Lessons from Paraguay's 14,000 MW Itaipu Project vis-à-vis Nepal's 6,720 MW Pancheshwar Project

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Abstract: If due diligence is not undertaken on the ambiguities prevailing in the Mahakali Treaty and Letters of Exchange of 1996, then Nepal may well end up in a 'no option trap' like Paraguay on her 14,000 MW Itaipu, a bi-national hydropower project with Brazil. Twenty-five years after the commissioning of Itaipu, Paraguay is still battling with Brazil on such elementary but vital issues like fair energy price, third party access, parity in project management, etc. Nepal could and should learn lessons from Paraguay's Itaipu experiences. While Itaipu is primarily a hydropower project, Pancheshwar encompasses wider multipurpose applications. This article, however, limits itself only to the hydropower component of the two projects.

Key words: Hydropower, bi-national treaties, Itaipu Project, Pancheshwar Project, Paraguay, Brazil, Nepal, India

Foreword

The 6,720 MW Pancheshwar Multipurpose Project is the main flagship of the Nepal-India Mahakali Treaty signed with much fanfare on February 12, 1996.[1] The treaty stipulated that the detailed project report (DPR) of the Pancheshwar Project shall be finalized "within six (6) months from the date of the entry into force of the treaty." This date of entry into force occurred on June 5, 1997, when the two countries' governments exchanged the instruments of ratification of the treaty. Since then much water has flowed down the Mahakali River. Yet, despite the 15 years' lapse, the elusive DPR of Pancheshwar Project has failed to see the light of day.[2] It may, therefore, be worthwhile to muse over what lessons Nepal can learn from landlocked Paraguay on her experiences with her giant neighbor, Brazil, on the 14,000 MW Itaipu Project.[3]

Paraguay - Brazil 14,000 MW Itaipu Bi-National Project

1966 Foz de Yguazu Act and 1973 Itaipu Treaty

Not unlike the Nepal-India border dispute over Kalapani, source of the Mahakali river, Paraguay and Brazil also had a similar longstanding border dispute over the Salto del Guaira waterfall areas, the key source of the border river Parana over which the bi-national Itaipu hydropower plant is located. The two countries signed the Act of Foz de Yguazu on June 22, 1966 establishing that: (1) hydropower generated would be divided equally, (2) Brazil would have the 'preferential right' to purchase Paraguayan portion of the energy, and (3) Brazil would pay 'a fair price' for the imported Paraguayan energy. Despite intense controversy over Itaipu in Paraguay, akin to that of the 1996 Mahakali Treaty in Nepal, the Itaipu Treaty was signed with Brazil on April 26, 1973. Construction started immediately with an estimated project cost of US$ 2 billion. The first 700 MW unit came on line in 1984 and when the last 18th unit was commissioned in 1991 the project cost ballooned to US$ 19.6 billion (Thanju and Canese 2011).

Paraguay is poor despite selling Itaipu power

The average generation from Itaipu in the last 20 years has been about 84,000 million units (MUs) annually, although in 2009 it generated 91,600 MUs. Half of that generation belongs to Paraguay and 90% of that energy is exported to Brazil. In comparison, Pancheshwar generates a mere 12,333 MUs and Nepal's portion of energy is only half of that, or 6,166 MUs. Even if Nepal agrees to build the 269 meter Kosi High Dam at Barahchhetra (3,300 MW, 17,607 MUs) and the 270 meter high Karnali Chisapani (10,800 MW, 20,842 MUs) and export all her energy to India, it merely totals to 44,615 MUs, about the same as that of the Paraguayan portion of power from Itaipu alone. However, despite exporting to Brazil

Itaipu Dam

Nepal's equivalent of energy from Pancheshwar, Karnali and Kosi High Dam put together, Paraguay continues to be the second poorest nation, after Bolivia, in Latin America. The large muscular Brazil gave Paraguay an extremely raw deal on the Itaipu energy price. Paraguay, with a population of only 6.2 million, has a per capita income of US$ 1,514. But Brazil, beneficiary of the extremely low priced Itaipu energy with a huge population of 190 million, has a far higher per capita income (in 2006) of US$ 5,660 (Thanju and Canese 2011).

Paraguay's longstanding disputes with Brazil

For over three decades, Paraguay had bitter disputes over various Itaipu issues and, in particular, the lop-sided energy benefits accruing from the project. The large powerful Brazil merely hemmed and hawed that she is abiding by what the two countries had signed; i.e., the 1966 Yguazu Act and the

1973 Itaipu Treaty. Paraguayan newspapers did not refrain from calling Brazil "an imperialist nation and exploiter" (Goodman 2009).

Paraguay's director at Itaipu, CM Balmelli, more soberly said "We are not looking for a gift or any concession other than allowing market forces to work *(Ibid.)*. J.L. Castro, Deputy Foreign Minister of Paraguay, bitterly admitted "We don't want to be a Brazilian protectorate. At stake is the viability of a poor country... the realpolitik of an ant staring up at an elephant" *(Ibid.)*. When Paraguay's new left-leaning President Fernando Armindo Lugo Mendez came to power in 2008, he also threatened to end the Itaipu contractual agreement with Brazil regarding the sale of energy far below commercial market price.

President Fernando Lugo was lucky that his Brazilian counterpart, President Luiz Inacio Lula Da Silva, was a former trade union leader with an ear seasoned to negotiation. Negotiation thus began between the two countries with Paraguay's August 1, 2008, six-point proposals to Brazil:

1. Paraguay's hydroelectric sovereignty, her right and freedom over the use of Itaipu energy;
2. Paraguay's Itaipu portion of energy bought by Brazil at 'a fair market price';
3. Revision of the debt and clauses no longer relevant deleted;
4. Itaipu being a bi-national project, 'parity' in the management of the project;
5. Transparency in project management with auditing satisfactory to both countries; and
6. Completion of all outstanding works on substations and navigation works.

On January 26, 2009, Brazil sent the following counter proposal:

1. The price of Paraguayan Itaipu energy would be doubled from US$120 million to US$240 million a year as 'it cannot afford more';
2. Create a regional development fund of US$ 100 million a year;
3. Open a US$ 1,500 million credit line for infrastructure projects; and
4. Paraguay should agree to a longer 10 year energy contract instead of the current two year contract (Personal communication 2011).

Brazil's President Lula Da Silva, at the invitation of President Fernando Lugo, then visited Paraguay and on July 25, 2009 signed a Joint Declaration much of which dealt with the outstanding Itaipu issues (GoP and GoB 2009). The declaration addressed significant Paraguayan concerns:

1. Brazil agreed that Paraguay could sell her Itaipu power to third party from 2023 onwards and was committed to regional energy integration thus opening up the possibilities of energy sales to third countries;
2. Brazil agreed to increase the US$ 120 million per annum Itaipu import to US$ 360 million per year thus recognizing the fair market price concept. Brazil also agreed that Paraguay could sell her power freely in the Brazilian market in a gradual manner. Hitherto, the Itaipu Treaty stipulated that Paraguay cede its unused electricity share only to Brazil's Rio de Janeiro-based Electrobas, the largest utility in Latin America;
3. In 2008 Brazil had agreed to the government of Paraguay auditing the bi-national debt of Itaipu. Brazil, in the 2009 joint declaration, agreed to examine the results of that audit which would be instrumental in paving the way for Itaipu debt revision. This had been one of Paraguay's longstanding demands to get a more fair energy price;
4. Full parity in the management of the Itaipu Project has been agreed between the two countries;
5. The two countries have also agreed on complete transparency in the management of the Itaipu bi-national; and
6. Finally, regarding the remaining outstanding works the two countries agreed that the sectional substation and viewing platform on the right bank would be completed by 2011 and the 'technical, economic, financial and environmental studies' for the navigation works would be completed by 2010.

Thus, 25 years after the first 700 MW unit was commissioned at Itaipu, Brazil finally conceded to Paraguay's longstanding demands, in particular the concept of a 'fair market price, access to third party and parity in project management.'

Nepal–India 6,720 MW Pancheshwar Multipurpose Bi-National Project

While the Paraguay-Brazil Itaipu is primarily a hydropower project, the Nepal-India Pancheshwar Project has wider multipurpose applications. This article, hence, limits itself only to Pancheshwar's power related issues vis-a-vis Itaipu, in an attempt to compare an apple only with an apple.

Prior to the September 1996 ratification of Mahakali Treaty, the following were the questions (of August 19, 1996 and August 25, 1996) of K.P. Sharma (Oli), Coordinator of CPN-UML's Mahakali Treaty Study Team and the answers (of August 22, 1996 and August 27, 1996) provided by Pashupati S.J.B. Rana, then Minister for Water Resources on Nepal's portion of Pancheshwar power export to India:[4]

> *Coordinator, K.P. Sharma (Oli):* Does the Treaty's provision that Nepal sell electricity to India create a situation whereby Nepal is forced and India has choice?
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> *Minister P.S.J.B. 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 5.30 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.

Coordinator, K.P. Sharma (Oli): On what principle is the price of Nepal's electrical energy to be sold to India determined on? 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 P.S.J.B. 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 between America 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 [Mahakali] Treaty's Article-12 clause 4, this will be provisioned in a separate Pancheshwar Project agreement.

In plain simple language, Coordinator K.P. Sharma (Oli) questioned whether Nepal is "forced to sell" or India is "forced to buy" Nepal's portion of Pancheshwar power. Surprisingly, Minister Rana, without eliciting any formal written replies from the Government of India, replied that "India will be automatically bound to buy." As to the other equally important question of Coordinator Oli, Minister Rana categorically stated that "savings in cost to the beneficiaries as compared with the relevant alternatives' and 'avoided cost of alternative principle" mean the same. Minister Rana's replies were further backed up by Prime Minister, Sher Bahadur Deuba, in his reply to CPN-UML General Secretary, Madhav Kumar Nepal.

Prime Minister S.B. Deuba: 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.[5]

Thus, Prime Minister Deuba believed that Nepal had "forced India" to buy Nepal's portion of Pancheshwar power. Both Prime Minister Deuba and his Minister Rana failed to re-read the Mahakali Treaty that simply stipulates: "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." That is, the price has to be mutually agreed upon. If India disagrees with the quantum and price of energy, then by any stretch of imagination, the treaty cannot force India to buy Nepal's portion of Pancheshwar power.

On the vital issue of energy pricing, Minister Rana confined himself only to "savings in cost to the beneficiaries as compared with the relevant alternatives" and "avoided cost of alternative principle" mean the same. But Prime Minister Deuba confidently interpreted it further as "Savings 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 …"

The Deuba government's mother of all blunders, in a hurry to get the laurels for treaty ratification, was to give its own interpretations and not that of the Government of India on such vital issues like the price of energy. Prime Minister Deuba and his ministers believed that India would agree to the 'avoided cost' of alternatives like coal fired thermal or gas turbine plants excluding hydropower.' Iyer (2001) indicates that India's interpretations, particularly on excluding hydropower plants, do not tally with that of Prime Minister Deuba.

If the Pancheshwar Project is built without clearing up these ambiguities on energy pricing then Nepal can well land up in the classical 'no option trap'. The probability that Nepal could be forced to dump her Pancheshwar power to India at a rate other than "the avoided cost principle" is very much on the horizon. This was Coordinator K.P. Sharma (Oli)'s correct analysis and apprehensions. For reasons best known to him, he failed to push it through, so popularly called nowadays, to its logical conclusion. The Deuba government committed the sins of omissions and commissions but the CPN-UML's Mahakali Study Team of K.P. Sharma (Oli) cannot also be absolved from those sins!

With the vital issue of energy price on an avoided cost principle yet to be sorted out, the 'ignorance is bliss' joint session of the two Houses of Nepalese Parliament ratified the Mahakali Treaty on September 20, 1996 with an overwhelming 96.5% of the members present voting for ratification. Only a small faction opposed the ratification: 31 MPs abstaining and eight opposing/voting against. There was jubilation not only in Nepal and India but even the 'international community', with an eye for lucrative contracts, welcomed the ratification. Nepal's sitting Water Resources Minister Pashupati S.J.B. Rana and Foreign Minister Prakash Chandra Lohani gleefully claimed NRs. 21 and 24 billion, respectively, from annual sale of Nepal's portion of Pancheshwar power to India. The CPN-UML Mahakali Study Team Coordinator K.P. Sharma (Oli) surprisingly reeled out a far more astronomical figure of NRs 120 billion annual revenue. Over a decade later, the then incumbent Prime Minister M.K. Nepal rattled another attractive figure of NRs 45.88 billion (US$ 0.54 billion at 1 US$=NRs 84.5) annually. None of them bothered to apply any due diligence on India's actual 'to be mutually agreed price' but made their own far-fetched magical assumptions.

Conclusions

Paraguay's three major long standing demands with Brazil on the bi-national Itaipu Hydropower Project were: fair market price, third party access, and parity in project

management. So 'unfair' was the energy price given to Paraguay that, only 25 years after the commissioning of Itaipu Hydropower Project, Brazil finally agreed to triple the energy price at once, lamely arguing that it cannot afford more. Without sorting out with India the vital issue of energy price, Nepal's Prime Ministers, Ministers, and MPs are dreaming of billions of rupees from Pancheshwar power export – foolishly counting the chickens before they hatch.

On the question of third party access for Paraguayan power, Brazil agreed that this demand would be applicable after 2023 AD; that is, only after the full 50 year term of Itaipu Treaty signed in 1973. With India strategically channeling all power imports/exports through her nodal agency, Power Trading Corporation, there is every likelihood that 'third party access' to Nepalese power will be denied and only later permitted in a choreographed manner, Brazilian style. Many analysts believe that this lack of 'third party access' in the Indian market is one of the key stumbling blocks on why foreign investors (excluding Indian) have failed to come aggressively in Nepal's hydropower sector.

On the issue of 'parity in project management', Nepal has already blundered by agreeing to competitive bidding for the post of Chief Executive Officer (CEO) for Pancheshwar Development Authority.6 As Pancheshwar is a bi-national project, Nepal should have taken the stand that the CEO post be shared at parity on a rotational basis and not on competitive basis with "requisite qualification, relevant experience and proven track record". Paraguay suffered this parity in project management for 36 years. Nepal, no doubt, could learn lessons from Paraguay's experiences with Brazil at Itaipu, still the second largest hydropower project in the world.

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Notes

1. 6,480 MW and 10,671 million units at Pancheshwar plus 240 MW and 1,662 million units at Rupaligad re-regulating dam (EDC 1995).
2. The Sixth Meeting of India-Nepal Joint Committee on Water Resources (JCWR) held on November 24-25, 2011 in New Delhi still states "...reviewed the status of preparation of Detailed Project Report of Pancheshwar Multipurpose Project... JCWR desired that the remaining works may be completed early to finalize the technical parameters..." (JCWR 2011).
3. The initial installed capacity was 12,600 MW, 18 units of 700 MW capacities each making it the world's largest hydropower station until China's 22,500 MW Three Gorges Project surpassed it. In 2007, two more units were added thus increasing its installed capacity to 14,000 MW now.
4. These questions and answers of K.P. Sharma (Oli) and Pashupati S.J.B. Rana are 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 Kartik 29, 2053 (November 14, 1996) (MWR 1996).
5. The September 11, 1996 written answers of Prime Minister S.B. Deuba to CPN-UML General Secretary M.K. Nepal's letter of September 10, 1996 (answered within one day) are extracted in toto and translated into English from the official publication in Nepali of the Ministry of Water Resources (MWR 1996).
6. The Sixth JCWR meeting of November 24-25, 2011 in New Delhi minutes that Nepal has already approved this CEO post on competitive basis and as for India it is "under process of approval and likely to be approved within next three months." (JCWR 2011).

References

EDC, 1995, Pancheshwar Multipurpose Project: Detailed Project Report, Kathmandu: Government of Nepal, Ministry of Water Resources, Electricity Development Center.

Goodman, J., 2009, ' Paraguay pushes "Imperialist " Brazil on hydropower', Week Ahead (July 20). URL: www.bloomberg.com.

GoP and GoB, 2009, Declaracion conjuncta Paraguay-Brasil (Joint Declaration of July 25, 2009, by the two Presidents of Paraguay and Brazil, respectively), Asunción and Brasillia: Government of Paraguay and Government of Brazil. URL: www.abc.com.py/nota/7009-declaracion-conjunta-paraguay-brasil/ (translated from Spanish by Ms. Kriti and Kripa Upadhyay).

Iyer, R.R., 2001, 'Delay and drift in the Mahakali', Kathmandu: Himal Southasian magazine (June). URL (pp.40-42 at): himalaya.socanth.cam.ac.uk/collections/journals/hsa/pdf/HSA_14_06_2001.pdf.

JCWR, 2009, Pancheshwar Development Authority-2009, Terms of Reference, Annex-IV of Minutes of the Fifth Meeting of Nepal-India Joint Committee on Water Resources (JCWR) November 20-22,2009, Pokhara, Nepal, Kathmandu and Delhi: Government of Nepal and Government of India, Joint Committee on Water Resources.

JCWR, 2011, Minutes of the Sixth Meeting of Nepal-India Joint Committee on Water Resources (JCWR) November 24-25, 2011 in New Delhi, Kathmandu and Delhi: Government of Nepal and Government of India, Joint Committee on Water Resources.

MWR, 1996, 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, Kathmandu: Government of Nepal, Ministry of Water Resources.

Thanju, J.P. and R. Canese, 2011, 'Lessons from hydropower rich Paraguay', HydroNepal 9:7-11.