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Impact of Nepal-India Relations on Arun III Hydroelectric Project Implementation

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Abstract

The Arun III Hydroelectric Project, Nepal's largest hydropower enterprise, is a cornerstone of Nepal-India bilateral ties, demonstrating the intricate interaction of energy diplomacy, political dynamics, and economic cooperation. This paper investigates how these bilateral ties have impacted the implementation of the Arun III project, from its inception to its current evolution. It examines the historical framework of Nepal-India interactions, including political agreements, economic interdependence, and regional geopolitics, which have influenced the project's progress. The article also discusses the obstacles that have hampered the project's timely completion, such as border conflicts, economic blockades, and changes in political leadership. It also looks at the opportunities that come with effective partnership, with a focus on energy commerce and sustainable development in South Asia. This paper, using international relations theory and detailed case studies, provides a comprehensive understanding of how bilateral relations between Nepal and India have shaped the Arun III project's trajectory, as well as insights into the broader implications for cross-border infrastructure development in the region.

Keywords: Nepal-India relations, Arun III Hydroelectric Project, Bilateral Cooperation, Energy Diplomacy, Hydropower, Infrastructure Development.

1. Introduction

The Arun III Hydroelectric Project is one of Nepal and India's most major infrastructural endeavors, with a capacity of 900 MW, making it one of Nepal's largest hydropower projects. The project is critical for utilizing Nepal's hydropower capacity, which is estimated at 83,000 MW, and contributing to the country's economic prosperity through energy exports to India *(Shrestha & Pradhan, 2016).* However, its execution is inextricably linked to the larger dynamics of Nepal-India bilateral ties, which encompass historical, cultural, and economic components *(Muni, 2016).*

The Treaty of Peace and Friendship (1950) and subsequent accords have allowed bilateral collaboration, but political difficulties, economic blockades, and shifting diplomatic relations have frequently hampered such large-scale initiatives *(Upadhyay, 2018)*. For example, the Arun III project was temporarily halted in the 1990s owing to political unrest and environmental concerns (*Pun, 2014).* It was only restored in 2014 thanks to Indian-backed measures, illustrating the importance of diplomatic connections in infrastructure project success *(Pandey, 2020).*

Energy diplomacy between Nepal and India, notably in the hydropower sector, is a recurring issue, with both countries understanding the strategic importance of energy trade *(Adhikari, 2015).* Geopolitical reasons, such as India's fears over China's rising influence in Nepal, complicate the relationship, as Nepal wants greater autonomy in foreign policy *(Bhattarai, 2019).* As a result, the Arun III project provides as a focus for research on how

bilateral political, economic, and environmental issues influence cross-border infrastructure projects *(Shrestha & Pradhan, 2016).* Nepal-India relations have affected the execution of the Arun III Hydroelectric Project, which investigates the difficulties, possibilities, and future prospects for South Asian energy cooperation *(Pandey, 2020).*

Research Question:
How do Nepal-India ties influence the implementation of cross-border infrastructure projects, such as the Arun III Hydroelectric Project?

Significance of study:

The research on the impact of Nepal-India relations on the Arun III Hydroelectric Project defines the scope of the study. The Arun III project in eastern Nepal is the primary emphasis, but regional factors, notably in relation to China, are also taken into account. The timeline extends from the project's inception in the early 1990s until its reactivation in 2014, noting significant political and diplomatic developments. Thematic topics of investigation include the historical foundations of Nepal-India ties, the importance of hydropower in Nepal's economy, processes of bilateral energy cooperation, and environmental issues for the project. The study, which used qualitative research methodologies such as literature reviews and stakeholder interviews, admits certain limitations, including its unique emphasis on Arun III and potential data shortages. The study's ultimate purpose is to provide incisive analysis to the corpus of knowledge on energy diplomacy and propose strategies to strengthen collaboration while taking sustainability and sovereignty into account.

2. Literature Review

Nepal-India Bilateral Relations: The Treaty of Peace and Friendship (1950)

The Treaty of Peace and Friendship, signed in 1950 between Nepal and India, is the foundation of bilateral ties. It provided a foundation for diplomatic, economic, and strategic cooperation *(Muni, 2016).* Under the pact, both countries committed to confer on foreign policy issues, maintain open borders, and enable free movement of people and commerce between them. The pact also established the foundation for cooperation in resource sharing, especially rivers, which would subsequently play an important role in hydropower production *(Dhungel, 2009).*

In the perspective of current cooperation, the 1950 pact is nevertheless a source of both collaboration and dispute. While it laid the groundwork for early water-sharing agreements such as the Koshi (1954), Gandak (1959), and Mahakali (1996) accords, these agreements were frequently criticized in Nepal for being disproportionately advantageous to India *(Adhikari, 2015).* For example, the Koshi and Gandak accords, which focused on flood management, irrigation, and hydropower, were met with political opposition in Nepal due to perceived unequal benefit distribution *(Shrestha, 2011).* The Mahakali Treaty (1996) was a more comprehensive arrangement that included both water sharing and energy generation via collaborative projects such as the Pancheshwar Multipurpose Project. However, political difficulties and a lack of confidence have delayed its full implementation, mirroring wider issues in Nepal-India water diplomacy *(Poudel, 2014).*

Several political factions in Nepal have questioned the 1950 treaty's applicability in the twenty-first century, especially those calling for a more balanced partnership *(Bhattarai, 2019).* Particularly in the context of hydropower and energy diplomacy, the continuing talks about revising or replacing the treaty demonstrate how Nepal-Indian ties are changing *(Adhikari, 2015)*. As seen by initiatives like Arun III, where India's participation is critical to

the project's success, the treaty continues to be an important part of bilateral cooperation despite these concerns *(Pun, 2014).*

Hydropower Development in Nepal

With an estimated theoretical capacity of 83,000 MW, of which about 43,000 MW is deemed economically realistic, Nepal is blessed with abundant hydropower potential *(Pandey, 2020).* For a considerable time, hydropower has been considered the key to Nepal's economic prosperity, both for satisfying its own energy needs and for exporting electricity to neighboring nations, especially India *(Shrestha & Pradhan, 2016).* Despite its potential, Nepal's hydropower development has encountered several obstacles, such as insufficient infrastructure, political unpredictability, budgetary limits, and environmental worries *(Upadhyay, 2018).*

Small-scale initiatives like the Pharping Hydroelectric Plant (1911) signaled the start of the hydropower industry in Nepal, although development of the sector has historically been sluggish *(Shrestha, 2015).* Foreign assistance, mostly from multilateral institutions like the World Bank, was needed to finish larger projects like the 60 MW Kulekhani I Hydroelectric Plant in the 1980s *(Dhungel, 2009).* But by the 1990s, Nepal's aspirations for hydropower had increased, especially with plans to build large-scale projects like Arun III (which was originally intended to have a 402 MW capacity) *(Pun, 2014).* A recurrent issue has been the dependence on foreign investment, with a large portion of finance coming from multilateral financial organizations, international donors, and nearby nations like China and India *(Muni, 2016).*

Because of their shared rivers, close proximity, and similar energy demands, India has played a particularly important role in Nepal's hydropower development *(Adhikari, 2015).* Arun III is one of the most well-known instances of the several hydropower projects in Nepal that Indian businesses have engaged in *(Pandey, 2020).* However, some parts of Nepal's political landscape have frequently viewed India's engagement with distrust, reflecting larger worries about dependency and sovereignty *(Bhattarai, 2019).* Domestic political instability has further impeded the growth of the hydropower sector by resulting in inconsistent policies and regulatory frameworks from frequent government changes, which has caused several projects to stall *(Shrestha & Pradhan, 2016).*

Bilateral Energy Cooperation

With both nations realizing the strategic significance of fostering cross-border energy commerce, energy cooperation has been a major component of ties between Nepal and India *(Upadhyay, 2018).* Research on the two countries' bilateral energy trade highlights the advantages of Nepal's hydropower growth, especially in light of India's expanding energy needs and Nepal's desire to generate income *(Shrestha & Pradhan, 2016).* The foundation of this collaboration has been the Power Purchase Agreements (PPAs), which provide the conditions for Nepal's export of power to India and lay the groundwork for long-term energy commerce *(Dhungel, 2009).*

The construction of the 15 MW Trishuli Hydropower Plant in the 1960s, with Indian aid, was one of the early turning points in energy cooperation *(Pun, 2014).* Other cooperative ventures, such the 14 MW Devighat Hydropower Plant in the 1980s, came after this *(Muni, 2016).* Cross-border transmission line building, such as the Dhalkebar-Muzaffarpur line, has been essential in recent years for enabling energy commerce *(Adhikari, 2015).* Nepal can

export energy to India thanks to this infrastructure, especially during the monsoon season when hydropower production is at its highest *(Pandey, 2020).*

Regional energy frameworks that have facilitated energy collaboration between Nepal and India include the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic collaboration (BIMSTEC) and the South Asian Association for Regional Cooperation (SAARC) *(Upadhyay, 2018).* In order to establish an integrated regional energy market, these frameworks offer a forum for discussion on infrastructure development, energy commerce, and regulatory harmonization *(Muni, 2016).* However, the full potential of these frameworks has not been fully realized due to political divisions and regulatory obstacles *(Bhattarai, 2019).*

Scholars have observed that, while bilateral energy cooperation has enormous potential, it is sometimes hampered by geopolitical factors, notably India's fears over China's expanding influence in Nepal. As Nepal strives to diversify its hydropower collaborations, especially with Chinese enterprises, India has taken a careful approach, balancing economic and strategic concerns *(Muni, 2016).* This geopolitical balancing act is evident in the construction of projects like as Arun III, where India's participation is viewed as a counterbalance to Chinese investment in other sectors of Nepal's economy *(Pandey, 2020).*

Arun III Project History

The Arun III Hydroelectric Project's history is one of ambition and disappointments, reflecting wider patterns in Nepal's hydropower development *(Shrestha, 2015).* The project was first proposed in the early 1990s as a 402 MW project funded by the World Bank and other foreign donors *(Muni, 2016).* It was viewed as a game-changing project that will not only fulfill Nepal's expanding energy requirements but also serve as a blueprint for future hydropower development *(Adhikari, 2015).* However, the proposal was met with intense resistance from environmental groups concerned about its environmental impact, as well as local residents fearing displacement *(Poudel, 2014).*

Political instability in Nepal in the 1990s impeded the project's implementation. The emergence of the Maoist insurgency *(1996-2006*) and frequent changes in administration produced an unstable climate for large-scale infrastructure projects *(Pun, 2014).* These reasons, together with mounting resistance from civil society and international environmental activists, resulted in the World Bank withdrawing its financing for the project in 1995 *(Shrestha, 2015).* The cancelation was a huge setback for Nepal's hydropower ambitions, highlighting the difficulties of reconciling development objectives with environmental and social concerns *(Bhattarai, 2019).*

The Arun III project was restarted in 2014 under a new bilateral framework, with India's state-owned Satluj Jal Vidyut Nigam Limited (SJVN) leading the development *(Pandey, 2020).* The project, which has been enlarged to 900 MW, is part of a larger effort to strengthen Nepal-India energy cooperation *(Upadhyay, 2018).* Under the new arrangement, Nepal would get 21.9% of the generated electricity, with the remaining exported to India (Shrestha & Pradhan, 2016). Nepal will also gain from royalties, job possibilities, and infrastructural development in the project region *(Pun, 2014).*

The reactivation of Arun III indicates a shift in both nations' energy cooperation strategies, with India taking a more important role in funding and implementing the project *(Muni, 2016).* Some in Nepal have welcomed this transition as a positive start toward realizing the country's hydroelectric potential *(Pandey, 2020).* Others, however, remain concerned about Nepal's rising reliance on India for infrastructural development and energy commerce *(Bhattarai, 2019).*

The historical backdrop of the 1950 Treaty of Peace and Friendship, Nepal's hydropower potential, and the significance of bilateral and regional energy frameworks are all important considerations when examining the project's execution *(Upadhyay, 2018).* Arun III's history, from cancellation to resuscitation, emphasizes the political, economic, and environmental problems that impacted its growth, making it an important case study in Nepal-India relations and cross-border energy cooperation *(Pandey, 2020).*

Table 1: Timeline of the Arun III Hydroelectric Project

Year(AD)	Activities
1980s	Initial feasibility studies conducted with support from international agencies like the World Bank and Asian Development Bank (ADB).
1991	World Bank and other donors approve the project, estimating a capacity of 402 MW, expected to be the largest hydropower project in Nepal.
1995	World Bank cancels funding due to rising costs and environmental concerns. Local protests held over its potential ecological and social impact.
2008	Nepal and India revive the project under the Build, Own, Operate, and Transfer (BOOT) model. SJVN awarded contract to develop the project.
2014	Project Development Agreement (PDA) signed between the Government of Nepal and SJVN, approving the construction of a 900 MW hydropower plant.
2017	Foundation stone laid by Nepal PM Sher Bahadur Deuba and Indian PM Narendra Modi, marking the start of the construction phase.
2018	Financial closure achieved by SJVN, enabling the full-scale construction of the project. Construction work begins for the dam, tunnels, and powerhouses.
2023	The project was expected to be completed in 2023, with an output of 900 MW of electricity, most of which will be exported to India.
2024	As of today, construction continues, though there may be slight delays, and the project is still progressing toward completion.

Sources: *Asian Development Bank (ADB) reports on Arun III.World Bank Archives (Regarding 1995 funding withdrawal).Ministry of Energy, Water Resources and Irrigation, Nepal.*

3. Theoretical Framework Realism

According to realism, the pursuit of power and national interests dominates international affairs. Strategic interests and national security are crucial in developing Nepal-India hydropower cooperation. India sees energy security as critical to its economic growth and stability, thus it has engaged with Nepal not just to diversify its energy supplies but also to wield influence on its smaller neighbor *(Himalaya, 2020).* This relationship is impacted by geopolitical competition, specifically China's growing footprint in South Asia. As Nepal navigates its relationship with India, it must strike a balance between strategic relationships and avoiding dependence on its neighbor. The realism approach emphasizes how power dynamics and security considerations support energy agreements between the two nations.

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Liberal Institutionalism

Liberal institutionalism stresses the role of international institutions, treaties, and multilateral agreements in promoting cooperation *(Keohane and Nye, 1977).* Institutional frameworks allow Nepal-India negotiations and collaboration on hydropower projects such as Arun III. The formation of bilateral agreements and membership in regional organizations, such as the South Asian Association for Regional Cooperation (SAARC), allows both countries to address common interests in energy development. These structures facilitate conversation, dispute resolution, and cooperative investment, improving the possibilities for long-term hydropower collaboration. Furthermore, international financial institutions frequently play a critical role in supporting infrastructure projects, cementing these countries' institutional reliance and encouraging collaborative conduct.

Dependency Theory

Dependency theory provides an important lens through which to examine the uneven power relations between Nepal and India. According to this hypothesis, economically weaker nations frequently find themselves in a submissive position during talks, resulting in resource reliance *(Dos Santos, 1970).* Nepal's reliance on India for infrastructure financing and market access demonstrates this dependence. While hydropower represents a substantial possibility for Nepal's economic growth, the conditions of participation are sometimes determined by India's interests, which can sway talks in favor of the more powerful state. This disparity may restrict Nepal's ability and influence in selecting the course of its hydroelectric projects, raising worries about long-term economic sovereignty and the possibility of exploitative agreements.

The combination of realism, liberal institutionalism, and dependency theory gives a complete framework for understanding the complexity of Nepal-India hydropower collaboration. Realism focuses on the strategic reasons that drive energy partnerships, whereas liberal institutionalism emphasizes the significance of formal agreements and institutions in fostering cooperation. Finally, dependency theory underscores Nepal's difficulty in navigating power imbalances in its relationship with India. These ideas demonstrate the multidimensional nature of energy diplomacy in a region marked by both opportunity and limitation.

4. Historical Context of Nepal-India Relations

Early Diplomatic Relations (1950s–1990s)

Nepal and India have a long history of tight political connections and economic interdependence, dating back to the 1950s. The Treaty of Peace and Friendship, signed in 1950, provided a foundation for bilateral cooperation based on mutual respect and non-interference *(Baral,2010).* This pact established Nepal's economic dependency on India, with India emerging as the key trading partner and source of help for infrastructural development. Early hydroelectric cooperation agreements, particularly the Koshi and Gandak accords, showed this connection by allowing Nepal to develop its water resources while supplying India with critical irrigation and flood control measures *(Baral, 2010).* These agreements established the foundation for future cooperation initiatives and demonstrated the importance of energy resources in the bilateral relationship.

Post-1990 Era

Nepal's political environment began to evolve substantially during the democratic movements of the early 1990s, resulting in heightened political instability and shifting foreign policy dynamics in India. During this time, India's posture to its neighbors shifted, driven by regional geopolitics and China's growing influence in South Asia. The expanding prominence of China constituted a geopolitical threat for India, causing it to reconsider its relationship with Nepal *(Bhattarai, 2003).* During this period, the Arun III hydropower project became a focal point of Nepal-India relations, representing both the potential and conflicts that defined the cooperation. While India continued to press for investment in Nepal's energy industry, worries about political instability and a lack of confidence hampered discussions and project execution *(Baral 2010).*

The Maoist Insurgency and Aftermath (1996–2006)

The Maoist insurgency, which began in 1996, stressed Nepal's internal political stability and had serious consequences for its diplomatic ties, notably those with India. The conflict produced an unpredictable climate, prompting India to reconsider its diplomatic ties with Nepal. As the war developed, India struck a careful balance, offering assistance to the Nepalese government while also addressing security concerns about cross-border rebel activity *(Bhattarai, 2003).* This turbulent time slowed the pace of large-scale development projects, particularly hydropower programs, because investment became more hazardous in an unpredictable climate. The ultimate conclusion of the insurgency and the accompanying political change prompted expectations for fresh collaboration; but, the scars of battle and shifting political allegiances remained to shape Nepal-India ties throughout the post-conflict period.

The historical setting of Nepal-India relations reveals a complex interaction of diplomatic, economic, and social elements. From the early accords to the obstacles provided by internal strife and regional dynamics, the course of their relations has been marked by both collaboration and dispute.

5. Arun III Project: Technical and Economic Overview

The Arun III hydropower project is a landmark effort that demonstrates the possibilities for energy partnership between Nepal and India. With a capacity of 900 megawatts (MW) and a planned cost of around USD 1.04 billion, this project is critical for both countries' energy security and economic growth.

Project Capacity and Financing

The Arun III project aims to utilize the hydroelectric potential of the Arun River in eastern Nepal. Its estimated capacity of 900 MW places it as one of Nepal's greatest hydropower projects, with significant energy producing possibilities. This project is mostly funded by Indian organizations, notably Satluj Jal Vidyut Nigam (SJVN) Ltd., which is responsible for project execution and funding. The investment structure combines ownership participation and financing, highlighting the two countries' close economic relations. This funding strategy reflects not just India's desire to secure renewable energy sources, but also Nepal's demand for infrastructural investment and development in the energy sector.

Transmission and Distribution

The construction of reliable transmission and distribution networks is a vital component of the Arun III project. Power-sharing agreements between Nepal and India are required to effectively manage the project's energy generation. The development of cross-border

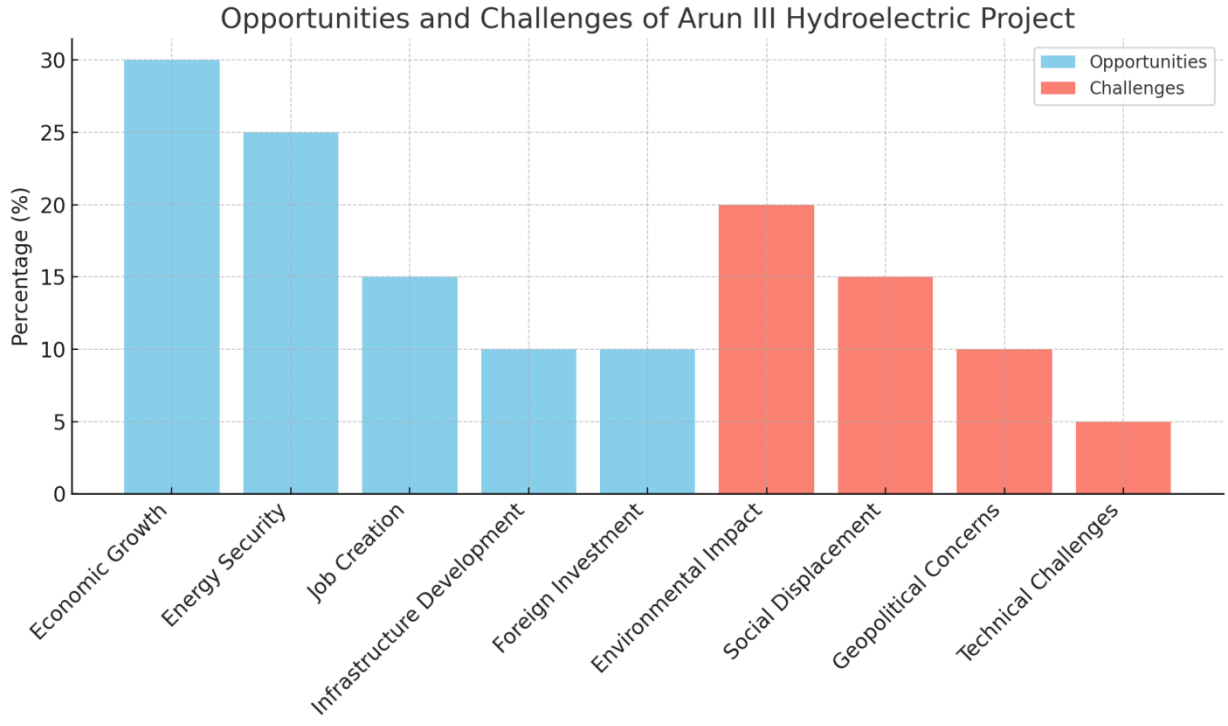
transmission lines would make it easier to export electricity to India, therefore improving regional energy security and integration. The design features high-voltage transmission lines that will connect the project to the Indian grid, allowing for efficient power transfer while reducing losses. This partnership benefits both countries since it allows Nepal to access a broader market for its power while also assisting India in meeting its expanding energy demands.

Economic Impacts

The economic impact of the Arun III project is varied. The project offers numerous essential advantages for Nepal, including huge royalty payments from energy sales to India, which are projected to considerably contribute to national revenue *(Ministry of Energy, Water Resources, and Irrigation, 2020).* Furthermore, the project is expected to provide thousands of jobs throughout both the building and operational phases, meeting local employment needs. The inflow of investment would also drive infrastructural development in adjacent regions, including roads and local facilities, therefore promoting economic growth.

On the other side, the Arun III project has the potential to greatly benefit India. With the country's rapidly expanding energy demands, particularly in the face of increased urbanization and industrialization, the project will supply a critical source of renewable energy (*SJVN Ltd., 2019)*. Arun III's inclusion in India's energy portfolio is consistent with the country's overarching objective of diversifying energy sources and boosting renewable energy's proportion of the energy mix. Furthermore, the project helps to increase India's energy security by lowering reliance on fossil fuels and managing possible supply interruptions.

The Arun III project fosters economic interdependence, demonstrating the possibility for joint energy solutions in South Asia. By addressing mutual energy demands, Nepal and India can strengthen their economies while also contributing to regional stability.The Arun III hydropower project represents a key milestone in Nepal-India energy cooperation. Its technological specifications, financial arrangements, and predicted economic advantages give a complete picture of its influence.



The Arun III Hydroelectric Project presents significant opportunities, with the largest being economic growth (30%) driven by electricity exports, followed by enhanced energy security (25%) through reduced reliance on imports. Job creation (15%) during construction has been substantial, while infrastructure development and foreign investment (10% each) bolster Nepal's development and attract outside capital. However, challenges include environmental impact (20%) from deforestation and ecosystem disruption, social displacement (15%) due to the relocation of communities, and geopolitical concerns (10%) stemming from dependence on India for electricity exports. Technical challenges (5%) also exist due to the project's complex terrain.

Impact of Bilateral Relations on Arun III Project Implementation

The Arun III hydropower project is an important partnership between Nepal and India, demonstrating the complex dynamics of their bilateral ties. This research looks at how these relationships have affected different stages of the project, with an emphasis on political and diplomatic linkages, economic interactions, environmental and social issues, and implementation problems.

Political and Diplomatic Relations

Diplomacy at the highest levels has been critical to the Arun III project's success. Initial agreements in the 1990s set the framework for collaboration; however, significant impetus emerged during Nepal's democratic transition in the early 2000s. The 2014 Joint Commission conference and subsequent agreements reiterated both nations' commitment to hydropower development, establishing clearer investment and execution frameworks *(Ministry of Energy, Water Resources, and Irrigation, 2020).*

Political interactions have been characterized by both collaboration and conflict. The frequent changes in Nepal's administration have produced uncertainty that have slowed project completion. Nationalist emotions and fears about sovereignty have driven hostility to foreign investment, notably from India. Local demonstrations, frequently motivated by views of Indian domination in the energy industry, have caused considerable delays in project approvals *(Baral, 2010)*. For example, the growth of anti-Indian rhetoric during periods of political turmoil has hindered diplomatic discussions, emphasizing the fragility of bilateral relations.

Regional dynamics exacerbate the link. The growing influence of China in Nepal has caused India to take a careful diplomatic approach, balancing its interests with local sensitivities. This geopolitical climate needs high-level conversations to strengthen strategic ties and emphasize bilateral collaboration in projects such as Arun III *(Baral, 2010).*

Economic and Trade Relations

The economic connection between Nepal and India has a considerable influence on the Arun III project's implementation. As India's major economic partner, Nepal's reliance on India emphasizes the need of healthy trade relations. The Arun III project is not simply an energy endeavor, but it also embodies India's overall aim to improve its energy security and regional investment footprint *(Ministry of Energy, Water Resources, and Irrigation, 2020).*

India's investment, notably through SJVN Ltd., demonstrates its desire to strengthen economic links. Domestic political instability in Nepal, along with increasing anti-Indian

sentiment, has disrupted investment flows and fueled local hostility to foreign intervention. For example, opposition parties have used nationalist feelings to argue that Indian investments endanger Nepal's economic sovereignty *(Baral, 2010)*. This scenario requires deliberate discussion and communication to meet local concerns while assuring ongoing investment.

Tariffs and trade agreements have a tremendous impact on the economic landscape. Nepal intends to use its hydroelectric resources for economic growth, negotiating advantageous conditions with India. However, economic policies can change depending on political goals, making it difficult to get constant financing for projects such as Arun III.

The dual influence of economic interactions on the project emphasizes the significance of effective communication tactics. While Indian investment has supplied critical finance and expertise, resistance to such investments hampers project financing and operational logistics. Addressing these issues is crucial to gaining local support for successful implementation.

Environmental and Social Concerns

Environmental diplomacy is critical to the Arun III project's rhetoric, especially considering the ecological consequences of hydropower development. Concerns about the river environment, biodiversity, and displacement of local residents have surfaced as key topics in bilateral talks. Effective handling of these concerns is critical to retaining local support and ensuring project sustainability *(Ministry of Energy, Water Resources, and Irrigation, 2020)*.

The impact on local populations, particularly relocation and access to resources, has sparked a discussion. Local residents have expressed concerns about losing their homes and livelihoods, demanding for increased openness and participation in decision-making processes. Addressing these societal challenges would need continued collaboration between Nepal and India, as well as with local stakeholders *(Baral, 2010)*.

Challenges in Implementation

The development of the Arun III project confronts substantial hurdles stemming from larger bilateral connections. Border disputes, economic blockades, and changes in political leadership have all presented significant challenges. For example, the 2015 economic embargo, which was partially caused by tense ties following Nepal's adoption of a new constitution, had a significant impact on trade and economic exchanges, causing project delays *(Baral, 2010)*.

Changes in Nepal's political leadership have an impact on project dynamics. Changes in government frequently result in changing policy goals, which can lead to increased scrutiny of foreign investments such as the Arun III project. The emergence of nationalist groups has occasionally generated anti-Indian sentiment, hindering talks and project implementation *(Ministry of Energy, Water Resources, and Irrigation, 2020)*.

Navigating these difficulties demands ongoing diplomatic engagement. High-level meetings and bilateral commissions are critical forums for resolving conflicts and encouraging collaboration. However, the effectiveness of these discussions is frequently dependent on Nepal's current political situation and public attitudes toward foreign investments *(Baral, 2010)*.

The Arun III hydropower project highlights the intricate interaction of Nepal-India relations, in which political and diplomatic relationships, economic interdependence, environmental and social concerns, and implementation issues all play important roles. As both countries manage their ties, the success of the Arun III project will be determined by

their capacity to handle local issues, strengthen collaboration, and promote long-term development. Finally, this project serves not only as an important energy initiative, but also as a symbol of the possibility of collaboration in the face of persistent obstacles in bilateral relations.

Opportunities for Regional Cooperation and Future Prospects

The Arun III hydropower project is not only a vital energy effort for Nepal and India, but it also has wider ramifications for regional cooperation in South Asia. This section investigates the possibility for increased regional energy collaboration, as well as the future prospects for Nepal-India energy cooperation.

South Asian Energy Cooperation

The Arun III project can be used as a model for future hydropower and infrastructural cooperation in South Asia. Given the region's diversified energy demands and resources, collaborative frameworks may considerably improve energy security and sustainability. Organizations such as the South Asian Association for Regional Cooperation (SAARC) and the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) enable member nations to collaborate on energy projects *(Sahu, 2019).*

The successful completion of the Arun III project might open the door for further efforts promoting cross-border energy commerce, capacity sharing, and infrastructure development. For example, integrating regional power systems can enable electricity interchange while improving resource consumption across nations. Furthermore, regional cooperation can attract international investments and technological transfers, both of which are necessary for the development of large-scale hydropower projects *(Sahu, 2019).*

Furthermore, by developing strong regulatory frameworks and harmonizing standards, South Asian countries may work together to overcome difficulties in energy production, delivery, and environmental sustainability. Such joint initiatives can help alleviate the effects of climate change and boost renewable energy sources, bolstering the region's commitment to sustainable development *(Ministry of Energy, Water Resources, and Irrigation, 2020).*

Future Prospects for Nepal-India Energy Cooperation

The future of Nepal-India energy cooperation seems optimistic, especially with the possibility of new hydropower projects. As Nepal seeks to develop its abundant hydropower potential, India's involvement as a significant investor and partner will be critical. The current partnership under the Arun III project can serve as a foundation for future partnerships, such as the Upper Karnali and other suggested efforts *(Baral, 2010).*

Given China's growing influence in the area, India must aggressively promote Nepal's hydroelectric ambitions. India can enhance its connections with Nepal by investing and giving technological skills, counterbalancing China's rising impact. This strategic alliance can help promote regional stability, as energy security is frequently associated with political and economic stability *(Sahu, 2019).*

Furthermore, strengthening bilateral agreements and mechanisms for collaboration will be critical. Initiatives that promote local community engagement and environmental sustainability might assist create public support for future initiatives, reducing resistance due to worries about foreign investment. Stakeholder participation and open decision-making procedures are critical to the long-term success of Nepal-India energy partnerships *(Ministry of Energy, Water Resources, and Irrigation, 2020).*

6. Conclusion

The Arun III hydropower project is an important case study for understanding the complex dynamics of Nepal-India relations and the consequences for regional cooperation in South Asia. This research has revealed that political and diplomatic linkages, economic interdependence, environmental and social issues, and implementation problems are all linked, with significant implications for the project's progress. The expanding bilateral relationship has highlighted both the benefits and challenges associated with cross-border infrastructure efforts.

The successful completion of the Arun III project demonstrates the possibility for increased energy collaboration in the region. Using frameworks established by organizations such as SAARC and BIMSTEC, Nepal and India can pave the way for comparable hydropower and infrastructure projects that promote energy security and sustainability *(Sahu, 2019).* Furthermore, India's active support for Nepal's hydropower goals is critical, especially in light of increased external influences from China, solidifying the strategic cooperation between the two countries *(Baral, 2010).*

To maximize the benefits of future cross-border infrastructure projects, governments should prioritize open communication with local populations and address their concerns. It is critical to create comprehensive regulatory frameworks that promote collaboration while also encouraging sustainable behaviors. Furthermore, creating a climate receptive to investment and innovation will be critical in recruiting the requisite resources and talent. The Arun III project not only represents the potential for positive Nepal-India ties, but also emphasizes the significance of joint methods to attaining regional energy security and sustainability.

The Arun III project represents an important potential for regional collaboration in South Asia. Its role as a model for future energy cooperation may pave the way for a more integrated and sustainable energy framework in the area. As Nepal and India look to the future, their collaboration on hydropower development will be critical in tackling energy security issues and opposing external pressures, eventually contributing to a more peaceful and prosperous South Asia.

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