MAHAKALI TREATY

Pros & Cons for Nepal

Edited by
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Foreword

A country's international relations policy is a set of goals outlining how the country will interact with other countries economically, politically, socially and militarily, and to some extent, how the country will interact with non-state actors as well. Such interaction is evaluated and monitored in attempts to maximize the benefits of multilateral international cooperation. At all the time a nation's international relation policies are designed to help protect the country's national interests, national security and economic interests.

In Nepal, for the past two decades, apparently due to the lack of political stability and coordination among different stakeholders, or most importantly, because of the hunger and greed of the individuals maintaining their presence in power who want to cling there forever, our national interest first and then the nation itself have become hostage to uncertainty.

There is no doubt that the problem is with us. Maybe we lack sincerity, compromise our integrity and not do enough homework while reaching agreements, or our leaders are psychologically so overwhelmed by the neighboring countries' help in shaping their political career in the past or they are not ready to give up the possible future help to remain in power.

The history of negotiations regarding water projects in Nepal are never free of controversies. Most of us in Nepal are convinced that we have not been dealt with fairly by the treaties. Many of us also believe that India is draining Nepal's watershed for its own benefit. Many of us maintain that Nepal's kindness and generosity in sharing its water with India in the existing agreements have been taken advantage of by India because the people of Nepal have received far fewer benefits than the people of India from the projects carried out under these treaties.

On the other hand India contends that it has the right to use the water in accordance with its needs, with the term 'need' embracing its unlimited socioeconomic requirements dependent on the waters of the rivers flowing from Nepal into India. However, the continuous controversy and tension have resulted in a slow development of water resources projects that may have proven to be beneficial to both Nepal and India.

Thirteen years have just passed and during these years, we have not seen the tree of agreement bearing any fruits. But the issue has been able to divide the nation at each and every level. To talk about our own nation and its interests, we do not need to talk against anyone or take sides, nor do we need backing of others. We are talking about the just right of Nepal and the Nepali people that needs to be defined, and addressed in a proper manner.

This book is the outcome of the Seminar on "Mahakali Treaty: Pros and Cons for Nepal" organized by the Sangam Institute with the objective to clarify the matter further, and try to create consensus at national level so that it will help to take up the issue at regional and international levels.

We thank Dipak Gyawali, Santa Bahadur Pun, Ajaya Dixit and Surya Nath Upadhayay for presenting the papers and later updating them on the basis of floor discussion; participants of the

seminar for their valuable inputs and making the seminar a very lively event; Professor Sushil Raj Pandey and Professor Ananda Srestha for chairing the sessions; and the Sangam team for making the seminar a success.

Pushpa Adhikari, Ph.D.
Executive Director

Table of Contents

Mahakali Mess: Article 126 and the Cumulative Cost of the Path Not Taken

Dipak Gyawali[*]

Thirteen Year Itch

Before approving the Mahakali Treaty in a chaotic session close to midnight on 20 September 1996 by a two-thirds majority, Nepal's 2nd parliament unanimously passed four strictures that basically re-defined the treaty. It thus assuaged some of the opponents who agreed to vote for it on the understanding that those strictures which met their objections had now been incorporated into the treaty. It can thus be taken that the Nepali parliament, as per Article 126 of the constitution, passed a motion approving the treaty upon condition that it meets those obligations. India has not accepted them, hence they do not form part of the treaty; but then the Nepali political parties cannot run away from them

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because they have unanimously pledged themselves to the strictures in front of the Nepali people. Hence Mahakali becomes a conditionally ratified treaty, which really is no ratification, thus leaving the treaty in a moral limbo. To say it has been ratified is to fool either the international community (since there were strictures attached to it) or the Nepali people (since the treaty does not incorporate what they think their representatives stood for in the national interest).

Even if one considers it a "ratified treaty" on hair-splitting legalistic grounds, none of the crucial dates stipulated within the treaty have been met. The Detailed Project Report to have been completed in six months has not been done even now into the 13th year, nor has the colossal financing been arranged in two years for building one of the world's highest dams. Obviously, the Pancheshwar Project itself, which was stated to have been completed in eight years, is not even on the drawing board. To change these dates and to act according to a new timetable, only the body that passed the treaty (a two-thirds majority of a normal parliament) has the requisite authority; and no such changes have been approved by any parliament to date. The treaty furthermore has a provision that says it would be reviewed in 10 years or earlier, ostensibly to take into account difficulties, which could unforeseeably have cropped up; but this too has not been done in all these years despite the controversial interpretations between the civil society and governments on the one hand and Nepali and Indian hydrocrats on the other, as well as the serious lapse in agreed timetable. Hence the treaty has essentially expired.

If one stubbornly insists that the Mahakali Treaty is still a treaty which continues to have legalistic validity, then one needs to confront the contradictions therein which are too glaring to ignore. To build one of the world's highest dams in one of the seismically and hydro-geologically most active zones on this planet, one needs a firm, broad-based societal consensus that tran-

scends generations: to the already daunting physical challenges, one does not need to add unresolved social conflicts and strongly held countervailing positions. What is the current status of the river in light of the Sugauli Treaty of 1816 which states that the "Rajah of Nipal renounces all claims to land west of the Kali." Does the entire river belong to Nepal or is it a border river shared 50:50? If the river belongs to Nepal but not the right bank, what does that mean for a hydro-technical structure across the river that must abut on the right bank? If the Sarada Treaty of 1920 allowed the eponymous barrage to be built after Nepal swapped the left abutment, where is the swapped land Nepal is supposed to have received? What about the Nepali land at the headwaters of Kalapani, and where does the tri-junction of Nepal-India-China lie? If it is a border river that is shared 50:50, then why is Nepal's share of the waters limited to as low as four per cent (see Gyawali and Dixit, 2000)? Why is India's share of the augmented flow not specified? How is electricity from Pancheshwar to be priced and what principles of optimization is to be followed for contradictory aims that require diametrically opposed reservoir optimization rules (maximize irrigation, flood control or power generation)? How is the massive sedimentation, not just suspended silt but massive bed-load movements that result from regular bishyaris (landslide-dammed lake outburst floods), to be understood and incorporated into understanding the economics of investment? Where are the displaced to be re-settled and how is it to be assured that they will be better off economically, socially and psychologically than they were before? And what economic and macroeconomic studies justify Nepal putting all its development investments in one basket and risking a serious "Dutch Disease" backlash?

The so-called "integrated" treaty on the Mahakali river basin does not even pretend to answer these highly pertinent questions: it is a construction-focused treaty stemming from a very

neo-colonial development paradigm of resource extraction and the assuring of security for the extractors. Had scientific and transparent studies been done first before the treaty was signed in haste, it would have allowed the two countries (and maybe others in the basin as well) to understand the implications of the larger picture and their obligations that need to be fulfilled long before expected benefits could accrue. However, since wild expectations were hyped-up before understanding the responsibilities required, the uncomfortable search for which has barely begun, there is resistance in the body social to come to terms with reality, viz. that the foundation built by the treaty is so unsound for the efficient and equitable development of the water resources of the basin that no edifice, physical or institutional, built on it will stand the test of sustainability.

Forest, not the Tree

The problem with the Mahakali Treaty is not just with the treaty per se or this and that of its clauses, although there is plenty of that too: it is primarily about the bad experiences of past mal-developments as well as an alternative vision of what future development should be like. When Rana shogun Chandra Sumshere signed the Sarada Treaty with British India, which was already then a "developed colony" fully subjugated by a universal capitalist state, Nepali society had not even begun to experience the wrenching value changes that capitalism's "satanic mill" would impose. Water for dry season irrigation or the importance of land (especially the left bank) for hydro-technical construction was not within the value system of the Rana rulers. For them, land had value if it was forested with commercial timber or could be converted into agricultural land. Hence, a century ago it was logical to see as a good deal the swapping of boulder-strewn riverbank wasteland with equivalent forests. It is only with today's hindsight that

we recognize that unique geographical and geotechnical sites are themselves valuable resources without which river waters cannot be harnessed effectively or economically. Even then, one must give credit to the Rana rulers that they did manage to ensure Nepal getting a thousand cusecs of irrigation flow, which the country managed to utilize only some 40 years later with the help of the World Bank.

In the mid-1980s, during the last years of Panchayat rule, Nepal raised concerns with India regarding the Tanakpur Barrage, which was planned upstream of the Sarada Barrage and which proposed to divert the Mahakali waters to a power plant whose tailrace would empty into the Sarada canal, thus potentially denying the 1,000 cusecs flow to Nepal's Mahakali irrigation project. Upon protests, India agreed to modify the design to empty the tailrace into the Mahakali, but kept denying that this had anything to do with Nepal. However, it was only with the "regime change" in Nepal in 1990 that India began to put pressure on Nepal's transition regimes to complete the left abutment of the Tanakpur Barrage on Nepali territory. While the interim Prime Minister K. P. Bhattarai brushed away Indian pressure by ignoring water and focusing on constitution-making as well as the holding of general elections under the new multiparty dispensation, the Nepali Congress government of Girija Prasad Koirala succumbed to Indian pressure and, in December 1991, agreed to allow India to complete its left afflux bund on Nepali territory.

What rankled Nepalis was the creeping "salami tactics" of India, first by refusing to share any plans and details on the project's potential impact on Nepal by claiming it was a wholly Indian project and none of Nepal's business; second by pretending that the relatively small amount of Nepali left bank required to complete the barrage was actually to prevent flooding in Nepal and ostensibly had nothing to do with the Tanakpur Barrage;

and third that what was given to Nepal as compensation to get this deal though was a gesture of goodwill on the part of India. What incensed the opposition in Nepal (and there was considerable amount of that) was Koirala's desperate attempt to prevent it from being tabled in parliament. A more transparent process of negotiation by the Delhi mandarins, rather than ham-handed attempt to force agreements upon weak and shaky governments, as well as open public debate in the parliament on what Nepal should rightfully expect in lieu of providing India the chance to complete its unilaterally constructed project on a border river, would have led to a more healthy cooperative development between the two countries. Instead the path followed has been of one mistake covering another that can be mined by any force so interested to stoke up bad feelings on either side of the border. It is not a healthy state of affairs for Nepal or India to be in, but it is a real legacy from the past that continues into the present and probably much into the future unless rectified with ennobling statesmanship.

The Tanakpur debate in Nepal, both within the parliament and in the press and streets, did ask pertinent questions regarding both the substance and procedures for negotiating water treaties with India. It asked that treaties in the future be done in a publicly transparent manner and not behind closed doors; that Nepal's long-term interests not be sacrificed for short-term political support from the successor state to the colonial British Raj; and that the democratic provision of Article 126 of the constitution be refined to clarify what kind of water agreements can be done by a government with a simple majority and what would need its 2/3rd provision to come into effect. Unfortunately, several committees formed in the parliament to tackle these momentous issues never came to a closure, since Nepali politics fell into a "musical chair" series of coalition governments where the attention of political leaders was confined to acquiring ministerial berths.

The Supreme Court too, in its incomplete decision, did not help matters: it agreed with the petitioners (and against Mr Koirala) that the Tanakpur 'Understanding' was a treaty that required parliamentary approval but failed to provide a definition of what constitutes 'pervasive, serious and long-term' mentioned in Article 126. On the contrary, it asked that the government and parliament define it themselves, but that it would reserve judgment as to whether such a definition was correct or not for the future. Thus the Supreme Court, instead of helping bring a controversy to judicious closure, set the scene for an infinite loop of litigation and counter-litigation. It is this that inhibited the parliamentary committees from pressing ahead with their task of discussing the strictures and working out a viable modus operandi.

An honest public debate in Nepal needs to have the water resources establishment interrogate itself: why do we want to develop our supposed water wealth? Some of the pertinent questions can be bulleted as follows:

Do we need the products that flow from dam construction – regulated water for dry season irrigation and downstream flood control as well as electricity, navigation and fisheries – in Nepal for ourselves or for our neighbour across the border?

If it is for ourselves, what are the real requirements – in terms of place, time, quantity, quality and scale – of our commerce and industry for electricity, of our agriculture for regulated dry season water and of our roads, bridges and settlements for flood protection? Do these large dams meet those requirements most effectively or are there other options that need to be assessed prior to taking decisions that would inflexibly lock the country onto a sub-optimal path of development?

If it is for export (both as benefits from electricity as well regulated water for irrigation, domestic and industrial use, as well as flood control) what is a fair price for the resource, which in-

cludes not just the water but the site where the dam can be built and the valleys and villages that need to be permanently flooded to produce the storage?

If they are meant to be developed jointly for bilateral or even regional benefits, what benefit sharing principles are to be adopted? Is there a danger that there is too much downstream "free-ridership" in the deals, with Nepal failing to get its due share of the benefits that accrue downstream? Can they be dealt with through cross-sectoral and cross-basin tradeoffs?

In both cases, what are the risks that Nepali economy and social fabric are capable of bearing and what are the risks that should not be borne by this generation nor should they be passed on to our future generations?

In a 'federal' Nepal, what is going to be the case for 'ownership' of these sites, decisions regarding their exploitation including the level of investment contribution and the sharing of benefits that would accrue from them between the different units?

Besides the social and economic risks, what are the physical risks such as from seismicity in this tectonically active area, from mass-wasting of the Himalayan geology, from cloudbursts and bishyaris etc? What will be their risk assessment consequences to their economics? How will mega-dams such as Pancheshwar, Karnali and Koshi High be assessed properly in light of these concerns?

Article 126 (old)/156(interim) of the constitution was primarily such an institutional mechanism that would, indeed should, have facilitated the assessment of questions such as those raised above. Unfortunately, this provision was never properly used by the political parties either with due diligence or due honesty; rather it was used by them against one another rather than for assuring the overall maximum benefit to the country.

Whither, Cooperative development?

Cooperative development would be distinguished from its alternatives, competitive and coercive developments, by two important factors: a high degree of volunteerism and a strong sense of mutual benefits. In contrast, coercive development is that imposed by a strong power over those incapable of resisting, i.e. a colonial power over a colony helpless to put forth indigenous views; and a competitive development is that brought about by a strong sense of "other-ness" and the unacceptability of being worse off than one's neighbour. India's current economic strength is the result of forcible colonial infrastructure building, including its market institutions, while the ethos of competition against the Japanese underlies much of the development initiatives in Korea.

Given the skewed relations between Nepal and India, coercive development is a great temptation for the latter while the former, being a latecomer to development, has not seen its nationalistic fervour translated into a healthy competitive streak. Even if Nepalis did acquire a competitive streak by some rare miracle, parity in conventional development indicators would be difficult to assure with the larger neighbours. However, since coercive development is not easily sustainable nor necessarily capable of giving maximal results, cooperative development remains the most judicious choice for countries of the Ganga Basin. However, developments of the last century, from the Sarada Barrage with British India till the first decade of the 21st century have not followed the principles required for pursuing such a path. In the past, decisions on the nature of development to be undertaken were already done in Delhi, whether it was Tanakpur, Gandak or Kosi, and Nepal was only approached later to acquiesce to them. Nepali concerns were never part of the initial planning and design, only later add-ons or concessions. The result has been rancour and often impasse. A more transparent

and early engagement would have allowed for a slew of alternative solutions to be considered, including decisions on trade-offs, perhaps even transcending the watershed and moving into the larger "problemshed."

The first requirement in this direction would be for Nepal to clear internally regarding the provision of Article 126 in its constitution. The Tanakpur/Mahakali issues were merged for political expediency without considering the larger political-economic and technical aspects of water resources development. That wrong approach has resulted in wasted years and a stymieing of creative efforts, which has to be accounted for as cumulated costs of not doing things right. It is only when there is clarity in the Nepali body politic that a cooperative approach can be initiated with confidence and the other riparians approached for joint endeavours. Along these lines, an effort in this direction was made in 2002/2003, through a "Situation Paper" to bring forth a set of criteria that would allow a proper and wholesome use of Article 126. They still seem valid, maybe with some modification, and will be discussed below as well as in the appended annex.

The main questions addressed by the Situation Paper was on how to decide if the two-thirds provision of Article 126 of the constitution would be attracted. Conversely, what criteria would help decide if a normal government enjoying a simple majority in parliament could initiate development activities with other basin riparians. There were two main principles to help address the issue:

Has a resource such as electricity or regulated water produced by development activities in Nepal, i.e. building a dam, a storage reservoir or diversion structures, crossed a boundary?

And does the quantum of such resource crossing trigger any of the nine criteria (see Annex)?

If no resource crosses the boundary, i.e. all of the produced resource are used within Nepal, then Article 126 does not apply as there is no resource sharing. If it does, then does it do so in quantity sufficient to deem it a "pervasive, serious and long term" matter? What must be noted is that it is irrelevant where the money to develop these hydro-technical structures come from, whether the capital is private or public, foreign (international as well as Indian) or Nepali. What matters is only if a resource goes outside the boundary of Nepal and that too in quantity sufficient to trigger any of the nine criteria outlined.

While these criteria could change with the years as Nepal's own capacity to build and utilize these resources, there is still a need for developing such a set of triggers if a healthy path of international cooperation on water resources development is to be brought about. It must not only enjoy broad political consensus, but it must also be broadly understood that they must be continuously monitored, discussed and improved upon. It is only then that Nepal can move away from a chronic and debilitating sense of having received a bum deal. Trying to push through water projects, electricity sales and other agreements with the lower riparians without first clarifying when and how the provisions of Article 126 (156 of the interim constitution) would apply will mean more mishaps and a rising tally of cumulative costs for the overall cooperative development of water resources in the region.

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Annex

Situation Paper Related to Evaluating "Pervasive, Serious or Long Term" Impact Stipulated in Article 126(2) of the Constitution of the Kingdom of Nepal 1990⊕

Article 126 (clause 2) of the Constitution of the Kingdom of Nepal 1990 stipulates that treaties or agreements that have a 'pervasive, serious or long-term' impact on the nation must be ratified, acceded to, approved or supported by a two-thirds majority of the members present in a joint sitting of both the houses of parliament. However, if the impact is of an ordinary nature, a simple majority of the lower house would suffice for the purpose. Thus, before any treaty or an agreement on any subject can be tabled in the joint sitting of both houses or only the lower house of parliament, it is imperative that its impact be subject to evaluation. Because the constitution as well as existing cases and the decisions of the Supreme Court are not clear on this matter, it has become difficult to move ahead with activities related to water resources development.

1) In the writ petition no 1851 filed in 2048 (1991AD) relating to the Tanakpur Barrage, the decision of the Supreme Court on 2049/8/30 (1992/02/15) states that, besides legal and constitutional considerations, economic, technical and

other aspects must be taken into account before deciding whether the agreement on the project was of a 'pervasive, serious or long-term' nature, and places the onus for the same on His Majesty's Government and the Parliament. The Supreme Court's decision itself is silent on the question of what constitutes 'pervasive, serious or long term' nature. It states that the full decision of the court would be written later, but this has not been done so far.

Thus the above decision of the, Supreme Court leaves the burden of defining 'pervasive, serious or long-term' on the government and the representatives of the people. It also points to the necessity of including legal, constitutional, economic, technical, political, and diplomatic considerations in such an evaluation.

2) With regard to the Tanakpur Barrage Treaty, the Supreme Court's verdict basically mentions the following:

   a) The agreed minutes and the documents of the joint commission indicate the need to accept that an agreement has been reached on issues related to Tanakpur Barrage between His Majesty's Government and the Government of India (verdict page no 10); and with regards to this agreement, clause 2 of Article 126 is attracted as mentioned in section 'd' of the same clause concerning the 'sharing and utilization of natural resources' (verdict page no 15).

   b) With regard to the issue of ratification, acceding to, approval or support of the treaty or agreement, the existing laws lack uniformity; and, for the sake uniformity it is essential that the laws be brought in harmony with the constitution and a proper process be established (verdict page no 16).

   c) It is the responsibility of His Majesty's Government

and the representatives of the people to evaluate the effects of the treaty or agreement on the nation. Such an evaluation must also include legal, constitutional, economic, technical and diplomatic considerations (verdict page no 16-17).

3) According to the Supreme Court verdict, documents associated with the Tanakpur Barrage were to be ratified by the parliament. Moreover, the verdict also notes that "sharing and utilization of natural resources" has occurred with this agreement, as a consequence of which His Majesty's Government has been ordered to ratify the agreement according to Article 126(2). As a consequence of this order issued by Supreme Court, treaty on the Mahakali River, Pancheshwar Project and Sarada Barrage concluded between His Majesty's Government of Nepal and the Indian Government has been ratified by the joint sitting of the parliament on 2053/6/4 (20th September 1996).

4) It is not in easy task to assess the impact of a treaty on the nation or to determine whether such treaty is of a 'pervasive, serious, long-term' nature, or to reach a decision on whether the treaty is of an ordinary nature or not. However, the terms "pervasive", "serious" or "long-term" nature" are interpreted in a relative manner in common parlance. Consequently, it is improper to assign absolute meaning or reach hasty conclusion. Even a short-term agreement where little is lost and much gained has long term, serious and pervasive consequences. On the other hand even a treaty, despite being of say 50 to 100 years span that gives up much to get a lot less, may not have severe impacts. Furthermore, whether the evaluation of the impact of the agreements should be carried out based only on physical resources or on the abstract level of bilateral and friendly relations can be a moot point. Friendly relation among the nations and in-

ternational goodwill (comitas gentium) are not likely to be evaluated on a material level. Besides, classification of treaties between nations as 'ordinary' or 'extraordinary' may not be valid. Hence, while assessing the impact of agreements, these aspects too need to be evaluated.

5) With regards to sharing and utilization of natural resources, the Constitution of the Kingdom of Nepal does not make explicit the nature of agreement as of "ordinary" and "serious" ones. Moreover, it also remains mute regarding the magnitude of the effects. Defining 'pervasive, serious, long-term' and using them as classifying standards to evaluate the effects of the agreement is a complicated task. Interpretation of 'pervasive, serious, long-term nature' can vary from individual to individual and also over time and among different groups of people. Passage of time can also make something seen as of a 'pervasive, serious, long-term nature' not quite so in due course. Present day interpretation of 'pervasive, serious, long-term nature' may not remain valid if technological breakthroughs are introduced in the future resulting in economic affluence. Hence, the interpretation of 'pervasive, serious, long-term' may not be as exact and objective as a mathematical figure; but it does not seem impossible, however, to present a set of criteria as a basis for defining 'pervasive, serious, long-term' in an integrated manner taking into account not just the letter but the spirit inherent in the formulation.

6) The verdict of the Supreme Court has made it imperative to develop the basis for defining what constitute 'pervasive, serious, long-term' effects and reforming our legal mechanism accordingly. Programs associated with water resources demand colossal funding which is beyond the expenditure capacity of His Majesty's Government alone. Hence the role of bilateral co-operation, donor community and the private

sector is essential; but future collaboration with private and bi-lateral agencies will be facilitated only if what is meant by 'pervasive, serious, long-term' effects is clearly communicated. However, it is difficult to say that 'pervasive, serious, long-term' effects occur from the use of natural resources and their sharing in all cases. The verdict of the Supreme Court already indicates that the use of natural resources required the safeguarding of national interest, as the following excerpt indicates:

> "Even from practical expediency, if we follow the cumbersome exercise of obligatory parliamentary ratification of any treaty or agreement with the mere mention of natural resources, parliamentary ratification may be deemed essential even for the study, survey and investigation of the natural resources such as forest, mountain, river and rivulets, water, air etc. Besides, parliamentary ratification that is seen as mandatory even to fly in experts or to seek simple assistance will create an extremely difficult and impossible situation. It cannot, therefore, be the purpose of the clause (2) of Article 126 to place before His Majesty's Government such an impractical burden as regards natural resources exploitation.
>
> "This special arrangement of parliamentary ratification in the constitution was necessitated to assure that the nation would not be deprived of its just share in such agreements and that national interests would be protected. This clause does not intend to create unnecessary impediments for the studies, survey or research for Nepal's development efforts."

In examining the provision of Article 126 of the Constitution of the Kingdom of Nepal and the aforementioned excerpts from the verdict of the Supreme Court, evaluation of

the 'pervasive, serious, long-term' effects of the agreements should concentrate on the magnitude of possible adverse impacts on the nation. What is important ultimately is to realize that the evaluation of any such treaty will have to be based on whether its adverse impacts are of ordinary nature, or it has within it serious consequences of a 'pervasive, serious, long-term' nature.

7) The utilization of river water does not merely mean the water in the river: it also includes the place and its topographical features that allow the construction of infrastructures. A dam constructed on a narrow gorge helps to accumulate water in the reservoir behind it allowing the generation of peak hour electricity. Without the requisite physical feature allowing such constructions, the waters in the flowing river cannot be exploited to a greater optimal degree. In the Tarai plains, it is not possible to accumulate water in a reservoir like in the hills or to have it flow from height to generate electricity. Allocation of the benefits which accrue through the use of a dam site is, in fact, sharing and distribution of the resources (such as electricity, irrigation, flood control, navigation, fisheries, tourism, etc). These benefits and their use may take place wholly within a country's boundary among different groups. If the distribution and use of the resources take place across the national border, sharing can be deemed to have taken place with another country. The flow of resources at a particular topography is defined by the physical structure over a flow regime and organizational control maintained over it. Construction of the physical structure can be by the government as well as national or international investors. Such areas of investments are governed by the law and policies in place.

While interpreting the effect of 'pervasive, serious, long-term' consequences, drawing on the concepts of 'magnitude,

extent and duration' used in environmental impact assessment would provide additional insights.

8) Reservoir projects have (besides direct) indirect downstream benefits. In ensuring a nation's proportionate share of such benefits, what is to be borne in mind is where the regulated water is utilized. Hence, if the benefits from the regulated flow of the reservoir is guaranteed to be fully utilized within the territory of Nepal, and projects have been framed to ensure such benefit utilization, it becomes questionable if such projects need to be framed within the definition of 'pervasive, serious, long-term' effects for the purpose of ratification.

9) When considering the 'pervasive, serious and long-term' effects on the nation due to the sharing and use of natural resources, both direct and indirect adverse consequences have to be borne in mind. With regard to water resource development, it is essential to formulate some of the objective trigger criteria to determine whether such agreements have caused 'pervasive, serious and long-term' effects to the nation or not. Occurrence of even a single criteria, enumerated below, might attract the Article's provision of 'pervasive, serious and long-term' effects. They will be equally applicable to government or private sector projects as long as the benefits from the project cross Nepal's border and accrue on the other side.

   If a project is greater than 1000 MW capacity.

   If there is going to be trans-basin transfer of water.

   If more than 10,000 people were to be potentially displaced.

   If more than 25 sq km of agricultural, grazing or forest land would be submerged.

   If the ratio of foreign investments to Nepali investment is greater than 80:20.

If the investor asked for sovereign guarantee.

If there are possibilities of inter-sectoral (water for water) or cross-sectoral (water for something else) benefit sharing.

If more than 50 per cent of the electricity produced is to be exported across the border, and

If the river on which the reservoir has been built produces regulated water that increases the dry season flow at the point where the river crosses the national boundary by 10 per cent or similarly reduces peak flood flow by 10 per cent.

Notes

⊕ {Unofficial translation of Nepal Adhirajyako Sambidhan, 2047 ko Dhara 126 ko Upadhara (2) ma Ullekhit 'Byapak, Gambhir wa Dirghakaleen' Asar Jalsrot Bikasko Sandarbhama Mulyankan Garne Aadhar Tayar Garne Sambandhi Sthitipatra. Original in Nepali prepared by the Ministry of Water Resources and circulated to over seventy experts (cha.na.35 of MoWR of 2059/12/13 (27/03/2003) for discussion on the subject at WECS Hall Singha Darbar on 5/1/2060 (18/04/2003) at 14:30 pm. However, Prime Minister Lokendra Bahadur Chand resigned at 1 p.m. of the same day and the discussion meeting was postponed. Despite the fact that the task of defining these three qualifiers is fundamental, it has remained in limbo ever since. The Nepali version of the Sthitipatra was published soon thereafter in full in Majdoor, the mouthpiece of Nepal Majdoor Kishan Party, and the nine criteria developed in the Situation Paper have been discussed in Dhungel and Pun (2009) as well as Dixit, A., Adhikary, P. and Bisanghke, S. (2004).}

Since these strictures have been dealt with in detail in chapters by other authors (e.g. S. B. Pun), they are not described in

detail here. They are also mentioned in the Letter of the Ministry of Foreign Affairs, His Majesty's Government of Nepal to the Embassy of the Republic of India, Kathmandu on the Stricture of the Nepali Parliament on the Mahakali Treaty, November 22, 1996 as follows:

"... The Ministry would like to inform that a Parliamentary Monitoring Joint Committee has been formed under the chairmanship of the Rt. Hon. Speaker of the House of Representatives to give guidance to [the] Nepalese side, during the preparation of the detailed project report, with a view to monitor the process reflecting the resolution and commitment as expressed by the parliament in safeguarding the national interest of Nepal. ..." (See Dhungel and Pun 2008: 412).

Personal communication from the then MP from the main opposition UML's Hiranya Lal Shrestha who, despite the passage of the strictures, chose to vote against the Treaty as one of those still dissatisfied by the substantive and procedural flaws therein.

Article 126 requiring resource-sharing treaties to be ratified by parliament, with a two-thirds majority if deemed 'pervasive, serious and long-term', was in the 1990 Constitution. It was incorporated in toto in the current interim constitution as Article 156 after strong public pressure as well submissions by both the CPN-UML as well as the CPN (Maoist). The arguments in this essay, which refers to the provision as Article 126, are equally applicable to concerns surrounding Article 156 of the interim constitution.

The wordings of the treaty are so ambiguous that Nepal's dry season share can be subject to seven different interpretations, from four to 41 percent (Dixit, quoted in Gyawali and Dixit 2000).

The "Dutch Disease" implications of such large projects and supposed revenue flow to a small and undiversified economy such as Nepal's have been dealt with by Thapa (1997) and Dhungel

(1999). "Dutch Disease" impact results in the distortion of the national economy and eventually the tearing up of the social fabric, as happened with Nigeria (see Ibeanu and Luckham 2007).

Benefit claims by hydrocrats and politicians championing the treaty included "Sun rising in the west", "Nepal becoming, if not an Asian Tiger economy, at least a leopard", "Annual revenue for Nepal to be 120 billion rupees", etc. (see Gyawali and Dixit 2000).

The term "satanic mill" is from Karl Polanyi (1944) who, in his classic work The Great Transformation, describes the difference between a society that uses market as a valuable tool and one which places everything on the auction block, including human labour stripped of its social assets and land stripped of its ecology.

It must be mentioned, in defense of Koirala who was beginning to appreciate the complexity of water issues, that he had decided not to discuss water with India on his first visit (personal communication from the then ambassador to New Delhi Chakra Prasad Bastola, who was summoned at the last minute to the External Affairs Ministry and told that, if Koirala would not discuss water, India would not discuss other issues of interest to Nepal). Even with this warning, Koirala persisted with his stubbornness and did not include in his almost six dozen strong entourage either the water resources minister Basu Risal or the water resources secretary. He thus had no knowledgeable expert to fall back on for advice when the Indian pressure became intense. He, however, did ask the law secretary who was with him if the "understanding" he was about to sign required going to the parliament as per Article 126 of the constitution. The law secretary said (wrongly on substance as well as subsequently with the Supreme Court decision) that there was no need to get parliamentary approval as this was only an "understanding" and not a treaty. That it was done in haste at the last minute was also highlighted by the fact that dates mentioned in it that was circu-

lated were wrong and million units of electricity (MkWh) were referred to as megawatts.

It is this author's considered opinion that the Tanakpur controversy, after the rectifications made to it subsequently, needed to face closure at that point. This is also essentially what the Baral Commission recommended. What Nepal received in compensation in terms of electricity, additional irrigation waters and transport linkage for western Nepal to trade across the border was sufficient in the light of Nepal's having made no investment and was also a lesson to the New Delhi hydrocrats not to act in such a high-handed manner. However, attempts to pass the Tanakpur Treaty in the parliament through a simple majority (as it was a treaty but not of a 'pervasive, serious and long-term' nature) was torpedoed by infighting within the ruling Nepali Congress and its supremo Mr Ganesh Man Singh firing off a "letter bomb" that termed its passage a "death warrant." In reality, it's non-passage, and even more seriously the attempt to pass this without first defining and coming to a consensus with the opposition regarding what 'pervasive, serious and long-term' are, has been the death warrant for cooperative development of water resources between Nepal and India.

On the Indian side, in Bihar and UP, Nepal is constantly portrayed, very contradictorily, on the one hand as the "dog in the manger" that does not build its own dams to control floods but does not allow India to do so either, while on the other a country that "opens the gates of the dams to release floodwaters into UP and Bihar." These claims have been made at various times by not just newspapers but also Prime Minister Atal Behari Vajpayee and chief ministers Mayawati and Rabri Devi. As the first water resources minister to visit Bihar, this author had to point out to Indian journalists that "we don't even have storage or other dams that could release floodwaters to India, and the two barrages that are at the border with India (Kosi and Gandak) are fully under Indian

control and management." (See Prabhat Khabar, Patna of 16 April 2003 and Hindustan Times, Patna of 17 April 2003).

Bishyari is a Nepali term evolved over the ages to denote the cataclysmic deluge that results when a landslide creates a temporary rock-and-mud filled dam, which, when it inevitably is overtopped, causes the catastrophe. In terms of loss of life and property damage, they are more severe than the glacial lake outburst floods (GLOFs).

The need for re-thinking international cooperation as the Age of Aid ends is discussed in Gyawali (2004). Rather than one-way, First World donor to Third World recipient money transfer, a more respectful mode of two-way give and take needs to be devised. This would require that the definition of the "developmental problem" not be confined just to aid bureaucrats from government ministries but also include other social solidarities such as local market and civil society players, and that the cooperation be carried out between likes of the North and the South.

See Gyawali (2000) as well as Thompson and Gyawali (2007) for a discussion of the role of power and risk perceptions in public policy.

The "problemshed" would include a larger set of considerations from trade to transport to education and many more. If Pancheshwar produced more regulated water than Nepal could use in its Far West, she could trade her 50:50 rights there for the use of more water in the drier basins such as Babai or even Kankai, or she could trade her share of outputs from the multipurpose dams for coal, or navigational access to the sea! This would entail the "voluntarism" enshrined in "cooperative" development as opposed to the coercive one. For a discussion of the concept of the "problemshed" see Gyawali, Allan et al (2006) as well as WWAP (2009).

The Mahakali Treaty: Whither the Four Strictures/Sankalpas of Nepali Parliament?

SB Pun[*]

Origin of the Strictures/Sankalpas

Voting at the Joint Session of Parliament: The joint meeting of the two Houses of Parliament was convened[1] at exactly 8.05 p.m. of 4 Ashwin 2053 (20 September 1996) by Ram Chandra Poudel, Chairman of the Joint Session of the two Houses of Parliament but Speaker of the Lower House, for voting on the crucial ratification of the Mahakali Treaty. Chairman RC Poudel, despite vehement protests by MPs in the House, gave Madhav Kumar Nepal, the leader of the main opposition and general secretary of the Communist Party of Nepal (Unified-Marxist-Leninist)

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[*] Mr. Pun is a former managing director of the Nepal Electricity Authority and former officer on special duty at the Ministry of Water Resources, the Government of Nepal.

[1] Parliamentary Secretariate's Verbatim Recordings of the Joint Session of two Houses of Parliament on 4 Ashwin 2053 (20 September 1996).

[CPN-UML], permission to speak first. Mr. Nepal started with the statement that the Nepal-India treaties of Koshi (BS 2011 – AD 1954) and Gandak (BS 2016 – AD 1959), concluded during the premierships of Matrika Prasad Koirala and Bishweshwar Prasad Koirala, are remembered with pains by the Nepali people. Nepali people cannot also forget the series of Indian objections that blocked international funds for implementing the Kankai, Babai and Sikta irrigation projects. With the then Prime Minister Girija Prasad Koirala condoning India's unilateral construction of Tanakpur on the Mahakali river through the MOU, the previous Nepali wounds have again been opened up. Mr. Nepal pointed out that it was during the repressive Panchayat regime that Indian security forces occupied Darchula's Tinkar, the secret 1965 Nepal-India security treaty signed and the Tanakpur barrage constructed unilaterally by India in the 1980s.

Mr. Nepal then stated that CPN-UML had received the following political commitments from HMG/N and India:

i) Mahakali is basically a border river

ii) both countries have equal rights on the Mahakali waters

iii) Nepal will sell India a portion of her electricity generated from Pancheshwar and the price of energy will be determined on avoided cost principle

iv) decision on Detailed Project Report (DPR) will be made through national consensus of an All Party Committee

v) members to the Mahakali River Commission will be nominated through national consensus, and

vi) the entire western Nepal-India border will be demarcated scientifically within a stipulated period of time and the Indian military post removed from Darchula district.

Mr. Nepal termed totally faulty Water Resources Minister Pashupati SJB Rana's interpretation of Mahakali Treaty's Article 3. Minister Rana had informed the House that Nepal and India will be entitled half-half waters of the Mahakali River after deducting their 'respective existing consumptive uses'. Mr. Nepal wanted Minister Rana to take back his interpretation from the very rostrum he uttered them and declare instead that Nepal and India are entitled to half-half waters of the common Mahakali River. Mr. Nepal, while concluding, demanded that HMG/N get this same interpretation from the Government of India.[2]

Chairman Poudel then asked the water resources minister to reply to the raised questions. Minister Rana replied that the government wanted to transform the Tanakpur problem into opportunity by tying it with Pancheshwar to achieve a 'new breakthrough' in water resources development by opening a 'new door' for the export market. Referring to the Koshi and Gandak treaties raised by Mr. Nepal, Minister Rana pointed out that Nepali nationalism did cry over the Koshi and Gandak treaties then but that nationalism now is all smiles – precious smiles – on the Mahakali treaty!

On the existing consumptive uses of the Mahakali Treaty's Article 3, Minister Rana pointed out that Prime Minister Sher Bahadur Deuba, through his letter of 26 Bhadra 2053 (11 Sept. 1996) to CPN-UML general secretary, had already explained about both the countries having equal entitlement to the Mahakali waters. After completion of the Pancheshwar Project, the minister stated that both countries have equal entitlement to the Mahakali waters 'without prejudice to their existing consumptive uses'. This equal entitlement to all the Mahakali waters was the government's stand. Minister Rana then proposed to the House an understanding that was prepared with the consensus

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[2] This was a very important demand of CPN-UML General Secretary MK Nepal.

of the main opposition CPN-UML, wherein the DPR preparation of the Pancheshwar Multipurpose Project will be based on the prime minister's letter of 26 Bhadra 2053 (11 Sept. 1996) to the CPN-UML general secretary. The four understandings will be undertaken as national strictures/sankalpas and an All Party Parliamentary Monitoring Joint Committee will be constituted to provide an overall guidance to the government.

Chairman Poudel then explained the voting procedure. Voting took place at around 10:00 p.m. of 4 Ashwin 2053 (20 September 1996). Two hundred and twenty MPs voted for the motion to ratify the Mahakali Treaty, only eight MPs voted against[3] the motion and 31 MPs abstained[4]. Article 126 of the 1990 Constitution of the Kingdom of Nepal stipulates 'the ratification of, accession to, acceptance of or approval of treaties or agreements on... (d) natural resources and the distribution of their uses [which affects the nation extensively, seriously or in the long term] ... be done by a majority of two-thirds of the members present at a joint sitting of both Houses of Parliament...' As the number of members present at the joint session of the two Houses was 228 and as an overwhelming 220 members voted for the ratification of the treaty, meaning 96.5% of the members present, this easily fulfilled the 66% requirement stipulated by the Constitution of Nepal 1990.

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[3] The eight MPs who voted against the treaty: *HL Shrestha, PR Tuladhar, and MC Adhikari of CPN–UML; NM Bijukchhe, AK Basukala and BB Rokaya of NMKP, N Subedi and P Thapa of Mashal.*

[4] Those abstaining were *26 from CPN-UML, 4 nominated MPs from Upper House and 1 from RPP. The party-wise strength of Lower House: CPN-UML–88, NC–83, RPP–20, NWPP–4, NSP–3 and Independents–7 Total: 205* (Nepal Journal of Contemporary Studies Vol. IV No. 1 2004). **Writer's Note**: 220 for, 8 against and 31 abstained means a total of 259 MPs. With Man Mohan Adhikari absent and Ram Chandra Poudel not required to vote, this totals to 261 MPs – which leaves 4 MPs still unaccounted for!

The Strictures/Sankalpas and Parliamentary Monitoring Joint Committee: This overwhelming treaty ratification, however, was appended with the following four sankalpas/strictures:

i. Nepal's electricity to be bought by India on the principle of avoided cost;

ii. Mahakali Commission to be constituted through agreement with the main opposition party and parties recognized as national parties;

iii. Equal entitlement in the use of Mahakali waters without prejudice to their respective consumptive uses means equal rights to all the waters of Mahakali;

iv. Mahakali is a boundary river on major stretches between the two countries means the same as 'basically a border river'.

RR Iyer, former Water Resources Secretary in the Government of India, pointed[5] out 'Strictures by the Nepali parliament can apply to the Nepali government, not to the Government of India. The Government of Nepal must of course take note of its parliament's concerns, and if necessary, go back to the Government of India for a fresh round of negotiations. But in that event, the treaty must be treated as dormant (if not as non-existent) until the re-negotiation....and a fresh document is agreed upon'. The Parliamentary Monitoring Joint Committee, with the speaker of the House of Representatives as chairman, was constituted to guide the Nepali side in the preparation of the Pancheshwar Detailed Project Report and to make sure that the report reflects the national interest and resolutions passed by the parliament. The committee's terms of reference were: export energy and its pricing principle, form Mahakali River Commission, work out

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[5] RR Iyer. 2001. 'Delay and Drift on the Mahakali,' Himal South Asian. June.

equal sharing of the Mahakali River after the Pancheshwar Project and ascertain the status of the Mahakali River.

Missing the Forest for the Trees: The Nepali government, through the 22 November 1996 letter[6], while informing the Government of India about the formation of the Parliamentary Monitoring Joint Committee with its terms of reference, requested India for necessary arrangements to exchange the instruments of ratification of the Mahakali Treaty. In the same letter Nepal drew the attention of India on the following Indo-Nepal issues:

i. Determination of the price of energy to be exported to India on the basis of the principle of avoided cost,

ii. Determination of the source of the Mahakali River,

iii. Withdrawal of the Indian military personnel from the Nepali territory,

iv. Return by India to Nepal of the excess land (36 acres[7]) in Brahmadev Mandi/Tanakpur between pillar Nos. 3 and 4'

v. Review of the 1950 treaty,

vi. Alternate transit route to Nepal to and through Bangladesh,

vii. Developing river navigation from Nepal for trade purposes, and

viii. Monitoring the Nepal-India border.

Missing in these 8 comprehensive Indo-Nepal issues is the politically sensitive equal sharing of the common Mahakali River

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[6] D.N. Dhungel & SB Pun. 2008. The Nepal-India Water Resources Relationship: Challenges. Netherlands: Springer.

[7] This excess land is 36.68 acres and not 36 acres. The inability of the Nepali Foreign Ministry to apply due diligence on the exact amount of land to be recovered from India speaks volumes in itself!

that was one of the four strictures/sankalpas. Without resolving the seven major issues (except for the transit route to Bangladesh), Nepal surprisingly pushed ahead with the exchange of the instruments of ratification on 5 June 1997 during the premiership of Lokendra Bahadur Chand, ironically supported by the CPN-UML. These were the short and fragile times of heady 'unnatural' political alliances, merely to enjoy the fruits of power. The CPN-UML, that fathered the above eight wide ranging issues, clearly missed the forest for the trees. CPN-UML should have concentrated on 'things' Mahakali and Mahakali only.

Explanations[8] of Deuba-led government to CPN-UML's questions on the four Strictures/Sankalpas

For a better understanding of the four strictures/Sankalpas issues, each of them is discussed in the following bases:

a) Quoting the exact wordings of the Mahakali Treaty or the Letters of Exchange that concern the Stricture/ Sankalpa

b) Questions framed by KP Sharma (Oli), CPN-UML's Coordinator of the Mahakali Treaty Study Team, on these stricture to Water Resources Minister Rana

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[8] The questions of KP Sharma (Oli)/coordinator of CPN-UML Mahakali Treaty Study Team, the answers of PSJB Rana/Water Resources Minister and the answers of Prime Minister SB Deuba to CPN-UML General Secretary MK Nepal's letter of 25 Bhadra 2053 (10 Sept. 1996) are all extracted in toto and translated into English from the official publication in Nepali of the Ministry of Water Resources, His Majesty's Government of Nepal dated 29 Kartik 2053 (14 Nov. 1996) on the Treaty between His Majesty's Government of Nepal and the Government of India concerning the Integrated Development of the Mahakali River including Sarada Barrage, Tanakpur Barrage and Pancheshwar Project.

c) Answers provided by Water Resources Minister Rana to KP Sharma (Oli) interpreting the strictures in the light of the treaty or the Letters of Exchange

d) Prime Minister Sher Bahadur Deuba's reply of 26 Bhadra 2053 (11 Sept. 1996) to MK Nepal's letter of 25 Bhadra 2053 (10 Sept. 1996) on those strictures and

e) general comments on the explanations provided.

1. Stricture Number One: *Nepal's electricity to be bought by India on the principle of avoided cost;*

a) Mahakali Treaty and Letters of Exchange: The wordings of Mahakali Treaty and Letters of Exchange on 'Nepal's electricity to be bought by India on the principle of avoided cost' stricture are:

Article – 3 Clause 3 of the Treaty: 'A portion of Nepal's share of energy shall be sold to India. The quantum of such energy and its price shall be mutually agreed upon between the parties.

Item 3 (a) of the Letters of Exchange: 'While assessing the benefits from the project during the preparation of the DPR, net power benefit shall be assessed on the basis of , inter alia, saving in costs to the beneficiaries as compared with the relevant alternatives available'.

b) & c). KP Sharma (Oli)'s questions and Minister Rana's answers: The following are the questions (of 3 Bhadra 2053 – 19 Aug. 1996 and 9 Bhadra 2053 – 25 Aug. 1996) of KP Sharma (Oli), the coordinator of CPN-UML's Mahakali Treaty Study Team and the answers (of 6 Bhadra 2053 – 22 Aug. 1996 and 11 Bhadra 2053 – 27 Aug. 1996) provided by Minister Rana on 'Nepal's electricity to be bought by India on the principle of avoided cost:'

Sharma (Oli): Does the treaty's provision that Nepal sell electricity to India create a situation whereby Nepal is forced and India has choice?

Minister Rana: Article-3 clause-4 of the Mahakali Treaty states that a portion of Nepal's share of energy shall be sold to India and not the entire amount. Nepal's portion of electricity from the Pancheshwar Project is about Rs 5.3 billion units annually. As such large amount of electricity cannot be consumed internally, it is in Nepal's interest to provision some amount for sale to India. But as the treaty's same clause has stipulated a mutually agreed quantum and price of electricity, this will not create a choice for India. Both parties are equally bound by the mutually agreed quantum and price. Besides, as both parties have signed the treaty, when Nepal sells electricity India will be automatically bound to buy.

Sharma (Oli): On the basis of what principle is the price of Nepal's electrical energy to be sold to India determined? And where and how has this principle been incorporated in the treaty? Is 'savings in cost to the beneficiaries as compared with the relevant alternatives' as stipulated in the treaty applicable in this case? And does this mean the same as 'avoided cost principle'?

Minister Rana: To determine the price of electrical energy, various principles like cost plus, avoided cost of alternatives, willingness-to-pay and resources use tax are used. Among these, except for the 'avoided cost of alternatives' the wordings in the assessment of power benefit in item-3(b) of the Treaty's Letters of Exchange do not agree with the other three principles. In other words 'savings in cost to the beneficiaries as compared with the relevant alternatives' and 'avoided cost of alternative principle' mean the same.

The Columbia River Treaty of 1959 AD[9] between the U.S.A. and Canada used the same kind of language for the same purpose. Based on the evaluation of this benefit and the individual share, the price of electricity export will be determined. As per the treaty's Article-12 clause 4, this will be provisioned in a separate Pancheshwar project agreement.

Sharma (Oli) [Supplementary question of 9 Bhadra 2053 – 25 Aug. 1996]: The answer refers to item-3 of the Letters of Exchange of the treaty. The wordings of the letter are for assessing the benefit of the Pancheshwar Project and not for determining the energy price that Nepal sells to India. To question 8, you had answered that while interpreting the wordings of the treaty this should not be done independently but in the context. The answer to question-13 is not in this spirit. Is it logical to consider the answer to question-8 'within the limited context' while with regard to question-13 'to come out of the context'? What do you have to say on this?

Minister Rana [Supplementary answer of 11 Bhadra 2053 – 27 Aug. 1996]: What was said is that the second sub-item of item 3 of the treaty's Letters of Exchange, being tied with Article-3 of the treaty, must not be interpreted independently. So it is all right to look within the limited context in reply to question-8. But since no article or context is tied with item-3 (a) of the Letters of Exchange of the treaty, it is not necessary in the case of question-13 to view within a limited context.

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[9] The Columbia River Treaty was actually signed on 17 January 1961. Minister Rana's reference to 1959 must be the report submitted in March 1959 by the International Columbia River Engineering Board (ICREB) to the International Joint Commission of the Governments of Canada and the United States of America – Booklet of British Columbia Hydro and Power Authority, October 1964.

d) Prime Minister Deuba's answer to CPN-UML General Secretary MK Nepal: The treaty's provision, that a portion of Nepal's share of energy shall be sold to India with the quantum of such energy and its price mutually agreed between the two parties, forces India to buy Nepal's power. This is automatic and clear! Saving in costs of energy as compared with generation from other alternative sources (like thermal plant, gas turbine etc.) excluding hydropower will be the basis for determining electricity price. This is called the avoided cost principle on which the government is clear.

e) General comments on the Explanations

i) India forced to buy Nepal's power: Minister Rana argued that 'as both parties have signed the treaty, when Nepal sells electricity India will be automatically bound to buy'. Similarly, Prime Minister Deuba's logic was that as the quantum of energy and its price are 'mutually agreed upon,' the treaty 'forces India to buy Nepal's power.' This is Deuba government's interpretation. No attempt whatsoever was made to get the Government of India's official interpretation on this vital issue. Such 'automatically bound ....forces India to buy Nepal's power' arguments from the Minister and Prime Minister are indeed weird and lame. If the quantum and price of energy are mutually agreed upon by both parties, then there is no question of one party being forced to buy another's portion of energy. This is crystal clear even to a half-wit. But, on the other hand, if India does not agree with either the price or the quantum of energy, Prime Minister Deuba and his Minister Rana fail to explain what would then happen. Without resolving this issue if Nepal proceeds with the implementation of Pancheshwar, observers believe, it will be Nepal that would be forced to sell her energy on 'terms suitable' to India. Refusal to do so, when the structures and equipment are in place, would mean Nepal spilling its valuable water. Clearly, this is a case of head India wins and tail Nepal loses as the spilled water will be utilized

downstream by India – with Nepal 'precluded from claims in any form' by the treaty! Observers believe that both Prime Minister Deuba and his Minister Rana led astray not only MK Nepal and KP Oli but also the Nepali people! This badly needs to be sorted out.

ii) Alternatives available mean Thermal and Gas plants, excludes Hydropower: On '... net power benefits shall be assessed on the basis of, inter alia, saving in costs to the beneficiaries as compared with the relevant alternatives available...', Prime Minister Deuba, Minister Rana and Foreign Minister Dr. PC Lohani, all insisted that 'relevant alternatives' meant thermal and gas plants and categorically excluded other hydropower plants. They sanguinely presumed that the Government of India's interpretation would be the same as theirs. Being in extreme haste, they did not deem it necessary to get the Government of India's official interpretation of the 'relevant alternatives available'. Instead, Water Resources Minister Rana claimed[10], during the 7 Ashwin 2053 (23 Sept. 1996) press meet after the Mahakali Treaty ratification, that Nepal would earn from the Pancheshwar Project an average of Rs 21 billion annually from export of electricity alone. Foreign Minister Dr. Lohani stated[11] more confidently that even if the Pancheshwar electricity was sold at 6 or 7 US cents per unit, based on the treaty's principle of saving in costs as compared with the alternatives, Nepal's net electricity export would be over Rs 24 billion. Dr. Lohani, the economist, further claimed that after deducting all expenses like principal, interest, O&M etc., Nepal would still earn revenues of between Rs 10-12.5 billion annually. Not to be out-performed by these attractive claims of the ministers, an ebullient KP Sharma (Oli) roared at the hand-

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[10] Op. cit. footnote 8.

[11] Ibid.

some figure[12] of Rs 120 billion annually! Recently, Dilli Bahadur Singh, the present Pancheshwar Project chief, reeled[13] out another handsome figure of Rs 45.88 billion annually. His simple logic: sell Nepal's portion of energy to India at the rate Nepal Electricity Authority presently buys at Rs 5.60 per unit. In fact, so popular has this figure of Rs 45.88 billion become that even Prime Minister MK Nepal and his ministers incessantly mention it in their public speeches. Analysts are at a loss whether DB Singh's Rs 5.60 per unit is a 'mutually agreed price' sealed signed and done with India or mere Som Sharma's sattu dreams?

With 66% of India's power generation being thermal-based, it is likely that Deuba may have been advised that the 'relevant alternatives available' meant thermal, gas turbine etc. and not hydropower plants which in 2006 contributed to 26% of India's power generation. Prime Minister Deuba's own Water Resources Minister Rana and Foreign Minister Dr. Lohani also ruled out other hydropower plants and smugly interpreted it as thermal and gas power plants. But RR Iyer, the erudite former Water Resources Secretary in the Government of India, argued[14] that thermal and gas plants 'need not be assumed to be the only alternatives available' and further added that 'if in fact the generation cost at Pancheshwar is lower, the gain would surely have to be

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12 Dhruba Kumar. 2004. Parliament and Public Policy Making: A Case Study of the Mahakali Treaty in Dr. Lok Raj Baral (ed). Nepal Political Parties and Parliament. Delhi: Adroit Publishers.

13 Kantipur, 29 Shrawan 2066 (13 August 2009). According to DB Singh, the annual benefits to Nepal from Pancheshwar were: electricity – Rs 45.88 billion, irrigation – Rs 5.69 billion, fisheries – Rs 16 billion and carbon credit – Rs 4.42 billion, resulting in a whopping annual benefit of Rs 71.99 billion! There was no mention of benefits to India which are as usual conveniently kept under wraps.

14 Op. cit. footnote 5.

shared between the two countries... the price of power is not a question of abstract principles but one of negotiation.' Iyer's argument plus Nepal's past history of negotiations might deliver a jolt to the proponents of Rs. 45.88 billion dreams!

iii) Itaipu Bi-national Project: The 12,600[15] MW Itaipu on the Parana river, the border between large Brazil and tiny landlocked Paraguay, was the world's largest hydropower plant until the Chinese 22,500 MW Three Gorges Project surpassed it in 2007. The construction of this Brazil-Paraguay bi-national Itaipu project was started in 1973 with the initial estimate of US$ 2 billion. With the commissioning of the first 700 MW unit in 1985 and the last 18th unit in 1991, the cost of the project sky-rocketed to US$ 18 billion. Pancheshwar is no sacred cow and one cannot rule out such cost escalation in these times of uncertainties. Yet, the proponents of the project do not tire from bandying the attractive estimated figure of US$ 603 per Kw. For over 20 years, Paraguay has been selling her portion of 6,300 MW Itaipu power to Brazil. Itaipu's average annual generation has been about 82,000 million units and Paraguay's share is a huge 41,000 million units per year. In comparison, Pancheshwar[16] with Rupaligad would generate in total about 12,300 million units per year and Nepal's share for export to India could be only about 6,000 million units annually. Despite selling such huge amount of power to Brazil for over two decades, Paraguay continues to be the second poorest country, after Bolivia in South America. This was because Paraguay failed miserably to negotiate an equitable electricity price with Brazil that magnanimously gave only 0.42

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[15] Two more units have been added in 2007 to increase the installed capacity to 14,000 MW.

[16] Pancheshwar Multipurpose Project, Detailed Project Report, November 1995 – His Majesty's Government of Nepal, Ministry of Water Resources, Electricity Development Centre.

US cents per unit. Nepal and Paraguay are in the same boat as far as the buyers India and Brazil are concerned. Nepal can learn valuable lessons from Paraguay's Itaipu experiences with Brazil. That is, if Nepal so desires.

2. Stricture Number Two: Mahakali Commission to be constituted through agreement with the main opposition party and parties recognized as national parties;

a) Mahakali River Commission: As enshrined in the treaty, there shall be a Mahakali River Commission '...guided by the principles of equality, mutual benefit and no harm to either party.' The functions of this commission, comprising equal number of representatives from both countries, are to: a) recommend steps necessary to implement the provisions of the treaty, b) recommend conservation and utilization of the Mahakali River as envisaged by the treaty, c) provide and recommend expert evaluation of the projects, d) coordinate and monitor plans of actions in the implementation of the treaty, and e) examine any differences between the two countries in the interpretation and application of the treaty.

The Mahakali River Commission did not figure in Coordinator Sharma (Oli)'s questions to the Water Resources Ministry. But its significance was noted by the Nepali parliament that directed that the commission be constituted through 'agreement with main opposition party and parties recognized as national parties.' This was to safeguard that the sitting government was not swayed by extraneous factors in the selection of commission members. At the 2004 track two meeting on the Mahakali Treaty, both Nepal and India concurred on the immediate formation of the Mahakali River Commission to be headed by eminent persons. While India appeared to want the commission to be less

bureaucratic, Nepal appeared to prefer to have more political heavyweights. Both countries at the meeting feared that the commission may be shoved into dealing with all sundry Mahakali related issues.

b) Pancheshwar Development Authority: A recent press release[17] indicates that the two governments, instead of forming the Mahakali River Commission as per Article 9 of the treaty, have agreed to constitute Pancheshwar Development Authority (PDA) as per Article 10 that states, 'Both the parties may form project–specific joint entity/ies for the development, execution and operation of new projects including Pancheshwar Multipurpose Project...' This PDA will have two entities, one a 14-member governing body and the other a 14-member executing body. The chief executive officer (CEO) of PDA will be 'appointed, either from India or Nepal, on competitive basis having required qualification, relevant experience and proven track record.' The post of deputy CEO will go to the candidate from the country that does not get the CEO's job. PDA will have its headquarters at Mahendranagar in Nepal.

c) Whither the Mahakali River Commission: The appointment of PDA's chief executive through open competition rules out the possibility of any Nepali heading that body in the foreseeable future. Nepali candidates may have the required educational qualifications to compete with Indian candidates, but the former would sorely lack the 'relevant experience and proven track record' on large multipurpose projects that latter would possess. The appointment of the chief executive on a rotation basis between the two countries would have been fair, permitting a Nepali national to head the bi-national entity where Nepal has

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[17] On the Pancheshwar Development Authority's terms of reference during the Fifth Meeting of Nepal-India Joint Committee on Water Resources (JCWR) at Pokhara on 20-22 November 2009.

also chipped in its due share of costs. Analysts point out that the formation of PDA to 'finalize the Detailed Project Report of Pancheshwar Multipurpose Project' shrewdly shunted aside the irksome Mahakali River Commission. The Mahakali Commission and not Pancheshwar Authority is part and parcel of the four strictures. With the Parliamentary Monitoring Joint Committee either dead or in hibernation and the formation of Mahakali Commission held in abeyance, analysts fear the Pancheshwar Authority may take over the mantle of the commission itself. It is, hence, necessary that the Parliamentary Monitoring Joint Committee be immediately re-activated and the Mahakali Commission constituted.

3. Stricture Number Three: Equal entitlement in the use of Mahakali waters without prejudice to their respective consumptive uses means equal rights to all the waters of Mahakali;

a) Mahakali treaty and Letters of Exchange: The wordings of the Mahakali Treaty and the Letters of Exchange on the issue of 'Equal entitlement in the use of Mahakali waters without prejudice to their respective consumptive uses means equal rights to all the waters of Mahakali' are:

Article – 3 paragraph – 1 (lines 3, 4 and 5) of the treaty '...both the parties agree that they have 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.'

Item 3 (b) of the Letters of Exchange: '...understood that Paragraph 3 of Article 3 of the treaty precludes the claim, in any form, by either party on the unutilized portion of the shares of the waters of the Mahakali River of that party without affecting

the provision of the withdrawal of the respective shares of the waters of the Mahakali River...'

b) & c). Sharma (Oli)'s questions and Rana's answers: The following are the questions (of 3 Bhadra 2053 – 19 Aug. 1996 and 9 Bhadra 2053 – 25 Aug. 1996) of Sharma (Oli), Coordinator of CPN-UML's Mahakali Treaty Study Team and the answers (of 6 Bhadra 2053 – 22 Aug. 1996 and 11 Bhadra 2053 – 27 Aug. 1996) provided by Minister for Water Resources Rana on the stricture's 'Equal entitlement in the use of Mahakali waters without prejudice to their respective consumptive uses means equal rights to all the waters of Mahakali' issue.

Sharma (Oli): Articles 1, 2 and 4 of the treaty quantify the amount of water Nepal gets from the Mahakali River but this is not done so in the case of India. Why?

Minister Rana: Article-1 of the Mahakali Treaty quantifies the amount of water Nepal gets because this is as per the Sarada Barrage agreement of 1920 AD. The quantity of water, as stipulated by Aricle 2 of the treaty for Nepal, had to be mentioned to establish Nepal's right in lieu of the Nepali land provided to India for the left afflux bund of the Tanakpur Barrage. Article 4 quantifies Nepal's water for use in the Dodhara-Chandani area and the Sarada Canal would be the most appropriate place to supply the water to the area.

India has officially claimed in writing 326 cumecs as her maximum existing consumptive uses (Sarada Canal's maximum capacity). This consumption differs from month to month and the average minimum flow of the Mahakali River is only 136 cumecs. Questions have arisen on the Sarada Canal's maximum capacity and only after resolving these issues would it be appropriate to quantify India's water consumption on a monthly or daily basis. The two countries have agreed only on the 582 cumecs flow at the Pancheshwar dam site. As inflows from the watershed below the

Pancheshwar dam still need to be ascertained and agreed upon, India's existing consumptive uses can be finalized and included when a separate Pancheshwar project agreement is signed. Unless and until the Pancheshwar DPR is prepared and mutually agreed upon by both the countries, it is difficult to quantify India's actual existing consumptive uses from the Mahakali River and hence India's quantity has not been indicated in the treaty.

Sharma (Oli) (Supplementary question of 9 Bhadra 2053 – 25 Aug. 1996): The answer to Question 6 '...the Pancheshwar DPR is prepared and mutually agreed upon by both the countries, it is difficult to quantify India's actual existing consumptive uses...' has been given. Not applicable in Nepal's case but applicable only in the case of India, what difficulty is there? Could you explain?

Minister Rana (Supplementary answer of 11 Bhadra 2053 – 27 Aug. 1996): The 1920 AD agreement for constructing the Sarada Barrage quantified Nepal's share of water in the Mahakali River. To establish Nepal's right for permitting India to tie her left afflux bund to the Nepali high ground, additional amount of water was quantified. The treaty recognizes Nepal's as well as India's existing consumptive uses as prior use right. In order to determine India's prior use quantity, the Mahakali River's monthly flows, the minimum flow, Sarada Canal's capacity and the quantity of water used previously need to be studied. As both parties need to agree, the aim has been for a separate agreement on the Pancheshwar Project only after detailed discussion and agreement with the Indian side.

Sharma (Oli): What is Nepal's existing consumptive use and how much is India's?

Minister Rana: While the 1920 AD agreement provides Nepal on an annual average 8 cumecs of water from the Mahakali River, the present Mahakali Treaty with Tanakpur's additional

water, prior to construction of the Pancheshwar Project, makes Nepal's annual average existing consumptive uses as 41 cumecs. Due to the reasons given above in Answer 6, both parties have yet to mutually finalize India's existing consumptive uses.

Sharma (Oli): How do you interpret item (b) of clause 3 of the treaty's Letters of Exchange '...precludes the claim, in any form, by either party on the unutilized portion of the shares of the waters of the Mahakali River of that party...'?

Minister Rana: A commonly accepted principle, when interpreting a treaty, requires that good intention and the spirit and objectives of the treaty must be understood in a simple manner. The wordings of clause 3 (b) of the Letters of Exchange of the treaty '...precludes the claim, in any form, by either party on the unutilized portion of the shares of the waters of the Mahakali River of that party without affecting the provision of the withdrawal of the respective shares of the waters of the Mahakali River by each party...' must be interpreted by putting together the treaty's Article 3 line 3 in one place. This must not be interpreted independently. When interpreted in this manner, Nepal has full authority over her portion of the water and how Nepal desires to use it is also protected.

Sharma (Oli): After construction of the Pancheshwar Project, over how much of the increased regulated water will Nepal have the right? And over how much water India will have the right?

Minister Rana: As stipulated by the Mahakali Treaty's Article 3, Nepal and India have half-half entitlement over the increased regulated water of the Mahakali River after construction of the Pancheshwar Project.

Sharma (Oli): As indicated above, can Nepal utilize her portion of the water as per her requirement from any one point without Indian hassles?

Minister Rana: As per Article 5 clause-2 of the Mahakali Treaty, Nepal or India can take their portion of water from the Tanakpur Barrage without any hassles and also from any other mutually agreed points. It should be remembered that to prevent high handedness by any one party, Article 9 of the treaty has provisioned the Mahakali Commission.

Sharma (Oli): Regarding liability and benefit sharing arrangement that the mutually agreed DPR will present, is it necessary or not to re-ratify these in the form of a treaty? If necessary, then which clause of the Constitution applies?

Minister Rana: After mutually finalizing the joint DPR that both the parties agree upon together with various other works, a comprehensive agreement on the Pancheshwar Project is necessary that will tie and incorporate the utilization and sharing of water and thereby the issues of benefit and liability. As this agreement in actuality determines the utilization and its sharing of water of the Mahakali River, it is clear that the Pancheshwar Project-related treaty should also be ratified according to clause (2) Article-126 of the Constitution.

d) Prime Minister Deuba's answer to CPN-UML General Secretary MK Nepal: According to the treaty's provision, both parties are entitled to equal water from the Pancheshwar Dam after its construction. Article 6 [5?] clause (i) of the treaty has enshrined Nepal's water requirements from the Mahakali River. By applying this principle as the precedent, Nepal can use the waters of all her rivers and streams in inner Madhes, Terai and other areas as per her requirements. His Majesty's Government is clear and committed to applying this principle.

Additionally, Nepal has full right to use the waters of her rivers and streams and His Majesty's Government is committed to using that right. During the visit to Nepal by Indian Minister

Vidya Charan Shukla in December 1993, the Water Resources Secretaries of both the countries signed an Action Plan wherein during the DPR preparations of multipurpose projects, water requirements of Nepal would be given prime consideration.

Clause 3 (b) of the Letters of Exchange of the Mahakali Treaty has clearly guarded the right to use one's portion of water or let it flow in the river. Provision has been made where Nepal, by foregoing her right on her portion of water, can allow India to use it. But for this a separate treaty is necessary.

During the Pancheshwar DPR preparation, the treaty requires that all project-related issues in addition to the ones indicated above will be discussed and His Majesty's Government will raise them with India.

e) General comments

i) Equal entitlement with/without prejudice to their existing consumptive uses: This '...equal entitlement in the use of Mahakali waters without prejudice to their respective consumptive uses...' has become the most contentious issue in the Mahakali Treaty. The number of questions and supplementary questions fielded by Coordinator Sharma (Oli), the replies provided by Water Resources Minister Rana along with the long-winded still vague explanations by Prime Minister Deuba indicate differences on the interpretations of sharing of the Mahakali waters. On the night of the Mahakali Treaty ratification (4 Ashwin 2053 – 20 Sept. 1996), Minister Rana had, without any hesitation, informed the Joint Session of Parliament that Nepal and India will be entitled half-half waters of the Mahakali River after deducting their 'respective existing consumptive uses'. MK Nepal, on the other hand, challenged Minister Rana's interpretation of the Mahakali Treaty's Article 3 demanding that Minister Rana take back his interpretation and declare instead that Nepal and India

are entitled to half-half waters of the Mahakali River.

Despite such clear differences between Minister Rana's 'after deducting their respective existing consumptive uses' and Mr. Nepal's 'half-half waters of the Mahakali without deducting their respective existing consumptive uses', it is amazing that the Joint Session of Parliament, without clarifying this issue, pushed ahead to ratify the treaty. Observers, hence, are unequivocal that not only the Deuba government but also a faction in the CPN-UML had already surrendered to New Delhi's most wanted clause 'without prejudice to their respective existing consumptive uses'. These observers point out that only six years before in 1990, when the death knell had already begun to ring for the Panchayat regime, India had proposed a Secret Agreement on Mutual Cooperation[18]. Article III of that Draft Mutual Agreement on Economic, Industrial and Water Resources Cooperation regarding the 'utilization of the waters of the commonly shared rivers' stipulated 'plan new uses or projects subject to the protection of the existing uses on the rivers'. While the Panchayat regime opted to relinquish its power rather than succumb to this 'protection of the existing uses', the democratically elected government of Nepal simply surrendered without any struggle. With this most vital clause 'without prejudice to their respective consumptive uses' embedded in the Mahakali Treaty, India clearly wanted the treaty ratified in the shortest possible time by the Nepali parliament. Without bargaining for any major tangible concession from India, both the Deuba government and the Nepali parliament meekly surrendered to ratify the treaty.

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[18] AS Bhasin. 1994. Nepal's Relations with India and China. Delhi: Siba Exim Pvt. Ltd.

ii) India claims All Sarada Canal waters as its Existing Consumptive Use: Having successfully embedded the clause 'without prejudice to their respective existing consumptive uses', India then marched ahead to claim that her existing consumptive uses comprise all the waters flowing through her Sarada Canal. Minister Rana informed[19] the Joint Session of Parliament that India had officially written to Nepal that her existing consumptive use was 326 cumecs, the maximum capacity of the Sarada Canal. Minister Rana also informed the Joint Session that Mahakali River's average minimum flow was only 136 cumecs.[20] During the two countries' negotiations, India has claimed not only the waters of Sarada Barrage at Banbasa but also the waters of the Lower Sarada Barrage, about 160 km downstream of the Sharda/Banbasa Barrage. Nepal refused to concede this because the whole system of assessing irrigation benefits is contingent on this issue. Benefit assessment between the two countries has also became very contentious as the 'cost of the project shall be borne by the parties in proportion to the benefit accruing to them.' India did propose at the track two meet on Mahakali Treaty in 2004[21] that the costs be shared in proportion to the usage from the facility so created. Nepal rejected this proposal as the treaty had no such provisions.

iii) Nepal surrenders 'claim, in any form, on her unutilized waters': However, India's greatest success and Nepal's biggest blunder in the Mahakali Treaty is the incorporation of the clause '...precludes the claim, in any form, by either party on the

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[19] Op. cit. footnote 10.

[20] Ibid.

[21] Terminal Report of Institute for Integrated Development Studies (IIDS) on Phase II Nepal-India Water Resources Cooperation submitted to Bishweshar Prasad Koirala Nepal-India Foundation (BPKF).

unutilized portion of the shares of the waters of the Mahakali River...' in the treaty's Letters of Exchange. Minister Rana emphatically argued that '...Nepal has full authority over her portion of the water and how Nepal desires to use it is also protected'. While Minister Rana's claim of 'full authority over her portion of the water' could be a fact, '...precludes the claim, in any form by either party on the unutilized portion' of Nepal's share of the Mahakali waters is equally a naked fact. One needs to go back to 1987 to understand why India was so desperate to incorporate this clause. During the two countries' secretary-level meeting[22] on the Pancheshwar Multipurpose Project, India 'emphatically expressed that payment of royalty for use of water in excess of 50% as proposed by HMG/Nepal could not be accepted and mentioned that acceptance of the equal-sharing-of-water formula should not be made a precondition to implement the project. Instead... ...India might be prepared to bear even the entire cost of reservoir allocable to irrigation component and suggested sharing of water from the project on equitable basis'. India's former Union Water Resources Minister, Saif Uddin Soz, in the immediate aftermath of the Koshi embankment disaster of 18 August 2008, told[23] the BBC Nepali Service, '...Kosi is in focus this time...Our main interest is flood control and irrigation. Those are our first and second priorities. If we get hydroelectricity as a byproduct, it will be a bonus for us.' An academic that he was, Minister Soz did not camouflage flood control and irrigation as India's first and second priorities with hydropower as a bonus. While Minister Soz was specifically focusing on Koshi, India's priorities – flood control and irrigation – are applicable to all rivers emanating from Nepal including the Mahakali.

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[22] Op. cit. footnote 6.

[23] Nepali Times, 19-25 September 2008 # 418.

iv) Lesotho Highlands Water Project: The Lesotho Highlands Water Project needs to be examined in the context of Nepal's surrender to '...precludes the claim, in any form, by either party on the unutilized portion of the shares of the waters of the Mahakali River...' Lesotho is a small land-locked country of 2.2 million people hemmed in on all sides by the Republic of South Africa. Like Nepal, Lesotho's principal natural resource is the abundance of water which for over 50 years was envisaged to be transformed into export revenues. The Lesotho Highlands Water Project does that by storing, regulating, diverting and controlling the flow of the Senqu/Orange River '...to effect the delivery of specified quantities of water to the Designated Outlet Points in the Republic of South Africa and utilize such delivery system to generate hydroelectric power in the Kingdom of Lesotho...' The Lesotho project was found to be the least cost solution to provide water for domestic and industrial use to South Africa's heartland of Gauteng region that contributes nearly 60% to the national GDP.

So far two phases 1a and 1b have been implemented: a 185 meter-high Katse dam with 45 km-long tunnel to connect the Katse reservoir to the Muela reservoir that has a hydropower station and another 37 km-long tunnel connecting Muela reservoir to the Vaal river basin; a 145 meter Mohale dam with 32 km-long tunnel to connect Mohale reservoir upstream of the Katse reservoir. The average electricity generation is about 390 million units with Lesotho using most of it and exporting to South Africa only about 30 million units – earning annually about 44 million malotis (US$ 6.3 million). On the other hand, since 1998 the water delivery to South Africa has been on an average 0.58 billion cubic meters per year. This resulted in annual water royalty revenue of 177 malotis – US$ 25.3 million. In comparison, Pancheshwar's live storage is 6.56 billion cubic meters and Nepal's entitlement would be 3.28 billion cubic meters of fresh water – over five times that of Lesotho Highland Water Project.

v) As the Precedent: Prime Minister Deuba in his letter of 26 Bhadra 2053 to MK Nepal has, in all his wisdom, touched upon a dangerous clause, 'By applying this principle as the precedent, Nepal can use the waters of all her rivers and streams in inner Madhes, Terai and other areas as per her requirements.' The prime minister was evidently replying to Mr. Nepal's issue that 'India to register no objection to Nepal's irrigation and other water resources-related development projects in Terai or elsewhere'. Kankai, Babai and West Rapti irrigation projects had all been shot down by Indian objections. If this principle were to be applied as the precedent outlined by Prime Minister Deuba, then India would also want the clause 'without prejudice to their respective existing consumptive uses' principle applied to all rivers emanating from Nepal including the Koshi and Gandak treaties that fortunately do not suffer from such a harmful clause. This "without prejudice..." clause applies only to the Mahakali River and as such it must be confined and limited to Mahakali only.

4. Stricture Number Four: Mahakali is a boundary river on major stretches between the two countries means the same as 'basically a border river'.

a) Mahakali Treaty: The wordings of the Mahakali Treaty are: 'Recognizing that the Mahakali River is a boundary river on major stretches between the two countries;'

b) & c) Sharma (Oli)'s questions and Rana's answers:

Sharma (Oli): Which do you recognize as the main source of the Mahakali River?

Minister Rana: The main source of the Mahakali River is the Kali River.

Sharma (Oli) (Supplementary question of 9 Bhadra 2053 – 25 Aug. 1996): The intention of our question was to identify

the origin of the Mahakali River. Kali River itself is the origin but which is the Kali River and where is its origin? This is our supplementary question.

Minister Rana (Supplementary answer of 11 Bhadra 2053 – 27 Aug. 1996): His Majesty's Government has a clear stand that the Kalapani Tal indicated by the Indian side as the Nepal-India border is not the origin of the Kali River.

Sharma (Oli): After 1962 AD, what is your reaction to Indian attempts in the Mahakali River's origin region to push the Nepal-India border east towards Tinkar Bhanjyang [pass]?

Minister Rana: Nepal's border is the Mahakali River and to maintain that His Majesty's Government is firm and committed. A decision was taken last 19 Shrawan 2052 to survey the Kali River region and define the border through a Nepal-India Joint Commission. As per the decision, the program will be started.

d) Prime Minister Deuba's reply of 26 Bhadra 2053 (11 Sept. 1996) to CPN-UML General Secretary MK Nepal's letter of 25 Bhadra 2053 (26 Sept. 1996): Mahakali River is a 'boundary river on major stretches' and 'basically a border river' means the same.

His Majesty's Government of Nepal and the Government of India have already decided to send a Joint Survey Team in the coming winter to the Mahakali River origin region and demarcate the border in a scientific manner based on the Sugauli Treaty, maps and other documents. No foreign military or police will be permitted within the Nepali territory so demarcated.

The two countries have already signed an agreement wherein a three-year programme has been chalked to demarcate the Nepal-India border scientifically. To implement this, His Majesty's Government is active and will give it continuity.

e) General Comments

i) Three-Year programme to Demarcate Nepal-India Border: Minister Rana informed Sharma (Oli) that 'A decision was taken last 19 Shrawan 2052 to survey the Kali River region and define the border through a Nepal-India Joint Commission'. Similarly, Prime Minister Deuba promised CPN-UML General Secretary MK Nepal that 'The two countries have already signed an agreement wherein a three-year program has been chalked out to demarcate the Nepal-India border scientifically'. Over thirteen years have passed since those promises. Media reports recently indicated that India is keen to sign the boundary map with Nepal, sans the Kalapani and Susta areas. Nepal's sovereignty over her 372 square km Kalapani territory hinges on the origin of the Mahakali River. The 1816 Sugauli Treaty with the East India Company clearly stipulated 'The Rajah of Nipal renounces ... the countries lying to the west of the River Kali...' Some Nepali go to the extent of interpreting '...west of the River Kali...' means that the entire Kali River belongs to Nepal.

India argues that as the territorial issue is being tackled by the appropriate inter-governmental agencies, this should have no bearing on the preparation of the DPR and the commencement of work on the Pancheshwar Project. There is a strong lobby within Nepal that also perceives that Kalapani should not be linked with the Mahakali Treaty. But there are others who argue that without such a linkage the urgency on Nepal and India to resolve the Kalapani occupation will never be felt. They cite the 65 years example of India not returning to this date of 36.68 acres of land at Brahmadev Mandi owed to Nepal during the Sarada Barrage construction and officially agreed to in 1944 by the British-Indian government. Kalapani continues to be occupied by India since the brief 1962 Sino-Indian border war.

ii) Origin of Kali: Lipu Lekh or Limpiyadhura: Analysts[24] point out that it is not difficult to ascertain which exactly is the real Kali River, the one originating from Tinkar Bhanjyang, Lipu Lekh or Limpiyadhura/Kuti Yangdi. The internationally accepted practice is to take into consideration the lengths of the disputed rivers and measure their discharges to ascertain the larger and longer one as the main river. Instead of following this principle, Nepal was, unfortunately, coaxed into 'old records, documents, maps, survey reports etc.' This, naturally, led to the present stalemate as both countries would want the maps and documents to their advantages. Whether it is the occupied 372 square km Kalapani or the excess 36.68 acres land at Brahmadev Mandi, disputes can be resolved only in an environment of mutual trust and faith with the spirit of genuine equity, justice and fairness.

iii) Bakassi Peninsula Dispute: Take the case of the 1,000 sq. km Bakassi Peninsula, believed to be rich in oil and gas, claimed by both Nigeria and Cameroon. The larger and more powerful Nigerian army forcefully occupied it in 1993. The smaller Cameroon protested and took the case immediately to Hague's International Court of Justice in 1994. After a long drawn legal battle, the International Court of Justice in 2002 ruled that the Bakassi Peninsula be given to Cameroon. In 2008, Nigeria's Justice Minister Michael Aondoakaa signed the legal papers to return Bakassi Peninsula to Cameroon noting 'As painful as it is.....to advance international peace and cooperation....and advance the cause of African brotherhood and good neighbourliness.' South Asia, unfortunately, has yet to demonstrate that African brotherhood and good neighbourliness.

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[24] Jagat Kumar Bhusal (Senior Hydrologist/HMGN) in his article The Origin of Mahakali River in the Kantipur daily of 1 Kartik 2053 (17 Oct. 1996) concluded '...the origin of Mahakali river lies at Limpiyadhura and Kutiyandi Khola which is the local name of Kali...'.

Conclusion

An Air of Urgency: One can discern an air of urgency both within the Deuba government and some elements within the main opposition party, CPN-UML, to ram the Mahakali Treaty through the Parliament. Water Resources Minister Rana ensured that Sharma (Oli)'s 17 questions were answered within three days and another 4 supplementary questions within two days. Similarly, Prime Minister Deuba deemed it a necessity to answer Mr. Nepal's letter within 24 hours. Indian ambassador KV Rajan, on the other hand, replied Foreign Minister Dr. PC Lohani on the very same day the minister wrote to him.

Analysts question whether Prime Minister Deuba's Nepali Congress Party ever troubled itself with serious in-house discussions on the treaty that would 'affect the nation extensively, seriously or in the long term'. Some Nepali Congress stalwarts (Arjun Narsingh KC, Chirinjibi Wagle, Buddhiman Tamang, Bimalendra Nidhi, Laxman Ghimire and Narahari Acharya) appear to have been involved in the treaty, though more in their capacities as ministers or individuals. The Nepali Congress left all the major tasks of the treaty entirely in the hands of two experienced, hard-working Panchayat era RPP ministers, Rana and Dr. Lohani. This was, it is believed, in the spirit of non-interference in the ministries of their coalition partners. The CPN-UML, in contrast, were fuming with their sickles and hammer raised, embroiled in heated treaty discussion with the 37-member central committee evenly divided[25] (Manmohan Adhikari absent and two members neutral) – the MK Nepal and KP Oli group for the treaty ratification and the CP Mainali and Bamdev Gautam group advocating amendments before ratifying the treaty. In fact,

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[25] RR Lumsali. BS 2053 (AD 1996) Kathmandu: Mahakali Nadi bata prapta upalabdi ko rakchhya gardai thap upalabdi ko lagi sangarsha garyaun. Sunkoshi Chapakhana.

55 of the 88 CPN-UML MPs in the Lower House had voted[26] that the Mahakali Treaty be ratified only after necessary amendments to the treaty.

The urgency to ratify the treaty was, no doubt, fueled by New Delhi's urgings. New Delhi was much embarrassed internationally by the unilaterally built Tanakpur Barrage for the so called 'non-consumptive' 120 MW hydropower power plant – in essence the guised 'alternative barrage' for the aging 1920 Sarada Barrage at Banbasa. With MK Nepal conveniently 'packaging' the old Sarada Barrage with the new Tanakpur Barrage and the future Pancheshwar Multipurpose Dam into the Integrated Mahakali Treaty, India ensured that her own interests on the Mahakali were also securely 'packaged'. With Nepal's political masters easily succumbing to the incorporation of the clauses 'equal entitlement in the utilization of the waters of the Mahakali River without prejudice to their respective existing consumptive uses' and 'precludes the claim, in any form[27], by either party on the unutilized portion of the shares of the waters of the Mahakali River', India, no doubt, must have been extremely pleased. Similarly, 'the quantum of energy and its price shall be mutually agreed upon between the parties' and 'net power benefit shall be assessed on the basis of, inter alia, saving in costs to the beneficiaries as compared with the relevant alternatives available' ensured that India gets the upper hand in negotiating Nepal's much-hyped portion of Pancheshwar power sale. With the origin of the Mahakali River under dispute, the strategically important Kalapani

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[26] Ibid.

[27] Reliably knowledgeable sources indicate that this most damaging clause 'precludes the claim, in any form' was surrendered by Nepal's political masters on the last fourth day (29 January 1996) of negotiation when Pranab Mukherjee, India's Foreign Minister, was on the verge of returning empty handed from Kathmandu.

tri-junction remained unresolved thus permitting Indian security forces to continue to occupy Nepali territory.

The Sins of Omission and Commission: The Nepali Congress, embarrassed by the Supreme Court's verdict that the then Prime Minister GP Koirala signed-1991-document on Tanakpur was a treaty and not an MOU, appeared to be content on merely sanitizing the Mahakali Treaty and never bothered to delve into the intricacies of the treaty. The RPP, Nepali Congress's main coalition partner with 20 MPs, still suffered from its past dreams of chasing large multipurpose projects during their 30-year Panchayat rule. The RPP viewed the Mahakali Treaty's Pancheshwar as 'the window of opportunity' that would cause 'the sun to rise from the west!' The Nepali Congress's other coalition partner, the Nepal Sadhbhavana, with only 3 MPs, was in all probability not unhappy with the treaty. One cannot, however, absolve these three ruling parties, particularly the larger and oldest Nepali Congress, from the sins of omission and commission. The CPN-UML, the then largest party in the parliament, cannot also be absolved.

Prime Minister Deuba's government and the CPN-UML failed the nation by jumping the gun to ratify the Mahakali Treaty before getting the Government of India's official interpretation on: i) origin of the Mahakali River, ii) equal entitlement of the Mahakali waters, and iii) avoided cost principle on sale of electricity. Strangely, the question and answer 'dohori' was very much within Nepal, between the government and the main opposition party. The Deuba government, instead of asking India for her response, desperately appeared to be replying on India's behalf. The Indian government, meanwhile, contently watched the unfolding scenario from the fence professing[28] 'it

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[28] India's ambassador. KV Rajan. replying on 10 September 1996 to Foreign Minister Dr. PC Lohani's letter of also 10 September 1996 – from Official publication of the Ministry of Water Resources, His Majesty's Government of Nepal dated 29 Kartik 2053.

will be highly inappropriate for us to comment...since ratification is purely Nepal's internal affair'. That is why analysts argue the four Sankalpas were merely a ploy[29] of the Deuba government and the pro-Mahakali faction to appease the disgruntled group within the CPN-UML to merely fulfill the two-thirds requirement of Article 126 of the Constitution of Nepal 1990.

The extreme air of urgency, as if the sky was about to fall, was demonstrated by Prime Minister Deuba's government along with a faction of the CPN-UML. With the dubious reinstatement of the parliament by the Supreme Court, the Deuba government came to power in September 1995. Within a matter of only four months on 29 January 1996, the Mahakali Treaty was all signed, sealed and done by the Deuba government. Signing of the Mahakali Treaty on 12 February 1996 at New Delhi was merely a formality to trumpet their achievements internationally. In a matter of another seven months on 20 September 1996 the treaty was conveniently ratified with the four strictures/sankalpas. The exchange of the instruments of ratification of the treaty between the two governments was concluded on 5 June 1997 during the short premiership of Lokendra Bahadur Chand. Ironically, the deputy prime minister then was no other than CPN-UML's Bamdev Gautam who had opposed the treaty and opted out of the vote on treaty ratification.

In stark contrast, though President Dwight D Eisenhower of USA and Prime Minister John G Diefenbaker of Canada signed the Columbia River Treaty on 17 January 1961, the Canadian parliament refused to ratify the treaty. Only after '...improvements to the Treaty and the sales of the downstream power benefits in the United States...'[30] were successfully negotiated

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[29] Op. cit. footnote 12.

[30] Booklet of British Columbia Hydro and Power Authority, October 1964.

over a period of three years did the Canadian parliament finally ratify the treaty on 22 January 1964.

Final Word: Emergence from 13 Years of 'Ban Bas': It may be pertinent to point out here that one of the questions[31] of Sharma (Oli), endowed with innate political acumen was, if there is no agreement on the joint DPR and Pancheshwar implementation does not occur what would happen to the Mahakali Treaty. The equally politically shrewd Minister Rana replied that in the context of clear directions on DPR preparations such a disagreement on the implementation of the treaty is not a natural result. However, in such a case, the treaty on Sarada and Tanakpur will continue to be effective and on Pancheshwar, negotiations to implement the project will continue.

With MK Nepal, the father of 'Mahakali package', on the saddle as the sitting prime minister, the Mahakali Treaty has emerged from its 13 years of 'ban bas.' This emergence from 'ban bas' has been heralded by the November 2009 agreement between the two countries on the formation of the Pancheshwar Development Authority and its terms of reference. There are already fears in Nepal that the Pancheshwar Authority was constituted to bypass both the four Sankalpas and the Parliamentary Monitoring Joint Committee that were perceived as troublesome and overbearing. Implementation of the Pancheshwar Multipurpose Project is possible only through national consensus among Nepal's major political parties. Such consensus could be possible if the Parliamentary Monitoring Joint Committee, as envisaged in 1996, is re-activated. The four Strictures/Sankalpas along with the Parliamentary Monitoring Joint Committee could be that crucial 'Panch Gaon' for implementing Pancheshwar. These 'panch goan' issues need to be addressed transparently embody-

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[31] Op. cit. footnote 12.

ing the principles of equity, justice and fair play[32] – without any hidden agenda. In an era of diminishing freshwater sources and periods of droughts and floods due to climate change, non-addressal of these 'panch gaon' could lead Pancheshwar to the 'killing Kuruchhetra fields'. Whether that happens or not, the onus is clearly on the shoulders of our bigger brother, India!

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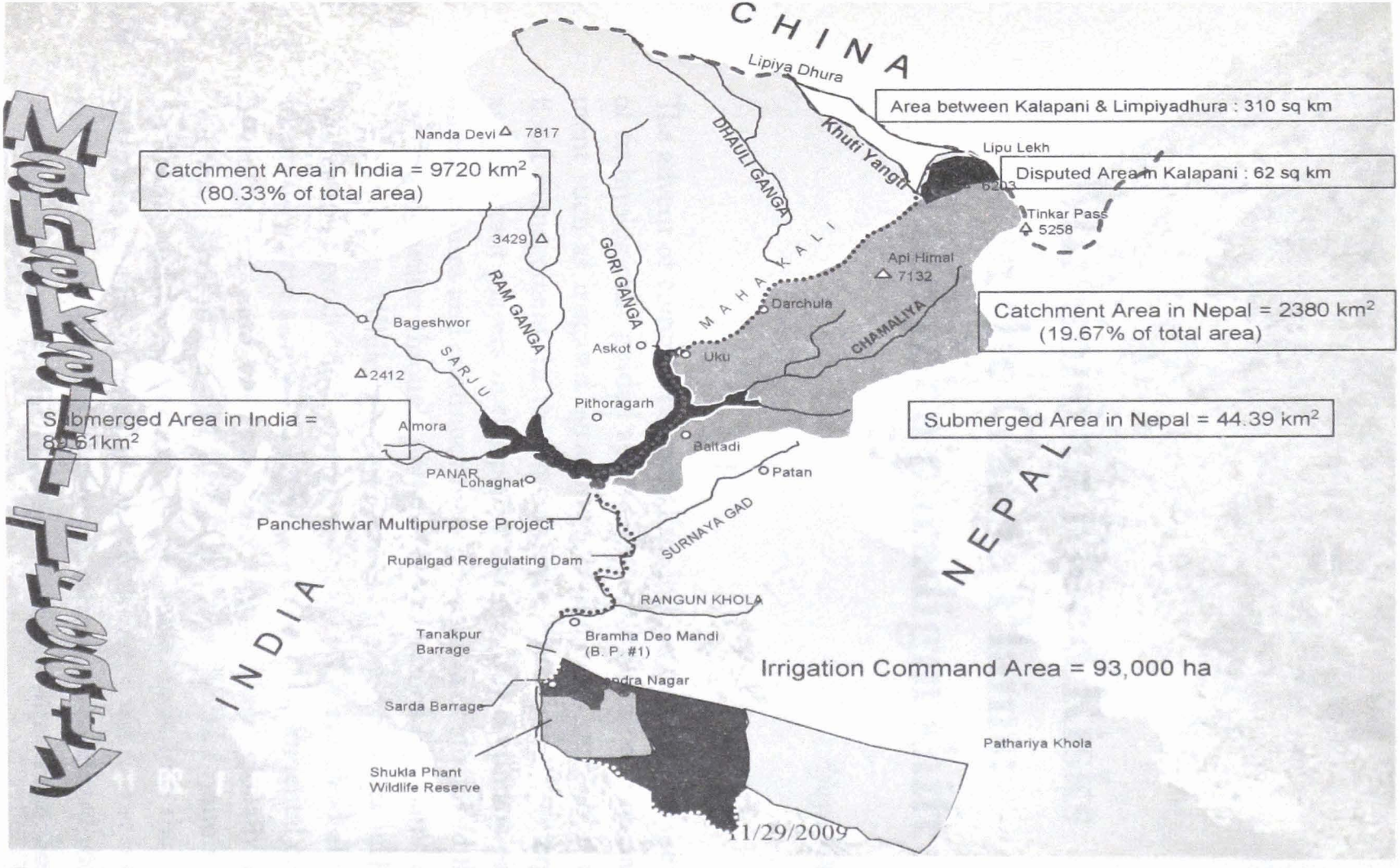
[32] The Norwegian Odd Hoftun, who spent over 40 years in the Nepali power sector, called Nepal's hydropower potential and India's market both 'a blessing and a curse.' Mr. Hoftun believes that Nepal should implement big projects but cautions that Nepal 'should not rush into big projects.' According to him, to implement big projects 'there has to be a fair agreement and a very high level of trust between the two nations...' - Shiva Bista's Odd Hoftun's Perspective on Hydropower Development in Nepal in Hydro Nepal's issue no.5 July 2009.



Courtesy: *Arjun Prasad Shrestha, former chief of the Pancheshwar Multipurpose Project*

Minimising Flood Risks in the Ganga Plains: Need for a paradigm shift

Ajaya Dixit

The advent of commercial capitalism in Europe heralded the era of technologically guided approaches to water use and management such as irrigated agriculture, hydropower generation and flood management. In the process, state bureaucracies emerged as important players in the policy terrain. This dominant paradigm espouses and continues the modification of stock and flow of flowing water through physical interventions like dams and embankments. While this approach has yielded benefits such as higher food production, energy security and some flood abatement, they have also led to high social and environmental costs. These benefits and cost questions were debated globally and reached a peak in the mid 1990s when the World Commission on Dams and Development was formed to look into the true costs and benefits of dams around the world. Even as cost issues associated with physical interventions remain contested, flood damages continue to rise globally. In the last three years, South

Asia has witnessed major flood disasters that destroyed lives and livelihoods of millions in the Indo-Ganga Plains. Some of the major disasters were floods in Mumbai (2006), the 2008 Koshi embankment breach, and the 2009 post monsoon flood in Nepal Tarai and South India.

The risks of flooding are exacerbated by the impacts of climate change. Though a single flood event cannot be attributed to climate change, scientific studies and local experiences suggest that the climate is becoming more erratic, and thus adds a new layer of stress. It is unlikely that the conventional paradigm of flood control will be able to address these emerging new challenges. This paper traces the historical evolution of the paradigm of a hard resilience approach to flood control that responds to specific impacts. Rather than offer flexible responses to uncertain impacts, this approach often locks us into maladaptive courses of action. Conventional approaches to flood risk management has not been effective and must be extensively re-conceptualized.

Increasing the resilience against flood disaster events requires our understanding and apprehensions of the dynamics of natural systems as well as the limitations of human institutions. Since climate change will alter the frequency, intensity and duration of floods, relying solely on infrastructural solutions that treat climatic conditions as stationary will be disastrous. The paper highlights softer resilience approach including livelihood diversification, access to a variety of financial risk-spreading instruments, and the restoration of riparian vegetation as flood barriers, as the elements of this new paradigm. It argues that these measures need to be undertaken in conjunction with flexible technological strategies better suited to reduce risk of flooding than reliance on any specific targeted response.

The Science of Mitigating Floods

The annual monsoon floods in the Ganga Basin are essential for preserving fertility of soils, sustaining the ecology, and recharging aquifers. They are also often destructive and cause much misery. Yet for many centuries, people in the plains of Ganga River have lived in areas prone to regular flooding. Communities have learned to live with the inundation caused by floods, and, in many cases have adapted their way of life accordingly to derive social and economic benefits. Flood plains have been a source of livelihood, food and assets for resident communities. Flooding has particularly devastating impacts on the millions or so who live in the Ganga plains in India, Bangladesh and Nepal because they are among the poorest in the world and find it hard to reconstruct livelihoods following a flood disaster. Socially and economically marginalized and asset poor families often have no option other than to live in vulnerable locations such as flood plains because various process of social and economic exclusion prevent them from owning land in less flood-prone areas.

The region has faced many floods in the past. Between 1744 and 1987, 42 major flood events occurred in the Ganga plains (Kale 1998). Ten such events took place between 1953 and 2007, including those in 1953 (Nepal and Bihar), 1954 (Nepal and Bihar), 1968 (Eastern Nepal, Bihar, Darjeeling and East Pakistan), 1975 (Bihar and West Bengal), 1977 (Bihar and West Bengal), 1987 and 1988 (Bangladesh), 1993 (Nepal and Bihar), 1998 (Nepal, Eastern Uttar Pradesh), 2002 (Eastern Uttar Pradesh) and 2007 (Nepal, India and Bangladesh). In addition to these regional events, many localized flood disasters occur which are neither documented by official sources nor reported in the national media.

With the growth of industrial civilization, rationalist approaches to flood mitigation have emerged in the public policy-

making arena. The conventional approach to flood mitigation is rationalist in orientation and involves a two-stage response. The first step involves collecting data about a flood hazard. In the case of flood mitigation, this step consists of collecting and analyzing data on rainfall, river flow, river stages, sediment loads, and the economic and social systems likely to be affected by floods. The second stage involves using the data to explain the nature of flood hazards and after that proposing and implementing mitigation measures. In the Ganga Basin, most responses to floods have focused on structural measures, including embankments, levees or dykes and reservoirs. In many developing countries, this strategy continues to be the dominant approach to mitigating impacts of flooding. Such an approach is rather limited because flood disaster is a complex phenomenon. Their locations and magnitudes vary and floods have differential impacts on humans, community and environment.

Hydrological science, in contrast, has adopted a broader perspective on flood mitigation than evident in the public policy response of many national governments. Linsley and his co authors (1992), in the book Water Resources Engineering, for example, lists eight commonly accepted measures for reducing flood damage:

Reduction of peak flow using reservoirs;

Confinement of flow within a predetermined channel using levees, flood walls, or a closed conduit;

Reduction of peak stage by increasing velocities through channel improvement;

Diversion of floodwater through a flood bypass which may return the water to the same channel at a point downstream or deliver it to another channel or different watershed;

Flood-proofing of specific properties;

Reduction of flood runoff by land management;

Temporary evacuation of flood-threatened areas using a flood warning system; and

Flood-plain management

The first five methods listed above suggest modification of stock and flow, using technological means, and the rest three though highlight the softer methods, do not include all the social aspects embedded in flood disaster. Although wide range of methods has been suggested, the most commonly used to mitigate floods are

a) reservoirs

b) embankments or levees or dykes and

c) channel improvements, cut-offs and flow diversions.

Historically, many countries worldwide have built embankments to prevent water from affecting fields and habitation. In China the Hwang Ho and Yangtze rivers were embanked in the the 7th century. The Nile in Egypt was embanked in the 12th century and the Mississippi in the 18th century. In South Asia, the Koshi River was embanked in the 12th century. Embankments were also built in the Gandak River and rivers in Orissa during the 18th and early 19th centuries (Mishra 1997). The pace of embankment building in South Asia, especially India, began to gain momentum after 1940. In the last 50 years, the government of India constructed a total of 33,630 km of embankments. Of the total, about 3,454 km of embankments were built in Bihar, 2,681 km in Uttar Pradesh and 10,350 km in West Bengal. Bangladesh has built about 8,300 km of embankments since 1959. In Nepal, only a few hundred km of embankments have been constructed.

The use of embankments or levees began to be pursued widely during mid-19th century in the U.S. after the Congress showed its concerns on recurrent problems caused by flooding of the Mississippi River. In 1851, the U.S. Congress appointed

two independent experts to review the problem and make recommendations. One expert recommended that large areas of the Mississippi's flood plains be used as a space to store high flows. The other expert recommended that, the river be jacketed in a single channel isolated from flood plains. Congress approved the second recommendation, and thus the structural approach to flood control began (Buras 2000). This method remained as the preferred way of flood control in the U.S. for several decades and it was subsequently followed and implemented in many other countries.

The U.S. Army Corps of Engineers, established by the U.S. Congress assumed responsibility for improving river channels for navigation and started its focus on developing water projects including flood control structures. In 1902, the U.S Congress passed the Reclamation Act, paving ways for creating the Bureau Services (later named the U.S. Bureau of Reclamation or USBR) and the necessary legal and institutional basis for it to build water projects. For over the next seven decades, the USBR had a free hand in planning, designing, building, operating, and managing major water projects west of the Mississippi River. In 1936, the U.S. Federal Government assumed primary responsibility for reducing flood damages across the nation and embarked on a program of building embankments, floodwalls, flood control reservoirs and modifying channels (Galloway 1999). Flood control became one of the major activities of both, the U.S. Army Corp of Engineers and USBR. Many other countries have also responded to flood hazards mitigation by building embankments.

In South Asia, embankments and irrigation canals had already been built before the arrival of the British colonial rulers. Since they were interested in generating revenues, the British focused on building large-scale surface irrigation systems. Such colonial interventions ushered in an era of hierarchical responses to water development with a bias towards large-scale, surface

irrigation systems. Though they had never built canals, British engineers had experiences with channel modification for navigation and expertise in building embankments for railways (Postel 1999). Constructing embankments for both, roads and irrigation became a major activity of the colonial government. The colonial government initially invested little in building embankments along rivers for flood control. In North India, however, zamindars were already building embankments along some major rivers to serve both, the flood protection and irrigation purposes. To fulfill irrigation needs, embankments were regularly breached. Engineers of the East India Company, however, did not recognize that embankments built by the zamindars had both irrigation and flood control functions. They sought to prohibit the breaching of embankments and in 1855 the East India Company took direct control of maintaining embankments (Mishra 1999).

The attempt by British engineers building embankments to make up for their lack of experience could be termed experimental. In the mid 19th century, colonial engineers attempted to control floods in the Damodar River also known by the sobriquet of the 'Sorrow of Bengal' by constructing embankments along both banks. After embanking, however, bed levels of the river began to rise, and levees constrained the drainage of tributaries flowing into the main channel. Land along the banks began to get water logged. Another consequence of the disruption of natural drainage in the area had been the widespread incidence of malaria. Since their experiment did not yield desired results, 15 years after building them, the British were compelled to demolish the embankments. Stung by the poor performance of the pilot structures, the British desisted from building such structures in other rivers of India. The building of embankments to control floods began again in the later years of the British Raj, and still more vigorously after India became independent. With the advantage of hindsight, it could be argued that had the experiment

in Damodar succeeded, the British would have embanked the Koshi, whose annual floods caused widespread hardships to the people of North Bihar (Mishra 2003). Since this river originates in Nepal, any interventions would have necessitated agreement with the northern neighbour.

To understand the incentives that have guided the responses of the governments of Nepal and India to flood disaster mitigation, this paper includes reviews of the bilateral agreements regarding three trans-boundary rivers – the Sarada/Mahakali, the Koshi and the Gandak. These agreements paved the way for the construction of irrigation barrage projects on the three rivers respectively.

From the Sarada Agreement to the Mahakali Treaty

An agreement on the Sarada Irrigation Barrage was made between the British Government in United Province in India and the Rana regime in 1920. After completion of the Upper Ganga Canal (UGC) in 1854, the East India Company began building irrigation barrages in the Indus River to irrigate the western plains. More than a decade later, a proposal was put forth to use water of the Sarada River (the Mahakali in Nepal) to irrigate land in Awadh. The Mahakali River catchment drains west Nepal and the Kumaon hills debouching onto the plains at Brahmadevmandi along the border of Nepal and the state of Uttar Pradesh

The canal proposal was first put forth in 1869, 12 years after the Lucknow Rebellion. But the canal proposal did not receive local support as the talukdars of Awadh opposed it. In 1872, they submitted a petition against the project to the government of the United Province. They argued that groundwater wells already provided water for irrigation to the region and that the proposed canal network would cause water logging and malaria. According to some historians, water logging, salinization and malaria

infestation along the UGC had fuelled the dissatisfaction of local people, which may have contributed to the rebellion. Since the petition was submitted just 12 years after the rebellion, the government could not disregard the talukdars' demand to shelve the project (Whitcombe 1982). Nothing was heard of the proposal for many years.

The Imperial Irrigation Commission (IIC) of 1901-1903 formed by Lord Curzon revived the proposal, but the talukdars again expressed their opposition. For the next decade, the project proposal remained shelved. In 1911, the government of the United Province revived the proposal but pursued a new strategy to see it through: it suggested that the water of the Sarada River was being 'wasted' and that it could be used to augment the Lower Ganga Canal and diverted to Punjab for irrigation. As water levels in wells had declined during this period, the talukdars did not object to the project but did object to diverting the river water away from Awadh. Initially, local opinion had considered the canal unnecessary because of its low rate of revenue, and its adverse effects on soil and public health. The government, however, was no longer as disposed as it had been in the past to letting the surplus water of the Sarada River to 'waste'. The result was the 1911 plan for the Sarada Irrigation Canal with no oppositions. Thus, the stage was set for implementing the irrigation project and constructing the Sarada Barrage.

The proposed Sarada barrage had to be located at a suitable upstream section of the river, just as the barrage of UGC was located at Hardwar, where the Ganga River debouches onto the plains. The suitable site the government of the United Province identified was the eastern flank of the Mahakali River within the territory of Nepal. Consequently, The United Province government sought about 4,000 acres of Nepali forestland for constructing the barrage and began negotiating with the Rana government of Nepal in 1910 with a request to conduct a survey (Gyawali and

Schwank 1994). That the government had sought to negotiate one year before the canal proposal was revived suggests that it had already made up its mind to implement the project.

To allow the barrage to command as large an area as possible it seemed logical that it be located at a high elevation, and the selection of the site on the Mahakali River, which appears logical from hydraulic and optimising irrigation point of view. However, the actual reason for soliciting land at Brahmadevmandi is not explicit. Shrestha (1994) argues thus: 'During the preparation of this project, the river showed signs of swinging over towards the Nepal bank below Tanakpur necessitating a change in the site of the headwork.' Gyawali and Schwank (1994) inductively speculated that 'the barrage was constructed on or close to the left bank by isolating construction portion with a cofferdam. After construction of the barrage on the swapped land, the water of the Mahakali was channelled through the Sarada barrage. This indication comes from the visible filling on a perched portion of the Sarada canal to the west which was probably the main course of the Mahakali River before it was diverted to the present channel.'

In 1920, an agreement for transferring 4,000 acres from Nepal to India and sharing the water of the Mahakali River was concluded. The British provided Nepal Durbar with Rs 50,000 and Nepal was to receive 230 cusec water from the Sarada Barrage. The agreement paved the way for implementation of the Sarada Canal Project. In 1924, the government of the United Province sanctioned a revised version of the Sarada Canal Project whose 4,000 miles of canals and distributaries had a command area of over seven million acres. In 1928, Sir Malcolm Hailey, governor of the United Province, formally opened the first section of the canal, which was the last and the largest of the canal systems built by the British in India. As the initiative behind building the project was guided by harnessing of the 'surplus water' of the river to earn revenue and not allowing it to go to waste, no flood protec-

tion or mitigation was envisioned in the 1920 agreement.

The exchange of land at Brahmadevmandi in 1920 to facilitate the construction of the Sarada Barrage changed the riparian configuration of the river at that reach. The Mahakali River, which marked the border between Nepal and India, first became an Indian river, then a Nepali and then again an Indian river. In 1983, the National Hydro Power Corporation (NHPC) began the design and construction of the Tanakpur Hydropower Plant in the Indian part of the river upstream of the Sarada Barrage. The initial NHPC plan was to divert the water of the Mahakali by the Tanakpur Barrage in order to generate 120 MW then to allow the discharge from the tailrace to flow directly into the Sarada Canal. After Nepali government questioned this provision, the design was changed and water from the tailrace discharged into the Mahakali River above the Sarada Barrage.

Except for the afflux bund in the east, in 1989, the Tanakpur Barrage was completed. An afflux bund channels river flow to a barrage. In the case of the Tanakpur Barrage, the proposed afflux bund was to be connected to higher ground in Nepali territory. The issue surfaced as a dispute between the two countries in 1990 when multi-party democracy was restored in Nepal. The difference was over the contribution that Nepal had made by permitting the construction of the afflux bund to complete the barrage in a boundary river, and the quantum of benefits that Nepal should receive for its contribution. The first Memorandum of Understanding (MOU) to that effect was signed when the then Prime Minister Girija Prasad Koirala visited India in 1991. Following opposition in Nepal, the 1991 MOU was revised in 1992 during the visit of Indian Prime Minister Narasimha Rao to Kathmandu. Subsequently, the Integrated Treaty on the Mahakali was signed in 1996.

In the 1980s, when the Tanakpur Barrage was being built, the Union Government of India (UGOI) maintained that it was

an Indian project being built in Indian territory and therefore of no concern to Nepal. In turn, HMG did not question this line of argument: it accepted that the barrage was an Indian Project, but, demanded that Nepali territory should not be harmed when the barrage was being built. Later, as it became necessary to connect the left afflux bund of the barrage to Nepali territory, the UGOI sought permission to extend the bund 577 metres into Nepali territory. This request by the UGOI to HMG suggested that completing the left afflux bund would minimise the possibility of erosion and loss due to flooding in Nepali territory.

The reference to this mitigation of environmental harm seemed to be inspired by HMG's initial demand that 'no Nepali territory should be harmed' while the Tanakpur Barrage was being built. In the 1991 MOU, however, the notion of flood protection figures only implicitly. Otherwise, the Tanakpur Barrage is concerned with electricity generation and the Sarada Barrage with irrigation. The possibility of the erosion of land on the Nepali side and avoiding loss due to flooding was mentioned by the UGOI for the first time in the more than 80-year-old engagement between two governments. The dispute over the Tanakpur Project lasted till 1996 when the Treaty on the Mahakali River was signed and the 1992 MOU on Tanakpur was subsumed within it. The premise of 1996 treaty is based on deriving both power and irrigation benefits from constructing the Pancheswar High Dam Project; the benefit of flood avoidance is only tertiary. After the proposed 315-metre-high dam gets complete, it is estimated that flood control benefits will amount to 3.7 per cent of the total benefits estimated to accrue from the storage project.

The provisions regarding sharing of regulated water, status of the boundary river, its origin, and the price of electricity mentioned in the treaty became contentious and were debated in Nepal. Before it ratified the treaty in August 1997, the Parliament of Nepal sought to resolve the differences by unanimously passing

four 'strictures' that reinterpreted certain clauses. The issue remains unresolved though seven years have passed since the treaty was ratified by the Parliament. In the more than 140-year history of interventions by states in the Sarada River, its water has been perceived as a 'wasted resource', implying that it is to be tapped and harnessed, for the economic benefit of state. The Mahakali Treaty made no specific provision regarding flood control.

The next river water sharing agreement between Nepal and India, the agreement on the Koshi River, was, in contrast guided by the desire to control floods. The project's history provides useful insights into understanding the efforts made to control flooding in the North Ganga Plain by using embankments.

Koshi River and the Koshi Project

The Koshi River drains Tibet and Nepal before it joins the Ganga at Kursella in Bihar. The river's maximum measured peak discharge of 26,000 m3/s was triggered by extremely high rainfall over large section of the rivers catchment in 1968. As it drains the eastern Himalayan region, the Koshi River transports a huge amount of sediment load derived from glacier melt, landslides and mass movements. The annual suspended sediment load is estimated to be about 95 million m3, an underestimate because it excludes bed load. The river also receives sediment mass from GLOFs and bishyari, which are not accounted for in the existing sediment budgeting. The sediment load is one of the reasons for the tendency of river to shift laterally. In the 220 years, from 1730 to 1954, it has shifted 150 km westward in the Tarai after debouching on to the plains at Chatara in Nepal. According to the Irrigation Department, the high sediment content in the Koshi River is a major cause of flooding and its capricious behavior.

On 25 April 1954, Nepal and India signed a treaty paving way to build the Koshi Barrage Project close to the border

town of Hanuman Nagar. The project aimed to control flood by building two embankments (144 and 123 km along the eastern and western bank respectively) spaced between 5 and 10 km. The effort to embank the river has, however, a much longer history. The Koshi Barrage and its embankments tell the story of debates between Nepal and India about water resource development and also of the relationship between states and people in relation to flood mitigation. The story also records public debate about the appropriateness of using embankments to control flooding in a high water-table region as British engineers prepared proposals to check the river's westward movement by jacketing the river in its current course using embankments on both banks. Another suggested method to control flooding and excess sediment charge of the Koshi River was to build a high dam at Barahacchetra in Nepal.

In November 1827 the colonial government had appointed a committee of four engineers along with the chief engineer of Bengal Irrigation Department to investigate the nature of floods in the Koshi and to suggest remedies. Nothing was done. Several years later, in 1869 and 1870, major floods in the Kosi seriously affected northeastern Bihar, and in 1891, British engineers attempted to embank the river. However, because of recurrent floods, the embankment could not be built. In 24 February 1897, a conference was organised in Calcutta (now Kolkatta) to discuss challenges posed by the river and ways to contain its floods. A proposal to embank the river to prevent its westward movement was presented to the conference, but participants questioned the ability of the embankment to control flood. Almost 40 years later in November 1937 at another conference held in Patna, the proposal to build embankments was debated again. The chief engineer of Bihar, Captain G.F. Hall, expressed doubts about the efficacy of the embankments and argued that not only was total flood prevention undesirable but that the embankments were

the primary causes of excessive flooding because they transferred floods from one reach to the other thereby giving rise to a false sense of security. At the conference, the possibility of providing efficient drainage to discharge floodwater was mentioned as possible responses. Other methods identified for mitigating flooding were, to build a dam and reservoir to store the excess flows of monsoon and let off the water for irrigation when required, thus moderating the flood peaks. No decision was taken.

In 1941, Claude Inglish, the then-Director of the Central Irrigation and Hydrodynamic Research Centre, Poona, again proposed embanking the Koshi to check its westward movement, but he emphasized that more investigations were necessary. A few years later, in 1945, another proposal was put forth to embank the Koshi River, which also did not bear any fruit. After the end of Second World War, the plan to build embankments along the river, running parallel from the foothills in Nepal to the Ganga River, surfaced again. On 6 April 1947, four months before India's independence, a conference of the victims of the Koshi flood was held at Nirmali in Bihar. The conference recommended a concrete dam about 229 metres high be built at Barahacchetra in Nepal in order to control floods. On 5 June 1951, a committee was constituted under the chairmanship of an advising engineer of the government of West Bengal to provide opinions about the proposed high dam. Although, the committee approved it, construction was not taken up for several reasons.

The problem of flooding of the Koshi continued to pose challenges to the leadership of independent India in general, and to the leadership of the state of Bihar in particular. The states of Uttar Pradesh and West Bengal also faced similar flood hazards. In the monsoon of 1953, the lower Koshi region experienced a major flood following incessant rainfall in its catchment. That year the government of India formed a committee of experts to look into problems associated with flooding of the river. Prime

Minister Nehru completed an aerial survey of the flood-affected region on 31 October and 1 November of the same year. He was so moved by the plight of people affected by floods that he insisted on immediate action to mitigate their sufferings. The committee submitted its report in December of the same year. The only known method of control that could immediately be implemented was to build embankments, whose long-term impacts were under serious debate.

A few months later, in May 1954, K.L. Rao and Kanwar Sain visited China to study how the Chinese had controlled the Yellow River by building embankments. Rao and Sain were expected to recommend action to ensure the soundness and suitability of embankments for controlling the Koshi's floods. Mishra (1997) has argued that the visit to China by these two experts was preemptive because the agreement concluded with Nepal had already endorsed the concept of building embankments along both banks of the Koshi. This agreement with Nepal was signed in April 1954. The Koshi Barrage was built as a gradient control measure. Nepal was to receive half of the energy generated by the Kataiya Power Plant build in the Eastern Koshi Canal. The embankments were completed in 1965 and were expected to provide flood security to about two hundred thousand hectares of Koshi delta and some areas in Nepal.

The Koshi Agreement instigated political debates in Nepal. Opposition parties questioned Nepal's loss of control of its water rights and claimed that the agreement was a sell-out to India. The fact that this 1954 agreement had no provision for using the barrage to irrigate land in Nepal was challenged. A provision to irrigate land using water in the Western Canal was included in 1978. According to this provision, a net area of 24,480 ha of land in Saptari District was to be provided with irrigation through the Western and the Koshi Pump System. India also agreed to build the Chatara Irrigation Project to irrigate land in Sunsari

and Morang districts, as well as minor irrigation systems in other parts of Nepal.

On 19 December 1966, the Koshi Agreement was revised and its validity was stated to last 199 years. The revision stipulated that 'HMG shall have every right to withdraw for irrigation and for any other purpose in Nepal from the Koshi River and from Sun Koshi River or within Koshi basin from any tributaries of the Koshi river as may be required from time to time'. The treaty stipulated that India shall have the right to regulate the available balance of supply in the Koshi River at the barrage site from time to time and to generate power in the Eastern Canal'. The Koshi Barrage Project, which started operating in 1965, was, however, never completed according to its initial plan. Unlike the agreement on the Sarada (Mahakali) River, concluded many decades before, the Koshi Project aimed at controlling floods. Irrigation and hydropower benefits were included as ancillary benefits. The project was conceived as an Indian project primarily in response to the problems in North Bihar as the agreement's preface declares:

> whereas the Union (Government of India) is desirous of constructing a barrage, headwork and other appurtenant works about 3 miles upstream of Hanuman Nagar town on the Kosi River with afflux and flood banks and canals and protective works, on lying within territories of Nepal, the purpose of flood control, irrigation, generation of hydroelectric power and prevention of erosion of Nepal areas on the right side of the river upstream of the barrage. And whereas the Government (HMG, Nepal) has agreed to the construction of the said barrage, headwork and other connected works by and at the cost of the Union, in consideration of the benefits herein after appearing.

The problem of flooding was, however, offset only temporally, as the expected benefits from the embankments have not

materialized. On the contrary, the embankments have led to a major environmental disaster in the Koshi delta, where large tracts of land are subject to floods of varying intensity. The river continues to act capriciously within the embankments and sedimentation has led to the aggradations of the riverbed. As a result, the riverbed is a few metres above the adjoining land and remains a potential hazard. Breaches and seepage in the embankments during rainy season lead to the loss of life and property in Nepal also. The ill effects have contributed to what some activists argue is the 'biggest social disaster outside of war brought to an unsuspecting people by the use of modern science and technology'. Social activists in Bihar wage a sustained but unequal battle against the powerful alignment of forces that see embankments as a constituent of the larger technological solution to problem of flooding and its political economy. From 1950 to 2000, for instance, Bihar's irrigation department has built about 3,500 kilometres of embankments in Bihar in order to control flooding, but water logging in large tract of north Bihar is serious and flood disasters continue unabated.

The Gandak Barrage Project

With the problem of the Kosi taken care of at least for the time being, the focus then shifted to the Gandak River, which drains the central Himalayan region of Nepal and flows into West Champaran in Bihar. Though the river was not as capricious as the Kosi, having first debouched onto the valley of Bharatpur in Nepal and then onto the plain through the Chure gorge at Tribeni, its recorded peak flood of 700,000 cusec (almost 21,000 m3/s) suggests that the risk of flood hazards is high. Unlike the Kosi, about 100 miles of the Gandak River in Bihar, however, had been embanked much earlier (GoI 1953). In 1959, the governments of India and Nepal signed an agreement for sharing the

waters of the Gandak River, which paved way for the construction of the barrage system across the river at Bhaisalotan on the Nepal India border.

The barrage was designed to irrigate land in the districts of Motihari and Champaran in Bihar, and to the doab upstream of the confluence of the Ghagara and Gandak rivers in Uttar Pradesh. The total area to be irrigated in India was 1,850,520 ha. Nepal was to receive 60 cusec of water from the barrage to irrigate a net land area of 57,900 ha. Of the total land area to be irrigated, 26,000 ha in Bara, Parsa and Rautahat districts were to be served by the Gandak Eastern Canal and 10,360 ha by the Western Nepal Canal. A hydropower plant with a capacity of 15 MW was built at Surajpura in Nepal to supply power to Nepal. In 1964, the treaty was revised and Nepal got the right to upstream water withdrawal and trans-valley use for irrigation or other purpose. Though the revision allowed trans-valley uses, a separate agreement for the dry season from February to April was needed.

The Gandak Treaty made no specific reference to flood control or the mitigation of its harmful impacts. The notion of flood control was implicitly embedded in the building of embankments as components of the barrage. In fact, the appurtenance of the irrigation systems including canals, siphons and aqueducts have caused the inundation of land upstream of the canal in the region draining into the Rohini River. When the Gandak Barrage was completed in early 1970s there had been a major geopolitical change in South Asia: Bangladesh had emerged as an independent country. Consequently, a new discourse on water development and flood disaster mitigation emerged in South Asia. This discourse also is useful to recount as we begin to examine the epistemic paradigm.

Development Trajectories and Flood Management

From the above discussions we can suggest that the notion of harnessing water and river sharing treaties signed between Nepal and India have focussed on specific projects, and except perhaps the Koshi Agreement, have not explicitly addressed the question of flood disaster mitigation. The Koshi Agreement, for its part, accorded primacy to flood control but fell much short of institutionalising a workable arrangement for mitigation. The Gandak Treaty made no provision for flood mitigation though the barrage, by including embankments to channelise river flow, introduced a limited flood control measure. The 1996 Mahakali Treaty did not mention flood control benefits explicitly but couched such a provision implicitly within the notion of benefits likely to accrue from the completion of the proposed Pancheswar Reservoir, which would attenuate the flood peak occurring in the Mahakali River. Nepal and India's co-operative efforts have aimed to harness water resources in a more utilitarian sense by obtaining electricity and irrigation benefits. But even then there have been disputes over rights and inequitable entitlement to benefits: co-operative efforts have not led to 'water security at local levels'; in fact these projects have caused unintended environmental and social problems, and in Nepal political problems.

New empirical scientific evidence suggests that excessive rainfall, coupled with cloudbursts south of the Chure range, contributes to the widespread inundation of the northern Ganga plains. This factor is made even more complex by climate change, which leads to more erratic floods. The emerging insights suggest that complete flood control is an unachievable goal though freedom from inundation by floods is a legitimate aspiration of the people who live in the plains. British engineers had realized that total flood control was an unachievable goal back in the 1930s. The 1988 study on floods in Bangladesh suggested that commu-

nities must learn to live with floods (ISPAN 1989). More recently, the Global Water Partnership (GWP) has suggested that floods can never be fully controlled. The Ministry of Water Resources of Government of India has also acknowledged that 'floods are natural phenomena, and total elimination or control of floods is neither practically possible nor economically viable.'

Regardless, dominant responses to mitigating the hardships of flooding continue to rely on a strategy that aims at its total elimination. The lesson that the risks due to flooding have to be minimized and not eliminated have not found institutional salience in the approach pursued by State agencies. Mahakali Treaty and the Pancheswar dam conceptualized within its rubric is embedded in the dominant paradigm of control of floods.

Paradigm Shift

If total flood proofing is unachievable then what are the alternatives for adapting to recurrent floods? We are confronted with more questions: How can livelihood be made more secure from the impacts of flooding? What means shall be used? Who will make decisions about choices? What the costs of the selected approach will be? These questions are critical but lack clear-cut answers. Difficult though they may be, a beginning needs to be made to seek answer to the above questions.

That beginning must be made by conceiving flood management with a systemic perspective, and that flood risks are shaped by the interaction among dynamic natural, social, economic, cultural and political systems. These dynamics are dependent on initial conditions and non-linearity, inherently chaotic and difficult to predict but are inevitable. Consequently, attempts to develop 'integrated' and hard resilience approaches sought as solution to all the potential consequences and dynamic changes in human and natural systems are inappropriate (Holling and Meffe 1996)

and will be ineffective. Instead, as a growing body of literature suggests, approaches need to be founded on an understanding of broad perspectives that recognise the complex interplay between diverse human and natural systems (Gunderson 1999; Holling 2001; Gunderson and Holling 2002).

This approach is necessary given that global climate change makes the South Asia Monsoon system more erratic with serious consequences for flood disaster. The implication of climate change in Nepal Himalaya is succinctly captured by NCVST (2009). According to NCVST (2009) various global models used to develop future scenario suggest that in 2090, the monsoon is likely to see 52 percent reduction to 135 percent increase in precipitation. This uncertainty in output reflects the difficulty of limited data availability, poorly understood monsoon dynamics and complex topography, characteristic of the Himalayan region. They present profound challenges for projecting climate change using general circulation models (GCM) outputs, which must be interpreted and used cautiously (NCVST 2009).

The success of conventional flood disaster risk reduction strategy depends on data availability, and the ability to project benefits over the lifetime of an intervention. Climate change brings to the fore three issues. The first is related to the notion of uncertainty, essentially, drawing our attention to types that will affect decisions in relation to responding to the impacts.

Table 1; Sources of uncertainty

Uncertainty	Type
Real world	Complex, unpredictable human and natural system
Data	arising from measurement error and incomplete data
Method	choice of output variable or the validity of parameters under changed conditions inappropriate to answer the questions that the method aim to answer
Knowledge	Incomplete understanding of the interaction between natural and human processes.

The second issue is the costs of an intervention and the benefits it is likely to generate. Recent report in Tarai of Nepal and Uttar Pradesh (Dixit et al. 2008) suggests that distributed approaches involve less initial capital investments and there are few major externalities. The costs of such approach appear to overwhelm benefits of embankments or similar structural measures. Local community also perceive that distributed interventions are as having relatively large benefits in relation to costs and relatively resilient under a wide variety of climate change scenarios. These conclusions are particularly useful as future becomes uncertain due to climate change. As climate change proceeds, negative consequences in hard resilience measure such as embankments likely to be higher compared to benefits, but under similar condition benefits of distributed interventions likely to be higher.

The third issue concerns our ability to project frequencies of future events. In Nepal and India, existing data trend are highly limited or difficult to access while additional data are expensive to collect. Uncertain climate implies that historical data is not ro-

bust enough to tell us about future risks. The issue of data is particularly challenging in the case of all climate related shocks. In many situations, historical data regarding rainfall, stream flows, flooded areas and sediment load are limited. Such historical data are, however, required in order to translate the results from GCM downscaling into future flood event probabilities. When limited data are coupled with the inherent uncertainties in data generated through downscaling techniques, projections regarding the probability of future events are uncertain. This issue is of importance for everything from the structure of insurance programmes to the design of hard resilience infrastructure such as dams and embankments. Insurance programmes that are designed, for example, to pay out once every 25 years will not be financially viable if similar magnitude payments are not made more frequently. Similarly, structures that are designed to withstand floods occurring every 100 years will fail if floods of larger magnitude occur.

So, the question is, will flood the hard resilience option such as Pancheswar Dam provide much needed flood control benefits and make livelihood of the population secure? The history of the conventional response to water development in the Sarada command can tell us much about the answer. The onus for the Sarada barrage project embedded within the colonial project had the agenda of revenue generation, administrative control and supplemental irrigation. This incentive has not changed as the basic design of the proposed Pancheswar dam has only 3 per cent benefitted flood mitigation with the bulk allocated to electricity. In essence, this formulation reflects the real political economy of reservoirs; the flood control and electricity generation methods are in contradiction.

So how do we respond to floods? Insights for risk reduction are emerging from recent field research in Ganga Plains documenting the factors that increase people's vulnerability to flooding. Drawing upon a series of interaction with affected com-

munities, non-government organizations and some government officials, researchers have come up with a number of soft and hard resiliency suggestions for how vulnerability to natural hazards can be reduced. These take into account the unique interplay among physical, social, economic and political relationships. The ability to reduce vulnerability to disasters is strongly related to the robustness of following systems (Moench and Dixit 2007):

1. **Communications** (including the presence of diversified media and accessibility of information about weather in general and hazards in particular);
2. **Transportation** (including during extreme events);
3. **Finance** (including access to banking, credit and insurance products for risk spreading before, during and following extreme events);
4. **Economic diversification** (access to a range of economic and livelihood options);
5. **Education** (the basic language and other skills necessary to understand risks, shift livelihood strategies as necessary, etc.);
6. **Organisation and representation** (the right to organize and to have access to and voice concerns through diverse public, private and civil society organisations); and
7. **Knowledge generation, planning and learning** (the social and scientific basis to learn from experience, proactively identify hazards, analyze risk and develop response strategies that are tailored to local conditions).

Structural measures can be an important component of soft resiliency approaches but thinking about their design and purpose has to change. Their design should not seek to curb risk completely but instead to help the vulnerable live with risk and

protect key assets. In other words the goal is flood adaptation, not flood control. In the past, poorly-designed flood and transportation structures simply aggravated flood damage: haphazardly placed embankments, for example, caused fields which would drain naturally in hours or a day, to be water logged for weeks. According to Dixit et al. (2007), some of the "new" (local populations have used some of these measures for generations) flood-adapted structural measures that are beginning to be employed in the Ganga Basin include:

- Raising the plinth height of houses and hand pumps,
- Building houses with flat roofs so that people have a safe place to go during floods and to store critical assets like livestock and seeds,
- Providing tarps and other materials to families so they can construct temporary shelters on their roofs.
- Constructing embankments only in locations where they are required to protect particularly high value areas (such as towns, cities, airports, etc...). Furthermore since it is not pragmatic to maintain many kilometers of embankments, stretches of embankments short enough for a community to maintain effectively on its own should be built,
- Constructing roads with adequate drainage or permeable bases so that they channel away rather than trap floodwaters and thereby help minimize damage to transportation infrastructure, allow for quicker post-disaster recovery, and reduce disruptions in access to local markets, and
- Constructing new or improving existing schools or places of worship which are resilient to multiple hazards for use as community shelters.

Approaches to flood mitigation that combine flood-adapt-

ed structural elements with the other (transport, financial, communication, etc.) systems that contribute to build social resiliency could be an effective alternative to historical approaches that focus on hard resilience. Limiting the use of conventional technology (primarily embankments or levees) to the protection of small critical areas, improving drainage, raising the plinths of houses and improving core systems that build social resilience would constitute elements of the new paradigm. But even when cities are protected by circular bunds providing proper drainage remains important because the within rainfall must be properly drained. In the colonial era, British engineers argued for providing unhindered drainage, cushioning floodwaters in ponds and depressions, and promoting inland fisheries. The report of the 1928 Flood Committee, constituted to deliberate on the Mahanadi floods of 1927, for example, concluded that in the case of Orissa, the annual deltaic inundation was a part of the "working of nature" and noted that the problem was not how to prevent flood but how to pass them as quickly as possible to the sea. The approach to mitigate flood disaster mitigation must begin with maintaining unhindered drainage. This notion will suit the future when excess anthropogenic green house gases in the atmosphere, is likely to make extreme floods more frequent.

Notes

The section draws upon Thompson (1995), who has set out the approach to analysing environmental policy making in the Himalayan region.

Details are available at (http/wrmin.nic.in/publication/ar2000/arooch/5.html).

In his lecture, Willcox suggested that embankments built by zamindars along the rivers in the Ganga plain had both a flood protection as well as a flood irrigation function in the post mon-

soon, when they were breached. See Bottrall (1992) and Lahiri-Dutta (2003) for discussions.

According to Mishra (1999), the remains of the 12 century embankment can be still seen in Supaul District in Bihar.

Discussions about the Sarada Project are found in Whitcombe (1983). In Punjab the use of the term 'waste' reflects the onus of the colonial government to intervene in land and water systems of the colony (Gilmartin 2003).

While the East India Company was expanding its rule in the South, in the north along the Himalaya, Nepal had also begun territorial expansion. The two powers fought a war and in the Anglo-Nepal were Nepal lost to Britain and in 1815 was forced to sign the Sugauli Treaty, which together with subsequent events defined Nepal's present day territory.

Whitcombe's (1983) discussions of the Sarada Canal Project makes no mention of the trans-boundary nature of the Mahakali River or that prior to approval of the canal project in 1924 an agreement had been signed with Nepal Durbar in 1920 to build the barrage. Landon (1828) only mentions that the then Prime Minister Chandra Shumshere invited engineers from the United Province to build the Chandra Irrigation Canal but does not discuss the Sarada Agreement. Gyawali (1993) provides some information about the negotiations between Nepal's executive engineer Kumar N. Rana and United Province's executive engineer S. Athims. According to the terms of the 1920 agreement, Nepal was allocated a flow of 4.25 m3/s from the Mahakali River at the Sarada Barrage between September and July. The Mahakali Irrigation Project (MIP) in Kanchanpur District, Nepal, which was completed in 1980, uses this flow.

In May 1916 the British Resident J. Manner Smith wrote to the then Rana Prime Minister Chandra Sumshere about the Sarada Barrage. His letter mentioned that the condition of the

river at Tanakpur changed after the massive floods of 1910. See Shrestha (2000) for details. But the Sarada Barrage Project itself did not involve any measure for flood control.

Detailed discussions of the debates surrounding the Tanakpur Project are found in Shah (1994), Dixit (1997), Gyawali (1998) and Swain (1998).

See the report by the Commission on the Tanakpur Barrage Project of HMG (1993).

The treaty made provisions for equal entitlement to the water of the Mahakali River that would be made available from the proposed reservoir has said that Nepal's water requirements should be given prime consideration in its utilisation. This provision is, however, defined by a clause stipulating that the existing consumptive uses of each would not be jeopardised. Article 3 (b) of an exchange of letters between the two further defined it by the provision that 'it precludes the claim, in any form, by either Party on the unutilised portion of the shares of the waters of the Mahakali River of that party without affecting the provision of the withdrawal of the respective shares of the waters of the Mahakali River by each Party under this Treaty.' For detail discussions of the Integrated Treaty on the Mahakali, see Gyawali and Dixit (2000)

Shrestha (1997) has suggested that the Indian share will be 0.4 per cent while that of Nepal will be 0.1 per cent. The estimated irrigation benefit is 21.4 per cent while the power benefit would be 78.2 per cent. The estimated annual benefit is US$ 801.9 million. See Gyawali and Dixit (2000).

The Central Water Commission in India has this to say about the project, "Under the Indo-Nepal bilateral co-operation, the scope of the Pancheshwar multipurpose project is being actively discussed and defined to enable finalisation of the Detailed Project Report. The treaty between His Majesty's Government of

Nepal and Government of India as signed in 1996 lays down the framework for integrated development of the Mahakali River including the Pancheshwar Project, Sarda Barrage Project and the Tanakpur Barrage Project. Several meetings of the Joint Group of Experts have taken place afterwards. A Joint Project Office has been established for this purpose in Nepal. For the preparation of the joint Detailed Project Report (DPR), the design of the rock-fill dam & appurtenant works and power facility has been completed, and relevant drawings and design chapters have been issued". More details are available at (http/wrmin.nic.in/publication/ar2000/arooch/5.html). In 2002, May the Pancheswar design office in Kathmandu was closed. Though the debate surrounding the Integrated Mahakali Treaty and the four strictures passed by Nepal's parliament remain unresolved, the Government of Nepal and India met in Pokhara on 20 – 21 November 2009 and agreed to set up the Pancheswar Development Authority (PDA).

The Koshi High Dam Project was not taken up for several reasons. One reason was the high cost of the project. Another was lack of demand for the electricity produced which would therefore not be consumed. Seismicity was another limitation because the proposed dam is located in an active region and the possibility of an earthquake epicentre nearer to the dam site was not denied. The 1934 earthquake had its epicentre close to the Nepal-Bihar border. In fact the then Finance Minister of Bihar Anugrah Narayan Sinha had used the high risk associated with seismicity to shoot down the high dam proposal in favour of the embankments along the banks of the Kosi. For details, see Mishra (2006).

According to GoI (1981) the Koshi recorded a flood of 5,426 m3/s in 1953. In the monsoon of 1954, the Koshi at Chatra recorded a peak flood of 24,241 m3/s. Bihar experienced major flood disasters in 1953 and 1954.

See Mishra (1990)

An unresolved but forgotten issue is that of compensation. Under the terms of the Kosi Agreement, a provision was made for the payment of a royalty at the rate of Nepali Rs. 5.00 per bigha for land acquired in Nepal for project building, including that which was likely to be submerged. Compensation, however, is still an unresolved issue both in Nepal and India; even to date the people living within the embankments in Bihar has not yet been provided with the compensation due to them. This story in Nepal is no different. See Mishra (2003) for discussions about North Bihar. For discussion about Nepal see Yadav (2006).

See the preamble of the Kosi Agreement 1954.

According to Valdiya (1985) the bed of the Koshi River in Bihar is at a higher elevation than the flood plain. For details See Dixit (2009).

Ram Chandra Khan of Bihar made this comment with reference to the social and environmental ills brought by embankments along the Kosi.

Details are available in (http/wrmin.nic.in/publication/ar2000/arooch/5.html).

This section is based on Kerr and Macleod (2001)

See D'souza (1999).

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The Mahakali Treaty: View from the Negotiating Table

*Surya Nath Upadhyay**

Nepal and India concluded a treaty concerning the Integrated Development of the Mahakali River including Sarada Barrage, Tanakpur Barrage and Pancheshwor Project on 12 February 1996. The treaty, popularly known as Mahakali Treaty, consists of 12 Articles. A letter was also exchanged between the two governments on the same day. The letter so exchanged refers to the treaty, the decisions taken in the joint commission dated 4-5 December 1991 and the joint communiqué issued during the visit of the then Indian Prime Minister dated 21 October 1992 and purports to have reached an agreement between the two governments on some of the points concerning the application of the provisions of the treaty and the desires expressed in the above mentioned documents.[1]

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[1] International Legal Material, Volume XXXVI, Number 3 May 1997, p. 533.

Under the constitutional requirement of Nepal, the treaty was ratified by a two-thirds majority of the joint session of parliament on 20 September 1996 and became binding between the two countries.

In the history of post 1990 Nepal, Mahakali Treaty has been the most debated issue in the civil society and sharply divided the political parties, ignited demonstrations on the streets and even professionals of repute were sharply divided in their opinion on assessing the Treaty. The debate has not subsided as yet. Some see it as rashtraghat (treachery to the Nation)[2] others this as a classic case of "Marry in haste repent at leisure"[3], still others claim that serious "home work" was done before its conclusion and that the treaty is a collective vision of all the Nepali and is poised to take the nation on the path of development.[4] The treaty purports to prepare a detailed project report (DPR) for a mega multi-purpose project called Pancheshwor within six months of the conclusion of the treaty. Even after the lapse of more than a decade the DPR has not been completed. Both the countries are far apart on various issues relating to the DPR of the Project. As a result, not only the DPR has not been completed, but also the Mahakali Commission, which is supposed to make recommendations to both the parties for the conservation and utilization of the Mahakali River as envisaged and provided for in the treaty has not been constituted.

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2 Tanakpur- Rashtriya Hit ki Rashtraghat. Edited by Ninu Chapagain, Lokprakashan 1991, Ekikrit Mahakali Sandhi ma Nepal Kina Ra Kasari Thagiyekocha, Rameshwar Man Amatya, 1996, Kumarpati, Lalitpur.

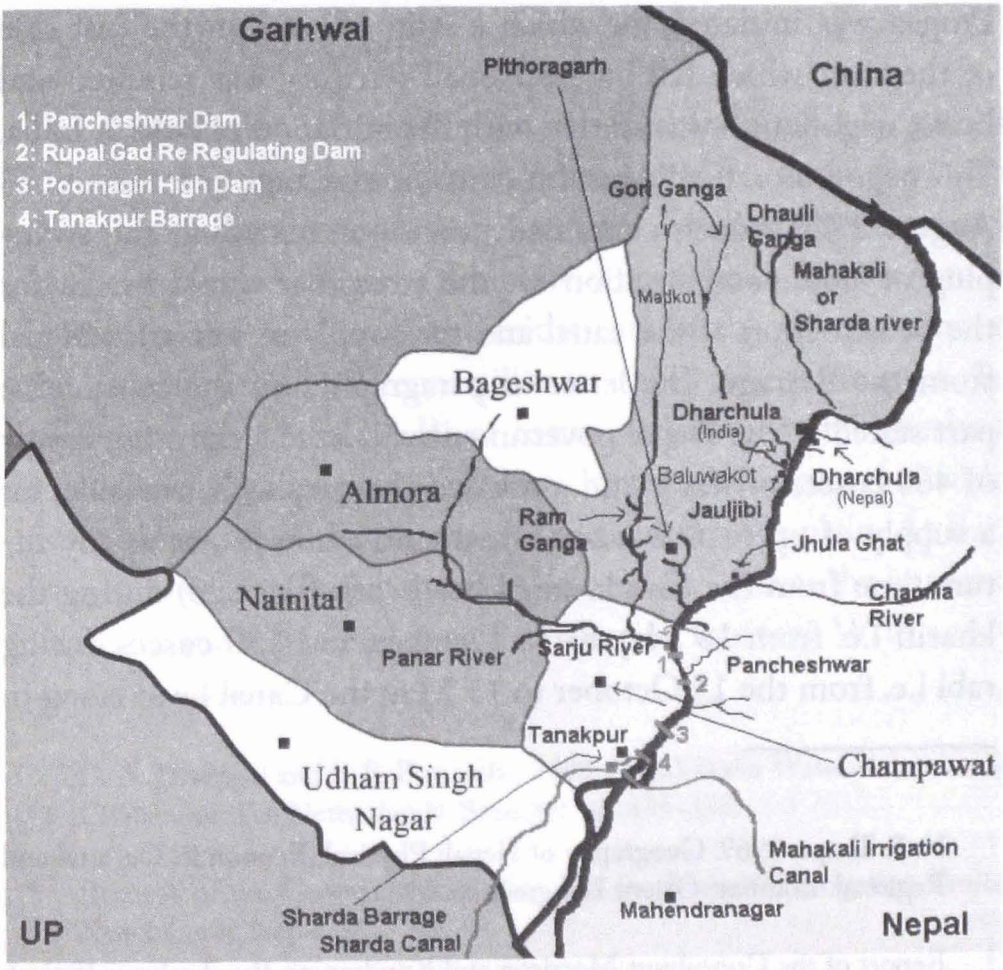
3 Dipak Gyawali and A. Dixit. 1998. "Mahakali Impasse and Indo-Nepal water conflict", Economic and Political Weekly, 27 February, pp. 553-564.

4 Prakash C. Lohani, Mahakali Treaty: A vision for the 21st century, in Hari Bansh Jha (ed) Mahakali Treaty: Implications for Nepal's Development. Kathmandu: Foundation for Economic and Social Change, pp. 21-25.

This paper tries to analyze the background of the treaty, the negotiation that was done to reach to this treaty, the critiques of the treaty, the difference of views between the two countries on the interpretation and implementation of the treaty and the way forward.

Mahakali Basin

The Mahakali River begins where two rivers – the Kali River originating in the Talkot area in the east and the Kuthiyankti River originating in the Zanskar range of the Himalaya – meet at Kawa Malla in Darchula District in Nepal. When the two rivers



(Source: Engr. D.B. Singh, presentation on Mahakali Treaty at a talk programme organised by Independent Power Producers Association, Kathmandu, October 2009)

– Kali and Kuthi-Yankti – join they form the Mahakali River.[5] As it flows downwards, the Mahakali River is joined by tributaries like Dhauliganga, Gauriganga, Ram Ganga and Sarju from the Indian side that contribute 80.3 per cent of water to the river and the one tributary from the Nepali side contributes 19.7 per cent of water to the Mahakali River.[6]

Sarada Agreement

The British-India Government made a plan to utilize the water of Sarada River (known as Mahakali River in Nepal) in the United Provinces (known as Uttar Pradesh after the independence of India in 1947). A project known as Sarada Kichha Feeder Project was initiated, for which a strip of land on the east side of the river which fell in the Nepali territory was required and hence negotiation was started with the initiation of British India. This negotiation finally resulted into an exchange of letters on 23 August 1920, which contained provisions regarding the swapping of land, compensation for the trees that would be cut for the construction of the canal and the supply of water for Nepal from the Barrage. The letter in paragraph 1 of the substantive part stated – "the Nepal government will have a right for supply of 460 cusecs of water and, provided the surplus is available, for a supply of up to1000 cusec when cultivation grows at any future time from the Sarada canal headwork (Barrage) during the khariff i.e. from 15 May to 15 October, and 150 cusecs during rabi i.e. from the 15 October to 15 May, the Canal head being in

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5 N. B. Thapa. 1969. Geography of Nepal: Physical, Economic, Cultural and Regional. Bombay: Orient Longman, p. 24.

6 Report of the Consultant Morrison and Knudsen on Pancheshwar Project. 1992. Records of the Department of Electricity Development, Government of Nepal.

the latter period alternately closed and opened for 10 days at a time running 300 cusecs whenever the canal is open. In order to supply the said quantity of water, all the necessary works were to be constructed, maintained and controlled by India.[7] In its long history of 76 years even when the cultivation grew substantially on the Nepali side, wanting more water for irrigation supply of water was never increased from 400 cusecs despite the provisions of the treaty. The Mahakali Irrigation Project, which depended on the water of Sarada could not be extended to its latter phases.[8] Hence, the government of Nepal always looked for alternatives like the Pancheshwar Project, which consists of huge benefits like power, and irrigation.

Tanakpur Agreement

The demarcation of the border between India and Nepal has followed the fixed boundary principle[9], which means that even though the river changes its course the boundary remains as it has been fixed. As regards the place where the boundary is to be located in the river itself, the midstream of the river is taken as the boundary with reference pillar on either side of the river. Accordingly, the Mahakali River forms boundary at Pancheshwar and at several other places, whereas it meanders along the border as it comes out of the mountains and reaches the plain. At Banbasa it flows into Indian territory and finally crosses the border at Dodhara and Chandani and meets Indian territory. With a view

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7 D. N. Dhungel and S. B. Pun (eds). 2009. Nepal-India Water Relationship: Challenges. The Netherlands: Springer, pp. 335-338.

8 Records of the Government of Nepal at the Mahakali Irrigation Project, Kanchanpur, Nepal.

9 Buddhi Narayan Shrestha. Boundary of Nepal. Kathmandu: Bhumichitra (Mapping) Co. P. Ltd, ISBN 99933-564-0-9.

to tap the hydropower potential of the Mahakali (Sarada as it is called in India) India envisaged a 120 MW hydroelectric plant at Tanakpur in India upstream of Banbasa barrage by diverting one of the channels of the Mahakali River falling within the Indian territory on the bed of the river. Because of the braided nature of the river what one country does in its part of the territory effects on other part of the territory.

When India started survey works on the river course, Nepal raised this issue at the secretary-level meeting of the two countries held on 19–24 April 1983. In the meeting, the Nepali side enquired about the construction of a hydropower scheme being considered by India on Mahakali River and expressed its concern about possible submergence and other adverse effects due to this project in the Nepalese territory. The Indian response was that India was investigating a run-of-the-river scheme for hydroelectric generation at Tanakpur and assured that in case of such probability India will consult the Nepali government before any work is started. Subsequently, on 19-20 September 1984 another round of secretary-level talks were held on water resources cooperation between the two countries. During the talks, the Nepali side took the position that the land exchanged in 1920 for the specific purpose of construction of the Sarada barrage project if to be used for any other purpose, consultation with Nepal has to be made. Nepal asked for details of the proposed project. India to the contrary of its position in 1983 stated that the project was being planned to be constructed in the Indian territory. The land was swapped in full sovereignty and hence the question of consultation does not arise. However, it assured that no adverse effects would be caused and that necessary technical data and information would be provided.

The planning and construction of Tanakpur power project went unabated. In the mean time, the construction activities on the east bank of the river diverted the flow to the Nepali side,

which started to submerge and erode Nepali territory. Several letters were written to India, expressing and objecting such unilateral action that were being carried out in total defiance of international law and principles and the friendly relationship between the two countries. At the secretary-level meeting on 20-22 December 1987, Nepal also asserted for the first time that Mahakali River being a common border river, both the countries are entitled equally to the use of resources of that river. It also said that the construction of Tanakpur barrage would not entitle India for claim of more than 50 per cent of the water by way of its prior use. India maintained at that meeting that Tanakpur power project was not a consumptive use of water and any formula of sharing was not a settled matter. India maintained lip service to the concerns of Nepal and continued its work.[10]

The protracted negotiation/discussion, exchange of information and the action of the parties while the project was being constructed, reveal that Nepal first showed concern on the effects that the project is going to have on Nepal. Afterwards, it claimed its right on water. It also showed apprehension that India might repudiate the Banbasa barrage and connect the tailrace of the Tanakpur power project directly to the Sarada Canal leaving Nepali irrigation scheme high and dry. As the works on Tanakpur progressed and India asked permission to tie the Afflux Bund of Tanakpur Barrage, which meant to divert water to the Tanakpur power house, Nepal demanded certain quantum of power and water for irrigation in lieu of the land to be made available for tying-up the left afflux bund of the Tanakpur barrage. India, on the other hand, from the very start of the project showed its might,

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[10] Since 1983 onwards till 1991 when a MOU was agreed between the two countries during the visit of the Prime Minister of Nepal to India about 50 written communications were made between the two countries on the construction of the Tanakpur Power Project. These records are kept in the Ministry of Water Resources of the Government of Nepal.

started unilateral action, negated the interest, concerns and rights of Nepal, and when the Tanakpur barrage was completed, it took the stand that the barrage was already an established fact – a fait accompli – and wanted others to accept it. From the very beginning of the project, India seems to have taken the approach that somehow or the other it would be able to make Nepal agree on giving a piece of land for the tying up of the left afflux bund when it would be necessary towards the end of the completion of the Project. However, diplomacy is not muscle flexing in public. It is soft and to a greater extent requires the ability to make the others agree to one's views without any hard feeling. Indian strategy did work. The Nepali prime minister's visit to India brought this opportunity to India. During the visit, the second meeting of the joint commission between Nepal and India[11] was held and decisions were taken on several matters including the demand of India to tie up the Afflux bund of Tanakpur to the high land point in Nepali territory. This decision was made public through a joint statement issued after the visit of the prime minister. The full text of the decision, said to be the memorandum of understanding (MOU), was made public by a notification in the Nepal Gazette.[12]

The MOU recorded that 2.5 hectares of land shall be made available to India for tying up of the Left Afflux bund to the high ground in the Nepali side at EL 250. India is to construct a head regulator of 1,000 cusecs capacity near the left under sluice of the Tanakpur Barrage as the canal up to Nepal-India border for the supply of up to 150 cusecs of water and irrigate about

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[11] The joint commission between the two countries was established on 20 June 1987 by an agreement. For the text of the agreement, see A. S. Bhasin (ed), Nepal's Relations with India and China, Volume 2, Delhi: Siba Exim Pvt. Ltd., p. 1224, ISBN 81-86225-09-9.

[12] Ibid p. 1252.

4000-5000 hectares of land in the Nepali territory. It was also said that the release of water would be increased as and when any storage project such as would be constructed. As a good will gesture India also agreed to provide 10 million kWhr of energy annually free of cost. This MOU created furor in the country. Not only the opposition political party but also the general public and the intelligentsia of the country at large came out heavily against this so-called MOU.[13] A writ petition was filed in the Supreme Court challenging the validity of the MOU under the constitution of Nepal. The writ petition pleaded that the MOU is a treaty and that under the constitution of Nepal, a treaty for the sharing (distribution) of the natural resources or its use and which is of pervasive, long term and serious nature needs to be ratified by the two-thirds majority of the joint session of parliament. As the MOU has not been ratified, it cannot be applicable.[14] The government defended in the court that the MOU is not a treaty and hence its ratification was not needed under the constitution.[15]

Against the backdrop of the stiff opposition that the government was facing from everywhere, it renegotiated the MOU during the visit of the then Indian Prime Minister Narasimha Rao on 19-20 October 1992 while the issue was sub judice. A joint communiqué was issued after the visit, which recorded the decision reached during the negotiation. The renegotiation yielded 10 more million units of electricity to Nepal. It delinked the Tanakpur power project from future negotiation on the storage

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[13] Ninu Chapagai, op. cit., records opinions of experts, court records, resolutions of the political parties, the opinions of civil societies etc in Nepali and English languages.

[14] His Majesty's Government. 1992. The Constitution of Nepal, 1990. Kathmandu: Ministry of Law and Justice.

[15] Ninu Chapagai, op. cit.

project upstream. It also clarified that the land given for tying the left afflux bund of the barrage at Tanakpur would remain in the full sovereignty of Nepal.[16] However, this did not pacify the opposition. On 15 December 1992, the Supreme Court decided that the MOU was indeed a treaty and not just an "understanding" and that it needed to be ratified by the parliament. It, however, skirted the issue as to whether it is of pervasive, long-term and serious nature, and left the issue to be decided by the parliament.[17] Subsequent to the decision of the Supreme Court, the government attempted to prove that the MOU is not of extensive, serious and long-term nature and that it can be passed by simple majority of the parliament as provided in the constitution. It set up a Commission consisting of its supporters for studying the MOU and making recommendation to the government as to whether it needed simple majority or a two-thirds majority in the parliament. As was preconceived, the Commission recommended that the MOU could be ratified by a simple majority in the house since it was not of extensive, serious and long-term nature. As the government had the simple majority in the parliament, its move was understandable. However, owing to the opposition faced by the government against the treaty within its own party and outside it did not venture to place this in the parliament for ratification. It remained hung in a limbo.

The general critiques of the Tanakpur MOU may be summarized in brief:

(a) It is a treaty, which is not applicable without ratification under the Constitution of Nepal

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[16] Ibid.

[17] Ibid. The Court proceedings and the documents relating to the Writ Petition is collected in a book form entitled "Tanakpur from the beginning to the end" (Tanakpur shuru dekhi Antya Samma). Kathmandu: Pairabi Pustak Bhandar.

(b) The treaty compromises the sovereignty of the nation

(c) Being a border river, Nepal has 50 per cent share in the water of the Mahakali River

(d) The energy generated from the Tanakpur hydro plant should be shared equitably between Nepal and India

(e) Nepal should be compensated in full for the loss of land and property due to the erosion of the eastern bank of the Mahakali River in Nepali territory.

The Tanakpur debacle started due to the utter disregard of legitimate concerns of Nepal. In the first place, as the river is braded in that area where the barrage is constructed, and meanders along the borders of the two countries, and is likely to affect the Nepali territory adversely, it was the duty of India under international law to consult Nepal before starting any project in that part of the river and enter into negotiation for its equitable utilization.[18] Nepal had also made a claim that the territory that was swapped between the two countries for a specific purpose of the construction of Sarada barrage could not be utilized for other purpose without consulting Nepal.[19] As a matter of fact, India had shown its willingness to consult Nepal in the beginning.[20]

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[18] Article XX1X of the Helisinki Rules of the International Law Association, 1966. Article 12 of the UN convention on the Law of the Non- Navigational Uses of International Watercourses, 21 May 1997. International Watercourses Law for the 21st century. Edited by Surya P. Subedi ASGHATE, ISBN 0 7546 4527 4; For an elaborate discussion of the subject see International Water Law – Selected writings of Professor Charles B. Bourne, editor Patricia Wouters, Chapter 6 pp. 143-175.

[19] Minutes of the Secretary level meeting between the two countries 19-20 September 1984. Records in the Ministry of Water Resources, Government of Nepal.

[20] Minutes of the Secretary level meeting between the two countries on water resource, 19-24 April 1983. Records in the Ministry of Water Resources, Government of Nepal.

However, it backed out from its own commitment and moved ahead unilaterally to construct the project, and also started maintaining that the territory that was swapped in 1920 had been exchanged in full sovereignty and notwithstanding the immediate purpose; nothing precludes the Government of India to put that territory into any other use.[21] From this point on, the discussion and several exchanges of letters between the two countries seem to focus on the issue of adverse effect on the Nepali territory rather than the legitimacy of the construction of the barrage itself. As the Banbasa Barrage had already outlived its technical life there was legitimate concern of the Nepali side, particularly on the background of the experience of recalcitrant behavior of India. It was feared that India might connect the tailrace water to Sarada Canal in the Indian territory by itself abandoning the Banbasa Barrage and thereby depriving Nepal even of the water that it was drawing from the barrage. The Nepali government raised its concerns. The Indian side agreed that the tailrace would be connected to Mahakali River upstream of the Banbasa Barrage. Indian side also resolved to take all the requisite measures to prevent submergence of the Nepali territory due to the construction and operation of Tanakpur Barrage.[22]

The execution of a project in a country without the consent of the other country in which the damage is caused by backing and impoundment of water may be taken as encroachment of the territorial integrity of that country and may involve state responsibility. An analogy may be drawn from the best-known international decision relevant to the subject – the decision of the tribunal on the Trail Smelter Arbitration case. Although the

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[21] Ibid.

[22] Minutes of the Secretary level meeting between the two countries on water resources 1987. Records in the Ministry of Water Resources. Government of Nepal.

case was drawn to the Tribunal due to the damage caused to the United States by the smelter factory in Canada it could equally be applicable in case where the water is used in such a manner which causes injury to the other State. In the decision the tribunal stated, "No State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another country."[23] In the same way in its advisory opinion the International Court of Justice (ICJ) in the case of the Legality of the Threat or Use of Nuclear weapons, stated: "The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other states or of other areas beyond national control is a part of the corpus of international law relating to the environment."[24] Analogy may be made that the court would not have said anything different if it had been confronted with the issue of the use of the border river by one of the riparian state. As a matter of fact, in a case between Hungry and Slovakia concerning the Gbacikovo-Nagymaroas Project, the ICJ ruled that the unilateral diversion of Danube which deprived Hungary of its "rightful Part" in the shared water resources and exploited essentially for its own benefit.[25] Hence it is clear that India did act in defiance of rules of international law. However, nothing could be done. Tanakpur became a reality. India was using the water of Mahakali. The left afflux bund was completed and Nepal could do nothing but simply watch. The MOU remained in limbo.

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[23] American Journal of International Law. 684, 716 (1941).

[24] Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, ICJ Reports 1996, pp. 241-242, para.29.

[25] The ICJ decision could be found in http://www.icj.cij.org/icjwww/idocket/ihsjudgement/ihs_ijudgment_970925.html.

Integrated approach to Mahakali

In 1994, the Government failed at the floor of the house because of the abstention of some of the members of the ruling party during a voting on the government policy. The second largest party in the parliament, the Communist Party of Nepal-Unified Marxist-Leninist (CPN-UML) formed the government. The new government started to show its performance and naturally the Tanakpur issue being of high importance to the nation came under consideration of the government. Several meetings of the concerned experts in the presence of the minister for water resources and the deputy prime minister were held. Options were looked at. Due to the Tanakpur debacle the relationship between the two countries was on irritant path. This situation had the potential of further disturbing the relationship and leading it to an acrimonious path even at the people's level, if it were to be left as it was. Both the countries could not simply afford to remain locked-up in Tanakpur. The nature of the basin and the geography compels these countries to come to some sort of solution, if they are to conserve and exploit water resources for the benefit of their peoples. It was in one of those internal meetings that the Deputy Prime Minister told this author who was at that time the secretary in the Ministry of Water Resources – 'why not we think out of the box and look at the whole issue in a broader context and see what can be done.' It hit my conscience. Back to my residence that day and to my library after supper, reflections of that day's meeting came to my mind. The words of the Deputy Prime Minister were haunting me. I had been first an apprentice and then a legal advisor later in the Ministry of Law and Justice, and had been experiencing negotiation for more than a decade. The wise words of William Ury, "Inventing options for mutual gain is a negotiator's single greatest opportunity",[26] came to

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[26] William Ury. 1993. Getting Past No: Negotiating Your Way from Confrontation to Cooperation. New York: Bentam Books, p. 19.

my mind. I asked myself why don't we put everything that is of our interest in the Mahakali River together and see what emerges.

In the following days, several internal meetings were held along that path among the high-ranking officers before we came out with a preliminary sketch of the draft agreement on the several points.[27] It is a distortion of history, a wrong assessment of the fact and a depiction of inferiority to say that the so-called "Mahakali Package" was developed ostensibly after receiving signal from the Communist Party of India (Marxist).[28] Apparently, there were two schools of thoughts even among the government experts from the very beginning. Some thought that we should negotiate the Tanakpur Project only, and that negotiating the whole river would be a folly because this would be rather too complex a subject for us to handle. The second school of thought suggested that this is the time to move forward and make an understanding on Pancheshwar project which was being separately studied by Nepal and India. This was the time when India could be brought to some discipline on the use of this river. There was yet another school of thought shared mostly by some experts outside the government, who were known for their critiques on government actions and didn't believe in building big dams and exporting power to India. It was clear that they would criticize anything that would be negotiated.[29]

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[27] Among the several drafts that were prepared in the Ministry at various stages for in-house discussions one of the drafts is given in Annex 11, p. 393 in Dwarika N. Dhungel and S.B. Pun (eds.). 2009. The Nepal-India Water Resources Relationship: Challenges. The Netherlands: Springer.

[28] Dipak Gyawali and Ajaya Dixit, "Mahakali Impasse and Indo Nepal water conflict" in Economic and Political Weekly, 27 February 1998, p. 557.

[29] Dipak Gyawali, "What shall be the long-term effect of Mhakali Treaty?" (Ke hunechan Mahakali Sandhi ka durgami asharharu?) – An article in Nepali language in the monthly Nepali language magazine Mulyankan No. 42, October-November 1997, p. 35.

Obviously, being a believer of the second school of thought, I worked for it all through the period that I served in the Ministry of Water Resources. However, at the behest of the first school of thought and the insistence of some of the high level politicians in the ruling party, we had prepared a separate draft agreement on Tanakpur project exclusively which was latter abandoned due to its lack of vision to take a wider view and prospects of development of the Mahakali River. During the visit of the Prime Minister Manmohan Adhikari to India, we did try to resolve the Tanakpur issue. However, due to the differences on the very basics of the issue such as principle of sharing the benefits, future developments upstream of the Project etc, we were not successful in making any headway. I was transferred to the newly set up Ministry of Population and Environment and my association with the Mahakali negotiation ended till I was again asked to join the team for negotiations.

If one looks at the negotiations and makes an assessment of the strides made by Nepali experts and team of negotiators one can clearly find the underlying skill and theory of negotiation that has been applied in reaching a deal, which is satisfactory to both the parties and has all the potential for bringing equitable benefits to both the countries. The design of the negotiation was based on the strategy of putting everything in one basket, taking a broader view of the subject, increasing the size of the pie, eliminating the irritants, preparing a vision, negotiation within the negotiating team of experts and other stakeholders in the parliament etc. The strategy that was followed by the Nepali experts contended elements such as preparation of our draft and working on it, understanding the susceptibilities and responding to the risks, gaining from the experience, playing with words and mastering drafting skills, striking a compromise, and commanding facts etc. The premise that the negotiating team worked on was that India is a partner; Tankapur is a reality and the immense future lies ahead for joint development of water resources. The

strategy paid back. We could make the deal. Obviously, the result was that the country got out of the locked-up situation, it helped build confidence among the partners and Nepal could get a best possible deal. Prof. S. P. Subedi rightly concluded after analyzing the pros and cons of the treaty:

> India ignored Nepal's rights when unilaterally constructing the Tanakpur barrage in the first place. The unilateral construction of the barrage on a border river by India was against the principles of international law. But this time, this treaty aims to meet the interests of both the countries on an equal footing in most cases. Modern day diplomacy is always about 'give and take.' No nation can move forward if it expects only gains without being prepared to allow for gains to the other side too. There appears to be significant benefits to be gained by Nepal from the implementation of the Pancheshwar Project, which will at the same time give huge benefits to India because it is lower riparian state, because Nepal has limited ability to utilize the water resources on her own, ... because Nepal has only one ready buyer of its surplus energy, India.[30]

Although lot of effort has gone into the making and concluding of the treaty, it is a pity that even after the lapse of more than a decade no progress has taken place. The view that this Treaty is a total sell-out (kanyadan) and a wrongful act still looms large in Nepal in the mind of the people who had been opposing the Treaty from the very beginning.[31] Some political leaders

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[30] Surya P. Subedi, "Dynamics of Foreign Policy and Law – A study of Indo-Nepal Relations", New Delhi: Oxford University Press, ISBN 019 5672011 pp. 147-148.

[31] Dipak Gyawali, What are the defects of the Mahakali Treaty? (Ke ke chan doshharu Mahakali Sandhi ma), an article in the monthly Nepali language Magazine - Mulyankan, Nov-Dec Issue 41 p. 39.

and their followers still have apprehensions about the Treaty.[32] It seems that there is a deep-seated belief that the Treaty compromises the rights of Nepal in favor of India. In this context it would be worthwhile to make an attempt to interpret, elucidate and diagnose the provisions of the Treaty and examine whether the Treaty is a sell-out of Nepali interest and whether it should be reviewed at all.

The Salient features of the Mahakali Treaty are:

(a) First it gives some background of the treaty particularly of the letter of exchange on Sarada Barrage and the decision of the Joint Commission[33] on Tanakpur Barrage and the Joint Communiqué issued during the visit of the Prime Minister of India on 21 October 1992. (Preamble of the treaty),

(b) Second, it includes the provision of the supply of water under the Sarada Barrage agreement of 1920 with some improvements on that. The Sarada Barrage has already outlived its life and there was a suspicion that India would not maintain the barrage because it has the option of connecting the tailrace of the Tanakpur Power Station directly to the Sarada Canal. Therefore, it was made obligatory to maintain the river flow below the Sarada Barrage in such a way that the water from the tailrace of the Tanakpur power is flowed again in the river upstream of the barrage. Besides, it was also insured that in case the Sarada Barrage becomes non-functional the water that is currently being supplied to Nepal from the barrage is to be supplied through the Tanakpur Barrage. Such a supply of water is to be in addition to what is agreed for the Tanakpur Barrage. (Article 1),

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[32] Himalaya Times11/2/2009 http://www.himalyatimes.com.np

[33] Ibid.

(c) Nepal is to get 28.35m3/s of water in the wet season and 8.5m3/s in the dry season from the Tanakpur Barrage in lieu of the land made available to India for the tying up of the left afflux bund of the barrage. Besides, in the Tanakpur Power if there is going to be an increase in the power output that is to be shared between Nepal and India (Article 2),

(d) Principles of the design and implementation of the Pancheshwar Project have been laid out (Article 3),

(e) Special provision for the supply of water to Dodhara and Chandani VDC (Article 4),

(f) Nepal's water requirements are to be given prime consideration (Article 5),

(g) No projects of any kind is to be constructed even in the tributaries of Mhakali which shall diminish the level and flow of the Mahakali River (Articles 6, 7 and 8),

(h) Constitution of Mahakali Commission to suggest measures for the conservation and utilization of the river as also to coordinate and monitor the implementation of the provisions of the treaty (Article 9) and lastly,

(i) Procedures for the settlement of difference or disputes arising out of the treaty (Article11).

Controversies on the Mahakali Treaty

It is a pity in the Nepali history that Mahakali Treaty was born amid controversies and has remained so although its purpose was to solve the controversy of Tanakpur debacle, and take the cooperation of the two countries on water to a new height. In continuum to the Tanakpur debacle, the controversy started right after the conclusion of the treaty. When the treaty was placed for

ratification in parliament, the main opposition party had reservations and asked for clarification in the treaty on various issues like define the Mahakali as a border river; half of the water of Mahakali belongs to Nepal; fixation and export of energy belonging to Nepal should be done on the basis of avoided cost; solve the border dispute with India in the upper reaches of the Mahakali river within a fixed time frame etc.[34] Attempts were made to sort out difference of opinions among major political parties through the exchange of letters between the Prime Minister and the leader of the main opposition party.[35] It is interesting to note that these exchanges of letters include issues of trade, transit, peace and friendship treaty etc between the two countries and seek the commitment of the government for pursuing these issues with India with a view of benefiting Nepal.

Not only that, the Government of Nepal wrote a letter on 10 September 1996 seeking the views of the Government of India on several issues including the Mahakali Treaty which was immediately responded to by the Indian ambassador on the same date saying that "it will be inappropriate for us to comment on any aspect since ratification is purely Nepal's internal affairs."[36] Having had several rounds of discussions for sorting out their differences, the political parties seemed to have reached an understanding that the various points raised by the opposition, and the response of the government be taken as a "national commitment", and a monitoring committee formed to guide the Nepali side implement the project with a view to fulfill those commitments. The treaty was finally passed by the joint session of par-

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[34] A compendium of the various documents relating to Mahakali Treaty published by the Ministry of Water Resources on 14 November 2006.

[35] Ibid.

[36] Ibid. pp. 95-97.

liament with a two-thirds majority on 20 September 1996. This was communicated by the Government of Nepal to the Embassy of India on 22 November 1996. In that communication, the setting up of a monitoring committee to guide the Nepali side was also mentioned.[37] The instrument of ratification was exchanged between the two countries on 4 June 1997 without any reservation.[38]

The whole process of ratification may be evaluated from various angles. First, it exposed an immature and to some extent inappropriate handling of Nepal's case, and relationship with India. It also depicted the confusion and lack of determination on policy issues and the objectives that the country is pursuing. Such confusion was specifically exposed in the case of water resources in general and Mahakali River in particular. Secondly, the records of the parliament showed that there was no sankalp prastav (Strictures of the Parliament) put to the house according to the Regulations of the House of Representative, 1992 prevailing at that time.

As a matter of fact, during the four days (11, 12, 14 and 16 September 1996) of deliberation, various points were made, opinions were expressed and finally a proposal for the setting up of a monitoring committee was presented by the Prime Minister at parliament. That proposal was passed by parliament and the ruling was made by the Speaker of parliament. It is wrong to say that a sankalp prastav was passed and the ratification was conditional.[39] Since no reservation has been attached to the exchange

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[37] Records in the Ministry of Water Resources.

[38] Tale of two treaties: Ganga and Mahakali Agreements and the Watercourses Convention, B.S. Chimni, p. 68 International Watercourses Law of the 21st Century Edited by Surya Subedi ASGATE Publishing Company, England, ISBN 0 7546 45274.

[39] Ibid.

of ratification, to any specific provision or interpretation of the provision of the treaty, it cannot be argued that the ratification was conditional.

In the case of a bilateral treaty, a proposed reservation is, in effect, a counter offer which other party can accept or reject.[40] If parties have differing views on the understanding of the meaning, and upon the application of certain provisions of the treaty, they may postpone the ratification, and start negotiation for that where both the parties understand the same.

In the case of the Mahakali Treaty, nothing of that sort was done; instead ratification was done without any explanation. Thus, all that has happened in the Nepali parliament, and among the political parties can only be treated as internal matter of Nepal. However, communications with India before and immediately after the ratification clearly showed that India was well aware of the issues. The utmost that can be said is that the communications between the two countries provided India a way to pre empt the future course of arguments that Nepali side would make while preparing the DPR of the Pancheshwar Project.

Aftermath of the conclusion of the Mahakali Treaty

The main task of the parties that was to be accomplished after the conclusion of the treaty was to prepare a Detail Project Report (DPR) of the Pancheshwar Project. Paragraph 3 of the letter exchanged between the two parties along with the treaty purports to complete the DPR within six months from the date of ratification. Both parties started the process. A joint office was established in Kathmandu. Some studies were also done for beefing up the prior studies, with the progress of which differences

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[40] D. J. Harris. 1998. Cases and Materials on International Law, fifth edition, London: Sweet and Maxwell, p. 789, ISBN 0421 53470 2Hb.

on the understanding of the provisions of the treaty arrived at the surface. The secretary-level meetings also tried in vein to resolve the differences. Such efforts have not produced any result so far. Without solving the difference, the DPR could not be completed. Hence, it was considered useless to continue with the joint office for the preparation of DPR and lastly it was closed. In the course of Mahakali debate in the parliament and in the various public discourses, some issues have been raised against the treaty, which deserve analysis in the light of the interpretation of the treaty and international law.

The status of the river and its implication

Paragraph 3 of the preamble of the treaty states, "Recognizing that the Mahakali River is a boundary river on major stretches (emphasis added) between the two countries." The criticism of this expression has been that Mahakali River is basically (emphasis added) a boundary river not on major stretch only. This was so debated that the issue of "Status of Mahakali River" was included in the terms of reference of the committee formed by the parliament to guide and monitor the safeguarding of the interest of Nepal.[41] The reason behind making this an issue seems to be that by asserting Mahakali as a border river would ensure the equal right i.e. 50 per cent of the water of the river. Such assertion seems to be erroneous in fact and in law. The border demarcation between Nepal and India has followed the principle of Fixed Boundary, unlike the principle of Thalweg or the Fluid boundary.[42] In the case of Mahakali, it serves as a boundary for large

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[41] A third party note in the form of letter by Ministry of Foreign Affairs, Government of Nepal to the Government of India dated 22 November 1996. Record of the Ministry of Foreign Affairs.

[42] Ibid.

distances between the two countries.[43] The fact that in 1920 some land was swapped between the two countries for the construction of Sharada Barrage on Mahakali River, and fixing of the fresh demarcation of the boundary in that part of the river also suggest that the Mahakali River does not form boundary all along its course. In reality at the place where the river has emerged out of the ridges in the mountains and started to flow on the plain land, the boundary between the two countries has been fixed on the ground, whereas in the mountains the reference pillars have been set along the two banks to determine the border on the channel of the river itself.

Hence, the fact on the ground has been reflected in the preamble of the treaty. It is to be borne in mind that Mahakali Treaty is not a boundary treaty, which defines the boundary between two countries. The agreement reached in this treaty with respect to the fact that water does not have any implication on the boundaries of the two countries. So far as the rights of the countries on the international watercourse are concerned, there is no separate law for contiguous rivers and successive rivers regarding their utilization. Whether the river is a border or contiguous, it has no significance in international law for defining the rights and obligations of the states sharing the water.[44] The UN Convention on the Non-navigational Uses of International Watercourses, of 21 May 1997 is not confined to a particular kind of river. Rather, it takes the broader view; uses the concept of "watercourse"; defines it as being a system of surface and ground water, which by virtue of its physical relationship forms a unitary whole and normally flows into a common terminus (Art. 2(a)).

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[43] Conflict and Cooperation in South Asia's international river Salman and Uprety. Washington: The World Bank, p. 97.

[44] Equitable utilization, Jerome Lipper, The Law of International Drainage Basin, in A. Garretson et. al (eds) p. 17.

According to the convention, the international watercourse means a watercourse, parts of which are situated in different states.[45] The Indian Foreign Minister's interpretation that to define Mahakali as a "border river" would have entitled Nepal half of all the benefits from all projects is not true, and it is equally untrue on the other hand that by simply stating the river is a border river on the major stretch would deprive Nepal of its rights under international law.[46]

The statement in the preamble that Mahakali River is a boundary river on major stretches would in no case give more right to India than what has been agreed upon in the treaty nor does it deprive Nepal of what is due to it. Under international law, the rights of the states on the watercourse are defined by the principle of equitable and reasonable use. The action of any watercourse state on its part of the international watercourse is to be vetted in the light of its equitability and reasonability. Article 5 of the UN convention on non-navigational use of watercourse establishes that right. The states in their respective territories have the right to utilize equitably and reasonably that portion of the international watercourse which falls within their territories. The principle of equitable and reasonable use has become the customary rule of international law, although the UN Convention 1997 has not yet come into effect for the want of necessary ratification. In its judgment to the case concerning the Gabacikovo-Nagymaros project between Hungary and Slovakia, the International Court of Justice declared: "equitable and reasonable sharing of the resources of an international watercourse is a basic right of the states."[47]

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45 Surya P. Subedi, op. cited, p. 296.

46 The Times of India, 30 January 1996.

47 Ibid.

It is worth mentioning that the UN Convention was passed on 21 May 1997 and four months later, the ICJ in its above judgment declared the equitable and reasonable share in the international watercourses as being the basic right of the states which is a clear proof of the UN Convention as reflective of the customary international law on the subject. A question associated to this right is the definition as to what is equitable and reasonable? How one is to ascertain what is equitable and reasonable? The question is valid. Unfortunately, the international law is not precise in this respect.

The UN convention, 1997 prescribed host of relevant factors to be taken into account to determine whether a particular use is equitable or reasonable. These factors were very wide and included hosts of related issues and facts such as the natural character of the resource, the needs of the states, population dependent upon it, existing and potential use, the availability of alternatives etc. In determining what is reasonable and equitable, all relevant factors are to be considered together and a conclusion should be reached. No factor is to get a preference over the other.

The principle of equitability and reasonability is to be judged in each case, on the basis of all the factors. This means that if an action of a watercourse state is put into question, it may be judged on the basis of several factors. However, international law encourages and leaves it to the states in order to negotiate between themselves. As a matter of fact, international law obliges the states to enter into consultation and negotiation in good faith with the spirit of cooperation for determining what is reasonable and equitable and to decide on should a need arise.

Hence, it is futile to make an issue on whether Mahakali is basically a border river or it is a border river on major stretches. Mentioning it in one or the other way neither deprives nor gives any right or privileges to either party, than what has been agreed in the treaty. Since, the Mahakali Treaty is not a border treaty, the

statement in the preamble does not have any implication on that respect too.

The Treaty Framework

It is true that Mahakali treaty is a framework treaty, which allows parties to negotiate the Pancheshwar and other projects on Mahakali River, on the basis of certain guidelines and principles. In the case of Banbasa Barrage and Tanakpur Hydroelectric Project, it is more of a project agreement than simply a framework. It equally carries forward the arrangements that were made in 1920 on Sarada barrage even after it becomes non-functional.

In case the Sarada barrage becomes non-functional, India is obliged under the treaty to continue the existing supply of water from the Tanakpur barrage. In the case of Tanakpur barrage, the treaty legitimatises the construction of the barrage. In fact, the treaty subsumes the memorandum of understanding reached between the two countries on Tanakpur project with certain amendments and makes it more beneficial to Nepal.

What was a good will gesture of India to Nepal has been enshrined as rights of Nepal in lieu of making available 2.9 hectares of Nepali land for the afflux bund.[48] Besides, the increase of energy from 20 million kWhr to 70 million kWhr is based on the calculation of the increment of power due to the pondage on the 2.9 hectare of land at the elevation of 250 meter although

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[48] Paragraph (iii) of the MOU on Tanakpur of December 1991 states, "In response to the request from Nepalese side, as a good will gesture the Indian side agreed to provide 10 MW of energy annually free of cost to Nepal is spite of the fact that this will add to a further loss in the availability of power to India from Tanakpur Power Station." This phrase was rephrased and put-up in Article 2 of the treaty as "In lieu of the eastern afflux bund of Tanakpur barrage, at Jimuwa thus constructed, Nepal shall have the right to...."

it has not been mentioned explicitly in the Treaty. The number that has been agreed was half of what increment the pondage contributes to the production of energy. This principle of making land available and getting half of the power increased due to the availability of land could be an example for future negotiation in other projects.

The Treaty also provides that arrangements would be made in the under sluice of the left bund of Tanakpur Barrage for the supply of additional water to Nepal as and when the situation arises. The regulators for the supply of water were to be under the joint operation of India and Nepal. The provision in Article 2 paragraph 3b to share the incremental power from the Tanakpur Power Station due to the augmented flow after the execution of Pancheshwar is yet another important principle of sharing downstream benefit in the case of augmented flow, which can provide a persuasive reference for future negotiations on water resources between the two countries.

Although the frame work of Mahakali Treaty prescribes some principles for the development of Pancheshwar, it is short of taking a broader view and limits the applicability of those principles to only those projects, which are included in the treaty and those which are to be developed at the place where the river forms boundary between the two countries.[49] However, this does not diminish the utility and rationale of this treaty. The treaty has not only integrated the otherwise fragmented agreements entered into for the utilization of the water of Mahakali river, but also prohibits the parties to use or divert more than 5 per cent of the average annual flow of the river for the use of local community, except by an agreement. This limitation is applicable to the tributaries of Mahakali also if any action would adversely affect

[49] Article 6 of the Mahakali Treaty.

the natural flow and level of the Mahakali river.[50] This provision compels the parties to come together and negotiate the future projects even though they would not necessarily be located at the place where the river forms the boundary. This indeed is a powerful basis not only for bringing the parties together but also restricting any recalcitrant behavior by either of them.

The treaty also provides room for setting up of a joint entity for the implementation of other projects and the Mahakali Commission for recommending the conservation and utilization of the Mahakali River as envisaged in the treaty, which broadens the scope of the nature of the treaty.

As a matter of fact, there are all kinds of treaties around the world, which have been concluded between the countries on international watercourse shared by the countries. Broadly speaking there are water apportionment treaties like Indo- Bangaladesh Ganges Treaty,[51] Nile Treaty between Egypt and Sudan,[52] Rio Grande Treaty between USA and Mexico[53] or a Treaty for joint development of shared waters such as Columbia River Treaty between USA and Canada,[54] Senegal River Treaty among Mali, Mauritania, Senegal and later joined by Guinea[55] or a frame work type of treaty like Boundary Waters Treaty between USA and Canada.[56]

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50 Article 7 and 8 of the Mahakali Treaty.

51 International Legal Materials vol. 36 (1997), p. 519.

52 United Nations Treaty Series, Vol. 4 53, p. 51.

53 United Nations Treaty Series, Vol. 3, p. 314.

54 United Nations Publication No ST/LEG/SER. B/12, p. 206.

55 United Nations Publication No. ST/ESA/141, p.16.

56 United Nations Publication No. ST/LEG/SER.B/12, p. 267.

In all these cases the overriding consideration is what works among the countries. International law neither prescribes a particular form of a treaty nor prohibits watercourse states to enter into agreement between two of them in relation to the entire river or a part thereof and the execution of a particular project on the shared river. The Mahakali Treaty carries with it a legacy of understanding and differences on the use of Mahakali River. The history of cooperation and benefit sharing on some projects, unending protracted negotiation on other projects, disenchantment with the implementation of agreements and geographical compulsions have contributed to the conclusion of the Mahakali treaty. Therefore, what works for any country may not work exactly for another country. The form is not important, what works is important. It is unfortunate that the Mahakali Treaty has not worked as yet. Therefore, the question arises, should or should not this work? or why should not this work?

The sharing of water under the Mahakali Treaty

The general public perception and even of some professionals is that as the Mahakali River is a border river, its water belongs to Nepal and India and they each have 50 per cent share on its water. The Mahakali Treaty in its Article 3 states: "Pancheshwar Multipurpose Project (herein after referred to as the Project) is to be constructed on a stretch of the Mahakali river, where it forms the boundary between the two countries and hence both the Parties agree that they have 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." Paragraph 3b of the letter exchanged between the two parties on the same day to give effect to the desires expressed by two governments states that the treaty precludes the claim, in any form, by either Party on the unutilized portion of the shares

of the waters of the Mahakali River of that Party without affecting the provision of the withdrawal of the respective shares of the water of the Mahakali River by each Party under this treaty. These provisions of the treaty have been the focus of criticism in Nepal. Various interpretations have been made of the treaty in general and this provision in particular. It is being viewed by some as compromise of the interest of Nepal[57] while others view it as a concession extracted by Nepal from India.[58]

Prof. B. S. Chimni saw this provision of the 'protection of consumptive use' along with the principle of 'equal entitlement on the water of the river' as a part of package deal between the parties. He explained that the provision in the treaty to give prime consideration to Nepali requirement under Article 5 is balanced by the protection of the existing consumptive use.[59] Prof. S.P. Subedi argued that by defining the equal rights of Nepal and India only on the water less than the amount already in use does not seem to be compatible with the principle of equality or equitable utilization with regard to the waters of the Mahakali River.[60] Salman and Upreti found the provision confusing in its application.[61] These criticisms, assessments and views need to be analyzed in the context of the fact on the ground and the negotiation between the two countries. First is the issue of the application of the principle of reasonable and equitable utilization.

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[57] Ibid. 31.

[58] R.R. Iyer "Conflict Resolution: Three River Treaties," Economic and Political Weekly, 12 June 1999, pp.1509-1519.

[59] Ibid. B.S. Chimni : A Tale of Two Treaties: The Ganga and the Mahakali Agreements and the Watercourses Convention, pp. 63-103.

[60] Ibid. p. 143.

[61] Ibid. p. 112.

Would that have been more beneficial to Nepal if it would have been included in the treaty as Prof. Subedi argues? Equitable utilization does not prescribe a precise formula and is highly indeterminate. Its application is to be made by taking into account many factors ranging from geographical situation to social and economic needs, availability of alternatives, cost involved, effects of uses on other watercourse states, conservation and, of course, the existing and planned uses etc. These factors are not inclusive and in a particular situation may include many more. In determining what is reasonable and equitable all the possible factors are to be taken into account and conclusions are to be reached on the basis of the whole.

The principle of equitable use justifies opposing claims from both sides without offering a resolution.[62] Each international watercourse is different than the other and has its own history and specific characteristics. Therefore, such a principle had it been included in the treaty would have simply put the parties to the starting point only and would have again required the parties to negotiate in the precise give and take terms. At the best the principle of reasonable and equitable use can provide a general guide to negotiate but what comes out of negotiation is the real outcome and needs to be followed in good faith. The principle of reasonable and equitable use can best be applicable in determining the legality of any use of the waters of an international watercourse in the situation where there is no agreement between the parties. In the case of agreement, it is the agreement that prevails. Equitability and reasonability is a normative concept and may be interpreted by different people variously. It could well be argued

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[62] A. Nollkaemper. 1996. "The Construction of the International Law Commission to International Water Law: Does it Reverse the fight from Substance?" Netherlands Yearbook of the International Law, Vol. XXVII, pp. 39-73

that the Mahakali Treaty is based on the principle of equitable and reasonable use.

The history of Mahakali Treaty has sufficient reasons to push both the parties to a negotiating table. The Sarada Barrage has outlived its life, and some alternatives are imperative to India even. The background that the fait accompli was committed by India by constructing the Tanakpur Barrage and the subsequent uprising of anti-Indian sentiments in Nepal would not have served any interest of India. Nepal on its part would not afford to have strained relationship with India either. To find some ways was imperative for the parties to come out of the situation. Without taking a broader vision, it was not simply possible to resolve the impasse. The integrated approach to the Mahakali River provided that opportunity.

This has certainly put together the Sarada Barrage, Tanakpur Project and Pancheshwar Project and seems to have made a package out of them. However, to conclude that the principle of equal entitlement balances the recognition of the existing use, and hence forms part of the package deal is a wrong assessment of the Mahakali Treaty.

The principle of equal entitlement in the water of the Mahakali River does not put any party in better position against other. It recognizes the equality of right. On the other hand, in the light of the fact that India has been using more water through the arrangements made in 1920, the recognition of the existing use certainly strengthens its legal position. In the absence of any quid pro quo there could be no deal. Any treaty is a deal between the parties, to the treaty. The Mahakali Treaty is a deal done in good faith. However, in the absence of any evidence of substance one principle could not be termed as forming a package of the deal. The provision of Article 5 of the treaty that Nepali requirements shall be given prime consideration is a restatement of the

already agreed matter between the two countries.[63] The insertion of this principle in the Mahakali Treaty is to give recognition to its application to other projects as well that could be developed in the Mahakali River.

The term equal entitlement seems to be confusing to many, if it is taken as a substitute for equitable and reasonable use or it may even sound hollow, if it is seen in the light of the equal sharing of the waters of the Mahakali River, particularly with its strong provision 'without prejudice to their respective existing consumptive use.' As a matter of fact, equal entitlement in the first part of the sentence recognizes the right of the two countries, and on the second part it also recognizes the fact that the water is being used for consumptive purposes by the parties at present in a certain ways since 1920 under an arrangement. The word entitlement is more of the right, whereas the existing consumptive use is the fact. The word 'without prejudice' saves the existing consumptive use and the arrangement made in 1920. The Mahakali Treaty in a way is the recognition and integration of the engagement of the two countries so far, and purports to lay down principles for the development of the Mahakali River.

The treaty does not define the existing consumptive use of water. All that it says is that the Parties have equal entitlement in the utilization of the waters of Mahakali River without prejudice to their respective existing consumptive uses. India has argued that its existing consumptive use includes not only what

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[63] An action plan was drawn between Nepal and India during the visit of Indian water resources minister to Nepal on 26-28 December 1993 to expedite the various activities including the preparation of DPR of Pancheshwar project. There were eight projects included in the Action Plan on which some work/study was being done jointly or separately with a view to have ultimately an agreement between the two countries. This principle was agreed between the two parties in the action plan. D. N. Dhungel and S. B. Pun, op. oit. p. 429.

it draws through Banabasa Barrage in its Sarada Canal but also the water that is diverted through the Lower Sarada Canal 160 km below deep into its territory after the river passes the Nepalese territory.[64] It argued that the Lower Sarada Canal gets water from the Karnali River called Ghagra in India. However, during the monsoon season when the water of the Karnali/Ghagra gets higher sediments and cannot be used the water of Mahakali with lower sediment is diverted to the Lower Sarada, and thus there is an existing use, which should also be recognized. Is this claim sustainable from the legal point of view? Was this the intention of the Parties when they negotiated the treaty? The Mahakali Treaty has a history of its own. There was already an engagement between the two countries in the use of this river through a letter of exchange in 1920, which resulted into the construction of barrage and diversion of water to India and Nepal. After the construction of Tanakpur Barrage, the two countries entered into another engagement through a MOU, which ran into troubled waters. For some period in time, Pancheshwar Project was being discussed between the Parties as the project to be built in the upstream of Tanakpur, where the river forms boundary between the two countries. Paragraph three of the preamble of the treaty recognizes that Mahakali River is a boundary river at major stretches. Immediately after such statement in paragraph three, the preamble in its paragraph four states that the two countries realize the desirability to enter into a treaty on the basis of equal partnership to define their obligation, and corresponding rights and duties thereto in regard to the waters of the Mahakali River. These provisions clearly depict the rationale of the Treaty which is based on the nature of the river. Had the river not been a border river, the shape of the treaty would have been different and perhaps there would not have been a need to enter into a treaty

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[64] The Kathmandu Post, 1 December 1997.

on the basis of equal partnership. The treaty conducted for the integrated development of Mahakali River, and according to Article 6 of the treaty, the principles of the treaty are to be applied in projects which are to be located at the place where the river is a boundary river. The treaty has looked into the existing arrangements i.e. the Sarada Barrage, the Tanakpur Barrage and the Pancheshwar Project, which is yet to be constructed and has tried to integrate all these three components.

It has also tried to prescribe some norms for the future actions in the river. Because of the nature of the river in which the interest of the countries is intimately interlinked such norms were necessary. As the interests of two countries were not interlinked in the lower Sarada Canal, it was not discussed ever before during any talks between the two countries. It cannot be imagined that the treaty provisions extend deep into the Indian territory - 160 km away from the border of Nepal. Nepal and India have been discussing water for many decades. Discussions are held on specific projects and issues. Lower Sarada has never been a subject of discussion. The background of the Mahakali Treaty reveals that numerous written communications were made between the two countries concerning Tanakpur Power Project and the Sarada barrage and nowhere does lower Sarada figured in the communications. The provisions that were made in India in the lower Sarada Canal were never discussed between the two countries for it was not deemed necessary by India. Nepal on its part had no knowledge about such use till it was suddenly put forward by India. Moreover, the river which flows after the border of the two countries is not the Mahakali River. If we consider and include 160 km part of that water flow within India as being a Mahakali River, it shall no more remains a border river on major stretch as defined and dealt with in the treaty. What flows in India is Sarada River not Mahakali River. Nepal does not have any control on what happens there, how the river flows, which tributaries join

the river, how much water is being used, what kind of consumptive use is being made, what kind of structure have been made etc. A treaty can only be made on things about which the parties have knowledge. How can Nepal or any party make a treaty on a subject about which it does not have the knowledge? Pacta Sunt Servanda i.e. good faith is the basis of any treaty. Consent of the parties on any subject cannot be received without revealing and discussing the subject matter. If the Indian claim is entertained, there shall be theoretically no water to share. Why only Lower Sarada? Why not other uses too be made a part of the Indian claim? Moreover, the treaty deals with water apportionment after the execution of the Pancheshwar Project. Such regulated water must be seen as different than the unregulated water. Therefore, the Indian argument is not sustainable in regard to the intention of the Parties and the construction of the Mahakali Treaty.

On the hindsight one may argue that the lack of precise mentioning of the amount of water as "existing consumptive use" is a greatest folly of the Mahakali Treaty. However, the framework of the treaty envisages that the DPR of the project is yet to be prepared and the precise numbers would have to be put after the study is jointly prepared and agreed. This does not diminish the principle and the clear intention of the parties.

Let us have a look at the water flow in the river, and the existing consumptive use that is being made by the parties. According to the study done by consultant Morrison and Knudson Co. and later updated and revised by the joint study team of the two countries, the post-Pancheshwar water flow in the river would be in the average of 582m^3/sec at Pancheshwar and 726m^3/sec at Tanakpur.[65] Out of this water according to the treaty 10m^3/sec

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[65] Project Report with the Department of Electricity Development Prepared by Consultant Morrison and Knudson Co. and which has been updated by further studies.

is to be left in the river to flow for environment purpose. The remaining is to be shared between the two countries that is 358m^3/sec each to India and Nepal. The treaty provision requires that such a sharing is to be "without prejudice to the existing consumptive" use of the respective countries. Banabasa Barrage was built according to the letter of exchange made in 1920 between the two countries. The Banabasa Barrage has been diverting the water through Sarada Canal. Records show that India draws on an average 248m^3/sec of water though its canal capacity is of 326m^3/sec. whereas the withdrawal by Nepal as fixed in 1920 is 41m^3/sec. The term 'without prejudice' as used in the treaty demands that the equal entitlement is to be established without prejudicing i.e. affecting adversely the existing consumptive use of the parties. The numbers show that the amount of water that would fall in the share of India would be higher than what it is withdrawing at present in Banbasa and hence would not affect adversely.

Although there is a difference of opinion on the recognition of the existing consumptive use, it may perhaps be resolved by taking a broader and accommodative attitude. The water demand of Nepal for consumptive use is lower than that of India due to its limitation of land and the requirement of the population. In Nepal, the land which could be made irrigable from Kanchanpur all the way up to the Karnali River is 93,000 hectares plus for various other uses for which the water demand could be 128 m^3/sec even if calculated in a very liberal way. This is the point where there could be a trade-off between the two countries. As a matter of fact, the treaty has left room for such negotiation and that is the salient feature of any framework agreement such as Mahakali Treaty.

The treaty in its paragraph 3 of Article 3 provides that the cost of the Pancheshwar is to be borne by the Parties in proportion to the benefits accruing to it. The benefits such as power, irrigation, flood control etc. are to be put into account. The fact of

life is that the benefits of water can never be accounted because of its non-alternative character and the varied purposes for which it is used. Even for the accounting purpose if certain number is given to some uses and agreement is reached by the parties, one can not be sure that the future use could be limited to such a use only. Once the agreement is made and the water is shared there shall be little control of any other country on how a particular country would use its share of water. Moreover, paragraph 3b of the letter of exchange between the two countries made on the same date, when the agreement was signed provides an explanation that the treaty precludes the claim, in any form, by either Party on the unutilized portion of the shares of the waters of that Party without affecting the right of withdrawal of the shares of each party. This also gives an opportunity for India to use such portion of the share of water of Nepal which is not used by it till it is withdrawn. Therefore, it is in the interest of India to agree to pay the cost of the Pancheshwar Project in lieu of the water that it would be using as claimed in the Lower Sarada Canal command area and which is over and above the share of India. For the Nepali side, India may agree to pay less for the Project and still get sufficient water for its irrigation. Nepal would let the other party use some portion of its share and bear fewer amounts in the cost of the project. The share of the Nepali side minus the amount, which it would let India to use in its territory would be reserved in the river which it can withdraw anytime. These incentives alone are not clear but also the mechanism, which has been built in the treaty could be further strengthened while making the treaty for Pancheshwar Project. Any treaty of this nature is a compromise for mutual gain and so is the case here.

The cost and benefit sharing

The Mahakali Treaty has a unique feature that it lays down cer-

tain principles for the construction of the Pancheshwar Project. They are:

(a) The project is to be designed to produce maximum total net benefit,

(b) All the benefits such as power, irrigation, flood control etc. are to be assessed,

(c) Power stations of equal capacity are to be built on each side of the river. They are to be operated in an integrated manner and the power and energy is to be shared equally between the two countries,

(d) The cost of the project is to be borne by the parties in proportion to the benefits that would accrue to them,

(e) A portion of the energy belonging to Nepal shall be sold to India on a price as would be mutually agreed between the two parties. Pancheshwar Project is a multipurpose project which would generate power/energy and also would irrigate the vast amount of land in India about 1.6 million ha. and some land 93000 ha[66] in Nepal. It shall also control the flood.

All these benefits are to be calculated in a way that the best mix of the various uses which could produce the maximum total net benefit is selected. The letter exchanged between the countries along with the treaty explained the methodology to calculate the benefit. The power benefit is to be calculated, according to the saving in the cost to the beneficiaries as compared to the relevant alternatives. The issue of discussion could be what are the relevant alternatives? The simple and plain meaning would be that the alternative to any hydro-power plant is the coal or gas based or combined cycle power plant. In the case of power the calculation of the savings would not only have effect on the calculation of

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[66] Ibid.

benefit but also in setting-up the price of the energy to be sold to India. The methodology for assessing the irrigation benefit has been prescribed as the incremental benefits due to augmentation of flow. Similarly, the flood benefits are to be calculated on the basis of works saved and damage avoided. These methodologies are prescribed knowingly that the benefits of the project are going to extend to both the countries asymmetrically. If the benefit of the project is to be shared equitably, which is the basis of the treaty it is important that the cost of the project is to be shared according to the benefit. In this sense it could be said that the treaty is fair in its construction.

The implementation of the Mahakali Treaty

The Mahakali Treaty could be said to have three parts. The first part of the treaty deals with the Banbasa Barrage. This part of the treaty has been already in force. In fact, it was the reiteration of what was done in 1920. The Second part deals with the Tanakpur power project. The third part is the Pancheshwar Project and the general provisions for the future conservation and development of the Mahakali River. The second part of the treaty was to be implemented immediately. However, this part has been only partially implemented. The committed energy is being supplied whereas the water for irrigation has not been supplied yet, partly because of the non-construction of the canal required to supply water to Nepal, and partly because of the disagreement on the fixing of the sill level of the Tanakpur Barrage for such supply. Article 2.2a of the Mahakali Treaty provides that India shall construct the head regulator(s) near the left under-sluice of the Tanakpur Barrage and also the waterways of the required capacity up to the Nepal border. Such head regulators are to be operated jointly. India withdraws the Mahakali waters from the Tanakpur Barrage at EL 241 metres whereas for the supply of

water to Nepal it provided unilaterally an inlet at the level of El 245 meter. This means that the water to Nepal would not be available until the water to Tankapur is not supplied. This is again a recalcitrant behavior of India, which goes against the letter, and spirit of the treaty.[67] According to the preamble of the treaty, the purpose of the treaty is to strengthen the relationship of friendship and close neighborliness between the two countries. This spirit certainly does not support a recalcitrant behavior by one party against the other party. Moreover, Article 5 of the treaty clearly provides that water requirements of Nepal shall be given prime consideration in the utilization of the waters of Mahakali. This provision obligates that India should be prepared even to lower the sill level of the regulator supplying water to Nepal than to India through the Tanakpur Barrage. The provision of Article 5 of the Mahakali Treaty is not a hollow statement as Prof. Subedi concluded. [68]

Such provisions clearly come to help Nepal in this kind of situation. It is a common sense that a construction which is solely meant for Nepal should have been constructed in consultation with Nepal. It is to be taken in mind that the regulators are to be operated jointly by the two countries according to the treaty and hence it is presumed that their construction would have been supervised by both the countries. On the contrary, India constructed the inlet unilaterally to the disadvantage of Nepal. The negotiation on water between the two countries has unfortunately been fraught with distrust a sense of inequity. The fait accompli has been the usual course of action due because of the advantage of being superior in many ways. Superiority on the contrary

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[67] For a detailed discussion on the subject, see S. B. Pun. 2009. "Tanakpur Barrage-Thirteen Year Saga of the Nepal Canal Sill Level", Hydro Nepal Issue, No. 5 July.

[68] Ibid. p. 134.

should have led to benevolence and humility. Unfortunately, what is good at the level of the people is not the same at the level of politics. This is the reason that the opportunities have been lost to the disadvantage of the millions of people of the region.

Article 4 of the Mahakali Treaty provides that India shall supply $10m^3/s$ of water for the irrigation of Dodhara and Chandani area of the Nepalese territory. The supply of water as per the treaty has not been made. The Indian argument has been that it shall be made available only when the Pancheshwar Project is materializes. This is again a misinterpretation of the treaty. The Pancheshwar Project is to be executed after the DPR is prepared and agreed upon by the parties. Such supply of water is independent of Pancheshwar. The treaty provision does not make it contingent upon the execution of the Pancheshwar project. At this juncture again one may take recourse to Article 5.1 which provides for prime consideration to Nepalese requirements. There is no reason for not being able to supply the committed water by India. If the parties thought to make it contingent upon the execution of Pancheshwar, they would have said it in the treaty.

Conclusion

The above analysis clearly shows that the Mahakali Treaty has been a landmark in the pursuit of building cooperation between Nepal and India on the development of water resources, which they share. It is not to say, however, that the treaty is the best and there is no room for improvement. A treaty may be drawn in various ways and its wordings may differ even to convey the same meaning. There would always be a room for interpretation particularly if a party does not want to understand the intention of the other party and the plain meaning of the words. That, however, does not diminish the importance of the treaty and the goal it wants to achieve. In fact, the Mahakali Treaty in many ways sets

an example of negotiation with a broader vision and for better gains. An honest and expeditious execution of the Pancheshwar Project would certainly usher a new era of hope and confidence that has been lacking between the two countries. There is nothing to lose except gains by the two countries. This treaty has also made a precedent in the history of cooperation on water resources between the two countries. In this bid, certainly the principles of international law on shared water resources have been a guide to reach an equitable solution to which both the countries can live with without any feelings of betrayal. However, the opportunity that has been provided by the framework treaty needs to be utilized through honest negotiation on DPR and its finalization and the execution of the Pancheshwar Project. The trust could be built through an earnest implementation of the works and fulfillment of commitment made in the treaty for things other than the preparation of DPR.

Excerpt of the proceedings

Welcome address by **Dr. Pushpa Adhikari**: Negotiations on water resources involving Nepal have never been free of controversy. Many of us have been talking about not receiving a fair deal and India draining our resources from us for its own benefit. India has been accused of taking advantage of Nepal's vulnerabilities in many of the existing agreements between the two countries. This is because the people of Nepal have been getting far less benefit from joint projects than the people of India. On the other hand, India has been claiming that it has the right to use the resource according to its needs, and the need encompasses unlimited socio-economic requirements of the country. These controversies have led to a very slow development in the water sector.

The seminar is not aimed at adding fuel to the fire but to provide clarifications and to help create a national consensus on issues that need to be taken up at the regional and international levels.

Session I

Chair: Prof. Sushil Pandey: The seminar aims to provide opportunity to the participants to share on an issue of vital national concern and a hotly debated one. Both politicians and the public are divided on the issue.

Secondly, to facilitate a range of perspectives on the issues involved in discussion so that a coherent and balanced perception comes out. Has Nepal been cheated as in other past treaties? This would help make the necessary modifications in the treaty.

This is also related with how we go about dealing with others regarding the use of our natural resources. It involves our sovereignty. And there are technical issues involved. Water resource has multidimensional uses-irrigation, transportation and the like. Do we benefit by exporting to India in the long run? What is the trade-off? How profitable is it to export in the face of widespread poverty and unemployment at home? How democratic and wise is it to export precious commodity in dirt cheap prices?

Thirdly, apart from electricity, what about the water that is flowing? How do we protect our needs? How will distribution be carried out if at all the federal structure is to be institutionalized? The upper riparians will have been deprived of the resource when dams are built to regulate the water. The lower riparians are likely to benefit.

Finally, when the treaty was signed Nepal had not adopted federalism. Hence, what will be the future of the Treaty? This is the billion dollar question.

Let me remind you that the Maoist 40 point-demand submitted to the then Deuba government had sought nullification of all treaties. They also sought for a government apology on the Tanakpur Treaty and its nullification including the Mahakali

Treaty. Today there is lack of consensus among the eight parties, the Kalapani border issue remains unsolved and the Tarai plains are being submerged by Indian construction of structures on the other side of the border.

Presentation by **Dipak Gyawali**:

Presentation by **Shanta Bahadur Pun**:

Discussion

Prof. Jitendra Dhoj Khand: I support the core conclusions of Dipak Gyawali. Mahakali is also one of the Mahalaxmis of Nepal. Therefore, the articles of the old constitution that he mentions should be discussed in public so that international cooperation on water resources can be had for the benefit of both countries.

Secondly, Pun mentions the 13 year banbas. Lord Ram went into banbas for 14 years. So we should wait for one more year for the banbas to end.

Shambhu Rana: What went wrong? We have heard about Mahakali for so long. Was the mistake made by the Indian or Nepali side? We do not have a negotiation strategy. Gyawali talked about the recent negotiations in Pokhara and Nepali officials say everything went fine in Pokhara. We need to build the negotiation skills and technique. We have not developed our market. The Indians would like us to be like the Bhutanese negotiators. When India comes to negotiate at such a time they will naturally benefit. And, there is infighting going on among the coalition partners. How can a coalition government negotiate such a huge national interest project?

Secondly, the World Bank has funded the Ganga project. Nepal has been cheated there as well.

What is Nepal's action plan? What are the alternatives

available? Are we waiting for China to come to our rescue?

Prof. Ram Kumar Dahal: Regarding the Bakassi Peninsula and the dispute between Nigeria and Cameroon, what can Nepal and India learn from it?

Dr. Gopal Pokhrel: Both the presenters are competent because of their previous positions in government. We never have had adequate homework before going to negotiate.

Since we live in an age of globalization, we also need to focus on integration- from independence to inter-dependence. Although we should not undermine our legitimate interests, the foregone conclusion is already here if we continue to depend on ad hocism every time. Why can't we do adequate homework?

Secondly, we have 10 hour blackouts and if we continue to sit idly our future is going to be bleaker.

We have three kinds of issues to deal with- protection related issues, norms related issues and promotion related issues. They need to be separated and pursued accordingly.

Let us not be pessimistic or extremist but we need to be pragmatic enough to be able to capitalize on the available options for a win-win situation. Ignoring the fact that India is a rising power will not help us.

Sangam Institute has done its job by letting us know the pros and cons of the Mahakali Treaty.

Dipak Gyawali's reply

Prof. Khand drew an interesting analogy. I think before turning Mahakali into a Mahalaxmi let us go through the Mahasarswoti of it.

The 13 and 14-year banbas analogy raise an issue, a serious one at that. We should be waiting for the constitution to be drafted so that it can deal with such vital issues. To carry out such

things today instead of doing it when the constitution is not even prepared is doing things what the parliament is not even authorized to do. In fact, while doing so they are sidestepping their task of drafting the constitution.

The first thing that went wrong with the Mahakali Treaty was that it was treated as a prestige issue by the political parties. We should have gone back to the drawing board to draft a new one. This has happened in other parts of the world. It took years for the United States and Canada to negotiate the Columbia River Treaty. The hurry here was that some Indian official would be here only until Sunday. You cannot negotiate that way. Once the mistake was made, instead of admitting it fancy figures of billions began floating around. We began talking about the billions we would be reaping instead of working on it.

The best example of what went wrong can be given with examples. Bharat Mohan Adhikari was going around saying that India was not going to benefit from the Mahakali Treaty just because some Indian told him so. How can a sahuji go around saying that he made so much money out of you? He would rather say that he is running into loss even after he makes a lot of money out of you. If you can't understand that much political economy even as a Marxist, then I am surprised.

The second problem is the change of guards. The whole lot involved in these issues has retired from the Ministry of Water Resources now. There is no corresponding capacity in the Ministry to deal with these larger issues.

The Water and Energy Commission is the only competent authority to carry out debates on such issues. But it has always been marginalized and bypassed for political expediency.

Recently, the Ministry of Water Resources was disbanded and two new ones set up in its place. It was done completely for wrong reasons – to provide jobs to their cadres. So India found

it convenient not to discuss the core water issues in Pokhara at a time when there was a vacuum on our side.

Regarding the Ganga and World Bank funding, one of the things we have said is that most donors are biased in favour of the downstream beneficiaries against the upstream riparian. In Nepal, there was a consensus among the dam builders, dam managers and dam critics to reject the strategic priorities of the World Commission on Dams on informing the downstream was rejected. It is our ministry that has not learnt the lesson.

Regarding Bhutan, the arguments are totally irrelevant. India does not benefit much by way of flood control because Bangladesh is the actual stakeholder here. Very little water can be used by India along the chicken-neck corridor even if it wants to. We have to be able to surrender our foreign policy and security to be like Bhutan? Are they willing to do that? Hence, it is completely an irrelevant issue.

WECS should be doing their homework. It began to be bypassed around 1985, first for Arun III and later others like Mahakali.

Mahakali has nothing to do with the load-shedding in Nepal. But we are talking of building projects, even transmission lines, to benefit India. This is distorting our priorities.

Shanta Bahadur Pun's reply

Regarding load-shedding, the Nepal Electricity Authority officials were recently in New Delhi to bring in about 20 MW from India for over 10 rupees a unit [6.20 Indian rupees]. One can argue that we are getting the power during dry season, so the high price is justified. But what are we paying our own developers: four Nepali rupees during the wet months and seven Nepali rupees during the dry season? We are doing nothing to the developers [to encourage them to produce to meet the demand short-

fall]. But we go to India's northern regions that are already said to have a shortfall of about 15,000 MW, and ask them for 20 MW. We should be thinking about ways to meet our own shortfall.

Regarding Bhutan's hydropower model, we need also to talk about politics. When 117,000 Bhutanese of Nepali origin were kicked out, and it has been 19 years now, there was no voice of protests from anywhere. But if something happens in our own Tarai plains, there is much hullaballoo. There is politics here.

The Uttar Pradesh 'water restructuring project' is going on with World Bank help amounting to billions of dollars. When we ask the Indians why they went ahead with the project without our consent, they tell us that the WB would contact us. The WB is therefore biased towards the lower riparian as Gyawali said. When we do the same with a tiny project, the Bank takes sides.

Regarding Bakassi, [it is a portrayal of big power versus small and] let me tell you that during the Itaiku hydro project negotiations the Brazilian minister is reported to have said that the Paraguayan minister was merely an ant staring at the big elephant. I am not saying that we go to the international court; I am only trying to show precedents.

But what I would like to say is that when two nations sit together negotiations should be fair.

Keshav Jha: Gyawali stressed the importance of initiating an honest national debate on Mahakali so that we can get a better deal for Nepal. But instead of wasting 13 years and getting nothing, and instead of negotiating to create more complications, we should wait for one more year for the constitution to come out as the coalition parties are not competent in protecting the interest of the Nepali.

Prof. Ananta Poudel: To Gyawali, Nepal possesses two per cent of the water resources of the world. What can we do to come out of this complicated problem? Meanwhile, water is flowing

down the Himalayas and we are going through the dark. What should be the strategy?

Hari Bansha Jha: To Pun, how could you equate the Bhutan case with the Tarai or the Madhesis? I think this is a serious issue.

Secondly, I take the two presentations to be the most misguided. For the last four decades we have been talking about being cheated. First, we said we were cheated on Koshi, then on Gandaki and then now on Mahakali as well? How long will we go on being cheated?

Ratna Sansar: Gyawali mentioned the billions that politicians like Prime Minister Madhav Nepal, and even Mr. Mahat, have been promising for Nepal. They say that Nepal will earn 45 billion dollars. But that is not true. I have calculated the figures. The total cost will be 111 billion of which 87 billion will be in debt 23 billion will be in equity. The internal rate of return of the 25 billion that Nepal will invest will give it six billion per annum in net profit. Nepal will earn six billion per annum, not 45. That is, if it invests. If Nepal cannot benefit, why invest at all. That is my question. We already have load-shedding to deal with. The NEA report says that it will take about 10 years [to get rid of the load-shedding]. By then the demand will be about 2,000 MW during the dry season. To have 2,000 MW during dry season we need to have an installed capacity of about 4,000 MW. At the moment we have 700 MW. So we need 3,300 MW more. If we have the money to invest in the 3,300 MW of Pancheswor, we should divert it to other projects so that in 10 year's time there is no more load-shedding. We should spend that money to mitigate our own load-shedding and not India's.

Our minister has been saying that we will not have any load-shedding in five years time. That is simply not true. In four years, the dry season demand will have gone up to 1,270 MW.

This means we need an installed capacity of at least 2,500 MW at least. We therefore need to add at least 1,800 MW to our existing capacity. So instead of ending our load-shedding in five years time, we are fated to have continued blackouts with the mindset that we have. The mindset is such that we say that we want to give Arun to this party, Seti to that party so that we get a certain percentage of the production to power ourselves. This is a beggar's mindset. In any case, no project in Nepal has been completed and within the cost limits.

Pun talked about avoided costs. When Bangladesh wanted to buy power from India's Tripura the Indians wanted seven rupees per unit but Bangladeshis were not dumb.

Regarding investment, it is not just cash. We also need to talk about land investment, costs brought on by displacement, particularly displacement of 65,000 people. Why should we invest to have our people displaced and for the benefit of India?

Nepal should be getting 70 billion rupees for the amount of water [that it is claiming] per annum. Ninety per cent of flood benefits goes to India and if it pays for the benefits for six or seven years our 111 billion rupee investment requirement will have been recuperated.

Nepal will irrigate 90,000 hectares and India will irrigate 106 million hectares with the water. That is not equitable sharing. If India is not willing to pay we should lower the height of the dam so that it can provide irrigation only for our 90,000 hectares. This would reduce the inundation and displacement.

Regarding the continued wastage of water in the absence of exploitation, we are talking of stored and regulated water after we build dams to regulate it. It means blood and sweat. Not just waste water.

Minister Shankar Pokhrel has said publicly that the amount cheated on Mahakali would be recuperated after Pancheswor was

built. See the mindset. He said that publicly.

Kishor Babu Aryal: The presentation threw new light on the Mahakali Treaty, meaning that it is a complex treaty. But we are getting only one side of the story here in this session. I am wondering why the government signed such a bad treaty. There must be at least one good point in the treaty. I suggest that the organizers give opportunity to air the view of the other side as well.

Pun presented a map showing 80 per cent water of the Mahakali being contributed by India and Nepal about 20 per cent, while the submerged area after construction in India would be about 66 per cent and in Nepal it would be about 33 per cent. May be this is one of the good points –that we have equal entitlement, in spite of the contribution.

I think the principle of avoided cost should be forgotten. It is not accepted anymore in this region, even in India, as anywhere else. I think you either take the price or leave it. If they agree, then go with the project and if not don't go with it. India will not force us to go with the project. This is the basic point. I think we should try to get the maximum possible.

Regarding the price differentials of power in buying and selling, recently, in the West Seti project, the price has been revised to eight cents for the initial five years and seven cents for the remaining 20 years.

Hem Subedi: A magazine recently published hydropower statistics. One Acharya talked about 200 MW potential and quashed the traditional 83,000 MW figure. Gyawali talked about date-expired medicine and Pun about 13 years of guptabas.

India has always intimidated Nepal with lower riparian rights but with Bangladesh it has wanted the upper riparian rights. India has double standards regarding riparian rights.

Who should be negotiating for a better deal- the politicians

or the bureaucrats or the technocrats?

Gyawali talked about Gandak being a better treaty than Mahakali, but I feel that we are not only cheated by India but bullied regarding water-sharing treaties.

What will be the consequence to Nepal of India's highly ambitious river-linking project?

Gyawali's reply

To Ambassador Jha, regarding the honest national debate, it should be both – for renegotiating the mistakes done over the last 30 years and to come up with good ideas for the future. Secondly, we are going through the interim period and until a stable arrangement comes forth with a stable constitution, I think it is wholly illegitimate to negotiate at this point in time. The fear is that if a constitution is being written elsewhere then we may be getting the worst possible deal.

Regarding how much power potential we have, if Brazil does not talk about being No. 1, why should we go on saying that we are No. 2? These are meaningless figures. Given the available capital in Nepali markets, we can easily build about 50 MW a year. If our growth is 25-30 MW per year and given the rising theft of power, we can easily mitigate the power shortage. People are beginning to not to pay for the power except for those community-distributed areas like Mugling. You could be saving the equal of Kaligandaki if all these leakages were to be plugged.

We are letting somebody else construct for high prices and not giving the work to our own entrepreneurs. We are not doing it because the trade unions are preventing it by not allowing Nepali entrepreneurs to work. They are the lackeys of political leaders who have not been able to stop it.

Regarding Nepal's power strategy, Mahakali is not the right strategy. It does not address our load-shedding, neither our de-

velopment needs.

During my recent visit to India, the Indians have been complaining about Chinese involvement. But the Chinese are not acting; they are merely reacting to Indian involvement.

Regarding the importance of China and India, Obama has shown who is more important with his dealings with them. Look at the power strategies they are pursuing. If India built power plants according to the Indo-US deal, then the cost of the power would be prohibitively high, according to Chaturvedi, an Indian nuclear power expert. But China's power strategy was solely based on self-reliance. This is what led to the disparateness in the treatment that Obama meted out to the leaders of the two countries.

To Hari Bansha Jha, I am glad that I am misguided in your view. I would not like to be otherwise. We will continue to be cheated as long as the civil society does not sound out alarms. I would rather be a khokro rastrabadi than a lampasarbadi.

Regarding the linkage between Bhutan and Madhesis, I know Punji will answer it. But what is interesting is that Bhutan kicks out a third of its citizens from its country and there is no word of protest from India. And, here we are forced [by India] to distribute citizenship. Some of them are well-deserved, but there are a lot of Indian criminals who have not only received the papers but also used them and our political parties for their interests. Most of the citizenship papers have gone to Indian criminals and not the genuine Madhesis. And until the Madhesi netas address these issues, a healthy debate cannot take place. A state must guarantee nationality to its people but it cannot be done by force from an external power, even while the issue of other Nepalese forced out from Nagaland and elsewhere are not addressed.

Why are we investing 45 million dollars hard loan on West Seti, a non-Nepali project that is not aimed at resolving Nepal's blackouts, instead of those like Tamakoshi?

Experts have pointed out that if we pursue such a path then Nepali economy will be destroyed because of hydropower just as oil has destroyed Nigeria.

I have not seen anything good on Mahakali, but if you see it please enlighten me.

Pun's reply

If I was misguided, then it was I who was misguided and it was my fault, not Hari Bansha Jha's. I have not used the word 'cheated'. When two parties knowingly sign an agreement, one cannot be cheated. It could be unfair though.

Regarding Bhutanese refugees, Gyawali said that the issue is a citizenship issue. And, that was at the back of my mind when I talked of it.

Regarding the good aspects of Mahakali, yes, there are good aspects. My question is do we go by the market prices, or do we go by the treaty that we have signed. And, until we change the treaty we have to go by it.

The case of vegetable ghee shows that when the volume of Nepali export goes up, they restrict the imports. The same can happen with electricity.

Regarding the river-linking project, the concept talks about large storage facilities in Nepal. Pancheswor is one, Karnali is another one and Kosi still another. What I would say is that Pradip Nepal, when he was minister, was surprised to find out that the Sapta Koshi high dam was linked to the river linking project. This is the level of awareness. These projects are there. I won't say that they should not be built. The question is: What do we get from them?

Kishore Babu Aryal: The confusion about tariff and assessment of benefit is shown in the treaty. When we are talking about

benefit calculation, Article 3 talks about net benefit to be assessed with the available alternatives available, or the avoided cost, but negotiating tariff is based on negotiations.

Pun's reply

How did we arrive at this 46 billion figure? The Pancheswor Project boss has calculated his own figure. The minister and other politicians have calculated separate figures. Are they mutually agreed prices?

Kishore Babu: That is why I am saying that this discussion was not properly organized. Both sides should have been allowed to speak. There should have been someone to speak from the other side.

Somnath Poudel: Both the presenters presented the cons. One of them should have done the pros as well.

The Mahakali is basically a border river and the potential we can derive mostly lies on the Indian side- like the Tanakpur barrage or the Banbasa barrage. All the territories lie in India. They have been using most of it. And, they have prior use of the water. We only get 40 per cent of the water. International law forbids us from debarring the Indians from their existing use.

There is no way to construct an economical structure like dam at other parts of the river for us to be able to benefit from. One may suggest digging tunnels from upstream for our use. This is one area we need to look into. What is your alternative solution to build the dams? The solution should be pragmatic and both sides should benefit more. When you give figures, they must be pragmatic figures, not political hype. The 45 billion or other abstract figures were mentioned by politicians and have no basis. They are not mentioned in technical calculations. What is your suggestion for a better result when most of the potential sites are on the Indian side?

Purnaman Tapo: There is a power struggle going on in the world. And, if we want justice we need to fight for it, like Bhakti Thapa and others. But our politicians are fighting for positions, not for the country. Hence, we should demand that they draft the constitution in time. Other countries will only try and use us for their benefit.

Before it was the green forests that we prioritized, now it is water. But only when we realize its potential will we be able to benefit.

Mahesh Kumar Upadhya: I think the debate must be launched on a nation-wide scale. What I have learnt here is that most of our political parties are incompetent to grasp the nuances involved to make them work for the benefit of the people. Unless we have a strong civic movement in society, democracy will not come.

I would like to congratulate Sangam Institute for organizing the debate at this crucial juncture. If there is any weakness on the part of the negotiators, experts like Dipak Gyawali should be consulted by the government. Why are they not doing so?

You referred to people like Madhav Nepal and other high officials. We should have invited them here to listen to this exercise.

Surendra Rai [student political science from Sikkim] studying in TU: Every intellectual of Nepal knows that India is a bad partner in every negotiation whether in water resources or anything else. What is the reason?

Surendra KC: The last part of Gyawali's presentation talked about a different path and that we did not follow that path. Since both of you were policymakers once, and since we are seeing that even the infrastructure built by the likes of Juddha Shumsher are collapsing, and since we are discussing the Mahakali Treaty without inviting people like Pashupati Shumsher JBR or Prakash

Chandra Lohani or Khadga Prasad Oli, is the seminar worthwhile?

Are you self-critical about your role as past policymakers for the all the past wrongdoing?

Ratna Sansar Shrestha: Kishor Babu Aryal says that Mahakali Treaty is complex. I am not an engineer, nor an expert. I can tell you that the treaty is quite simple and the things are obvious to everyone. Cheating is doing it without letting the other know. Please read the treaty document and see how simple it is.

Gyawali's reply

Somnath Poudelji, you are not a supervisor but the former boss of WECS. The way you mentioned it is where we have our differences. Looking at the watershed areas alone is not enough, although they need to be taken into account. Paraguay had only a very small area involved but still they maintained their stand for a 50 per cent share. It is not just the water, but also the natural feature that is as, if not more, important. The site of the dam counts as it is a major resource. You should not undermine it.

You should not confuse right for 'use'. You cannot take my right away saying that I do not use it. Preliminary calculations show that if the water benefit is claimed, the benefits accruing would pay more than the cost of building it.

The politicians are jokers and are raising issues without even discussing the details, the same is the case with declaring federal provinces without even discussing the borders.

Regarding the Sikkim students' concern, there is something called the hydro-dollar in this country. There is a much stronger grasp among younger students in this country than in other sections of the society. It is actually a question of the path of development- a self-reliant path or dependent path- that you decide on. Samir Amin's idea is applicable for Nepal, if mal-develop-

ment is to be prevented. We have not had political leaders of any sagacity to understand the relevant issues.

The constitutional committees are not discussing issues even with the seriousness that was there in the post 1990 parliament.

I have always been opposed to the Mahakali Treaty from Day 1.

Surendra K.C.: Were you part of the Tanakpur Package?

Gyawali: Tanakpur is not as serious as Mahakali because we have not lost the right to use the water in Tanakpur.

Surendra K.C.: What about the 577 metres of Nepali land that India submerged and we lost sovereignty over?

Gyawali: We decided that we would be paid for the loss by the irrigation and electricity facilities. Whether it was fair or not should have been debated by the parliament. That was not done. And, putting the whole thing in the Mahakali Package became an even more serious blunder.

I do not like the word 'cheated' as it means 'we are stupid'. I do not talk about India, but the term 'Delhi hydrocracy', because I have many Indian friends who do not agree with the hydrocracy there.

Pun's reply

The friend from Sikkim should read Leo Rose's Strategy for Survival which should give him the real picture.

Regarding Surendra K.C.'s concern, I believe that politicians like Rana, Lohani and K.P. Oli should have been here at this seminar. We wanted to hear about the positive side of the treaty as well.

Having worked in the power sector, rather than water sector, I would be critical. I had once told Arjun Kumar Karki to do something to end the load-shedding. He said that it was so

because of accumulated problems from our time. Yes, during our time, there was load-shedding, but we had upcoming projects. But these people do not have any.

Surendra K.C.: Why is the NEA importing such costly vehicles [to politicians]?

Santa Bahadur Pun: About four days ago, there was a gathering of union of the employees of NEA. I asked the NEA why it was importing vehicles to present to the prime ministers. The union people should be asking the questions.

Regarding Somnath Poudel's question, why did we put in the clause about preclusion of claims? Otherwise, we would have been able to sell the water.

Regarding solution, the best treaty was Koshi, because on water rights we have full sovereignty. India uses the balance of what we use. Gandak talks of exceptions of seasons and trans-basin transfer which needs renegotiations. In Mahakali, we have the 50 per cent water and lost sovereignty with such words as 'existing consumptive use' and 'preclusion'.

Suryanath Upadhyay: I will be speaking on most of the issues raised here during my presentation after lunch. I wish you will still be here. Dipak Gyawali said Tanakpur Treaty is far better than the Mahakali Treaty. I want him to comment on the 1920 agreement on Sharada wherein the water allotted to Nepal is specified and that allotted to India is not specified.

Gyawali: Give credit to Chandra Shumsher who did not have the knowledge and technical expertise that we have today while he was negotiating the Sharada. Still he could negotiate something for Nepal, although in the Rana scheme of things water was not the issue. The issue was forest land, which he exchanged fairly, according to the understanding of the time. But during Tanakpur, we could have negotiated for water as we had understood its value. Although one may debate over the amount

that we could have acquired, still it was an improvement over Sarada. Tanakpur also produces electricity and we do get some power as well without any investment except the about 500 metres of land. We needed to work on that with credible study. But instead of solving Tanakpur, like the Supreme Court ordered us to, we messed up even further. Mahakali is a basin treaty which only talks of the Pancheswor Dam is discussed. So where is the basin issue and water resource development in the basin?

Session II

Chair: **Ananda Srestha**

Ajay Dixit's presentation

Surya Nath Upadhyay's presentation

Floor

Surendra K.C.: An Indian story talks about Indians changing their views with every politician's speech. Similarly, Gyawali's presentation helped us build a view and Upadhyay's speech has changed it. I have been teaching the earlier view to my students at Tribhuvan University for the last 15 years.

Upadhyay talked about the fixed boundary principle on the Mahakali. In Mechi, we have a shifting boundary, 500 meters this side of the original border. In Susta also, the same is happening with the border pushed seven kilometers inside our territory. Is that border principle in action here as well?

Prof. Ram Kumar Dahal: Please explain your contention that 'Mahakali is an opportunity for Nepal.'

Keshav Jha: Our political leaders realized that they faltered in signing the Mahakali Treaty and hence they came forward with the four strictures. This is the common view. What do you say?

Rabindra Khanal: To Ajay Dixit, Please explain the human

element in natural disaster.

Prof. Jitendra Dhoj Khand: Regarding the India Today diagram of the Koshi floods, I think they deliberately did so to make it look dramatic.

Mahesh Upadhya: The existing Koshi dam is already aged and wearing out and the alternative is to build a high dam at Chatara. And, it is a risky area amidst the highly fragile Himalayas. We know that dams ultimately give way. But the immediate problem is the flooding and displacement of people. In Uttarkhand, Bahuguna protested against high dams.

Koshi is a multipurpose river valley project. If we tunnel through the mountain we can irrigate Saptari, Siraha and the like. We have not been discussing these issues. This is actually what leaves us cheated.

Ratna Sansar: Why is there so much misinformation about the Sankalpa Prastav. It was reported in the media and widely debated. Now, you say that there is no such Prastav. The Ministry of Water Resources document does not have the Sankalpa Prastav and I could not find it in libraries and even in the Parliament Secretariat. What has led us to believe that it exists?

Secondly, the Sugauli Treaty says that Nepal will quit claim to territories beyond the Mahakali River right up to Sutlaj. This means that the Mahakali belongs to Nepal and the claims beyond that has been waived. But the Mahakali Treaty talks of the river as a border river.

We talk of half of the river water without talking about the amount of the actual volume. This leaves us giving up 96 per cent to India and the rest is halved. This is because of the 'pre consumptive use', something India illegitimately used from early on.

'Equal' and 'equitable' are not the same. Let the dam be of that height that only provides irrigation facilities to Nepali land, because the issue is also about Nepali investment. The amount of

facilities we get should determine the amount of displacement we undergo or irrigation facilities we get.

Gen. Dilip Rana: To Ajay Dixit, the history of Koshi River, flooding up to Sunsari at times, shows that it may not be possible to adopt the alternative paradigm that you discuss, especially the flow after Chatara. Maybe that is why they are talking about flood control. We say that siltation is the cause for the disaster. Why not remove the silt?

Kishore Babu Aryal: The Koshi disaster took place because of the problem of maintenance. And, to conclude that dams are bad because of laxity in maintenance is drawing too sweeping a conclusion.

Secondly, one speaker in the morning talks about a lot of downstream benefits and now we have another one talking just the opposite.

Prem Sharma: The discussion has not come to the core issue. Nepal is focused on micro projects but whenever we have unstable governments we hear of these treaties being signed.

Dipak Gyawali: The actual construction of Tanakpur is poor because of contractor's negligence and the Banbasa construction is stable. This means that the physical life of the Banbasa structure is longer than that of Tanakpur. Economic life and physical life of the structures should not be mixed up. Maintenance can lengthen life. Aircraft become completely new after two years of maintenance.

If there is massive irrigation benefit, go for massive investment. But it is being undervalued in Nepal and the farmers in the lower reaches are not benefiting from irrigation.

The Koshi project has led to more land being submerged in Bihar than the area being irrigated.

Secondly, why the Sankalpa Prastav has not been passed is a surprise as we were there in the parliament to applaud when it

was passed. Why was it not recorded in the House? If why Suryanath Upadhyay says is right then it looks like it is a major fraud against the Nepali people.

Finally, regarding the 'dog in the manger policy', it was an argument that the Indians used to give us and advise us to refrain from. The issue here is that, in fact, it is the dog that protects the manger.

Santa Bahadur Pun: Suryanath Upadhyay has got me worried as it was me who presented a whole paper on the issue. I remember the then Minister Pashupati Rana presenting to the House several points after seeking consent of the then opposition leader, Madhav Kumar Nepal. Rana talked about forming a parliamentary monitoring committee to monitor the implementation of a national resolution aimed at guiding policymakers of the day regarding the structures on the Mahakali River. Now, how do we interpret that? Remember, when Girijababu went to India to sign the Tanakpur MOU where he talked about 10 million units, but when I looked up a book by an author named Bhasin it was 10 MW. This actually translates into six million units.

Ajay Dixit's reply

Let me talk about the failure in Koshi, a human agency failure. This came about because of the maintenance problem, governance deficit and the way Nepal-India ties were going. It was not related to climate change and not because of greater floods than in the past. The average flow was lower when the breach occurred. Our traditional belief has thus not worked.

If we listen to the vernacular, we would know that there were several kinds of floods with each season. And, traditionally we had ways of coping with them.

The Sarada Barrage was opposed by the local talukdars when first proposed and in 1901, Lord Curzon revived the proposal. It

was opposed again. Then the colonial government talked about using the water that was being put to waste by the people of Abadh, then it would be taken to Agra. This made the opposition cow down and thus the dam was built. Today's concepts follow the same hegemonic paradigm. This does not gel with the land system, geology, the landscape, the culture and the like.

Regarding the Koshi High Dam, the costs we undergo is immense and it has not been assessed so far. The inundation, the 150,000 affected people, the seismic nature oif the area and sedimentation. How do the cost and benefit justify each other?

In the US, they had the banking and insurance and other system that could take care of the financial costs. Similar concepts were applied to develop the Damodar Valley and it did not work there. They found out that thermal power was more cost effective in Damodar Valley than hydropower.

In Koshi, there are three rivers- Tamor, Sun Koshi and Arun. The river enters the Tarai plains from the mountains within a stretch of 15 kilometres. And in terms of the adaptation to climate change issues, I would propose for flexible approaches. Regarding paradigm choices, I may not be right in proposing my paradigm at this juncture. But the fact is that we need to think of alternatives as the existing facilities have not worked. In any case, we must begin to look for drainage as well, not merely control.

Suryanath Upadhyay's reply

Most of the questions will have been answered in the paper that I have written and will be published by Sangam. It is a long paper.

Regarding the boundary, the contours are taken from the mid-point of the river and the boundary thus fixed. Since it is a boundary river in major stretches, we cannot do anything alone. But that does not mean we give up on our interest.

I could not find any record in the Parliament Secretariat regarding the strictures, just like Ratna Sansar Shrestha did not find it in his own searches. The letter that Santa Bahadur Pun talks about includes not just the four points he mentioned but all of the Communist Party of Nepal-UML's demands and takes all that as a sankalpa. Then the government wrote to the Indian embassy in which it said that committees had been formed to monitor only four points from among the lists of demands.

The problem of the Nepali is that no one believes anything that we from the government say but believe only that which the NGOs write. If we look into the correspondence that we carried out with India, I see total diplomatic immaturity. Why ask the Indians. If you have done what you want to do then say so otherwise, state your position clearly. Why write to India about what you are thinking. In fact, in one of the letters, India told Nepal that it was the affairs of Nepal and that it was not concerned. How can our strictures rope the Indians in? For my part, I stand by the claim that we negotiated for our own interest and I am confident that we did the right thing and I am willing to debate on it.

Regarding 'equitable' and 'equal' share, I can give you Helsinki rules of 1966, or the UN conventions of 1997 or the recent decision of the international court of justice that talks about equitable and reasonable share as a basic right. Nowhere have we talked about equal rights. If you share an international water course, you are entitled to an equitable share whether you area major riparian or a minor riparian. International law categorically says that equitable and reasonable use is justified. Seven or eight factors are taken into account to define what is equitable and reasonable. In the treaty, we talk about using what we need and leaving the rest to them and making them pay if they use it. We have recognized their existing use. Now, the question is who should be giving clarifications, me or those who are creating confusion.

This treaty is not a border treaty. Talks on the border are still

going on. Regarding international law, it does not matter whether it is a border river or not, the dispute will be on whether it is equitable and reasonable share you are getting, and not because it is a border river.

Another issue- everybody talks about homework, what should be the homework? Those drawing the DPR are doing the homework at the moment.

Prof. Ananda Srestha: The objective of the seminar was to promote the nationalist stance for future negotiations. And, whenever negotiations occur, it should be on an equal footing, and without compromises. Thirdly, if we are to make mistakes in water deals, let us make new ones and not the same ones again and again.

Pushpa Adhikari's vote of thanks: In the month of June 2009, during the foreign policy seminar, one of the speakers happened to be Dr. Prakash Chandra Lohani. A participant asked Dr. Lohani to clarify on the Mahakali Treaty and Dr. Lohani asked us to organize this seminar so that he could explain the benefits of the treaty. It was, again, because of him that we had to postpone the seminar by one and a half months. But, still, he could not make it to this seminar today.

We approached K.P. Oli and just a day before he said that he was not going to make it to the seminar. We are sorry that we could not bring these people here. The only one available happened to be Suryanath Upadhyay. Sangam's objective is not to create any more confusion than there already is. Please do not take things personally as we are trying to plan for the future. We should serve our national interest whenever we pursue negotiations with India or any other country in the world.

Thank you all for the participation. We will continue to initiate and organize similar debates in the future.