<thead>
<tr>
<th>Land Exchange</th>
<th>India Receives:</th>
<th>Nepal Receives:</th>
</tr>
</thead>
<tbody>
<tr>
<td>4000 acres, east bank of Mahakali</td>
<td>4000 acres of forestland</td>
<td></td>
</tr>
<tr>
<td>Water Transfer (Dry Season)</td>
<td>Not Limited</td>
<td>4 m^3/s</td>
</tr>
<tr>
<td>Water Transfer (Wet Season)</td>
<td>Not Limited</td>
<td>13 - 28.34 m^3/s</td>
</tr>
<tr>
<td>Cash</td>
<td>N/A</td>
<td>50,000 Rs</td>
</tr>
</tbody>
</table>

**Table 1: Sarda Treaty of 1920 (Gyawali)**

An important result of this treaty is the apparent inequity in hindsight; this project represented unilateral development by British India followed by land, water, and cash allocations that in no way represented equitable benefits from the project. In fact, the land exchange is still questioned to this day, and the transaction is not clearly documented after the implementation of the treaty.

In the decades following the 1920 treaty, political and regulatory environments changed rapidly in both nations, but little interest was shown in mutual development of the Mahakali. Nepal initiated several projects with the help of foreign aid organizations and NGO’s such as the World Bank and USAID; at the same time, the Ministry of Water became increasingly influential, incorporating power generation into its control and thus becoming the largest state organization in Nepal. The Ministry reflected a strong sentiment of nationalism regarding Nepal’s water resources as well as the need for development of these resources as a means to economic growth. Meanwhile, India continued to move towards its own unilateral development; the culmination of this development was the Tanakpur hydropower barrage located upstream of the Sarda barrage that was the subject of the 1920 treaty. India
approached the project as solely an Indian project that did not require the permission of Nepal. However, the technical report for the project was shared with Nepal; this resulted in complaints by Nepal that the Tanakpur project would use all of the river flow and divert it into India's Sarda canal during the dry season; this would preclude Nepal from extracting its allocated resources for irrigation during the dry season. India responded with a modified plan to allow flow back into the Mahakali instead of the Sarda Canal to ensure flow for Nepali use. By 1988, five years after the technical report, all of the barrage construction was complete except for one portion on the east bank of the river – this portion would ultimately require 577 meters of land in Nepali territory.

Political enmity between the nations, followed by rapid political change in Nepal, including the restoration of democracy in 1990 led to the delay of any agreement regarding the Tanakpur barrage. India continued to push the issue at every opportunity, and finally reached an “understanding” with the Nepali prime minister in 1991 which allowed completion of the barrage. Nepal received 10 million kWh of electricity annually as well as 4.25 m^3/s of water for irrigation (Gyawali). Further complicating the agreement, the parties also decided to develop high dam projects in the Nepali Himalayas, specifically the Pancheswar Multipurpose Project. However, this agreement was not in the form of a treaty, thus avoiding the provision for Parliamentary approval in Nepal; in addition, it was done without the inclusion of any members of Nepal’s water ministry. The completion of the barrage was undertaken immediately by the Indians, but the controversy continued in Nepal; the issue of Tanakpur became a central focus in political struggles, including the overturn of several parties in power and the involvement of the Supreme Court. From the Nepali viewpoint, Tanakpur was hardly a resolved issue and was essentially a treaty between India and Nepal which needed to be formally approved by both parties to be binding in any way. The debate over the issue continued for several years including multiple negotiations between Nepal and India.

Mahakali Treaty: Nepal and India

Ultimately, the Sarda Treaty of 1920 and the Tanakpur barrage and associated agreements are the basis for the Mahakali treaty signed in 1996 by India and Nepal.

Key Provisions:

Sarda Barrage
- Nepal guaranteed to 4.25 m^3/s in the wet season and 28.35 m^3/s in the dry season from the Sarda Barrage
- India required to maintain 10 m^3/s at minimum from tail water of Tanakpur through the Sarda barrage to preserve ecosystem

Tanakpur Barrage
- Nepal grants permission for Tanakpur barrage completion on 577 meters of Nepali land; Nepal maintains land rights
- Nepal guaranteed 70 million kWh out of 448.4 kWh generated per year at Tanakpur
- Provisions provided for increased flow and electricity allocations based on upstream storage projects

**Pancheshwar Multipurpose Project**

- “equal entitlement in the utilization of the waters of the Mahakali River without prejudice to their respective existing consumptive uses of the waters of the Mahakali River”
- Agreement to jointly prepare and adhere to a Detailed Project Report
- Project should be designed to “maximize total benefits”
- Equal power capacity and energy sharing from the project
- Costs accrued to each nation in proportion to benefits
- Portion of Nepal’s share of energy to be sold to India at negotiated price

Figure 2 below depicts map showing the location of the projects covered by these key provisions.

In addition to the projects, the treaty also attempts to serve as framework for future negotiations regarding the river. For example, the treaty explicitly states that Nepal’s water needs will be considered in utilization of the river; this is stated broadly, not just in relation to a specific project. The treaty also establishes the Mahakali River Commission between the nations, which is founded on the principles of “equality, mutual benefit and no harm to either party” and establishes a formal arbitration process for
disputes. The treaty is given a lifetime of 75 years, with a mutual review for 10 years after implementation.

**Current Status**

Though the Mahakali Treaty attempts to resolve many lingering issues regarding the river’s past use and provide a framework for mutual development, the implementation of the treaty has faced a great deal of difficulty. The treaty was met with resistance in Nepal, and was ultimately only passed with specific strictures or conditions; this included key clarifications that all water of the Mahakali would be available to equal use, with no protection for past use and that the Mahakali be defined as a border river. In addition, the treaty enactment was also contingent on the completion of the DPR for the Pancheshwar Project – to date, this DPR has not been completed as the other issues from the treaty muddle progress. A separate commission had to be formed for this project, and only in 2010 have the environmental impact assessments been prepared.

**Outlook**

The formation of a specific commission focused solely on the DPR for the Pancheshwar project gives the project an opportunity to succeed as it separated from the remainder of the treaty. However, some major points of contention remain within the treaty. The accounting of previous use of the waters of the Mahakali must be addressed somehow – India’s previous use is much larger than Nepal, and thus skews any possibility of equal utilization of the river. At the same time, India has been long dependent on this water for irrigation in the region – a middle ground solution must be broached.

The impacts of climate change only serve to complicate the issues associated with the treaty. The specific quantities of power and water delineated by the treaty are based on average flows in the Mahakali. The river already experiences high seasonal variation in flows, with over 80% of the flow occurring during the monsoon season. Thus, any impact on melt flows from the Himalayas could easily lead to breaches of the dry season flows or power allotments called for in the treaty; furthermore, the treaty makes no mention of, or provisions for, flooding related to the development of Mahakali – risk from events such as glacial lake outburst pose a serious threat to the projects and communities on the Mahakali (Weberisk). With questions of equity and cooperation already looming over the treaty, any drastic environmental changes will only highlight these issues.

Ultimately, the attempt to integrate specific cooperative projects, a framework for future cooperation, and the resolution of past disputes seems to have been too great of an undertaking based on the simple structure of this treaty. However, if the treaty provides an initial basis for cooperation in certain aspects of the Mahakali, such as development, it may open the door to larger water management integration between India and Nepal.
Required Reading


Supplemental Reading


References


